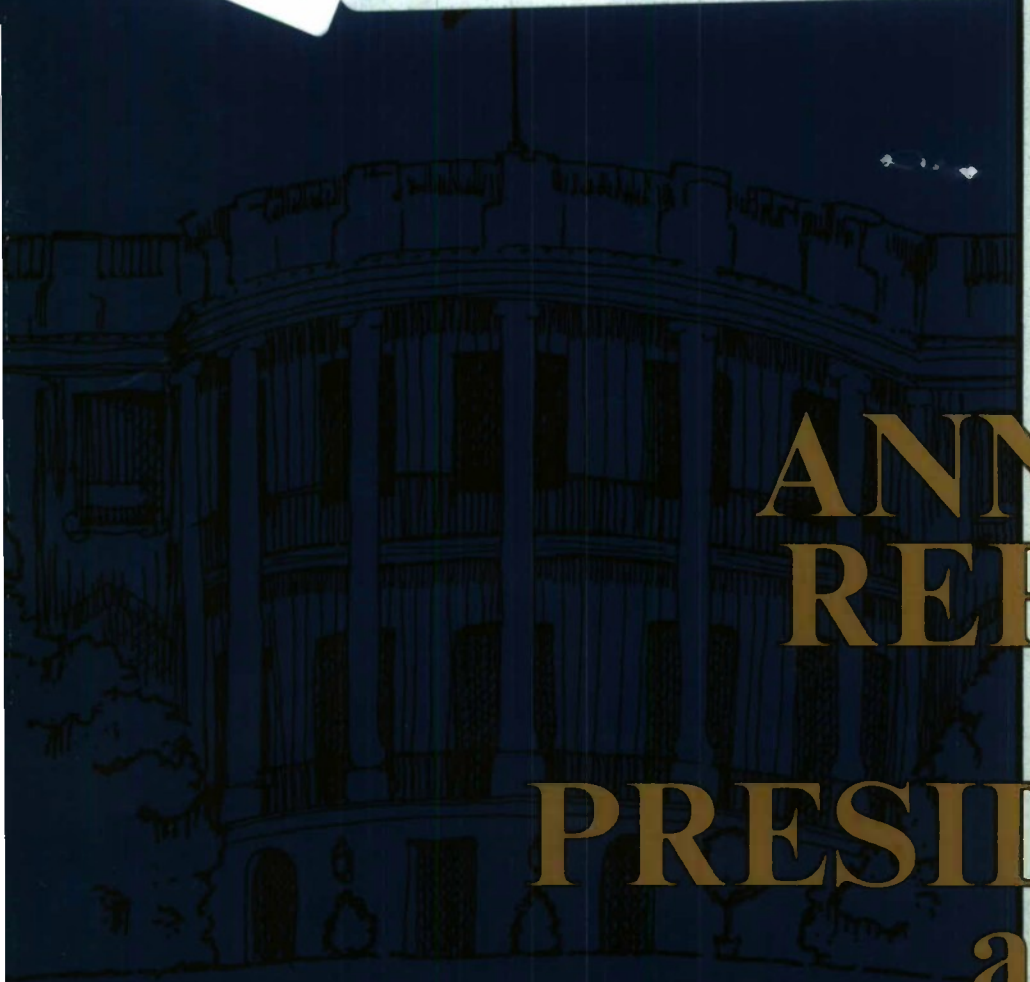
REFERENCE COPY
SAM 9100412

JANUARY
1991

19100412



ANNUAL REPORT to the PRESIDENT and the CONGRESS

20526 cyl

Legacy Number: 9100412 19100412

20101015194

Dick Cheney
Secretary of Defense

The Annual Defense Report fulfills the requirements of Section 113(c) and (e) of Title 10 of the United States Code and Section 405 of the Department of Defense Reorganization Act of 1986 (Public Law 99-433).

The Department of Defense spent $26,750 in taxpayers' resources to produce this report, as compared to $47,500 last year. This cost reduction of over 43 percent can be attributed to tailoring the report directly to the statutory requirements and using less expensive graphics and production techniques.

DEFENSE TECHNICAL INFORMATION CENTER

Information for the Defense Community

DTIC® has determined on 11/2/2010 that this Technical Document has the Distribution Statement checked below. The current distribution for this document can be found in the DTIC® Technical Report Database.

☑ **DISTRIBUTION STATEMENT A.** Approved for public release; distribution is unlimited.

☐ **© COPYRIGHTED**; U.S. Government or Federal Rights License. All other rights and uses except those permitted by copyright law are reserved by the copyright owner.

☐ **DISTRIBUTION STATEMENT B.** Distribution authorized to U.S. Government agencies only (fill in reason) (date of determination). Other requests for this document shall be referred to (insert controlling DoD office)

☐ **DISTRIBUTION STATEMENT C.** Distribution authorized to U.S. Government Agencies and their contractors (fill in reason) (date of determination). Other requests for this document shall be referred to (insert controlling DoD office)

☐ **DISTRIBUTION STATEMENT D.** Distribution authorized to the Department of Defense and U.S. DoD contractors only (fill in reason) (date of determination). Other requests shall be referred to (insert controlling DoD office).

☐ **DISTRIBUTION STATEMENT E.** Distribution authorized to DoD Components only (fill in reason) (date of determination). Other requests shall be referred to (insert controlling DoD office).

☐ **DISTRIBUTION STATEMENT F.** Further dissemination only as directed by (inserting controlling DoD office) (date of determination) or higher DoD authority.

Distribution Statement F is also used when a document does not contain a distribution statement and no distribution statement can be determined.

☐ **DISTRIBUTION STATEMENT X.** Distribution authorized to U.S. Government Agencies and private individuals or enterprises eligible to obtain export-controlled technical data in accordance with DoDD 5230.25; (date of determination). DoD Controlling Office is (insert controlling DoD office).

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

January 1991

For sale by the Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

DO NOT DESTROY
30 DAY LOAN
RETURN TO AFSAA/SAMI
1777 NORTH KENT STREET, 7TH FLOOR
ROSSLYN VA 22209 (703) 588-6940

TABLE OF CONTENTS

		Page
	Message of the Secretary of Defense	v
PART I:	**Defense Policy**	
	National Security Concerns and Defense Policy Priorities	1
	Collective Security	8
PART II:	**DoD Operations in 1990**	13
PART III:	**Defense Resources**	
	Budget	23
	Defense Management	28
	Personnel	36
	Industrial Base	43
	Environment	46
PART IV:	**Defense Programs**	
	Nuclear Forces and Strategic Defense	51
	Land Forces	61
	Naval Forces	66
	Tactical Air Forces	70
	Space Forces	74
	Strategic Mobility	77
	Special Operations Forces	82
	Drug Interdiction and Counterdrug Program	85
	Research and Development	91
PART V:	**Statutory Reports**	
	Report of the Secretary of the Army	97
	Report of the Secretary of the Navy	100
	Report of the Secretary of the Air Force	104
	Report of the Chairman of the Reserve Forces Policy Board	106
Appendices	A. Budget Tables	109
	B. Personnel Tables	113
	C. Force Structure Tables	115
	D. Goldwater-Nichols Act Implementation Report	119
	E. "In Defense of Defense" — President George Bush's Speech to the Aspen Institute Symposium, August 2, 1990	131

MESSAGE OF THE SECRETARY OF DEFENSE

As this report is prepared, the Defense Department is engaged in two formidable tasks: one in response to an immediate crisis, and one in response to longer-term changes in the strategic environment. First, in response to Iraq's aggression, the United States and allied forces are engaged in combat operations to liberate Kuwait and fulfill the mandates of the United Nations (U.N.). Yet, even as American military power is employed in Operation DESERT STORM, the Defense Department is engaged in planning and executing a second task — reducing and reshaping American military forces to meet the challenges and opportunities of the post-Cold War era. This year's annual report outlines these efforts and the new global environment in which they take place.

The past two years have seen dramatic changes in the security environment, particularly in the Soviet Union and Eastern Europe. Many of these changes have made the United States safer. The West's post-war strategy of containment, deterrence, and support for democracy around the world made these changes possible. Yet challenges remain in the post-Cold War era, as vividly demonstrated by Iraq's invasion of Kuwait, and by the uncertainties raised by recent events in the U.S.S.R.

New Defense Strategy

In response to the dramatic changes of the past two years, the President devised and implemented last summer a new strategy that shifted the focus of defense planning from countering the global challenge posed by the Soviet Union to responding to threats in major regions — particularly Europe, Southwest Asia, and East Asia. He articulated the broad outlines of this strategy on August 2 — ironically the very day that Saddam Hussein invaded Kuwait. While shifting the planning focus to regional threats, he reaffirmed many of the traditional elements of U.S. defense policy, including, particularly, the continued importance of alliances.

The persistent threat of the Cold War — a massive invasion into Western Europe by the Warsaw Pact that could easily escalate into global war — has been rendered unlikely by the ongoing Soviet withdrawal from Eastern Europe and the collapse of the Warsaw Pact as an effective military organization. The new strategy focuses instead on major regional threats that could harm U.S. interests, while ensuring that our forces can provide needed levels of forward presence to influence favorably the emerging security environment, as well as maintaining our strategic deterrent. This new strategy has important effects on the future shape and size of our active and reserve forces, effects evident in the Administration's Defense Budget submitted to Congress.

The strategy also provides an analytical framework for evaluating the reemergence of trends dangerous to the United States, and assessing when and by how much our forces should be adjusted to respond to a new threat. We judge the force levels contained in the budget submitted to Congress this year to be the lowest level to which we can safely reduce our forces and capabilities at this time. These force levels are built on certain assumptions about positive trends in the Soviet Union and the Third World. Should events in either region take a dramatic turn for the worse, we may need to slow the decline to the low force levels we are now planning for the mid-1990s, or even halt this decline at more robust force levels than we are currently projecting.

As an additional hedge, we are building into our forces an enhanced ability to reconstitute a larger force quickly should a global threat reemerge. This ability would be enhanced through nurturing long-lead capabilities like quality leadership and a strong technology base.

Recent Trends In The Soviet Union

Events in the Eastern bloc in 1989 greatly heartened us. Since then, democratic regimes have been elected in most of Eastern Europe, and Soviet actions, such as agreement to German unification within NATO, have contributed in several ways to a more secure international environment. The Soviet Union also has agreed to withdraw its troops from Czechoslovakia and Hungary and unilaterally reduced general purpose forces at home. The Soviets have joined with the overwhelming majority of the international community in supporting 12 U.N. Security Council resolutions condemning Iraq's wanton aggression in the Persian Gulf.

Last fall, during trips to Poland and the Soviet Union, I witnessed some of these advances firsthand. In Moscow, I addressed a joint meeting of the Defense and State Security and International Affairs committees of the Supreme Soviet, and this experience in particular left me with a sense of the enormous changes that have taken place in the Soviet Union.

But the moves toward democracy and demilitarization in the Soviet Union that we all welcomed now appear to be in doubt. Recent, worrisome events raise questions about the prospects for needed economic and political reform and the Soviet Union's future course at home.

The economic situation in the Soviet Union today is as bleak as it has been anytime since the end of World War II. In October, about the time I visited the Soviet Union, the central government rejected the Shatalin Plan, the economic program that seemed to hold the most real prospect for reform in the Soviet economy. The Soviet government has taken other steps that make any significant improvement in the Soviet economy less likely, including reasserting the priority of state orders in the economy, authorizing the KGB to search business enterprises for economic data, and otherwise countering the movement towards free markets and prices. These actions are certain to trouble Western businessmen contemplating investments in the Soviet Union. In short, the Soviet central government has for now apparently abandoned economic reform and in turn has been abandoned by the most prominent economic reformers, many of whom are now working with the government of the Russian Republic.

As a result of the central government's policies, the Soviet economy is collapsing. There only remains the question of how rapidly the shrinkage is actually occurring. Estimates for 1990 range from an official Soviet estimate of some 2 percent reduction in Soviet economic activity to at least a 10 percent reduction in the 12 months ending February 1991. Most experts anticipate that 1991 will see a further contraction of the Soviet economy.

President Gorbachev's success in the eyes of many hinged upon his ability to deliver economic reform — to move the Soviet Union into the modern era so that it could compete with the West. Success depended first and foremost upon his ability to dismantle the old structures that clearly did not work and to put new structures in their place. In my view, to date, he has clearly not yet achieved that transformation. Given this failure, we have to anticipate that there will continue to be economic decline and increased prospects for significant unrest. If the government pursues additional antireform steps, Moscow will find itself locked in a vicious cycle. It is hard to discern, at this point, a strategy at the center for dealing with these problems or for regenerating a process of reform.

Political reform in the Soviet Union is also under attack. Leading liberal political figures have left the government, most notably former Foreign Minister Shevardnadze, whose resignation speech warned of an impending dictatorship. Shortly thereafter, the government resorted to and sanctioned a crackdown on the freely-elected governments in the Baltic states. There has been a reversal of progress in human rights and a broad campaign attacking press freedoms. Political conflict is worsening. Rather than moving toward greater openness to resolve the underlying problems,

Gorbachev appears ready to rely on the security services and the military and the use of force to maintain order inside the Soviet Union. They have issued a decree establishing joint Interior Ministry-Army patrols. There is now widespread consensus among Soviet observers that the central government is increasingly influenced by the military and the security services, as well as the Communist party bureaucracy.

In the absence of ongoing reform there is little prospect for a permanent transformation in East-West relations. Experience shows that ultimately U.S.-Soviet relations are driven by how the Soviet Union governs itself. Except at the margins, long-term improvement depends on the democratization and demilitarization of Soviet society. The failure of reform would not necessarily mean a return to the worst days of the Cold War, but it would prevent movement to a thorough-going, across-the-board state of cooperation with the Soviet Union.

Reform need not fail. Our President has said many times that we want the process of reform in the Soviet Union to succeed. We still hope that it will be successful, and the central government, we believe, may still be able to take steps to return to the path of reform.

What do these conflicting trends mean for our long-term defense requirements? Five implications must be weighed.

First, the Warsaw Pact is dead as a military organization. I do not see any possibility of resurrecting it. Even though the Soviet military will remain, by a wide margin, the largest armed force on the continent, the threat of a short-warning, global war starting in Europe is now less likely than at any time in the last 45 years. The U.S.S.R. will, very likely, continue withdrawing forces from Eastern Europe. The withdrawals from Hungary and Czechoslovakia are well on their way to completion, and despite some recent difficulties we anticipate that withdrawal from Germany and Poland will be completed some time thereafter.

Second, the Soviet ability to project conventional power beyond its borders will continue to decline, whether that decline is part of a broad strategy of improving relations with the West or whether it is simply an unintended effect of the continued economic collapse of the Soviet Union. For the moment there does not appear to be a constituency for a revanchist policy toward Europe or a forward policy in the Third World. More generally, as many Soviets have noted, the Soviet Union has a sick economy, and it is getting sicker. The military is not able to insulate itself completely from this broader social illness, and, as a consequence, some of its capabilities inevitably will be degraded. Thus, I think overall the Soviets are going to find increasing difficulty projecting power beyond their borders, and that, obviously, will reduce the threat we have faced for the past 40 years.

Third, there is enormous uncertainty about developments inside the Soviet Union, and this should be reflected in our planning. Absent a return to the course of reform, I believe the Soviet decline will continue. Growing unrest and violence in the Soviet Union would threaten its neighbors in Central and Eastern Europe since some of the turmoil may spill over the borders of the Soviet Union. This unrest will be particularly troubling to the Soviet Union's neighbors, since, as former Foreign Minister Shevardnadze said not long ago:

> *"...no one can calculate the consequences of a social explosion capable of igniting not only befogged minds but also the giant stockpiles of nuclear and chemical weapons and nuclear power stations and the zones already weakened by environmental and natural disasters and regions shaken by interethnic strife."*

As the situation deteriorates in the Soviet Union, anticommunist democrats and ethnic nationalists

could well take to the streets in protest or flee. Large flows of refugees to Europe are of concern, I know, to Eastern European leaders.

As a result, the East Europeans will be increasingly concerned about their security. We, in turn, will need to address the kind of relationship we want to establish with the newly emerging democracies in Eastern Europe.

Fourth, and a key point, the Soviets not only retain significant strategic capability but they are modernizing it virtually across the board. It is expected that Soviet nuclear forces will be fully modernized by the mid-1990s, including Typhoon/Delta IV submarines, SS-24 and SS-25 missiles and follow-ons to each, and a new, highly accurate version of the SS-18 missile. They also will modernize their air-breathing forces with the ALCM-carrying Bear-H, Blackjack, and Backfire bombers, among other improvements. In all, we believe there are some five or six new Soviet long-range ballistic missiles currently under development. The U.S.S.R. also continues to modernize its strategic defenses. While we seek to capitalize on the significant reductions in conventional capabilities, we also must recognize the continued importance of maintaining our own robust strategic offensive and defensive capabilities.

Fifth, and finally, the prospects for arms control are now in doubt. We have serious unresolved differences with Moscow over the agreement to reduce Conventional Forces in Europe (CFE). There is still, at this time, no resolution on the Strategic Arms Reduction Talks (START), although at various times there has been reason to believe that we were close to finishing a START agreement. These setbacks in arms control demonstrate the spillover effects of Soviet domestic unrest and the resurgent role of the military. Nevertheless, we remain hopeful that we may yet conclude meaningful arms control agreements with the Soviets and be permitted to implement those agreements.

For all these reasons, events in the Soviet Union bear watching. Recent events in the Persian Gulf have shown that threats that emerge in the Third World are of increasing concern due to the proliferation of heavy tank forces and weapons of mass destruction. It is an uncertain world, and we must balance the uncertainty within it against our desire to reduce the resources devoted to defense.

Outline Of The Report

This annual report presents the dimensions of the challenge we confront in defense planning. The force restructuring that it outlines — the largest shift of its kind since the end of World War II — reflects a new defense strategy, a revitalized defense management process, new technologies and programs for the future, and continued support for the men and women in uniform who are the most important element of our strength.

Part I outlines U.S. global defense policy, setting forth the significant changes in the international security environment and the defense policy and strategy initiatives the President has undertaken to respond to their implications and to minimize, within prudent limits, the resources we devote to defense.

Part II highlights selected Defense Department operations in 1990. This section is an important acknowledgement of the dangers faced and responsibilities fulfilled by the armed forces and defense civilian work force over the past year.

Operation DESERT SHIELD and its combat phase, Operation DESERT STORM, in the Persian Gulf, Operations JUST CAUSE and PROMOTE LIBERTY in Panama, Operation SHARP EDGE in Liberia, and antidrug efforts around the world send an unmistakable message that the United States

is prepared to defend its people and principles, worldwide. This was further demonstrated just weeks ago in Somalia, when U.S. Marines and sailors safely evacuated some 260 people from the American and other embassies that were endangered by that country's violent turmoil.

Part III of the annual report focuses on the resources needed for defense. Today, defense continues to take a smaller and smaller portion of our gross national product (GNP). By FY 1995, we expect the defense budget to be less than 4 percent of GNP, the lowest level since before the attack on Pearl Harbor.

Our most important resource is the people on whom America's defense depends. The Administration continues to support good pay and benefits, the equipment and support that our forces need to do their jobs, and a strong training and operations tempo that is sufficient to sustain a high degree of readiness. Cuts in the force structure must take place in the context of a carefully managed restructuring, aimed at preserving and strengthening the effectiveness and capability of our military units. Part III describes our efforts:

- **Force structure:** Force reductions were begun in FY 1990-91 and will continue during the Department's multiyear defense program. Projected force structure reductions from FY 1990 to FY 1995 include a drop in Army divisions from 28 (18 active) to 18 (12 active), and a drop in Air Force tactical fighter wing equivalents from 36 (24 in the active component) to 26 (15 active). Battle force ships will be reduced to 451, compared to the old goal of 600 ships. There will be 12 Navy aircraft carriers available for peacetime deployments or contingencies, and one training carrier.
- **Programs:** As forces are restructured, procurement and acquisition programs will receive careful scrutiny and strong support. Major adjustments have been made in the programs for the B-2 bomber, C-17 transport, SSN-21 submarine, and Milstar communications satellite. Procurement of a number of lower-priority military systems has been terminated. Taxpayers' funds for weapon systems will be spent wisely.
- **Management:** Finally, to help use limited defense resources most effectively, defense management is undergoing a major overhaul. The new defense management framework outlined in Part III is not just a reorganization, but a new way of doing business — emphasizing top-to-bottom accountability, clear command channels, and stability in programming.

Part IV of the report discusses specific defense programs designed to meet the defense responsibilities we continue to face — from sea floor to space orbit, from counterterrorism to deterring the threat posed by the huge nuclear arsenals that the Soviet Union continues to modernize. As we look at defense programs, two elements are worthy of special mention.

- First, in preparing tomorrow's defense programs, we continue to need forward-deployed forces in key regions, as well as crisis-response forces to respond quickly and effectively to threats to US interests globally. We need robust naval forces that enable us to exercise our world role across the oceans that divide us from allies and trading partners. And we need an offensive nuclear capability along with a strategic defense, to deter and defend against tomorrow's ballistic missile threats.
- Second, in every category it is apparent that in the years ahead we will need to strengthen our technological edge. The speed of technological change raises unprecedented challenges. The spread of modern weaponry has multiplied the number of sophisticated Third World arsenals that include such items as advanced tanks, attack submarines, and cruise missiles. Of grave concern is the proliferation of nuclear weapons and the means to deliver them. By the year 2000, it is estimated that at least 15 developing nations will have

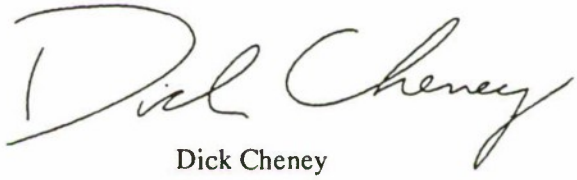
the ability to build ballistic missiles — 8 of which either have, or are near to acquiring, nuclear capabilities. Thirty countries will have chemical weapons, and 10 will be able to deploy biological weapons as well. These threats are clearly on the horizon and we must shape capabilities to respond to them. We must also carefully nurture the technological capability to reconstitute our forces should a global threat emerge.

In the very first report of the Secretary of Defense, published 43 years ago, Secretary James Forrestal discussed America's sudden demobilization after World War II, the subsequent advance of Stalin's empire, and the gradual realization that a strong defense remained imperative to peace:

> *"We scrapped our war machine, mightiest in the history of the world, in a manifestation of confidence that we should not need it any longer. Our quick and complete demobilization was a testimonial to our good will rather than to our common sense. International frictions which constitute a threat to our national security and to the peace of the world have since compelled us to strengthen our armed forces for self-protection."*

Today we have an opportunity to avoid a similar cycle of mistakes and crises. We must take careful, deliberate action to change the structure of our military without eviscerating our forces and security. We must evaluate, as we build down, whether our hopes for a more peaceful and benign international environment are being realized. This report presents the framework for the task to restructure our defense capabilities. It rests on a superstructure we can rely on — streamlined, effective armed forces that can defend America against the threats and uncertainties of the modern world.

Yet the keystone of our strength remains the commitment of the American people to their defense. This spirit, the heart of our national strength, is the force behind a world of freedom whose horizons continue to expand. As we work with other nations in the Persian Gulf conflict, as we prepare for tomorrow's contingencies, and as we weigh the uncertainties about change in the Soviet Union, friends and adversaries alike can have no doubt about America's ability and will to carry out our responsibilities as a powerful force for freedom in the world.



Dick Cheney

Part I
Defense Policy

NATIONAL SECURITY CONCERNS AND DEFENSE POLICY PRIORITIES

Introduction

This chapter highlights the new defense strategy that is based on U.S. policy emerging in the post-Cold War security environment, a strategy that is predicated on both the opportunities and the challenges of these uncertain times. The world security environment has undergone a major transformation, and the risks to U.S. security interests are greatly reduced, especially in Europe. This is due largely to a change in East-West relations brought about by the failure of communism and a successful strategy of deterrence by the West over the past 40 years. The extent of the changes, and particularly the elimination of the threat of a massive, short warning invasion of Europe, has enabled the Department to work towards refining a new strategy for the emerging world security environment and has mandated a reassessment of many of the imperatives that have shaped our defense strategy for the past four decades.

The new strategy was first unveiled by President Bush during his speech in Aspen, Colorado, in August 1990. The President articulated the context for the emerging defense strategy and its four major elements when he said: "Our new strategy must provide the framework to guide our deliberate reductions to no more than the forces we need to guard our enduring interests — the forces to exercise forward presence in key areas, to respond effectively to crises, to retain the national capacity to rebuild our forces should this be needed"...and to..."maintain an effective deterrent." (For the entire text of the President's address, see Appendix E.)

The ultimate shape of the new security environment in Europe is still unknown. Significant challenges remain to the national security interests of the United States. Foremost among these are the continuing threat posed by the strategic nuclear arsenal of the Soviet Union and the various threats to regional stability. The United States also must remain vigilant to any reversals in the democratic evolution in Eastern Europe and any further reversals in the Soviet Union, such as the recent use of force against democratic expression in the Baltics and other indications away from democratization and economic and military reform. For example, the prospects for arms control are in doubt. We have serious unresolved differences with Moscow over the CFE agreement and there is still, at this time, no resolution on START.

This past year clearly illustrated the danger of regional instability and thus our nation's continued need for strong and responsive military forces. As this report is submitted, United States military forces, after the most rapid large-scale deployment of forces since World War II and in conjunction with the forces of a number of other nations, are engaged in military combat to enforce a number of U.N. resolutions to free Kuwait from its aggressive and illegal annexation by Iraq. In other events of the past 14 months, the U.S. employed its military forces for the liberation of Panama and for the evacuation of American citizens from troubled Liberia and Somalia. In addition, the increasing number of Third World countries with large, sophisticated conventional forces, and the proliferation of ballistic missiles and weapons of mass destruction (with chemical, biological, and even nuclear potential) are creating new instabilities and increased threats to U.S. interests, friends, and allies. These events bring home the reality that the world remains a troubled place where U.S. leadership and military strength continue to play a vital role.

Forces of Change

Events in the following important areas highlight the nature of the sweeping changes in the world security environment and the continuing challenges to U.S. national security.

- **Events in the Middle East and the Persian Gulf.** Iraq's unprovoked invasion, occupation, and illegal annexation of Kuwait, and the threat Iraq poses to other countries and to global energy supplies have rocked the fragile stability of the region and created a worldwide crisis. The political, diplomatic, and military response of the world community against Iraq's aggression has been impressive and united. Stable and secure access to the region's energy supplies — which comprise more than two-thirds of world oil resources — is vital to the economic and political well-being of

the United States, its allies, and the entire world.

- **Events in the Soviet Union.** The Soviet Union has been undergoing a "revolutionary transformation" in which the foundations of its political, economic, social, and military establishments are being questioned. There have been positive signs, such as significant reductions in military forces and the ongoing withdrawals of Soviet forces from Eastern Europe, that have significantly reduced East-West tensions and the Soviet ability to pose a short warning threat to Europe. A more constructive approach is appearing in many areas of Soviet foreign policy. But uncertainties remain concerning the endurance of reforms and their potential for success, raising profound questions about the continued status of the gains achieved thus far by democratic forces in the Soviet Union. Moreover, from a security perspective, the Soviet Union will remain the only power on earth capable of destroying the United States, and modernization of Soviet strategic nuclear forces continues. The continued allocation of significant resources toward deployment of new nuclear forces contrasts with reductions in Soviet conventional forces. This and the Soviet military's call for increased budgets over the next 10 year period is perplexing in light of the catastrophic economic conditions which confront the Soviet government. In spite of reductions, Soviet military forces remain the largest of any country in Eurasia, and the Soviet Navy and Air Force continue to modernize and remain the largest in the world.
- **Events in Eastern Europe.** Dramatic changes occurred in Eastern Europe during 1990. Elections have taken place throughout the region, and the Warsaw Pact no longer is an effective military organization. However, ethnic rivalries and the turbulence of extensive political and economic changes taking place within the region create significant uncertainties.
- **Events in Western Europe.** The unification of Germany and the Soviet Union's acceptance of a unified Germany in the North Atlantic Treaty Organization (NATO) would have been unthinkable just two years ago. Progress toward West European economic integration continues. Tensions and the likelihood of military conflict between the West and the Soviet Union and Eastern Europe have been reduced, but Western Europe remains concerned about the prospects of instability to the East and the increasing proliferation of high technology weapons in the Third World.
- **Events in East Asia and the Pacific.** A stable security environment in the region is essential to U.S. political, military, and economic interests. Several potential problems, however, will require close attention and careful management. Economic interdependence and competition, both of which are increasing simultaneously, will challenge and complicate existing security relationships. The region long ago surpassed Europe as America's premier trading partner, and its margin continues to grow. Regional problems — the continued division of the Korean Peninsula, the conflict in Cambodia, and territorial disputes — still defy solution and could become violent. Finally, political uncertainties will expand as major generational leadership changes occur in China, Vietnam, North Korea, and other nations in the region.
- **Continuing Tension in South Asia.** While much of the world became more peaceful in the first half of 1990, tensions between Pakistan and India nearly escalated to the brink of war over the status of Kashmir. In the second half of 1990, internal domestic concerns in both countries took precedence over perceived external threats, but underlying grievances between the countries remained intact. Prospects for resolving their bilateral disputes remain remote. Both countries continue to build their military capability in conventional terms and to reach for increasingly sophisticated capabilities, including missile and nuclear weapons technology. There have, however, been some encouraging statements from the two new governments in Islamabad and New Delhi, and the recent decision to implement the long-agreed pledge to refrain from attacking nuclear facilities is a positive development.
- **Situation in China.** Eighteen months after the Tiananmen Square massacre, U.S.-China relations are still strained and far from normal. The Chinese leadership has stepped up its ideological indoctrination and made clear that public dissent will not be tolerated. China has sought to limit the damage from Tiananmen and shore up or develop important relationships. However, while China's foreign policy has been marked by cooperation in the Persian Gulf and Cambodia, relations with the West will not be "normalized" until conditions are appropriate for the sanctions to be lifted.
- **Continued Concerns in Latin America.** Latin America remains burdened by debt and uneven growth, and internal violence generated by economic dislocation is likely to increase. Instability in the region directly affects American lives through narcotrafficking and illegal immigration. In addition, although Castro's Cuba is increasingly isolated, its support for insurgencies continues to threaten demo-cratic governments. These sources of instability could lead to a disruption

in our critical lines of communication and access to certain strategic resources. Despite gains for democracy in the region, the prognosis for economic and political stability is uncertain.

- **Economic, Political, and Social Upheaval in Sub-Saharan Africa.** Sub-Saharan Africa's severe distress renders it increasingly vulnerable to interference by regional powers. Nations such as Libya and Iraq may seek to undermine pro-Western governments and leaders in the region by offering military goods or by threatening terrorism, subversion, or overt military action. Instability in Africa could disrupt the production and distribution of resources important for U.S., European, and Japanese defense and industrial needs; it might also restrict the ability of the U.S. to project its presence in the region.
- **Proliferation of Weapons.** High technology weapons continue to be available in alarming quantities in the international marketplace. Some Third World countries possess large, sophisticated conventional forces with tanks, artillery, air defenses, tactical air forces, antiship cruise missiles, and modern diesel submarines. Proliferation of nuclear, chemical, and biological weapons and the missile technology for long-range delivery systems will make regional conflict increasingly destructive and lethal.
- **Narcotics Trafficking.** The flow of illegal drugs into the United States and the demand for such drugs in our society continue to present an unprecedented and perplexing national security threat. The United States armed forces continue to combat the production, trafficking, and use of illegal drugs.
- **Terrorism.** There are those who seek to frustrate our foreign policy and our national security goals through terrorism. This form of intimidation also threatens the lives, freedom, and property of Americans around the world. The Department of Defense is pursuing efforts to combat terrorism and assist friendly nations working to counter this global menace.

Implications and U.S. Policy Response

Changes in the strategic environment have several important policy and strategy implications. The most important grows out of the changes in the Soviet Union and Eastern Europe. The unification of Germany, the dissolution of the Warsaw Pact as a military organization, the ongoing withdrawal of Soviet forces from Eastern Europe, and the hoped-for implementation of the Conventional Armed Forces in Europe (CFE) Treaty mean that the United States and its NATO allies will not face the traditional threat of a Europe-centered global war, unless a long period of visible Soviet preparations precedes it. This allows a new focus of U.S. military strategy and permits us to reduce force levels without jeopardizing our security or that of our allies. Changing world dynamics also permit reductions in U.S. forward presence, particularly in Europe and Asia, and these reductions are currently under way.

If the Soviets were to shift direction again and return to a strategy of military confrontation, it would take them at least one to two years or longer to regenerate the capability for a European theater-wide offensive or a global conflict. The United States would plan to respond early to any such shift in Soviet strategy and begin to reconstitute the additional forces that would be needed to confront a resurgent Soviet Union or some other global threat. The capability to reconstitute requires additional attention now to training and mobilization plans. It also requires establishing the means to ensure an effective transition from routine to emergency operations and reduce significantly the lead times associated with mobilization. Finally, it demands emphasis on maintaining a capable industrial base. Changes in international economic relationships that may lead to a further shrinking of this base are of concern due to their implications for current and future force capabilities and reconstitution plans.

At the same time that the global Soviet threat is declining, the potential for major regional threats to U.S. interests is growing. Such regional threats can arise with very little warning. These contingencies have always represented a variety of challenges — from Korea, to the Persian Gulf, to other crisis locations in the Middle East, and elsewhere. Today such crises are made more dangerous because of the proliferation of advanced weaponry, including weapons of mass destruction, and the willingness to use them. The U.S., therefore, must maintain its capability to respond to major regional contingencies.

Changes in the strategic environment point to a smaller U.S. nuclear and conventional force structure than exists today, but one that is capable of responding decisively to tomorrow's challenges. The United States can now size its conventional forces to counter major regional contingencies in Europe, East Asia, the Persian Gulf, and potential conflicts elsewhere, and to meet other defense needs, such as the forward presence of U.S. forces. However, the U.S. cannot, under any

circumstances, go below the minimum level necessary to protect U.S. interests and continue to play a leading role in shaping international events. As demonstrated by events in the Persian Gulf, the United States will continue to require strong armed forces. These forces will provide the forward presence, crisis response, and power projection and reinforcement required to resolve crises on terms favorable to the United States.

Currently planned force structure reductions are based on certain assumptions about positive trends in the Soviet Union and the Third World. Recent events in both areas, however, have raised concerns. Should events in either region take a further dramatic turn for the worse, we may need to slow our decline to the low force levels we are now planning for the mid-1990s, or even halt our decline at more robust force levels than we are currently projecting.

U.S. forces will emphasize qualities of versatility, lethality, global deployability, and rapid responsiveness. Especially for forces designated to respond to short-warning crises, readiness and mobility must be among the highest priorities. For the long term, U.S. strategy must continue to capitalize on its enduring strengths and the weaknesses of those who challenge U.S. interests.

Defense Priorities

Priorities for U.S. defense policy and the military force structure under the new defense strategy are:

- **Credible Deterrent Forces.** The cornerstone of U.S. defense policy is to deter aggression and coercion against the United States and its allies and friends. Deterrence is achieved by convincing potential adversaries that the cost of aggression at any level would exceed any possible gain. The following capabilities are essential to ensure peace and achieve deterrence in the emerging security environment:
  - **Strategic Deterrence and Defense.** Strategic deterrence remains the bedrock of the national defense. Deterrence of Soviet nuclear capabilities is essential to the survival of the nation. The United States therefore maintains a diverse mix of survivable and capable nuclear offensive and defensive forces that hold at risk those assets most valued by Soviet leadership and provide a range of options in response to attack. The United States is committed, through the Strategic Arms Reduction Talks (START) process, to achieving stabilizing reductions in the strategic offensive arms of the two nuclear superpowers. Proliferation of technology for nuclear and other weapons of mass destruction and the means to deliver them also remains a matter of the highest concern. Consequently robust research and development to support defenses against such weapons are vital.
  - **Peacetime Forward Presence.** The forward presence of U.S. forces will remain a key element of U.S. strategy, albeit at generally reduced levels, consistent with changing threats. Forces for forward presence are essential for strong security alliances. Forward-deployed forces play a critical role in deterring aggression, preserving regional stability, and protecting U.S. interests. They are visible evidence of U.S. commitment and provide our initial capability for crisis response and escalation control. This nation still very much depends on forward deployments in Asia, Europe, the Mediterranean, and the Atlantic, Pacific, and Indian Oceans. The United States must maintain forces sufficient to sustain those forward deployments and to reinforce them in the event of crisis.
  - **Conventional Forces for Major Regional Contingencies and Crisis Response.** With a decline in the threat of global war and an increased emphasis on forces needed for regional contingencies, U.S. conventional forces can generally be thought of in terms of three groupings: forces for the Atlantic hemisphere, forces for the Pacific hemisphere, and forces for contingencies. Collectively, these three groupings of forces would provide appropriate military capabilities for response and deterrence worldwide. Forces for the Atlantic would include forward-based and forward-deployed units committed to Europe, and heavy reinforcing forces for Europe, the Middle East, and the Persian Gulf based in the continental United States (CONUS). Forces for the Pacific would include forward-based and forward-deployed units plus naval, ground, and air reinforcing forces located in the United States. Forces for contingencies would consist of CONUS-based ground, air, and naval forces, including special operations forces, and forward-deployed forces, capable of worldwide deployment as needed. Such forces would be used particularly for rapid response to regional contingencies and to support concurrent contingencies. Mobility and maritime prepositioned forces support Atlantic and Pacific forces as well as contingency forces.

    In addition to providing air, naval, and ground

combat forces needed to deter, and if necessary to respond to possible conflict, this approach provides the capability to deal with more than one concurrent major regional contingency. In addition, this approach would use reserve forces to augment and support forces deployed in prolonged and/or concurrent contingencies, and provide a sustaining base for other forward-deployed forces.

- **Reconstitution Capability for Global War.** Global deterrence requires not only forces for strategic deterrence, forward presence, and contingency response but also the capability to reconstitute forces, if necessary, to respond to a major shift in Soviet strategy or the emergence of a major new threat. Early initial decisions would be required to ensure adequate preparation time for such reconstitution of additional forces. This readiness to rebuild is an important element in our ability to deter any such adverse shift in Soviet strategy.

- **High Quality Force.** The maintenance of a high quality force must remain our most crucial priority. Continued emphasis on strengthening compensation, recruitment and retention, education, and training programs will enable the United States to maintain a force that is second to none.
- **Alliance Structures.** Alliances and other security partnerships remain fundamental to U.S. policy. As NATO has shown, our system of alliances has been essential to the success of deterrence for the past 40 years. Our alliances have also contributed to regional stability and have been instrumental in building mutual confidence among states with whom we have alliance relationships.
- **Arms Control.** The United States continues to engage in arms control as part of a coordinated effort to enhance its security and that of its allies, and not as an end in itself. Through arms control agreements, the United States seeks to reduce military threats, inject greater predictability into military relationships, and channel force postures in more stabilizing directions. Such agreements must be equitable and effectively verifiable and preserve the latitude to conduct an effective political, economic, or military response.

  Negotiations currently under way include START, Defense and Space Talks (DST), chemical weapons negotiations, Conventional Forces in Europe Follow-on Negotiations, Confidence and Security Building Measures Negotiations, and Regional Security Talks among the five Central American countries (to ensure defensive forces, a reasonable balance of power, and improved cooperation and communication). The U.S. and U.S.S.R. completed negotiations at the Nuclear Testing Talks (NTT) on new verification protocols for the Threshold Test Ban Treaty (TTBT) and Peaceful Nuclear Explosions Treaty (PNET). The new protocols were signed at the June 1990 Washington Summit, the Senate gave its advice and consent to ratification in September 1990, and the Treaties entered into force on December 22, 1990. In addition, the U.S. has taken the lead in seeking an open skies agreement, whereby signatory states would permit frequent, unrestricted overflights of their national territories by foreign aircraft for the purpose of increasing confidence about military intentions and capabilities.

  Substantial progress also has been made in several other areas. On November 19, 1990, a major agreement on CFE was concluded between the U.S. and its 15 NATO allies, and the nations that then constituted the Warsaw Treaty Organization (WTO). Follow-on negotiations have commenced to discuss issues including manpower and an aerial inspection regime. Unfortunately, problems regarding Soviet data and existing interpretations have recently arisen. Along with the other 33 Conference on Security and Cooperation in Europe (CSCE) participants, the U.S. agreed on November 16, 1990, to a substantial package of Confidence and Security Building Measures (CSBM). Follow-on CSBM negotiations began on November 26, 1990, and are expected to conclude prior to the CSCE Follow-up Meeting in Helsinki in March 1992.

  The elimination of all intermediate- and shorter-range nuclear missiles banned by the U.S.-Soviet Intermediate-Range Nuclear Forces (INF) Treaty will be completed by June 1991. On-site inspections in accordance with the Treaty will continue for 10 years. The Department of Defense On-Site Inspection Agency was created in 1988 to carry out INF inspection activity, and has since been tasked with responsibility for implementing the nuclear testing treaties (TTBT and PNET), the recently signed CFE Treaty, and for planning for other arms control inspection regimes currently under negotiation.

  At the June 1990 Washington Summit, the U.S. and the U.S.S.R. also signed the first agreement ever to call for significant reductions in any nation's chemical weapons stockpile. Once the agreement enters into force, both sides will reduce their stockpiles to 5,000 agent tons by 2002. This agreement enhances U.S. national security and sends a positive message to the 39 nations negotiating toward a global ban in Geneva.

- **Research and Development (R&D).** Investment in research is becoming increasingly important, both to compete with the advancement of militarily significant technology in the rest of the world and to provide a strong technology base from which future systems can be developed. The U.S. must maintain and improve its ability to efficiently design and build systems capable of addressing the potential threats posed by emerging and proliferating technologies into the 21st century. In particular, science and technology efforts play an important role in providing the technological options upon which future military capabilities are built. Because of the uncertainties surrounding future threats and threat capabilities, combined with future declines in acquisition budgets, it will be necessary to continue generating these technological options without, in every case, having to bear the cost of funding weapon systems through to full scale production. To accommodate this need for flexibility, the Department's approach promotes strong R&D efforts, including: a proper mix of manufacturing and manufacturing process technology; greater use of prototyping to preserve critical engineering design teams; and limited production that will serve to prove the producibility of an item, make production equipment available for the much needed operational test and evaluation, and maintain a capable manufacturing base from which to build, if and when the need arises. The R&D program will continue to be a critical component of the U.S. policy of deterrence.
- **Nonproliferation and Technology Security.** Third World nations in pursuit of nuclear, chemical, or biological weapons technology, or missile and other strategic technology, pose a serious threat and must be monitored carefully. The U.S., its allies, and other friendly nations are examining this threat with a view to strengthening their export control policies. In addition, the Soviet Union and a number of other nations continue to attempt to obtain sensitive technologies that are controlled by the U.S. and its allies for national security reasons.
- **Sustaining Intelligence Capabilities.** Our need to sustain and improve DoD intelligence capabilities worldwide was well illustrated this past year in the U.S. response to the Middle East crisis. Needed intelligence assets were at hand or quickly obtained. The capability to rapidly shift intelligence assets from lower priority collection targets to crisis requirements enabled a rapid response to the needs of military forces assembling in the Middle East. Although each additional intelligence asset directed at the Middle East was redirected from an assigned target, sufficient intelligence coverage of other important intelligence concerns was maintained.

  DoD intelligence has many roles, but the following are particularly important:
  - To provide support for continued deterrence of Soviet strategic nuclear capabilities;
  - To assess the rapidly changing military situation in the Soviet Union;
  - To maintain an intelligence base on regional powers such as Iraq; and
  - To furnish indications and warning on crisis or contingency situations to facilitate an early and flexible deterrent response to aggression or a threat to a vital U.S. interest.

  Resources required for effective intelligence capabilities continue to be essential.
- **Low-Intensity Conflict (LIC) and Peacetime Engagement.** The existence of large conventional forces and a potent nuclear deterrent have effectively prevented war between the superpowers for more than 40 years, but this has not deterred low-intensity conflicts. In addition to the destablizing factors previously described, the decade to come is likely to see increased ethnic and religious tensions and shifting demographics, all of which may fuel local instabilities. Such struggles threaten the international relationships and alliances that are vital to coalition defense, and to the open economic interchange among the United States, its allies, and its friends.

  These conflicts, resulting largely from instability in the Third World, often pose real and immediate challenges to democracies. They undermine already weak or embryonic governments and the peacetime conditions that are necessary for democratic institutions to function and mature. Effective responses to regional conflicts affecting U.S. interests thus require innovative strategies that support representative government, integrate security assistance, and promote economic development.

  Peacetime engagement is a strategy that seeks to counteract violence and to promote nation-building. Military forces can be employed directly or indirectly to counter violence associated with threats such as terrorism, narcotics trafficking, subversion, and insurgencies and, when necessary, to aid democratic freedom fighters against repressive regimes. Peacetime engagement also includes security assistance for unconventional warfare and foreign internal defense. The criteria for victory in the application of these programs are successfully providing local security

and winning popular support. Concurrent with the restoration of a stable security environment, various instruments of U.S. national power are engaged to promote private enterprise and market-oriented economic growth, democracy and political reform, justice and respect for human rights, and an environment conducive to representative government. The Department maintains active liaison with other agencies to produce comprehensive policies to address LIC challenges, to improve the efficiency of our programs, and to enhance the synergism of our interagency efforts.

- **Fight Against Illegal Drugs.** Detecting and countering the production, trafficking, and use of illegal drugs continue to be a high-priority national security mission for the Defense Department. The supply and use of illegal drugs in the United States and the associated violence and international instability continue to pose a direct threat to our security. By law, the Department of Defense serves as the lead agency within the federal government for detecting and monitoring the airborne and maritime transit of illegal drugs to the United States and is also responsible for integrating the counternarcotics command, control, communications, and intelligence of the federal government into an effective network for counternarcotics operations.

In summary, changes in the world and new defense policy concepts have enabled us to make significant changes to our defense force posture and resource base. The year 1990 was one of basic reassessment for the Department of Defense. The reassessment process continues and will be particularly sensitive to democratic evolution within Eastern Europe and the Soviet Union. The Department is proceeding to develop the new national defense strategy and the military forces we will need for the coming decade and beyond. Our defense policy priorities are responsive to the emerging order and reflect adjustments which have become possible because we no longer need to size military forces for a short-warning threat of global war with the Soviet Union. Regional conflict has replaced global war as the major focus of defense planning. Our active and reserve forces can now be prudently and substantially reduced. The forces that remain, however, must be able to support: forward presence, versatile conventional forces for peacetime engagements, crisis response and regional conflicts, a reconstitution capability for the possibility of a renewed global threat, and an offensive and defensive strategic deterrence umbrella for the nation and its allies.

COLLECTIVE SECURITY

Introduction

Strong alliances are fundamental to U.S. national defense strategy. The shared values, mutual defense concerns, and combined economic strength of friendly countries have provided a strong foundation for collective security that has served our nation well. Alliances have helped to protect U.S. interests around the world, have enhanced regional stability, and have served as an effective deterrent to Soviet expansion. Strong alliances remain critical in the post-Cold War security environment. Effective policy in a world of dynamic change continues to require strong alliances for both crisis response and long-term strategic planning. Additionally, in an era of changing security strategy where many threats are ambiguous, alliances may require special nurturing. Alliances that are allowed to erode require years to rebuild.

The United States is currently party to seven formal alliances, shown at Table 1. In addition, the United States maintains defense agreements and less formal arrangements with a number of other nations. Our membership in the United Nations also has collective security benefits and responsibilities. Most recently, the leadership role of the United Nations in responding to the Iraqi invasion of Kuwait has been impressive and serves as an example of effective implementation of collective security arrangements.

The alliances and bilateral relationships which the United States maintains around the world facilitate communication among nations, improved integration among military forces, displays of military capability for deterrence of regional threats, training of lesser capable forces to better defend themselves, and most importantly an overt demonstration of U.S. commitment to our friends. Additionally, through alliances and bi-lateral relationships, the United States gains critical access to regions for necessary forward presence and critical staging in the event of contingencies. The success of our alliances validates the long-held American belief that by helping to defend our friends, we best defend ourselves.

As the United States seeks to maintain the vitality of its alliances, there are important activities that contribute to that effort. Among these are the following, several of which will continue to challenge mutual security relationships: sharing the responsibility for the common defense, international defense cooperation, overseas basing, humanitarian assistance, and security assistance.

U. S. Alliances **Table 1**

- The North Atlantic Treaty Organization (NATO) Alliance
- The Australia-New Zealand-United States (ANZUS) Alliance (although U.S. obligations to New Zealand are suspended as a result of New Zealand's decision to ban U.S. nuclear-powered and nuclear-capable ships from its ports)
- The Treaty of Mutual Cooperation and Security between the United States and Japan
- The Mutual Defense Treaty between the United States and Korea
- The Mutual Defense Treaty between the United States and the Republic of the Philippines
- The Southeast Asia Collective Defense Treaty (which remains in effect on a bilateral basis with Thailand)
- The Inter-American Treaty of Reciprocal Assistance (the RIO Treaty)

Sharing the Responsibility for the Common Defense

The United States seeks to concentrate on providing capabilities for which U.S. forces have a comparative advantage and to avoid duplication of effort with and among our allies. As the perception of a Soviet threat diminishes, publics and legislatures alike will expect to realize a "peace dividend" through reductions in forces and armaments. Nevertheless, as the U.S. considers defense responsibilities with its allies, the following issues remain paramount:

- The reduction of forces in consonance with reduced threats, arms reduction treaties, and consultation with allies;

- The improvement of the readiness, mobility, sustainability, and efficiency of forces;
- The support of long-term planning based on division of labor among active and reserve forces and mobilization capabilities, and further exploration of common and joint funding opportunities; and
- Further sharing in the costs and responsibilities associated with contingencies outside the alliance area by committing resources and, where appropriate, forces.

The security interests of the United States and its European allies continue to be closely tied. Through the shared political, economic, and military objectives and values of its member states, NATO has functioned as the most successful peacetime alliance in history. With the decline of communism and the emergence of free democracies in Central and Eastern Europe, NATO will take on more political relevance as an institution of change and builder of security structures. NATO forces, while reduced in number, will continue to be structured to demonstrate cohesion and resolve and make the risks of aggression unacceptable. NATO is currently engaged in a strategy review to determine ways to adapt the alliance to these new circumstances in Europe.

In Asia, we have continued to make important progress in promoting the sharing of responsibility for mutual defense. Japan continues to provide substantial host nation support to U.S. forces in Japan, including rent-free bases, modern housing, and other facilities funded fully by Japan, and an efficient labor force funded more than half by Japan. Japan will increase significantly its support for U.S. forces in its next defense plan beginning in 1991. We also expect Japan to move ahead with improvements in its own defense infrastructure and to improve its anti-invasion defense capability as well as its ability to defend its sea lines of communication. The security relationship with Japan gives us the potential for access to interesting defense technologies and significant opportunities to pursue dual-use technologies in support of our defense industrial base.

The changing calculus of security relationships in the region, and especially on the Korean Peninsula, is exemplified by the establishment of diplomatic relations between the Soviet Union and the Republic of Korea (ROK) in October 1990 and prime ministerial discussions between South Korea and North Korea beginning in October 1990. The presence of U.S. forces in the ROK is still required to sustain deterrence against a militarily powerful North Korea. The U.S. presence also contributes significantly to regional peace and stability. The Republic of Korea has been increasing gradually its contribution to the costs of the common defense (its 1991 contribution will increase 115 percent) while maintaining defense expenditures of slightly under 5 percent of the gross national product (GNP). In addition, Korea helps fund depot maintenance of U.S. equipment and the cost of maintaining war reserve stocks on the Peninsula, contributes to combined capabilities (including theater communications), and supports military construction projects. In November 1990, during the 22nd Security Consultative Meeting, both nations reiterated their commitment to retaining U.S. troops in Korea as long as the U.S. and Korean governments and people want them there.

The United States government continues to urge both Japan and Korea to assume a greater share of the mutual defense effort, not only in terms of defense money expended, but also in terms of building a credible defense capability. It is likely that U.S. forces deployed to East Asia will undertake wider regional and extra-regional roles — witness the recent deployment of Japan-based U.S. Marines and naval forces to assist in the Persian Gulf conflict. This makes it more important than ever that our strongest allies in Asia sustain the military capability to fulfill completely agreed-upon roles and missions in the common defense.

The crisis in the Persian Gulf has heightened the need for more effective security arrangements in that volatile region. U.S. and other forces from around the world in Saudi Arabia and in other Arab countries, at host-government invitation and in cooperation with the forces of those countries, are part of a multinational coalition. U.S. interests in the area, and those of many other nations including our allies, necessitate broad international cooperation in the development of long-term security arrangements with the nations of the region. The United States and its allies and friends in the region will continue to explore possible frameworks for arrangements based on the principle of collective security.

International Defense Cooperation

International defense cooperation demonstrates the global nature of the defense industrial base and the mutual benefits to be derived from cooperative research and development. Industrial defense cooperation improves overall U.S. and allied defenses and provides

stability in production through sales, co-production, cooperative development, technology exchange, and logistic support efforts. This cooperative approach supports the U.S. and allied industrial base, promotes modernization, and achieves critical economies of scale. The Department is seeking to take advantage of international cooperation opportunities, recognizing that such cooperation results in more efficient use of scarce defense resources of the United States and cooperating allies. The magnitude of international defense cooperation is impressive. As an example, there are 34 cooperative research and development projects under way with signed memorandums of understanding (MOUs). These have resulted in allied contributions of over 40 percent of the development costs.

Overseas Basing

Overseas basing remains important to the execution of peacetime forward presence and to regional contingency operations during crisis. Foreign bases enhance deterrence, contribute to regional stability, and facilitate rapid response by U.S. forces in meeting threats.

The rapidly changing security environment has dictated changes to the overseas deployments of American forces. This will be most noticeable in Europe where a dramatic reduction in U.S. forward-based forces will occur. Even in Asia, where potential regional aggressors have long presented a more likely threat to stability than has superpower competition, some reductions will occur. A 10-12 percent reduction by the end of 1992 in the 135,000 personnel currently forward deployed to foreign countries in Asia is under way. In both Europe and Asia, a continuing forward deployed presence will be maintained in sufficient strength to deter aggression and fulfill mutual security treaty obligations.

In Europe, the United States will continue to maintain an appropriate mix of conventional and nuclear forces, modernized where necessary, to serve as the keystone to deterrence. The continuing U.S. presence there signifies our commitment to deter aggression and is vital to regional stability in an uncertain era of shifting military balances and political relationships. Similarly, our ability to reinforce Europe in a crisis, and to maintain the needed scaled-back but ready reception and basing facilities there, becomes increasingly important as our forward presence is reduced.

In Asia, the U.S. presence at bases in Japan, Korea, and the Philippines has historically been accepted and generally welcomed as a significant contribution to regional stability. Even if the U.S. basing structure in the region experiences changes in the years to come, continuing U.S. presence and access to the region will remain important to preserve strategic interests and regional stability.

Humanitarian Assistance

The humanitarian and civic assistance programs of the Department of Defense have significantly advanced U.S. national security objectives. Provision of such nonlethal excess DoD materiel as medical supplies, clothing, tents, trucks, construction equipment, and food has assisted people in need in over 40 nations and strengthened our security relationships with friendly governments. This effort has included the use of U.S. military aircraft to transport privately donated humanitarian cargo and disaster relief missions worldwide.

Our assistance to the newly democratic states of Eastern and Central Europe, begun in 1990, has bolstered our developing relations in the region and reinforced our support for democratic institutions.

Humanitarian and civic assistance programs will continue to be coordinated with the Department of State and closely linked to related programs that are jointly administered by U.S. embassies and U.S. military commanders in Europe, Asia, Africa, and Latin America.

Security Assistance

Security assistance to allied and friendly nations is an integral part of U.S. national security policy. Its objectives are to assist allies and friends and protect mutual interests; to promote peace and stability; to maintain U.S. defense alliances; to aid U.S. friends and allies to defend themselves against external aggression, internal subversion, terrorism, and narcotics trafficking; to support democratically elected governments and advance democratic values; and to help wage the fight against illegal drugs. Military aid and sales of weapons, equipment, and defense services enhance coalition defense by providing friends and allies with additional resources to assist in the common defense, and also by fostering interoperability with U.S. forces.

U.S. security assistance programs play a crucial role

in sharing the responsibility for common defense in the new world order. Iraq's brutal aggression in the Gulf has shown clearly that the benefits of U.S. security assistance to allied and friendly nations are as important today as they were when the Soviet threat and its containment were the central focus of U.S. national security policy. U.S. security assistance programs have played a vital role in DoD's ability to speed deployment of U.S. forces for Operation DESERT SHIELD. Both the deployment and the remarkable U.S. success in marshaling foreign support for it would have been far more difficult without the political-military groundwork established by security assistance programs. The trust and familiarity built up over years of military cooperation were essential in Saudi Arabia's decision to invite U.S. forces to the region. Bases and access to facilities in Portugal, Greece, Turkey, the Philippines, and elsewhere have proved important to our ability to project power to the region. Egypt's strong response to the crisis demonstrates the wisdom of substantial security assistance investment in Egypt's armed forces.

In Latin America, experience shows that security assistance, in conjunction with other supportive policies, can help to promote the conditions for stability, with clear political, economic, and social benefits for the United States and the peoples of the region. During the past 14 years, such policies have been instrumental in creating an atmosphere in which dictators have been replaced by elected governments in nearly all Latin American countries. However, the process is still incomplete, most notably in communist Cuba. Despite great political progress, Latin America still suffers from massive economic and social problems.

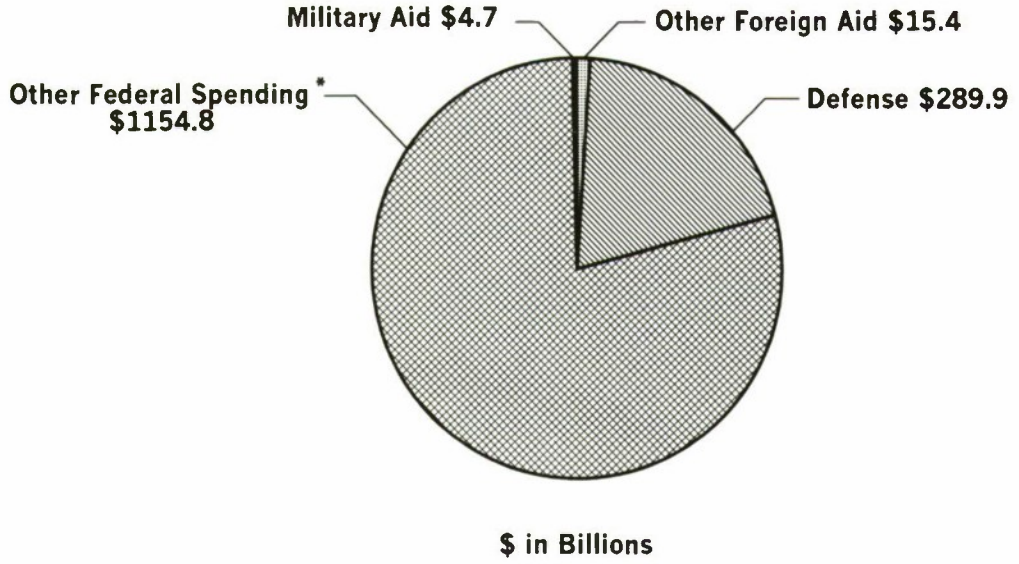
Through security assistance, the U.S. can assist in three elements of an effective attack on the supply of drugs in Latin American source and transshipment countries: (1) economic assistance for development of legal alternatives to narcotics production and trafficking; (2) support to host country forces engaged in counternarcotics; and (3) cooperation with host country officials to sharply reduce drug trafficking. All three areas are vital to accomplishing this high-priority U.S. national security objective. Security assistance and improved host nation counternarcotics efforts are among the mechanisms for implementing the National Drug Control Strategy.

Security assistance objectives are met by the two major military components of the Security Assistance program: Foreign Military Financing (FMF) and the International Military Education and Training (IMET) program. FMF provides direct credits or grants for the purchase of U.S. weapons and other defense equipment and services. The FMF program also promotes interoperability with allied and friendly forces, reduces unit costs of military equipment for U.S. forces by lengthening production runs, helps maintain the U.S. defense industrial base, and contributes to a more favorable U.S. balance of trade while protecting U.S. employment and tax revenues. IMET is a low-cost, grant aid program that provides military education and training in the U.S. to approximately 6,000 foreign military personnel each year. The IMET program is a remarkably cost-effective U.S. foreign policy tool. These foreign students return to their countries well trained and with an understanding of America and the American military profession. Within 10-20 years these high-caliber individuals frequently rise to positions of influence in their armed forces or governments. The IMET program is also one of the most effective ways to strengthen the military capabilities of friendly countries.

In addition to these efforts, the Foreign Military Sales (FMS) program, operating under State Department guidance, is an integral part of security assistance and has many of the same benefits to the U.S. as does the FMF program. FMS programs involving co-production and co-development to share increasing costs, while protecting key U.S. technologies, will become more important in the future.

Unfortunately, resource constraints and the lack of authority to redirect appropriated funds among countries as needed make it extremely difficult to meet all of the above-mentioned objectives. Funding for FMF, only 0.3 percent of the Fiscal Year (FY) 1991 Federal Budget (see Chart 1), has decreased steadily since FY 1984. At the same time the percentage of funds specifically earmarked in an appropriations act for particular countries by the Congress increased from 49 percent, reaching a high of 93 percent in FY 1989, and this year stands at 86 percent. As a consequence, FMF funding to those countries for which the appropriations act does not allocate a specific amount has declined by over 90 percent since FY 1984. In FY 1991, only 14 percent will be available to address the needs of the nonearmarked countries. Tying funds by law to specific countries provides little executive flexibility to address the rapidly shifting priorities that arise in these times of dramatic change.

FY 1991 Military Assistance as a Share of the Federal Budget Chart 1



* Represents other discretionary spending plus congressional budget office estimated nondiscretionary spending.

In addition to FMF and IMET programs, counternarcotics support to Latin American countries has been provided through emergency assistance (in the form of defense materiel, services, and related training) from Foreign Assistance Act Funding, excess defense articles, and operations and maintenance funds.

Collective security is an extremely effective mechanism for the United States to preserve its global interests. Collective security arrangements must be viewed as long-term investments because they take time to build, nurture, and maintain. In the current environment of rapid change, we must be particularly sensitive to shifting roles mandated by new political, economic, and social realities. Collective security, however, will continue to be based on mutual interests and shared responsibilities.

Part II
DoD Operations in 1990

DOD OPERATIONS IN 1990

Introduction

The United States has conducted a number of operations over the past year that have protected America's interests and demonstrated our strength and resolve. The need for these operations shows that while the challenges to our security will change, the need for strong U.S. forces will endure. These operations included DESERT SHIELD in the Persian Gulf, JUST CAUSE and PROMOTE LIBERTY in Panama, SHARP EDGE in Liberia, and counternarcotics efforts around the world.

Operation DESERT SHIELD

On August 2, 1990, an Iraqi ground, air, and naval force of some 140,000 men launched a blitzkrieg-type attack against Kuwait. Within hours, Iraqi forces invaded Kuwait City and within days were deployed in strength on the Kuwaiti border with Saudi Arabia. In response to this unprovoked aggression and blatant violation of the United Nations Charter, and at the invitation of the government of Saudi Arabia, the United States commenced Operation DESERT SHIELD. Thus began an unparalleled rapid deployment of forces of the United States and more than 20 other countries in the multinational coalition committed to undoing Iraq's aggression.

From the first, the President clearly stated the objectives of U.S. policy:

- Achieving complete and unconditional Iraqi withdrawal from Kuwait;
- Restoring the legitimate Kuwaiti government;
- Protecting American lives; and
- Enhancing regional security and stability.

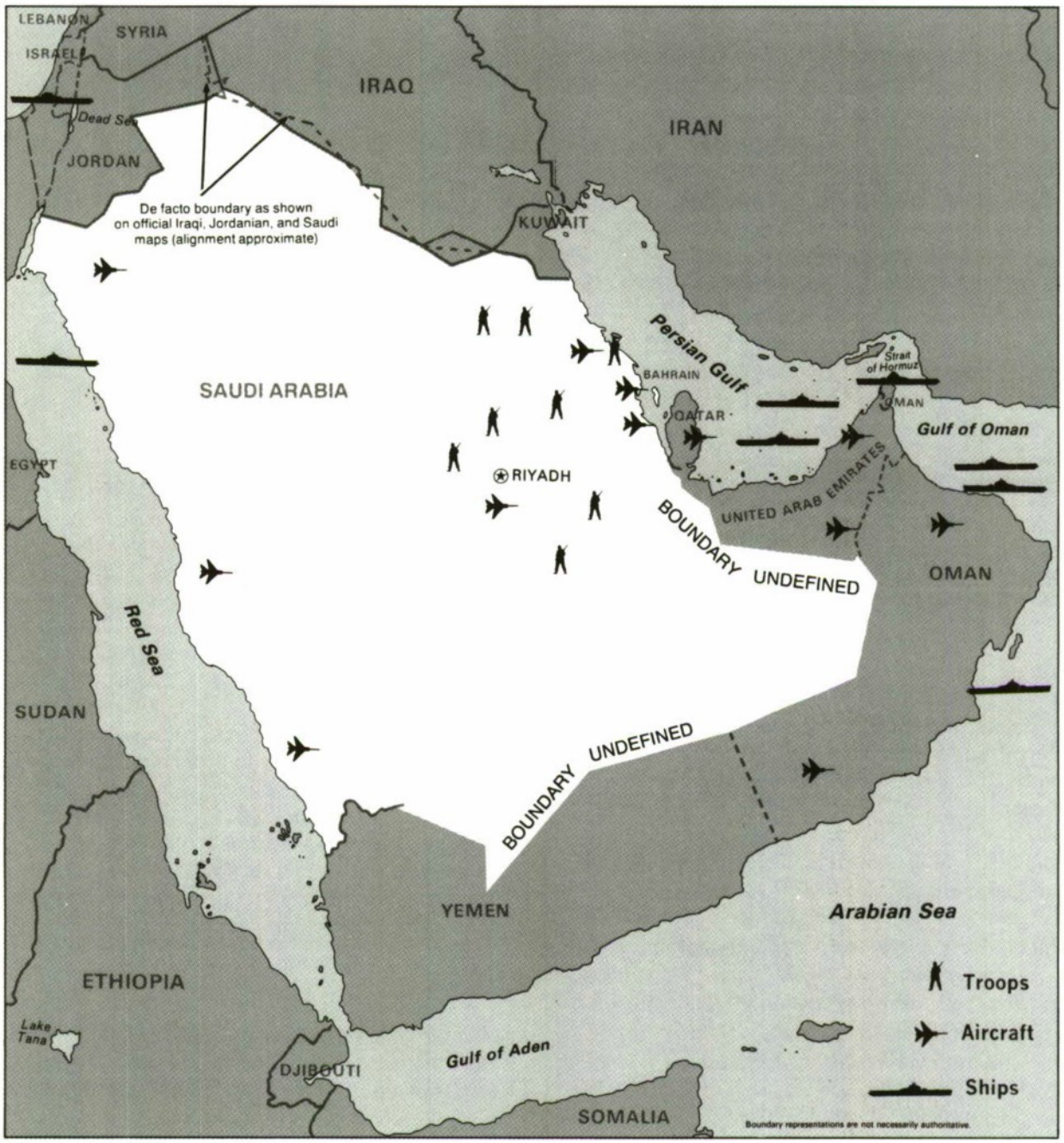
The Department's effort to achieve these objectives, prior to the initiation of Operation DESERT STORM in January 1991, was divided into four phases. In the initial phase, from August 7-9, the Department reinforced our forward-deployed naval forces, established forces capable of gaining air superiority, and introduced ground forces. The second phase, occurring August 10-30, saw increased air-to-air and air-to-ground capability and naval presence. In the third, August 31-November 7, the U.S. achieved sufficient strength of forces for defense and sustainment. Follow-on forces necessary to provide the full range of options were deployed during the fourth phase beginning November 8.

Operation DESERT SHIELD has represented one of the largest and most successful deployments in U.S. history. In a matter of weeks, the United States positioned sufficient forces in the Persian Gulf to deter an Iraqi invasion of Saudi Arabia. More personnel and equipment were moved in the first three weeks of Operation DESERT SHIELD than were moved in the first three months of the Korean conflict. During surge operations, in those first weeks, a cargo plane landed in Saudi Arabia every 10 minutes. Aircraft delivered 75,000 troops and 65,000 tons of equipment to the area of operations in just over one month. For the first time in history, the Department activated a portion of the Civil Reserve Air Fleet (CRAF), civilian aircraft made available by contract to the military for use during periods of crisis. CRAF Stage I made 38 civilian aircraft available to ferry troops and supplies to the Middle East. The fast-sealift ships, averaging 27 knots, transported 400 tanks in just over two weeks. With their roll-on roll-off capability, they are able to provide sealift services into ports of varying sophistication. Finally, the initial stages of Operation DESERT SHIELD provided the opportunity to validate the Maritime Prepositioning Ship (MPS) concept with the rapid deployment of two MPS squadrons containing assets for sustaining 30 days of combat supply for 30,000 Marines.

As of December 31, the United States had airlifted over 300,000 personnel and some 305,000 short tons of equipment. Over 9,000 missions had been flown by military and civilian aircraft, representing a commitment of over 90 percent of the available Military Airlift Command fleet each day. Over 225 ships had operated in support of Operation DESERT SHIELD, sealifting almost 2.5 million short tons of equipment and unloading about 220,000 short tons of prepositioned cargo to the Arabian Peninsula. Approximately 85 percent of all sustaining supplies and combat equipment were moved by sea.

U.S. Forces in Operation DESERT SHIELD

Chart 2



Symbols do not represent types of aircraft/ships or precise location of personnel.

Several hundred thousand active and reserve members of the Army, Navy, Air Force, Marine Corps, and Coast Guard have been deployed to the region. As of December 31, the U.S. fleet supporting Operation DESERT SHIELD included the aircraft carrier USS Midway, the battleship USS Wisconsin, and 17 other ships in the Persian Gulf; 23 ships, including the battleship USS Missouri, in the North Arabian Sea; and the aircraft carrier USS Kennedy and 7 other ships in the Red Sea. With this extensive maritime capability, as part of the multinational enforcement of U.N. economic sanctions against Iraq, the United States, along with 13 other nations, had intercepted more than 6,200 ships, boarded more than 750, and diverted 32 that had prohibited cargo bound for Iraq and Kuwait.

By the end of 1990, deployed Army forces included two corps headquarters, six divisions, four brigades, and other support commands and units. Nearly 60 percent of the Marine Corps was deployed (or was deploying) to the region. This force consisted of the 1st Marine Expeditionary Force ashore and the 4th and 5th Marine Expeditionary Brigades embarked aboard amphibious ships. The Air Force had approximately six tactical fighter wing equivalents in the region and planned to deploy up to nine by the end of January. Air Force units included C-141, C-5, and C-130 airlift aircraft; KC-135 and KC-10 tankers; F-4G, F-15, and F-16 fighters; F-111F fighter-bombers; F-117 aircraft; A-10 ground attack aircraft; E-3 AWACS; RC-135 reconnaissance aircraft; and other support aircraft.

Operation DESERT SHIELD presented this nation with the first large-scale practical test of the policy of maximizing military capability through the optimum mix of active and reserve forces, often called the Total Force Policy. Reserve volunteers were vital to the success of the early stages of this operation. During the early weeks of August some 10,000 reserve volunteers per week provided such critical functions as airlift and tanker support. In late August, the President authorized the call-up of additional reserve support personnel, and on November 8, three combat Army National Guard brigades, the 48th, 155th, and 256th, were authorized to be called into service. By December 31, more than 140,000 guard and reserve personnel were on active duty.

The combat phase of Operation DESERT SHIELD, Operation DESERT STORM, commenced on January 16 at 7:00 p.m., EST only after the 28 coalition countries with forces in the Gulf area exhausted all reasonable efforts to reach a peaceful resolution. On the first day of the operation, air forces of five nations — the United States, the United Kingdom, France, Saudi Arabia, and Kuwait — attacked military targets in Iraq and Kuwait. In addition, aircraft from Italy, Canada, Bahrain, and Qatar flew defensive missions. This military action was taken in accordance with the United Nations resolutions and with the consent of the United States Congress. The goals, identical to those the U.S. maintained throughout Operation DESERT SHIELD, were to liberate Kuwait and enforce the resolutions of the U.N. Security Council.

The U.S. response to Iraq's aggression, following requests for assistance by our friends in the region, has been accomplished with impressive speed and precision. The rebuilding of our military forces that has occurred over the past decade, with the emphasis on modernization of aging combat equipment, training, and readiness, has paid off. Previous efforts to build relationships with countries in the Gulf region through regular, joint exercises and other activities designed to ease problems of interoperability in times of crisis, such as prepositioning and military construction projects, have also paid off. Operation DESERT SHIELD has been a clear demonstration of the commitment and capability of this nation, in concert with its friends, to defend our vital interests.

Operations JUST CAUSE and PROMOTE LIBERTY

The December 1989 crisis in Panama represented a serious threat to vital U.S. national security interests, including the lives of American citizens and the integrity of the Panama Canal Treaties. Beginning with the February 1988 indictment of General Noriega by two federal grand juries in Florida on drug trafficking and corruption charges, and after a series of crises over the subsequent 22 months, President Bush faced a Panamanian "declaration of war" against the United States in December 1989. On December 18, 1989, the threat of widespread violence towards U.S. citizens was imminent and real. Substantiated plans to strike at U.S. civilians, the murder of a U.S. military officer at a Panamanian roadblock, the assault on another officer and his wife, and other life-threatening incidents made decisive action imperative. Confronted with this immediate and challenging threat, the United States initiated Operation JUST CAUSE.

Operation JUST CAUSE — Forces, Missions, and Outcomes

Chart 3A

TASK FORCE RED

Participants:
Rangers

The mission of the Rangers was to:
Neutralize Rio Hato, base for PDF's 6th and 7th infantry company officers.

The outcome was that the Rangers neutralized PDF infantry, took about 250 prisoners, and the remaining PDF soldiers apparently fled.

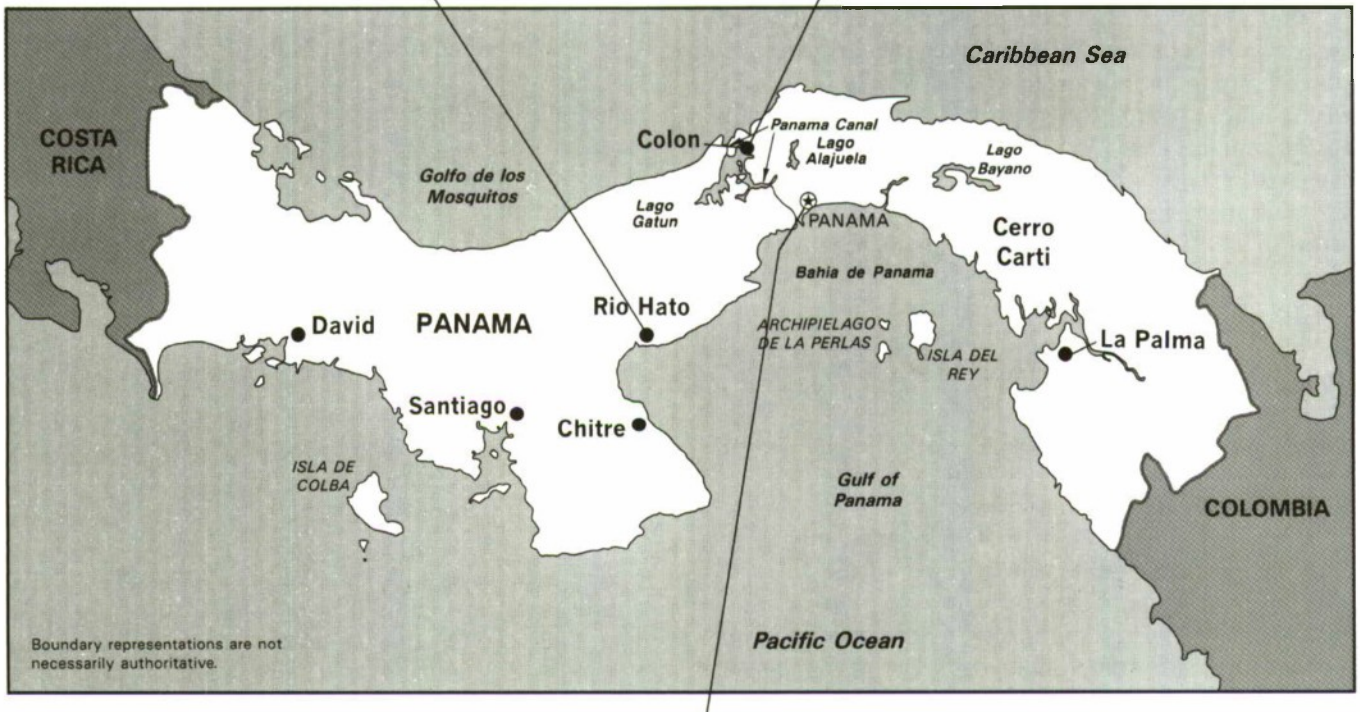
TASK FORCE ATLANTIC

Participants:
Battalion from 7th Infantry Division
Battalion from 82nd Airborne Division

The mission of these forces was to:
Secure southern sites including Gamboa Prision and the electrical distribution center at Cerro Tigre; and

Ensure security of US installations in the Colon area, neutralize 8th Infantry Company of PDF and the naval infantry unit.

The outcome was that PDF resistance was reduced, and Gamboa Prison and Cerro Tigre Center were secured.



TASK FORCE BAYONET

Participants:
6th Mechanized Battalion
Platoon of light tanks
5th Battalion of 87th Infantry

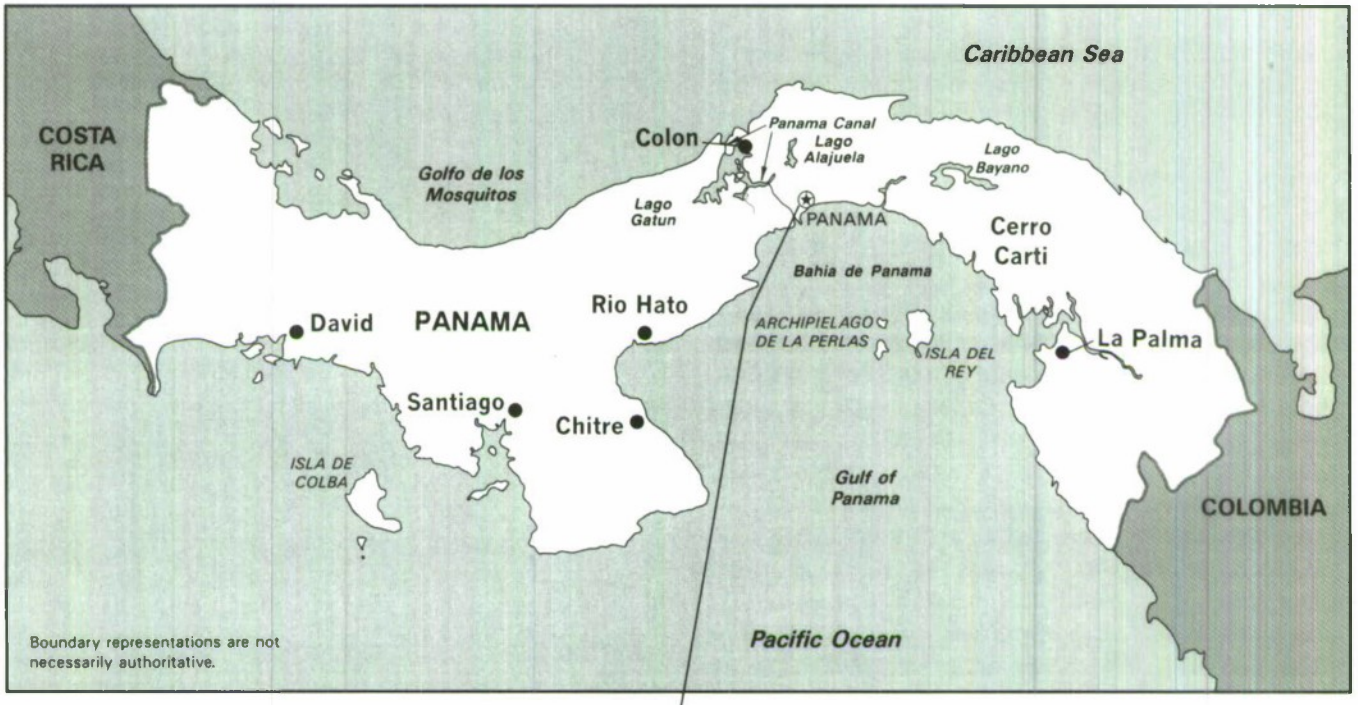
The mission of these forces was to:
Secure major facilities in areas of operations downtown;

Seize the Comandancia, Headquarters of General Noriega and the PDF; and

Protect the entrance of the Panama Canal from the PDF 5th Infantry Company Headquarters at Ft. Amador.

The outcome was that organized resistance was eliminated, the Comandancia was seized, and Ft. Amador was secured.

Operation JUST CAUSE — Forces, Missions, and Outcomes Chart 3B



TASK FORCE PACIFIC

Participants:
- Rangers (Task Force RED)
- 82nd Airborne Division

The mission of these forces was to:
- Secure the international airfield (Rangers); and
- Challenge the PDF squadron at Panama Veijo and Battalion 2000 (82nd Airborne).

The outcome was that the airfield was secured and PDF resistance was eliminated.

TASK FORCE SEMPER FI

Participants:
- Marine Rifle Company
- Light Armored Infantry Company
- Marine Corps Security Force Company
- Fleet Anti-Terrorist Security Platoon

The mission of these forces was to:
- Secure the Bridge of the Americas; and
- Ensure security of Howard AFB and surrounding areas.

The outcome was that PDF resistance was reduced.

The deployment and operations of U.S. forces in Panama during December 1989 and January 1990 tested the U.S. capability to conduct complex and challenging contingency operations in response to threats to vital U.S. interests. Operation JUST CAUSE commenced on December 20, 1989, at 12:45 a.m., when U.S. troops moved to secure Noriega's headquarters, cordon off Panama Canal entrances, capture key airfields, and render ineffective the Panamanian Defense Forces (PDF). Overall, this was the most complex night operation ever conducted by the U.S. military in a populated area, and it was an enormous success.

The operation relied primarily on the 13,000 U.S. military personnel stationed in Panama reinforced by 9,500 additional soldiers, sailors, and Marines,

delivered by a variety of air and sea systems from all the Services. The principal Army units were provided by the 82nd Airborne Division, three Ranger battalions, the 7th Infantry Division, and the 16th Military Police Brigade. These forces were augmented by a variety of active and reserve component units, and personnel with special capabilities were drawn from units from all over the world. Air Force units provided dramatic and effective support throughout Operation JUST CAUSE. The Air Force delivered firepower, conducted the largest airdrop of U.S. forces since D-Day 1944, and performed a variety of other key missions. Navy SEAL teams participated in special operations in support of Operation JUST CAUSE. Ashore, a battalion-sized Marine task force employed the LAV-25 light armored infantry vehicle in combat for the first time. Reserve forces were employed both during initial operations and in extended follow-up activities — especially civil affairs and psychological operations. This extremely complex joint operation integrated the complementary capabilities of all the Services, including active and reserve units, and was tailored to meet the needs of the situation. Thorough planning by U.S. commanders, coupled with highly capable and ready forces, enabled the task forces to overwhelm the PDF with a minimum loss of life, in spite of Noriega's preparations.

Within hours, initial combat operations in Panama City were completed and priority shifted to rendering ineffective PDF forces in outlying areas, locating General Noriega, restoring civil order, transferring control to the legitimate Panamanian government, and mopping up residual pockets of remaining forces loyal to the deposed dictator. Additionally, extensive plans were activated to assist the Panamanian government in the necessarily lengthy rebuilding process. The rapid, precise, and overwhelming coordinated strikes by U.S. forces minimized casualties and damage to property, but the residual damage accumulated during Noriega's rule will take years to repair.

Dedicated efforts throughout the 1980s to strengthen U.S. military capabilities and enhance weapon systems were vital to successful execution of Operation JUST CAUSE. Improvements in command and control, intelligence, transportation, equipment capability, quality of the forces, readiness, and many other areas, were reflected in the successful operations in Panama.

With the end of hostilities, the U.S. role in Panama changed to nation-building under Operation PROMOTE LIBERTY. Work has centered on repair of schools and health clinics in villages, repair of roads, installation of sewers, conduct of medical/dental/veterinary assistance visits, and assisting in combined patrols with the new Panamanian police. Operations continue today, although at decreased levels, as U.S. personnel aid the Panamanian people in rebuilding their government and economy. The employment of U.S. forces, at the request of the government of Panama to help Panamanian forces recapture a former police chief who escaped from prison to lead a short-lived minor revolt in December 1990, is an example of the residual support provided by on-station U.S. forces.

Operation JUST CAUSE will be remembered as both a successful joint military operation and as the deliverance of the Panamanian nation from tyranny and terror. It was a resounding military success, and the PROMOTE LIBERTY nation-building operation which followed continues to assist the people of Panama in building their democracy and achieving their national objectives.

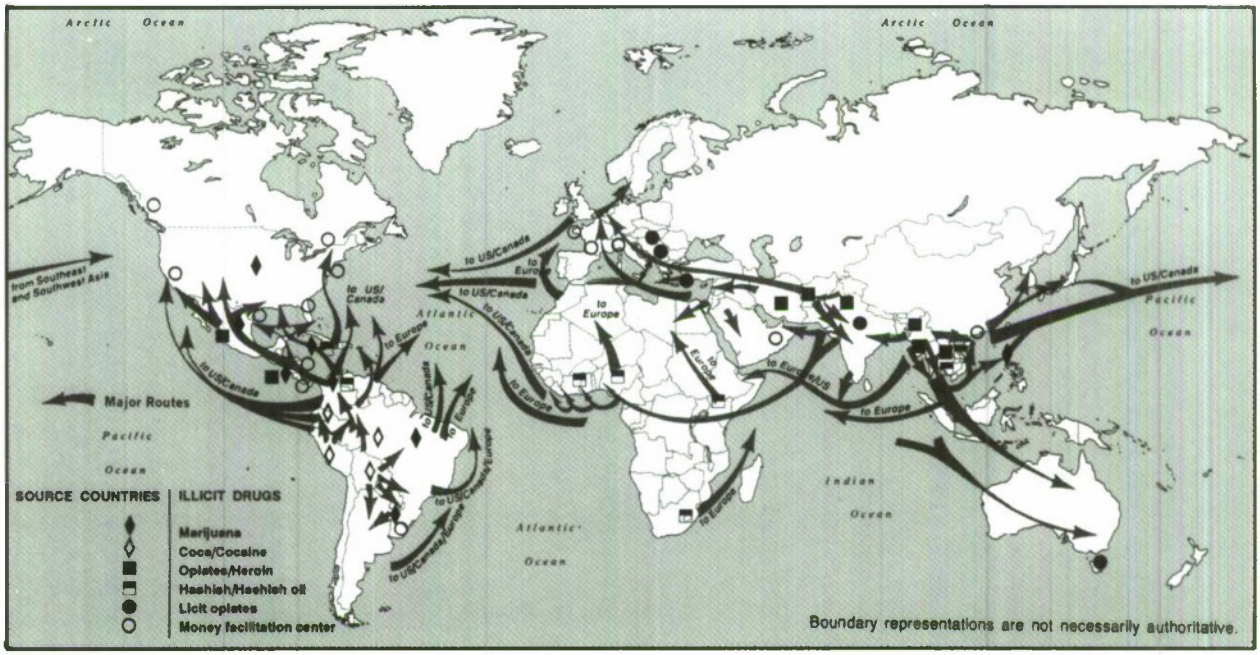
Operation SHARP EDGE

In June 1990, Navy and Marine Corps units deployed in response to a crisis in Liberia. An ongoing insurgency between rival factions threatened the lives and safety of numerous Americans and other nationals who were trapped in the conflict. During the crisis, U.S. forces successfully protected the U.S. embassy and its staff and safely evacuated approximately 2,600 civilians, including 330 American citizens, as well as citizens of Canada, the United Kingdom, the Federal Republic of Germany, Italy, the Republic of Korea, the Philippines, and other friendly countries.

This operation was an excellent example of crisis response by the Navy and Marine Corps. An Amphibious Ready Group (ARG) with 4 ships, 27 aircraft (including 6 AV-8 Harriers on the Saipan helicopter assault ship), and 2,335 embarked Marines was diverted from duty in the Mediterranean, arriving on station off the coast of Liberia on June 3 and 4, 1990.

On August 4, 1990, U.S. Marines landed, established security and protection for the U.S. embassy, and began the evacuation of civilians. U.S. forces also provided critical logistical support for the embassy and other Americans in need. Additionally, food and medical supplies and services were provided to desperate Liberians

Drug Trafficking Chart 4



and other local nationals suffering from an outbreak of cholera, shortages of food, and contaminated water supplies. This humanitarian aid made a vital contribution to the health and safety of innocent civilians and prevented further loss of life. The U.S. operation also made possible a continuing U.S. and international relief operation providing food, medical, and other humanitarian assistance to several hundred thousand Liberian civilians.

As of December 31, 1990, U.S. forces had successfully evacuated a total of over 2,600 civilians, including 330 American citizens. These evacuations were conducted without serious incidents, and U.S. forces suffered only one minor casualty during the entire operation.

In Liberia, the rapid and superb response by our forces helped to limit the widespread loss of life. Throughout this operation, the high quality, training, and readiness of our maritime force was clearly demonstrated. These forces provided our decisionmakers the flexibility to tailor the response to the needs of this potentially explosive crisis, and United States sailors and Marines performed superbly throughout the seven-month operation, which officially concluded January 9, 1991.

Counternarcotics Operations in 1990

The Department's counternarcotics operations in 1990 reflected the full expansion of DoD's leading role in deterring the flow of drugs at every phase — production, transit, and distribution in the U.S. — and in implementing the President's National Drug Control Strategy and the Secretary of Defense's Counternarcotics Guidance. The 1989 Defense Authorization Act made DoD the single lead agency for the detection and monitoring of aerial and maritime transportation of illegal drugs into the U.S. Additionally, DoD is tasked to integrate command, control, communications, and technical intelligence assets dedicated to drug interdiction into an effective communications network. The role

Major Coca Production Areas

Chart 5

of the National Guard was also enhanced in support of state drug interdiction and enforcement operations.

One representative operation in the fall of 1990 was the establishment of a Caribbean counternarcotics task force to conduct enhanced antidrug detection and monitoring efforts to help stem the flow of drugs into the United States. DoD assets focused on aerial and maritime detection and monitoring activities and assisted law enforcement agencies in substantial numbers of interceptions and seizures of drugs. Such initiatives improve our ability to detect and monitor the flow of drugs in international waters and airspace, improve coordination among existing assets, and enhance cooperation with U.S. law enforcement agencies and cooperating host nations.

In 1990 DoD provided assistance to host nations that are the sources of illegal drugs to prevent exports. The attack on drugs in transit has been expanded. Dedicated counternarcotics flying hours and ship steaming days have nearly doubled and tripled respectively. In the U.S., state-by-state coordinated plans have enabled the effective employment of Guard forces resulting in extensive drug and cash seizures and the removal of billions of dollars of drugs from our streets.

Conclusion

Operations DESERT SHIELD, JUST CAUSE, and SHARP EDGE, as well as other operations during 1990, demonstrated that the U.S. must maintain a strong capability to project U.S. forces rapidly around the globe to meet threats to U.S. interests. The strong U.S. responses to threats to U.S. interests in and around the Arabian Peninsula, in Panama, and in Liberia showed clearly to the world that America remains strong and will protect its interests. Those strong responses to threats in 1990 will contribute greatly to deterrence of threats in the future. No one can doubt America's strength and resolve.

Part III
Defense Resources

BUDGET

Introduction

The Administration's Fiscal Year (FY) 1992-93 budget request presents its proposals for carrying out the new U.S. defense strategy within current fiscal constraints. It recommends the personnel, programs, and authority needed to preserve America's national security and support U.S. foreign policy.

The Administration's defense request proposes budget authority of $278.3 billion for FY 1992 and $277.9 billion for FY 1993 (See Table 2). This biennial budget request is the first installment of DoD's FY 1992-97 multiyear defense program, spending for which is forecast in Table 3. These funding levels are consistent with last fall's deficit-reduction agreement between the Administration and the congressional leadership.

Budget Imperatives

To provide maximum support to our defense strategy within fiscal constraints, the Administration's FY 1992-93 defense budget request was formulated in consonance with the following imperatives:

- **People.** Policies and programs should reflect that the high quality of U.S. military personnel is the most important determinant of America's military strength.
- **Power projection/mobility.** The U.S. must be able to project its forces rapidly around the globe to safeguard vital U.S. interests.
- **Quality of the force.** As the size of the armed forces is reduced, the capabilities of those forces must be maintained and strengthened.
- **Readiness.** A smaller total force will require effective levels of manning, training, maintenance, equipping, and sustainability to ensure that it is capable of responding effectively and rapidly to crises around the globe.
- **Robust strategic offensive and defensive forces.** The U.S. must maintain strong offensive nuclear forces to provide nuclear deterrence and must pursue a defensive system for global protection against limited ballistic missile strikes — whatever their source.

Department of Defense Budget (Dollars in Billions)

Table 2

	FY 89	FY 90	FY 91[d]	FY 92	FY 93
Current Dollars					
Total Obligational Authority[a]	292.2	293.8	274.3	279.0	278.6
Budget Authority[b]	290.8	293.0	273.0	278.3	277.9
Outlays[c]	294.9	289.8	287.5	283.0	279.1
FY 1992 Dollars					
Total Obligational Authority[a]	325.9	317.4	282.2	279.0	268.0
Budget Authority[b,d]	324.4	316.6	280.9	278.3	267.3
Outlays[c]	330.1	314.3	296.4	283.0	268.4

[a] **Total Obligational Authority (TOA)** represents the value of direct defense programs for each fiscal year, regardless of financing.
[b] **Budget Authority (BA)** permits the obligation of funds for immediate and future disbursement and is associated with the year the authority takes effect. Generally, the difference between TOA and BA stems from the application of receipts that offset total budget authority.
[c] **Outlays** represents actual expenditures. About 63 percent of FY 1992 outlays will result from FY 1992 budget authority; the remainder will come from budget authority provided in earlier years.
[d] Figures do not include funding for incremental costs of Operation DESERT SHIELD.

FY 1991 Department of Defense Budget
Long-Range Forecasts (Current Dollars in Billions) Table 3

	FY 91	FY 92	FY 93	FY 94	FY 95	FY 96
Budget Authority	273.0	278.3	277.9	278.2	280.7	282.6
Percent Real Growth	-11.3	-0.9	-3.9	-3.6	-2.7	-2.9
Outlays	287.5	283.0	279.1	273.3	274.6	278.5

NOTE: Figures do not include possible funding for Operation DESERT SHIELD.

- **Technological advantage.** Through vigorous research and development, and timely modernization, our forces must have the benefit of advanced technology required to give them a decisive advantage over likely adversaries.
- **Efficient acquisition.** To develop and procure military hardware efficiently, the U.S. must: fund sustainable production rates for essential programs; emphasize multiyear procurement; terminate lower priority programs; and assist in maintaining an effective defense industrial base.
- **Streamlined infrastructure.** The U.S. must reduce its defense infrastructure, closing unneeded and costly facilities.

Budget Content

The Administration's FY 1992-93 defense request is the result of many months of vigorous scrutiny. The process formally began in the fall of 1989 with the development of a new Defense Planning Guidance document. As dramatic changes abroad unfolded in subsequent months, it became necessary to conduct a fundamental senior-level revision of defense strategy and military posture for the mid-to-late 1990s. This revision in turn became the basis for major changes in the FY 1992-97 Defense Program which were made during an extensive program and budget review process. The FY 1992-93 proposed defense budget request reflects many program changes made during this thorough review process.

Appendix Tables A-1 and A-2 summarize the Administration's budget request by appropriation title and component, and outlays by categories. Chart 6 shows budget authority by major appropriation title.

This FY 1992-93 request continues DoD's prudently paced plan for moving toward the streamlined and restructured military force needed to support the U.S. defense strategy for the mid-to-late 1990s. That strategy and force structure constitute the appropriate posture for defense of U.S. interests in the projected security environment. Reflecting the streamlining of our forces, U.S. military manpower will decline considerably in the coming years. By the end of FY 1995, active military end strength will fall to 1,653,000, 24 percent below its post-Vietnam peak of 2,174,000 in FY 1987. In FY 1995, reserve personnel levels will drop to 906,000, 21 percent below FY 1987.

By the end of 1995, our U.S. military force structure will be reduced by roughly 25 percent from FY 1990 levels, assuming that positive assumptions about the future security environment hold true. Projected force structure reductions from FY 1990 to FY 1995 include:

- **Army divisions:** From 28 (18 active) to 18 (12 active) — the FY 1995 total of 18 does not include two cadre divisions;
- **Navy aircraft carriers:** From 16 to 13 total (including a training carrier);
- **Carrier air wings:** From 15 to 13;
- **Navy battleships:** From 4 to 0;
- **Total battle force ships:** From 545 to 451;
- **Tactical fighter wings:** From 36 (24 active) to 26 (15 active); and
- **Strategic bombers:** From 268 to 181.

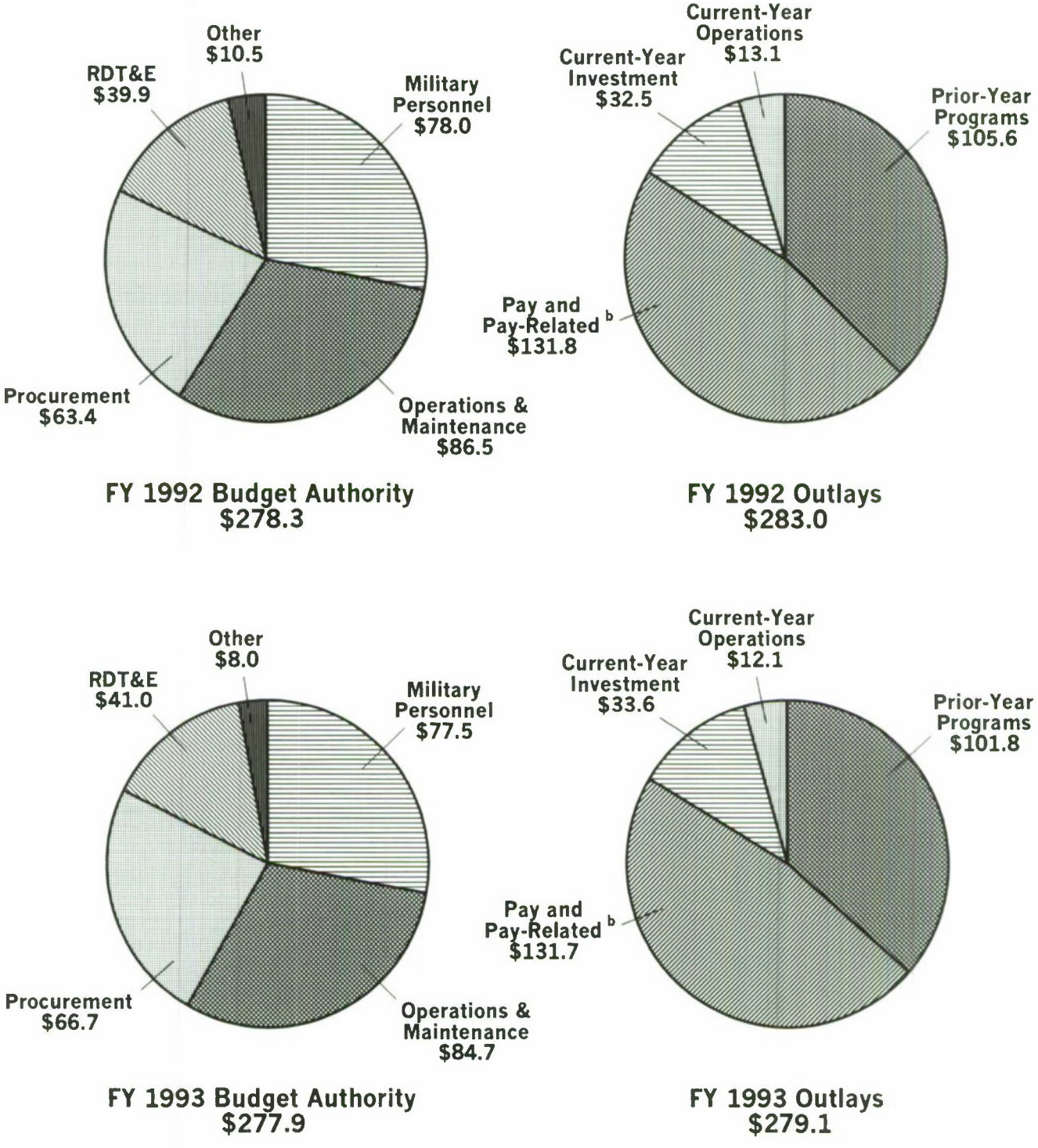
In addition to force reductions, America's permanent overseas presence is being reduced. Our weapons and force composition will reflect this change, as well as changes in the nature and geography of threats in this emerging new era for international security.

Highlights of our FY 1992-93 request include spending on training, maintenance, and other relevant accounts at levels sufficient to sustain high readiness for U.S. forces. The request also supports good pay and benefits for military personnel and their families, plus

Department of Defense Budget Authority and Outlays[a]

(Dollars in Billions)

Chart 6



[a] Numbers may not add to totals due to rounding.
[b] Includes retirement pay accrual costs.

other funding essential to preserving force quality.

In FY 1992-93, the fielding of advanced weapons and other systems will continue, although many programs have been adjusted in recognition of evolving requirements and to bring acquisition plans in line with reduced defense spending projections. For example, major adjustments have been made in programs for the B-2 bomber, C-17 transport, SSN-21 attack submarine, and Milstar communications satellite.

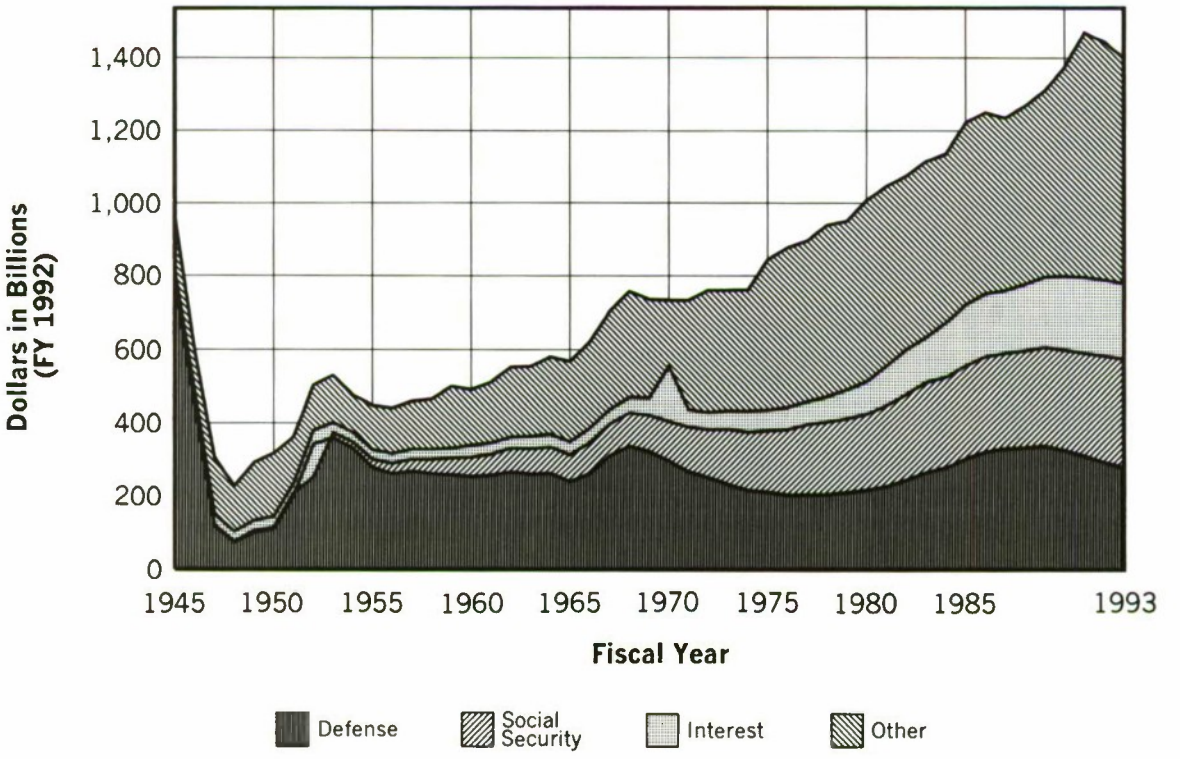
In addition, the FY 1992-93 budget submission terminates a number of programs including: the TRIDENT submarine, P-7A antisubmarine patrol aircraft, Naval Advanced Tactical Fighter, Air Force Advanced Tactical Aircraft, Mark XV aircraft identification system, Boost Surveillance and Tracking System, and TACIT RAINBOW cruise missile. (These program terminations come on top of those made in FY 1991, most notably: the V-22 OSPREY, M-1 tank, F-15E aircraft, Apache helicopter, and new F-14D aircraft production.)

Finally, the streamlining of the military's base structure is continuing with the elimination or closure of 86 domestic bases and 139 overseas sites. In addition, 5 domestic bases will be partially closed and another 25 overseas sites will be drawn down. During 1991 a new commission will review the Department's propsals for additional base closures and realignments and make recommendations for consideration by the President and the Congress.

Operation DESERT SHIELD

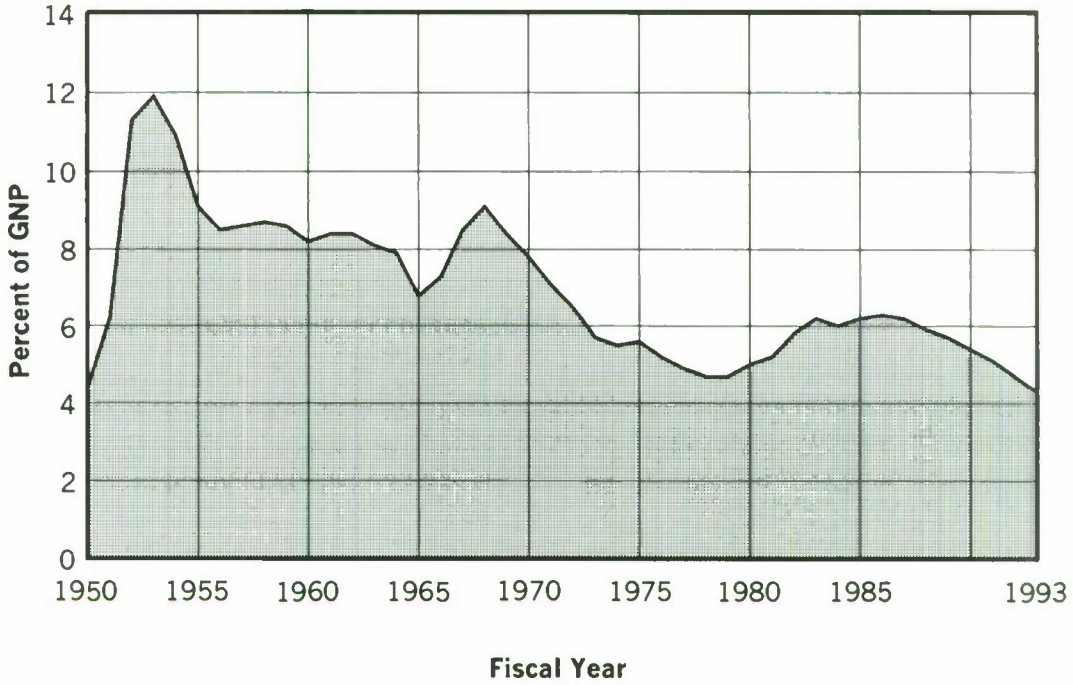
Last fall's Budget Enforcement Act specified that incremental costs directly associated with Operation DESERT SHIELD are to be treated as emergency funding requirements, and not subject to the overall defense budget figure in the budget agreement.

Total Federal Outlays Chart 7



Defense Outlays as a Share of the Gross National Product

Chart 8



FY 1990 incremental costs associated with Operation DESERT SHIELD and increased fuel prices were covered by shifts in previously appropriated DoD funds ($800 million) and by a Fiscal Year 1990 supplemental appropriation ($2.1 billion).

For FY 1991, the incremental costs of Operation DESERT SHIELD not offset by contributions from allies or funds from regular defense appropriations are expected to be addressed by an FY 1991 supplemental appropriations request. Cash contributions from our allies, as well as from private donors, are deposited in a Defense Cooperation Account, where they accrue interest until expended as provided for by congressional appropriation.

Congressional Support

A prudent and efficient restructuring of America's armed forces will require congressional support, especially support for budget stability and reductions in reporting and other requirements. Implementation of a biennial budget cycle, approval of proposed multiyear procurements, and timely passage of defense authorization and appropriation bills would enhance funding stability and efficiency. Also, with greater flexibility, the Department could do much more to ensure its efficiency and effectiveness.

DEFENSE MANAGEMENT

Introduction

Defense management practices are undergoing fundamental change through implementation of the Secretary of Defense's July 1989 Defense Management Report (DMR) to the President. This chapter reviews major actions taken to date to implement it. The Report resulted from an all-encompassing review of defense management practices and structures in response to a tasking articulated during President Bush's first address to a joint session of Congress in February 1989. Unlike a pure budgetary reduction, which seeks to optimize the use of funds over a one or two year time period, efforts to implement the DMR seek savings through efficiency over the long-term. They seek new ways of doing business into the 1990s and beyond.

Management Framework

The Defense Management Report revised and defined the roles for senior managers and interdepartmental groups, including the following:

- **Executive Committee** — The Committee is a new senior deliberative body, chaired by the Secretary, that reviews overall Department policy and permits regular and confidential exchanges on key issues among the senior leadership.
- **Deputy Secretary** — The Deputy Secretary is primarily responsible for management of the day-to-day activities of DoD; operation of a more rigorous Planning, Programming, and Budgeting System (PPBS) designed to produce an integrated and efficient defense program; and implementation of the Defense Management Report.
- **Defense Planning and Resources Board (DPRB)** — The Board provides the Secretary and the Deputy Secretary advice and recommendations on planning, programming, and budgeting matters. Through the DPRB, the Department is developing stronger links between national policies and the resources allocated to specific programs and forces. As a result, the Secretary's FY 1992-97 Defense Planning Guidance (DPG) provided a refocused, broad policy framework. Moreover, the DPG set the stage for an extensive and iterative review of the new defense strategy appropriate in light of the dramatic changes taking place in the world. This review culminated in the plans, programs, and budgets needed to support the new strategy.
- **Under Secretary of Defense for Acquisition (USD(A))** — The Under Secretary serves as the Defense Acquisition Executive with full responsibility for supervising the performance of the DoD acquisition system. The DMR called for a strengthening of the USD(A)'s authority. In response, authority for approving major defense programs at major milestones in the acquisition process was delegated to the USD(A), and the USD(A)'s charter was substantively strengthened. The new charter reflects the USD(A)'s broad-based authority over the acquisition system, including the authority to direct the heads of DoD components on all acquisition matters and the authority to direct the Comptroller to withhold the release of funds to a program if the USD(A) determines that such direction is necessary to ensure that the program meets milestone criteria.
- **Under Secretary of Defense for Policy (USD(P))** — In addition to his other responsibilities for defense and foreign policy matters, the USD(P) serves as the Secretary's and Deputy Secretary's principal advisor for the planning phase of the PPBS. Significant progress already has been made to improve the planning phase of the PPBS process, including the production of a revitalized DPG and renewed emphasis on establishing clear links among national security policy, military strategy, and resource allocations for specific programs and budgets in the PPBS process. The USD(P) has worked in the DPRB to ensure that policy and strategy considerations are integrated into decisionmaking throughout the programming and budgeting phases.
- **Defense Acquisition Board (DAB)** — The Board, chaired by the USD(A), reviews major acquisition programs. Commensurate with revising the authority and responsibility of the USD(A), the DAB charter was revised to streamline membership and refocus attention on the need for disciplined, rigorous, and effective program reviews. This added discipline is designed to ensure that major weapons programs are thoroughly reviewed and ready in all respects prior to being granted approval to proceed at each milestone

in the acquisition process. Accordingly, DAB policy requires each program to meet specific requirements for each acquisition phase. Milestone decisions are based on the extent to which these requirements have been met.

- **Joint Requirements Oversight Council (JROC)** — The Council, chaired by the Vice Chairman of the Joint Chiefs of Staff, has been expanded to play a broader and continuous role in the articulation of military needs and the validation of performance goals and baselines prior to DAB review at each milestone.

Defense Acquisition

Strengthening defense acquisition was a principal focus of the Defense Management Report. As a result of the DMR, defense acquisition will be progressively improved by streamlining the structure and simplifying the process. DoD's objective is to achieve the most effective and efficient management system possible — a system composed of smaller, high-quality staffs that forces decision authority down to the lowest level, within clear operating guidelines.

CLEAR COMMAND CHANNELS

Positioning the USD(A) at the head of the defense acquisition system is only part of the Department's approach to acquisition management. Of equal significance is the establishment of direct, abbreviated lines of authority within the Services for managing major and other high priority programs.

The defense acquisition process will operate within this strengthened management framework — one that provides for efficient decisionmaking and effective implementation, within the policies and operating guidelines set by the Secretary and the Deputy Secretary. The following positions within each military department form the management framework:

- **Service Acquisition Executive (SAE)** — An assistant secretary who has full-time responsibility for all Service acquisition functions.
- **Full-time Program Executive Officers (PEOs)** — Key middle managers, with small separated staff organizations, who devote full-time attention to management of a defined and limited group of acquisition programs and report only to the SAE.
- **Program Managers (PMs)** — Individuals who report only to their respective PEO or SAE on all matters of program cost, schedule, and performance.

Chart 9 displays the reporting structure "before" and "after" DMR recommendations were implemented.

This three-tier management structure creates clear command channels and accords authority to those who have the responsibility to make the process work. This approach is critical to successful streamlining of the management layering of acquisition programs, a problem that has plagued DoD for years.

STABILITY IN PROGRAMS

Important economies flow from conducting major system acquisition in an environment of stable funding and management. The Defense Management Report sought to take maximum advantage of the cost control and reduction benefits of multiyear procurements. The USD(A) has, therefore, supported the multiyear procurement initiative and has recommended that four programs adopt a multiyear procurement strategy: the U.S. Army's Pedestal Mounted Stinger Missile (Avenger) and the Family of Medium Tactical Vehicles (FMTV); the U.S. Navy's standard 5-inch gunmount (MK-45); and the U.S. Air Force's space based navigation system (NAVSTAR). The potential savings to be realized in these programs as a result of using the multiyear procurement strategy are expected to be significant. Continued multiyear procurements for appropriate high-priority programs will be essential for the most efficient use of available DoD resources.

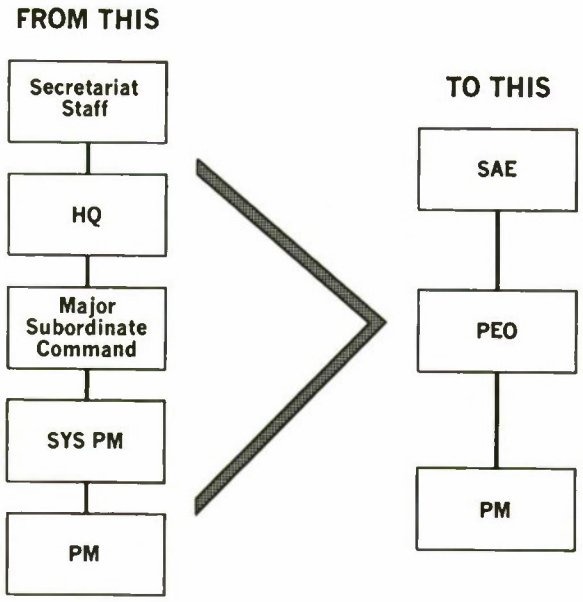
LIMITED REPORTING REQUIREMENTS

For years, numerous studies and commissions have concluded that the acquisition system is unnecessarily encumbered with voluminous, confusing, overly detailed, and sometimes contradictory directives, instructions, and regulations. These requirements tend to allow very little opportunity for individual judgment and creativity to increase productivity and lower costs.

The USD(A) conducted the zero-based review of regulations and advocacy requirements proposed in the Defense Management Report with a goal to reduce the self-imposed burden on the acquisition system. The objectives of the regulatory relief effort undertaken to date have been to reduce the sheer volume of regulatory guidance, streamline the system, and improve the process for developing new regulatory guidance. Three

Acquisition Management Structure

Chart 9



types of guidance that govern the operation of the defense acquisition system are being examined:

- DoD directives and instructions as well as DoD component issuances;
- Procurement and contracting guidance contained in the Defense Federal Acquisition Regulation Supplement (DFARS); and
- An impressive list of specifications, standards, and related documents.

Of the approximately 500 acquisition-related DoD-level directives and instructions, almost 400 documents have been recommended for outright cancellation, consolidation, or revision. These recommendations were approved by Secretary Cheney in 1990 and are being implemented. To date, the Department has canceled about half of the documents recommended for elimination and has developed drafts of consolidated documents that will entail the cancellation of over 100 additional directives and instructions. Probably the most noteworthy example of this cancellation and consolidation is the effort to revise DoD Directive 5000.1 and its accompanying instruction and manual. These three documents will cancel 45 separate DoD issuances. The result will be an integrated and rational ordering of policy guidance for the DoD acquisition system.

In the area of procurement and contracting guidance, over 27,000 lines of text, which equates to 40 percent of the guidance, and 199 clauses have already been proposed for deletion. The Department is continuing efforts to reduce the regulatory burden on contracting officers and contractors by identifying and recommending for deletion unnecessary certifications, approval levels, thresholds, and other burdens. As these burdens are eliminated, DoD is rewriting the remaining DFARS text and clauses in plain, user-friendly language. After analysis of public comments, the Department plans to make appropriate changes and issue the final rule (new DFARS) in the summer of 1991.

The Department is also conducting a zero-based review of specifications and standards for acquisition. The objective is to set specifications and standards based directly on the capabilities sought — in short, telling people what we want a product to do. Not only does the Department intend to cancel or revise as many as 12,000 documents, it also intends to adopt thousands of nongovernment standards and write commercial item descriptions (nearly 5,000 of them have been adopted

so far). The desired result is to relieve the Department and industry of unnecessarily specific requirements that might reduce system performance or increase cost, as well as increase the use of commercial products and procedures.

SMALLER, HIGHER QUALITY STAFFS

The DMR argued that a number of steps could be taken to move DoD toward a more capable acquisition work force. These steps included enhancement of education and training opportunities and the development of a central reporting system and data base on the composition of the acquisition work force.

To ensure effective and integrated implementation of these wide-ranging recommendations, a central policy office has been established within the office of the USD(A). Designated the Acquisition Education, Training, and Career Development Policy Office, it completed a DoD manual which sets DoD-wide minimum education and training standards for the acquisition work force. This office has also worked closely with the Assistant Secretary of Defense for Force Management and Personnel to establish a central acquisition work force data base. The instruction for implementing this data base was published in July 1990, and reporting requirements will begin in July 1991.

The Defense Management Report also called for the military departments to establish a dedicated corps of officers who will serve a full-time career as acquisition specialists. These plans include the means to ensure the following:

- Early selection of highly promising officers;
- Timely specialization in acquisition by officers with significant operational experience;
- Assignment to acquisition positions and related training once selected;
- Creation of attractive and equitable career paths once assigned, including designation of positions requiring an acquisition corps incumbent; and
- Assurance of opportunities for promotion potential up to the highest general officer/flag grades.

Each of the military departments is actively establishing an acquisition corps composed of both military officers and civilian professionals which fulfills these guidelines. Those admitted into the corps receive intensive career management and training which prepares the acquisition corps members to assume increasing levels of responsibility. The most outstanding will fill critical acquisition positions such as program manager.

TOWARD A MORE EFFICIENT WORK FORCE

The Defense Management Report recommended that the Department heed the lessons learned by many large private firms which, when faced with management problems and organizational "symptoms" comparable to DoD's, were able to overcome their problems and realize dramatic, simultaneous productivity improvements and cost reductions. The lessons learned include:

- Identifying and eliminating unnecessary functions and management layers;
- Consolidating related functions;
- Concentrating on core functions; and
- Lowering overall costs, particularly through reductions in management.

The underlying philosophy is that the Department can reduce the costs of "doing business" through reducing overhead, eliminating redundant functions, and improving business functions while improving business capabilities. Significant progress has been made in the past year to streamline, consolidate, or realign the management structures of many aspects of the DoD.

Contract Administration Services (CAS) Functions

The first structural realignment resulting from the recommendations contained in the DMR was the consolidation of nearly all Contract Administration Services (CAS) functions under the Defense Logistics Agency (DLA). On February 26, 1990, the Defense Contract Management Command (DCMC) was established under the DLA. To date, personnel and resources dedicated to nearly all CAS have been transferred to the DCMC from the military departments. The remaining separate CAS activities, supporting ammunition plants and supervisors of shipbuilding, will be studied for possible transfer to DCMC. The consolidated management of contract administration will promote uniform procurement policy, permit the upgrading in the quality of the CAS work force, and reduce overhead and payroll costs. The consolidated management also permitted the CAS structure to be streamlined from nine regions into five districts.

Supply Depots

Of equal significance was the decision to consolidate all DoD general supply depot materiel distribution functions within the continental United States under a single manager. The goal is to consolidate the supply depots in DoD that are operated by the three military departments and the Defense Logistics Agency. About 25 percent of these depots are within 50 miles of each other and a small number are within 10 miles of another depot. Savings will result from the consolidated distribution operations from reduced overhead, construction requirements, and transportation costs while improving the utilization of existing depot capacity and the more efficient operations. The consolidation of material distribution functions began with a prototype in the San Francisco Bay Area involving five depots.

Planning for consolidation of materiel distribution processes at other defense supply depots under DLA management is proceeding in parallel with the Bay Area prototype. This consolidation is scheduled to be completed in 1993. Savings of $127 million and corresponding reductions of 800 personnel billets are projected over the time period FY 1991 to FY 1995 from the Bay Area consolidation alone.

Maintenance Depots

Another management realignment which will reduce overhead costs while maintaining military strength is the establishment of a Defense Depot Maintenance Council to advise the Assistant Secretary of Defense for Production and Logistics (ASD(P&L)) on depot maintenance operations. The Council will oversee plans submitted by the Secretaries of the military departments to reduce the cost of the Department's depot maintenance operations by $1.7 billion from FY 1991 through FY 1995. This will be done through internal streamlining and reducing the size of the depot maintenance infrastructure. Long-range plans to reduce further the cost of these operations over the same time period by an additional $2.2 billion are also being prepared jointly by the Services. The military departments have an obligation to: achieve greater depot peacetime capacity utilization, close unneeded facilities, enhance competition between and among the Services and the private sector, and improve productivity of maintenance throughout the Department.

The Council has already made substantial progress. One example of the streamlining under way is the initiation of implementation of the Navy Aviation Depot Hub concept. Included in this initiative are the single sourcing of repair for airframes and engines, the reduction of engine repair facilities from five to three, and the centralizing of overhead functions at two Navy hubs.

Inventory Control Points (ICPs)

Currently the three military departments and the DLA operate separate supply functions, managing about five million items valued at approximately $100 billion through 21 Service and DLA Inventory Control Points (ICPs). Of the five million items managed, four million are consumables, that is, items that will be disposed of when they have been used. Approximately 2.6 million of these items are already centrally managed by DLA. Nearly one million additional consumable items that are currently managed by the Services will be transferred to DLA. This transfer will be accomplished over the FY 1991-94 time period and will result in reductions in DoD personnel and overhead costs. The 400,000 consumable items remaining with the Services will be screened for possible transfer at a later date with the goal of achieving similar savings. Potential ICP consolidations within the Services are also being studied.

Accounting and Finance Centers

The establishment of the Defense Finance and Accounting Service (DFAS), a consolidated accounting and finance organization for the Department of Defense under the direction of the DoD Comptroller, is yet another DMR-inspired structural change that will reduce the cost of doing business. It will strengthen greatly the overall effectiveness of financial management within the Department. This action will result in increased efficiency, improved accounting service, and reduced costs. The new combined organization will encompass the Army, Navy, Air Force, Marine Corps, DLA, and Washington Headquarters Services finance and accounting operations which, among other things, comprise 27 separate pay systems. One of the most important functions of the Defense Finance and Accounting Service will be to provide the timely, comprehensive, and accurate financial data the Secretary and the Deputy Secretary of Defense need to manage the Department effectively.

Commissaries

The DoD commissary system is one of the largest grocery store operations in the United States. There are more than 400 commissary locations worldwide. The decision to unify the separate commissary systems of the Army, Navy, Air Force, and Marine Corps will lead to improved efficiency and enhanced service to active duty and retired customers. The Defense Commissary Agency (DeCA), which will be headquartered at Fort Lee, Virginia, will provide centralized management, achieving the kind of economies available to large grocery store chains and will lead to improved service and lower costs to the customer.

Corporate Information Management (CIM)

The Corporate Information Management (CIM) initiative is intended to identify management efficiencies in support of common business areas, to improve the standardization, quality, and consistency of data from DoD's multiple business management information systems, and to reduce the costs of developing and maintaining these systems. The overarching goal is to develop a standard information system to support similar functional requirements. An executive level group, composed of private sector and DoD experts, was established to advise the Secretary and the Deputy Secretary on the initiative by addressing DoD-wide information management strategy. In addition, functional groups, both in technical areas and common business areas, were established to address requirements from a functional point of view, and to assess current system capabilities for supporting these functional requirements. These groups will determine standard requirements from which standard information systems will be developed. The Assistant Secretary of Defense for Command, Control, Communications, and Intelligence was assigned responsibility for establishing an organization to implement CIM throughout the Department and for ensuring the proper integration of computing, telecommunications, and information management activities.

Comprehensive Structural Review

In addition to the taskings to realign and reorganize structures, the Deputy Secretary tasked the Comptroller to conduct a comprehensive review of the structures within the Office of the Secretary of Defense, the military departments, defense agencies, and field and headquarters functions and operation processes. In response, management initiatives to save $2.3 billion were identified in the FY 1991 Administration budget. The FY 1992 budget will reflect savings of over $70 billion over the FY 1991-97 time period. These initiatives range from the consolidation efforts discussed previously, to improved transportation management, improved management and reporting of contracted advisory and assistance services, and the accelerated use of computer-aided acquisition and logistics support.

These savings, though substantial, are only a start. The Department views such initiatives as a multiyear process and not just a two-year effort.

Government-Industry Relationships

ETHICS COUNCIL

The Defense Management Report stated that more affirmative efforts were necessary to establish and maintain an environment where official standards of conduct are well understood, broadly observed, and vigorously enforced. It recommended that DoD mount a greater effort to administer ethics regulations and develop guidance and training programs to enhance awareness and understanding of ethical issues — how they arise day-to-day, how existing standards may or may not apply, and what moral responsibilities DoD employees have as managers. In September 1989, just a few months after the DMR was published, the Defense Ethics Council was created. The Council is chaired by the USD(A), includes the Service Secretaries, and is advised by the Assistant Secretary of Defense for Force Management and Personnel, General Counsel, and Inspector General. An Executive Director for Ethics Training and Communication Policy has been established within the office of the USD(A) to implement the Defense ethics program and support the activities of the Ethics Council.

The Ethics Council has approved the vigorous ethics program envisaged by the DMR. It focuses on improving education and training programs for Defense personnel, encouraging more active industry ethics programs, and simplifying legal and regulatory requirements. While incorporating DoD's existing standards of conduct program, the new Defense ethics program emphasizes three basic ethical principles — integrity, honesty, and fairness — and not just the behavior required by law or regulation. The program establishes ethical responsibilities for all DoD

personnel, particularly commanders and supervisors, who will be held accountable for implementation of the ethics program.

CONTRACTOR RISK ASSESSMENT GUIDE (CRAG) PROGRAM

The DMR endorsed the concept of contractor self-governance and the Contractor Risk Assessment Guide (CRAG) program as additional means to improve the government-industry relationship and to facilitate more effective management of the acquisition process. The CRAG program is designed to encourage DoD contractors to develop more effective internal control systems and to improve the effectiveness and efficiency of DoD oversight. Companies that choose to implement this voluntary program may do so in a number of risk areas. The degree of reliance the government can place on a contractor's internal controls in any of these areas is largely determined by the quality of those controls and by the tests performed to verify them. Participants who can demonstrate that their internal control systems meet the CRAG control objectives will receive less direct government oversight. In 1989 and 1990, the CRAG program resulted in direct government audit time being reduced 20,000 and 40,000 hours respectively. Defense contractor participation in the CRAG program has begun to expand. This process has been accelerated by current participants' recent reports of successful implementations and realized benefits.

The DMR also encourages industry commitment to the voluntary disclosure program. The Department will continue to stress that voluntary disclosures of a violation are an important consideration in the determination of the legal penalties which might be applied. To date, the program has recovered over $117 million and promises to be an effective mechanism to foster compliance with the high standards expected of DoD suppliers.

DEFENSE MANAGEMENT IMPROVEMENT ACT (DMIA)

Congress can help the Department improve defense management by changing some of the legislative requirements which prevent or inhibit effective, business-like management. To obtain congressional assistance, the Department submitted a package of legislative proposals to Congress, entitled the Defense Management Improvement Act (DMIA). Portions of the Administration's proposals were incorporated in the National Defense Authorization Act for FY 1991.

One of the DMIA proposals which was accepted recommends eliminating the 10 percent minimum threshold of savings for multiyear procurement (MYP) approval. Significant dollar savings available from MYP, but less than 10 percent, will no longer be lost. Another DMIA proposal recommended raising the threshold for mandatory submission of certified cost and pricing data from $100,000 to $500,000; this action was accepted and will materially reduce the paperwork burden on the government and contractors. This proposal was enacted for a five-year test, subject to DoD Inspector General review. The dual sourcing provision was amended, allowing the Secretary to use the most appropriate acquisition strategy. In the logistics area, DoD was granted one year flexibility to identify the least costly source of maintenance and repair by permitting competition between and among the military departments and the private sector. This is particularly useful in the current environment; it permits the Department to realign and downsize effectively our depot maintenance infrastructure through the 1990s.

We hope to work with the Congress toward enactment of the other DMIA proposals this year. One of our priorities is legislation which will permit the Department to streamline the commercial acquisition process. To attract and/or retain qualified businesses in our industrial base, this DMIA proposal seeks to relieve some of the burdensome and time-consuming aspects of doing business with us by permitting the use of simplified commercial-style procedures.

These legislative initiatives will enhance DoD's flexibility to manage its programs in a rapidly changing environment. Another significant legislative proposal, officer management legislation which was originally transmitted in July 1989, is more critical than ever. Enactment of changes to the Defense Officer Personnel Management Act will provide increased officer management flexibility. This will allow the Department to respond to the significant force structure reductions while maintaining a balance between DoD objectives and reasonable career expectations for the officer corps.

While the Department is pleased that some of its legislative proposals were accepted, we hope to continue to work with the Congress to enact the

remainder. If fully enacted, the DMIA will enhance the Department's ability to manage programs and personnel effectively.

Summary

We have made good progress toward accomplishment of the taskings contained in the Defense Management Report. The Department has reduced the cost of doing business by over $70 billion and removed this money from the budget. In other words, the marker is on the table. Further, this effort is backed by a commitment to success at the highest levels, a crucial factor in achieving cultural change.

At the same time, it is important to resist the temptation to think that there is an immediate, one-time solution to the management problems in the Pentagon. Clearly there is not. Improvement is an iterative process. True and long lasting improvement also requires changes in culture and philosophy. Long-term success also depends on cooperation from all who are involved with defense, including industry and the Congress. Perhaps most important to the success of reordering defense structures and management practices is the high level priority and focus given the DMR effort. We have high expectations for future accomplishments and have confidence that we have established the framework and begun the cultural change that will achieve continuous improvement in the Department.

PERSONNEL

Introduction

The cornerstone of our budget is a force consisting of high quality personnel. As we reshape our military and civilian force over the coming years, it will be our paramount responsibility to preserve the quality and vitality of this critical defense resource. Maintaining such a force will require sensible management of the planned force reductions. Recruitment, education, and training of high quality personnel will remain essential to meet the demands of future force requirements. The quality of life of military personnel will remain an important determinant of recruitment and retention. Transition assistance programs to aid individuals forced to leave the Services due to reductions in the size of the armed forces will assist in demonstrating the Department's commitment to its personnel.

A future high quality force will also require a strengthening of total force management. We have made great strides in this regard as evidenced by the successful total force commitment to Operation DESERT SHIELD. As a world leader we must continue to ensure that a smaller total force is still capable of supporting international obligations as well as national security requirements.

Total Force Management

The Department's future total force must be derived from our new strategy for the changed threat and not merely be a proportionally scaled-back or reduced version of today's force. Current trends promise significantly increased warning times by the mid- to late-1990s for the Soviet threat the U.S. has faced in the past. As a result, total force strategy can shift from reliance solely on mobilizable forces in being to one based as well on reconstitution of additional forces. Therefore we can eliminate those active and reserve units that have been based on the previous threat of short-notice global war and that can be reconstituted in time to meet a resurgent global threat. For the more likely short warning crises, however, we must retain a sufficient force emphasizing rapid responsiveness. Accordingly, DoD has crafted a force structure that will meet the needs of the emerging security environment. The present and projected FY 1997 composition of the total force is reflected in Chart 10.

MANNING THE FUTURE FORCE

As dramatic world events unfolded in 1989 and 1990, it became obvious that the size and overall manning of our defense establishment would change. While reducing the size of the force, the Department seeks to maintain appropriate levels of readiness, avoid undermanned or underequipped "hollow" units, and maintain and improve the quality of the force. To achieve these goals, the Department is reducing its acquisition of personnel and adjusting programs to retain personnel, to sustain experience levels, and maintain career opportunities within the smaller force. At the same time we are separating career personnel judiciously, but to the minimum extent necessary, and encouraging the retention of aviators, health care personnel, and other critical specialties.

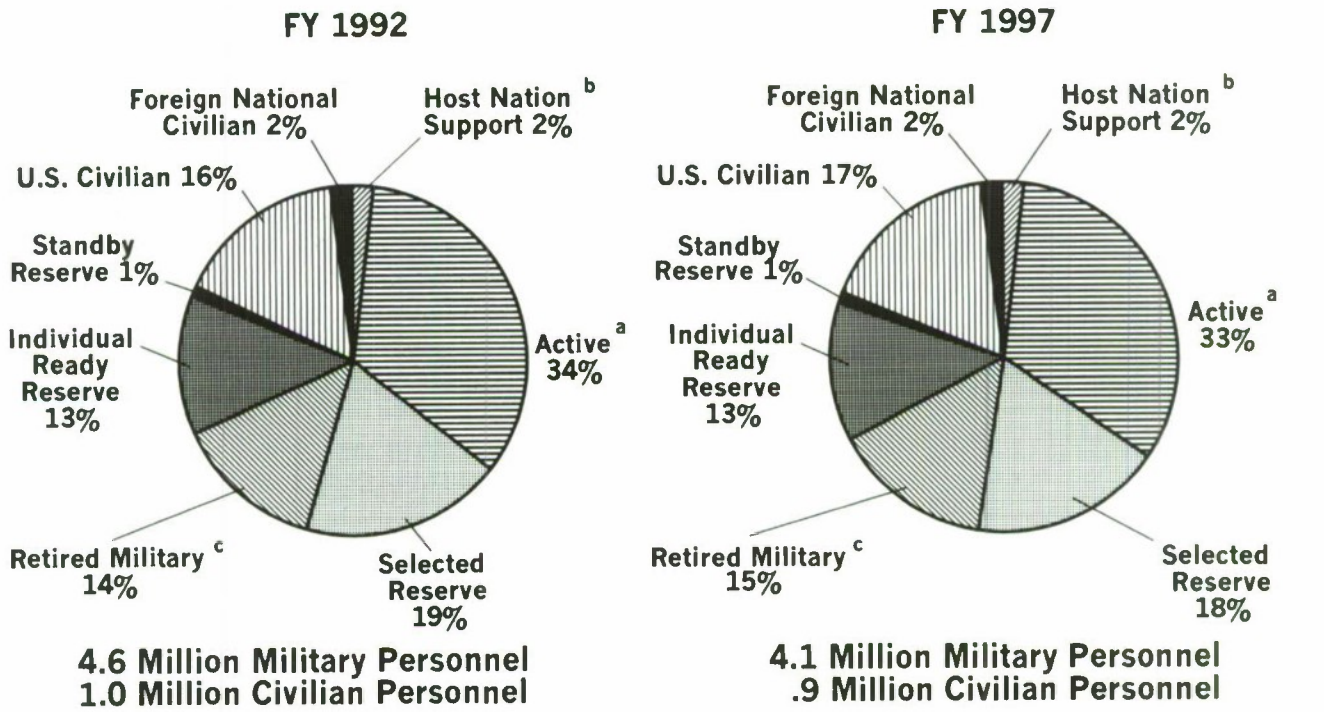
The Department will encourage skilled and experienced personnel leaving the active force structure to join the reserve component. Integration of these individuals into the nation's reserves will help us shape the personnel resources for future reserve force structure requirements. Reserve readiness will continue to be heavily dependent on support from full-time National Guard and reserve members, military technicians, active component personnel assigned in support of the reserve components, and civil service personnel. The Department's goal remains to ensure adequate levels of these full-time support personnel (Table 4) commensurate with reserve readiness requirements. All of these manning goals will remain valid in the long-term.

READINESS AND TRAINING

Readiness to fight and win is the primary objective of peacetime training operations. Unless the personnel, crews, and units that comprise our forces are ready for combat, sophisticated weaponry is of little value. Our forces must be manned, equipped, and trained for combat at any time and place. The short notice deployment of both active and reserve units for Operation DESERT SHIELD has once again demonstrated the

Composition of the Total Force

Chart 10



[a] Does not include the US Coast Guard.
[b] Germany only; includes military and civilian personnel.
[c] Does not include disabled or above age 60.

Full-Time Support Personnel[a] (End Strength In Thousands)

Table 4

	Actual	Planned		
	FY 90	FY 91	FY 92	FY 93
Army National Guard	55.2	55.6	52.7	50.7
Army Reserve	27.8	26.7	27.0	26.9
Naval Reserve	34.1	33.8	31.2	29.8
Marine Corps Reserve	8.2	7.6	6.7	6.5
Air National Guard	35.5	35.0	35.9	36.3
Air Force Reserve	16.1	15.6	16.0	16.1
Total	**176.9**	**174.3**	**169.5**	**166.3**
Percent of Selected Reserve	15.2%	14.9%	15.6%	16.2%

[a] Includes active guard and reserve, military technicians, active component, and civil service personnel.

importance of maintaining readiness.

Readiness represents the culmination of training received individually in formal schools and training centers, on-the-job in operational organizations, and collectively with crews and units on designated equipment and with assigned weapon systems. Despite intense competition for scarce resources, the Services are continuing to provide challenging training in each setting for both active and reserve personnel and units. The Department of Defense will maintain active and reserve operating tempo (OPTEMPO) at the levels needed to continue to ensure ready forces. These rates are reflected in Table 5.

While reductions in the size of the armed forces over time will result in decreases in training costs, they will not be proportional. Clearly, reductions in accessions will directly reduce requirements for recruit, initial skill, and officer acquisition training programs. Also,

Operating Tempos Table 5

	FY 90	FY 91[a]	FY 92[b]	FY 93[b]
Flying Hours/Crew/Month				
Army Tactical Forces	14.2	14.5	14.5	14.5
Army Reserve	8.1	7.1	8.1	8.1
Army National Guard	8.5	9.0	9.0	9.0
Navy/Marine TacAir/ASW	23.9	24.2	24.1	24.0
USNR/MCR TacAir/ASW	13.6	11.8	11.7	11.7
Air Force TacAir	19.5	18.9	19.3	18.2
ANG TacAir	10.2	10.7	10.7	10.7
AFR TacAir	10.1	10.1	10.7	10.7
Air Force Airlift	33.2	30.5	27.7	27.3
ANG Airlift	13.2	14.4	14.6	14.6
AFR Airlift	11.4	11.6	11.6	11.6
Air Force Strategic	19.2	17.1	17.8	17.9
ANG Strategic	13.0	14.9	14.2	14.2
AFR Strategic	13.2	15.0	15.0	15.0
Navy Steaming Days/Quarter				
Deployed Fleets	54.2	50.5	50.5	50.5
Nondeployed Fleets	28.1	29.0	29.0	29.0
USNR Nondeployed Fleets	21.0	21.0	18.0	18.0
Army Ground Miles/Year				
Army Tactical Forces	800	800	800	800
Army Reserve	200	200	200	200
Army National Guard	259	288	288	288

[a] Budgeted
[b] Requested

As of January 31, 1991

accelerated separations and retirements will help to achieve strength targets. Deactivation of operational units will eliminate the collective training costs of those units deactivated. However, some of the cost savings from deactivations and closures will be expended in meeting additional training requirements of the remaining units, whose missions must be realigned or consolidated to assure overall readiness capability is maintained. Furthermore, there will continue to be the need to train to meet high readiness standards. This will be critical in creating the needed flexibility to address a wide variety of contingencies.

The Department will continue to emphasize cost-effective training management. Weapon and support systems are being designed to minimize both the number and the skill level of people needed to operate them. Training delivery systems (including computer assisted instruction, interactive courseware, simulators, and wargaming systems) are systematically developed when justified for training effectiveness and efficiency. Particular emphasis is being placed on training systems that will help to alleviate the unique training problems faced by reserve component units. Steps to assure the portability of training software and interoperability of training simulators will reduce costs further, despite relatively high initial investment costs. For example, the Department has initiated the Simulation Policy Study to address networking of simulators to enhance wargaming exercises which will also partially relieve constraints on training ranges and OPTEMPO funds.

CRISIS MANPOWER MANAGEMENT — OPERATION DESERT SHIELD

The capability of our manpower system to respond to a defense crisis was put to the test in August 1990 in the Persian Gulf. Existing total force policy and management practices allowed us to tap the resources of the total force to meet the requirements of projecting a force into the region. Active and reserve military, retirees, civilians, and host nation support personnel have all made significant contributions to successfully carrying out Operation DESERT SHIELD.

The Department of Defense mobilized air, ground, and naval forces in August immediately following Iraq's aggression against Kuwait. Active units and volunteer reservists began arriving in the Persian Gulf within a week of the invasion, and by the middle of October the United States had deployed well over 200,000 military personnel and over 200,000 short tons of cargo by both airlift and sealift.

To augment the immediate response by active duty forces, the President called upon the nation's reserve forces. On August 23, 1990, he exercised his authority under Section 673b of Title 10 of the U.S. Code and authorized the Secretaries of Defense and Transportation to call Selected Reserve units and personnel to active duty for Operation DESERT SHIELD. Additionally, the Secretary of the Army authorized involuntary recall of selected regular Army and reserve retirees who have completed 20 years of active service to fill critical skill areas such as doctors and nurses.

During the earliest phase of the operation, reservists volunteered in large numbers to perform various critical support roles. The number of volunteers on active duty

in support of the operation peaked at over 11,000 in the days just prior to the involuntary call-up of the Selected Reserve. The Selected Reserve call-up brought 93,000 reservists to active duty by the end of November. More importantly, it demonstrated the responsiveness and readiness of reserve units and individuals to a national security situation requiring their presence.

Guard and reserve units and individuals performed a wide variety of missions in support of the operation, both in the contintental United States (CONUS) and overseas. Reserve component members provided essential services across the spectrum of combat support and combat service support. Army, Navy, and Air Force Reserve component units and individuals also provided vital medical services. The highly successful involvement of active and reserve forces in Operation DESERT SHIELD proved the soundness of the Total Force Policy.

The Department ensured that the homefront was supported as forces mobilized and deployed to the Persian Gulf. In support of both active and reserve personnel, family centers responded to family needs with extended operating hours (24 hours a day if needed) and the establishment of support groups to assist with family disruption and stress. Hotlines were established to share information and to help separate fact from rumor, and resources in the local civilian communities were utilized. Concerted efforts were made to extend this network to reserve component personnel and their families not collocated with active installations. DoD generated and disseminated information on benefits and family support services specifically geared to the needs of these families within days of the decision to order reservists to active duty. Reserve component personnel were utilized to augment medical facilities in the United States in order to maintain the quality and quantity of military medical care available to dependents of those deployed.

Reshaping the Military and Civilian Force

The Department's plan to reshape the military and civilian force in the next five years is based on a balance of accessions, retention, and separation management. These three elements must be carefully integrated to ensure maintenance of force quality.

ACCESSIONS

The continued decline in youth population and projected manpower reductions over the next half decade are some of the realities facing manpower planners. The Department is working hard to manage the impact of these factors over time. We are continuing research on how best to link military enlistment standards to job performance and examining the impact this will have on recruiting and training programs. Military recruitment numbers are reflected in Table 6.

We also are developing testing instruments that will reduce testing time and assist in predicting the attrition of enlistees. These programs are designed to enable the Department to accomplish its mission effectively with reduced resources.

Last year the Department outlined certain ineffective and outdated features of the civil service system which most seriously hurt DoD competitiveness in civilian recruiting and retention. The Department also identified significant weaknesses in the professionalism of the civilian procurement work force and outlined steps which the Department would undertake to make employees' capabilities and career opportunities more competitive with those of their private-sector counterparts. Passage of the Pay Comparability Act of 1990, which addresses federal pay reform, and the enactment of legislation which sets up a defense acquisition work force career management system meet urgent needs and will be helpful in recruiting and retaining a highly qualified, professional work force.

Events of the past year are creating new challenges to the effective management of the defense civilian work force. Like the military force, significant adjustments in the force structure, changing relationships in the world-order, and the constrained budgetary environment will ultimately result in a defense program which includes a much smaller civilian work force. This past year, in anticipation of these program changes, the Department observed a hiring freeze in order to start the process of downsizing. As a result, by the end of FY 1990, civilian employment declined by 44,000 compared to the end of FY 1989.

RETENTION – QUALITY OF LIFE

The Department has paid particular attention to its equal opportunity commitments and the needs and support of its service members and their families and its civilian employees as the reshaping of forces begins. The Department will continue to work to maintain the

Quality and Numbers of Enlisted Accessions (Numbers In Thousands)

Table 6

	Quality Indices		Accessions [a]				
	Percent High School Graduates	Percent Average or Above Aptitude	FY 90 Objectives	FY 90 Achieved	FY 91 Planned [b]	FY 92 Planned [c]	FY 93 Planned [c]
Active							
Army	95	98	87.0	89.6	82.1	89.5	91.5
Navy	92	93	72.4	72.8	81.1	68.2	73.5
Marine Corps	95	99+	33.5	33.6	31.5	31.1	33.1
Air Force	99	99+	36.2	36.2	30.0	33.4	30.1
Total	95	97	229.1	232.2	224.7	222.2	228.2
Selected Reserve [d]							
Army National Guard	80	90	70.7	76.6	78.4	54.2	47.0
Army Reserve	89	93	66.0	67.5	73.1	51.6	50.8
Naval Reserve	90	98	24.1	35.4	25.9	14.7	22.2
Marine Corps Reserve	97	99	12.4	11.8	11.3	9.9	11.1
Air National Guard	93	98	10.9	12.3	10.0	12.2	11.8
Air Force Reserve	100	100	12.0	11.9	12.0	12.0	12.0
Total	87	93	196.1	215.5	210.7	154.6	154.9

[a] Includes prior service and nonprior service accessions.
[b] Estimates based on Service submissions of Enlisted Gains Analysis.
[c] Estimates based on Service submissions for the OSD Budget (BES).
[d] Includes equivalency certificate and diploma graduates, as well as high school students who enlisted prior to graduation and were expected to graduate.

quality of life for service personnel, which contributes to the retention of a quality force. To keep the best, the Department must maintain a quality of life that effectively meets the needs and expectations of its personnel and their families. The Department recognizes differing family requirements in today's changing environment and continues to identify, revise, and develop programs to enhance the morale and welfare of the total force.

The Family Support Program provides 367 family centers worldwide and expects over 9.25 million personal assistance contacts during each of the next four fiscal years. The centers provide services and other programs based on family needs including: crisis services, relocation assistance, family member employment, financial assistance, and help to family members with special needs. Child care is another very important part of family support. The Department continues to improve the availability, management, quality, and safety of child care.

The Department of Defense Dependents Education (DoDDE) system consists of two programs: the DoD Dependents Schools (DoDDS) and Section 6 Schools (so called because they were established by Section 6 of Public Law 81-874). DoDDS is the ninth largest U.S. public school system and is unique in that all of its 269 schools are located in 19 foreign countries. DoDDS is responsible for providing to 152,000 overseas dependent children the same high quality education expected from public school systems in the U.S. The overseas drawdown of U.S. forces over the coming years presents a major challenge for DoDDS. It must manage its role in the drawdown while continuing to provide high quality education to every child remaining in the system. Section 6 Schools provide a quality education for dependent children (40,000) of U.S. military personnel and federally employed civilians residing on 18 military installations within the continental United States and Puerto Rico. DoD is participating with the U.S. Department of Education in a national challenge to develop a plan, and the mechanisms for measuring progress toward achieving, by the year 2000, the national education goals established by the President and state governors.

Morale, welfare, and recreation (MWR) programs provide support services within the community of a

service installation that are often furnished to the employees of civilian businesses and their communities by employers or by state and local governments. The Department's MWR programs are designed to provide a sense of community by offering wholesome activities, programs, and services.

SEPARATION – TRANSITION ASSISTANCE SUPPORT

The Department established the Transition Support and Services Directorate in June 1990 to facilitate the development and implementation of transition assistance benefits and services for separating military personnel, civilian employees, and their families. The directorate assisted in the integration of separating personnel into the private sector by developing a sound, equitable package of benefits, services, and outplacement assistance. The principal benefits for military personnel include separation pay, extended medical coverage, and expansion of post-service education benefits. Civilian employees have comparable pay and health benefits already established.

The Services developed or augmented programs which included: counseling, including stress and financial counseling, and support groups for both DoD personnel and their families; family relocation assistance; permissive leave from duty for job or house hunting and for outplacement training seminars; permission to remain in government-provided housing at reasonable rates; and to continue to utilize on-base shopping facilities for a limited time after separation.

Outplacement efforts and pursuits include:

- Establishment of the Transition Assistance Program (TAP), a combined Department of Labor, Department of Veterans Affairs, and DoD effort that includes a three-day seminar on resume writing, interviewing skills, and other facets of job hunting;
- Creation of an automated displacement data base containing resume information of departing personnel which will be furnished to private industry and other federal agencies for outplacement purposes; and
- Dissemination of information to base commanders on how to conduct job fairs and job clubs on-site, and industry/academia conferences and consortia to expedite linkage of personnel with jobs.

In order to implement transition assistance initiatives, the Department proposed legislation that was enacted in the National Defense Authorization Act for FY 1991. This legislation gave us the statutory authority to implement the transition assistance programs described above.

DEPARTMENT OF DEFENSE REORGANIZATION ACT

A detailed summary of DoD's progress in implementing the provisions of Title IV of the Department of Defense Reorganization Act, also called the Goldwater-Nichols Act, is provided in Appendix D.

Military Health Care

The dual mission of the military health care system is to maintain medical readiness and provide comprehensive peacetime health care to over nine million active duty service personnel and their dependents, retirees and their dependents, and survivors. The Department spent over $13 billion on health care in 1990. Most of our expenditures finance the more than 168 military hospitals and more than 800 medical and dental facilities around the world. In 1990 the Department also spent over $3 billion for medical services in the civilian health care market through the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), the military's program for purchasing civilian medical care.

During 1990, both aspects of the military health care mission were exercised. As the year began, Department medical elements concluded the evacuation and treatment of combat injuries sustained in Operation JUST CAUSE. Later in the year, the Department deployed thousands of medical personnel in support of Operation DESERT SHIELD. While the deployment challenged our medical readiness capabilities, the Department continued to provide routine medical care to the vast majority of our eligible population, more than three-fourths of whom are not active duty personnel.

OPERATION DESERT SHIELD

Our military medical force is responding effectively to the unique challenges of Operation DESERT SHIELD. The stress created by an unfamiliar environment and combat situation, the severe desert heat, and insect and animal carriers of disease all pose threats to the U.S. forces' mental and physical well-being. The efforts of service medical forces to alleviate these

potential hazards enhance our military effectiveness.

The medical personnel deployed to the Arabian Peninsula and bordering seas today support Navy, Army, and Air Force hospitals, two 1,000-bed hospital ships, aeromedical evacuation units, and various other medical support activities. These units provide a continuum of care and treatment throughout the entire area in addition to providing preventive and veterinary medicine measures to ensure the health of deployed personnel. Additionally, a blood resupply and distribution system is in place and fully operational.

CONTINUITY OF CARE

With hundreds of thousands of military personnel in the Middle East, the Department remains fully committed to making certain their families receive good medical care in their absence. Our immediate challenge is to minimize any disruption in services caused by the deployment of medical personnel from our U.S. military hospitals. The Services began meeting this challenge first by calling National Guard and reserve personnel and units to active duty in the early days of Operation DESERT SHIELD to perform the peacetime mission of active duty medical units deployed to the Middle East.

Medical units have also been called to fill critical shortages caused by the requirement for additional medical services in theater. Medical facilities, both ashore and afloat, have thus been able to provide all medical services required, to include systems for aeromedical evacuation and medical resupply.

COORDINATED CARE

The Department's recent concerted efforts to fulfill its medical readiness mission have not distracted us from the task of slowing the growth in military health costs. Health care inflation continues to outpace other growth in the economy, and the Department's health costs are no exception. The military medical benefit is extremely important and valuable to our beneficiaries, and the high quality of medical care delivered by our military facilities is widely recognized. Our aim is to preserve good medical care for our beneficiaries and at the same time reduce costs by instituting changes in the way military medical facilities coordinate the care they provide with the care purchased under the CHAMPUS program.

This coordinated care approach will enable local military medical providers to make informed decisions about the most cost effective way to treat individual patients — either in the military facility or under CHAMPUS. One of the key features of coordinated care is the maximum use of the military hospital or clinic in providing medical care. Formal agreements will be made with civilian health care providers to supplement the military system. Beneficiaries who enroll in the coordinated care program will be assigned a primary care provider or group of providers who will be responsible for guiding the patient to the appropriate source of medical care. The Department's aim in improving the coordination of our health system is to increase access to care, make beneficiaries more involved in medical decisionmaking, enhance the quality of care, and constrain cost growth.

CONCLUSION

The military health care system is committed to providing the finest health care available. Appraisal programs that assess the quality of this care, as measured by professional health care organizations and peer reviews, indicate that DoD health care practices meet and usually exceed desired standards. While this is a validation of our approach to health care excellence, we will continue to seek creative ways to even more successfully address the numerous fiscal, logistic, and personnel issues that challenge DoD health planners.

INDUSTRIAL BASE

As dramatic changes occur in the world that affect U.S. security needs, the Department must reexamine the role of the U.S. industrial base in meeting those needs.

It is critical that the nation's industrial base remain robust and flexible. It must be able to respond quickly and effectively to requirements such as those of Operation DESERT SHIELD. Successfully filling the urgent need for large amounts of chemical protective gear is one example of the type of diverse, short-term need our defense industries must satisfy in the context of more likely regional threats.

The U.S. defense industrial base must be prepared to respond to a broad range of military contingencies that may emerge in the future. In the past, we have tended to develop defense production capabilities primarily via individual weapon system programs. In the future, we will need to rely increasingly on the technological leadership that is available in the commercial sectors and take into account the increasing international character of emerging product and process technologies.

The United States continues to be the world's leader in the development of new technology; however, it is no longer the leader in many areas of technology application, nor can the U.S. be self-sufficient in the production of all items. The U.S. must nevertheless ensure that it does not become vulnerable to a potential disruption in supplies for materiel vital to our national security. The United States must be able to identify and deal with such vulnerabilities and develop assured access to products and technologies that are required to support our military forces into the next century. As critical product and process technologies are identified, the Department of Defense must work together with industry and academia to ensure continued U.S. leadership in these important areas.

The Department is responding to this challenge. We are steadily increasing our focus on both key critical defense technologies and supporting industries. In the FY 1990 Critical Technologies Plan, the Department updated the list of 20 critical defense technologies. The relationship between the product and manufacturing process for each technology area was examined, as well as potential benefits to both the defense and commercial user. The plan also compares U.S. technology developments with those of our NATO allies, Japan, other developing countries, and the Soviet Union and nations of Eastern Europe.

Last October, the Department submitted the next step in this process to Congress and identified the industries essential to the application of the critical technologies. Chart 11 depicts the linkages from the critical technologies, through our industrial base to the manufacturers. The breakout of technologies included over 100 key industry sectors. These sectors are in turn supported by a number of manufacturers and businesses forming the foundation of the industrial base infrastructure. The defense-critical technologies, critical industries, and the linkage between the two will become a focal point of future industrial base assessments and planning.

DoD goals are to raise the visibility of industrial base issues at all levels of DoD. We are focusing and consolidating our industrial base efforts by:

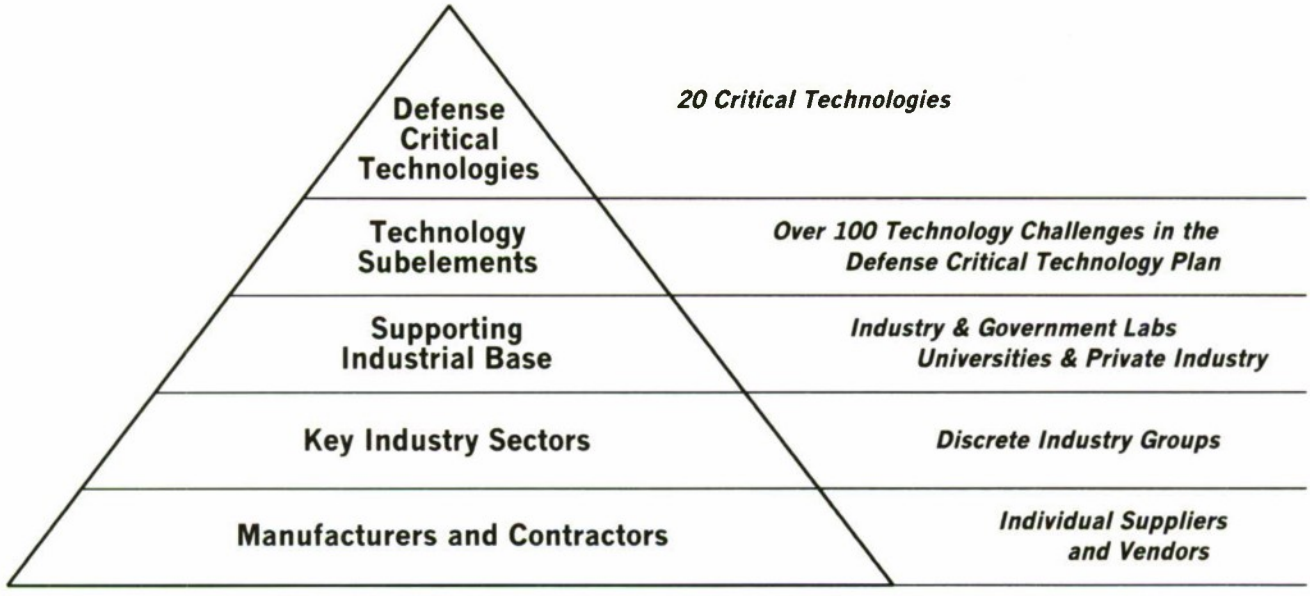
- Streamlining our industrial base management and practices; and
- Promoting key defense product and manufacturing process technologies.

In concert with our streamlining efforts, we have combined virtually all industrial base and manufacturing policy, planning, and oversight functions into a single office under the Assistant Secretary of Defense for Production and Logistics. This office includes: programs dealing with industrial base planning and assessments, manufacturing technology, productivity and producibility, computer-aided acquisition and logistics support, national stockpile and resources planning, and standards and specifications. A joint production base analysis working group is developing a process for achieving a unified assessment of industrial capabilities, shortfalls, and remedies.

Several initiatives have recently been organized to promote state-of-the-art production practices among government, industry, and academia. The DoD/Industry Concurrent Engineering Task Force seeks to revise producibility policies to better link design and production engineering practices. Defense Management Report

Critical Technologies and Industrial Base Linkage

Chart 11



Technology and Industry Areas of Focus

Table 7

Technology Areas

Air-Breathing Propulsion	Biotechnology	Signal Processing
Composites	Computational Fluid Dynamics	Signature Control
Machine Intelligence/Robotics	Data Fusion	Simulation & Modeling
Passive Sensors	High Energy Density Materials	Software Producibility
Photonics	Hypervelocity Projectiles	Weapon System Environment
Semiconductors	Parallel Computer Architectures	
Sensitive Radars	Pulsed Power	
Superconductivity		

Highlighted Industry Segments

Artificial Intelligence	High Temperature Superconductivity	Low Temperature Superconductivity	Phased Arrays
Fiber Optics	Investment Castings	Numerically-controlled Machine Tools	Polymer Matrix Composites
Focal Plane Arrays	Laser Radars	Machine Controls	Precision Bearings
Gallium Arsenide	Lithography	Metal Matrix Composites	Precision Forgings
Gas Turbine Engines		Optical Processing	Robotics
			Supercomputers

measures help to streamline policies, specifications, and standards. All of these initiatives assist in energizing the technological and productive capabilities of U.S. industry.

To promote important defense technologies, several DoD programs are developing initiatives to advance key manufacturing processes. Through a critical industries report, the Department initially examined the key technology areas and industry segments shown in Table 7 and the financial ability of these critical industry segments to support advances in these technologies. The Manufacturing Technology (ManTech) program is developing the National Defense Manufacturing Technology Plan to provide more coherent, top-down guidance to the Services for investment in major ManTech "thrust areas." The Industrial Modernization Incentives Program (IMIP) improves the productivity of existing manufacturing facilities. IMIP policy was simplified to increase the implementation of appropriate technologies through private investment. To maximize DoD investment leverage, we are also participating in a number of efforts, including joint private sector government partnerships to improve the competitiveness of specific industries. The best known of these is the Semiconductor Manufacturing Technology Institute (SEMATECH), founded to develop advanced microelectronic manufacturing technologies and transfer them to member companies.

These DoD initiatives are helping to retain U.S. leadership in areas of technology and manufacturing critical to the nation's defense. The Department will continue to work in partnership with industry, so that together we may provide the materiel needed by our men and women in uniform to keep America's military arm strong.

ENVIRONMENT

DoD Environmental Policy

"Defense and the environment" is not an either/or proposition. In this world of serious defense threats and genuine environmental concerns they both must be considered together. A new environmental ethic is being built into the daily business of defense – making good environmental actions a part of our working concerns, from planning, to acquisitions, to management.

The Department of Defense takes seriously its environmental responsibilities. As the largest federal agency, the Department has a great responsibility to meet this environmental challenge, and the goal is for every command to be an environmental standard by which federal agencies are judged. Despite overall budget reductions for DoD for at least the next several years, the FY 1992 budget includes $2.6 billion to support our environmental programs – an increase of over $1 billion from our FY 1990 funding level.

Stewardship of Resources and Defense Lands

POLLUTION PREVENTION

DoD is currently revising Directive 5000.1 on systems acquisition that establishes policy and procedures for analyzing the potential environmental impacts of defense systems and integrating that information with other considerations. Scientific and engineering principles will be applied during design and development to identify and reduce hazards associated with system operation and support.

DoD has evaluated over 40 of its industrial processes to identify successful technologies to minimize hazardous waste. We have funded over $200 million in hazardous waste minimization projects from the Defense Environmental Restoration Account and the military services' budgets. The Hazardous Material Pollution Prevention Committee coordinates the activities of all DoD components in achieving pollution prevention and waste minimization through such activities as recycling/reuse as well as substitution. DoD is developing better waste tracking and waste reduction indexing methods and is currently conducting studies on post-consumer waste and waste recycling. In addition, DoD is working with the Environmental Protection Agency (EPA) on a model base initiative for assessing a comprehensive and integrated approach to pollution prevention.

As part of DoD's implementation of recent memoranda of agreement with EPA, we have developed the multimedia model pollution prevention concept at three facilities in the Chesapeake Bay – Norfolk/Tidewater areas. The facilities that will participate are Ft. Eustis, Naval Station Norfolk, and Langley Air Force Base. Lessons learned at these three model sites will be distributed throughout DoD for maximum utilization.

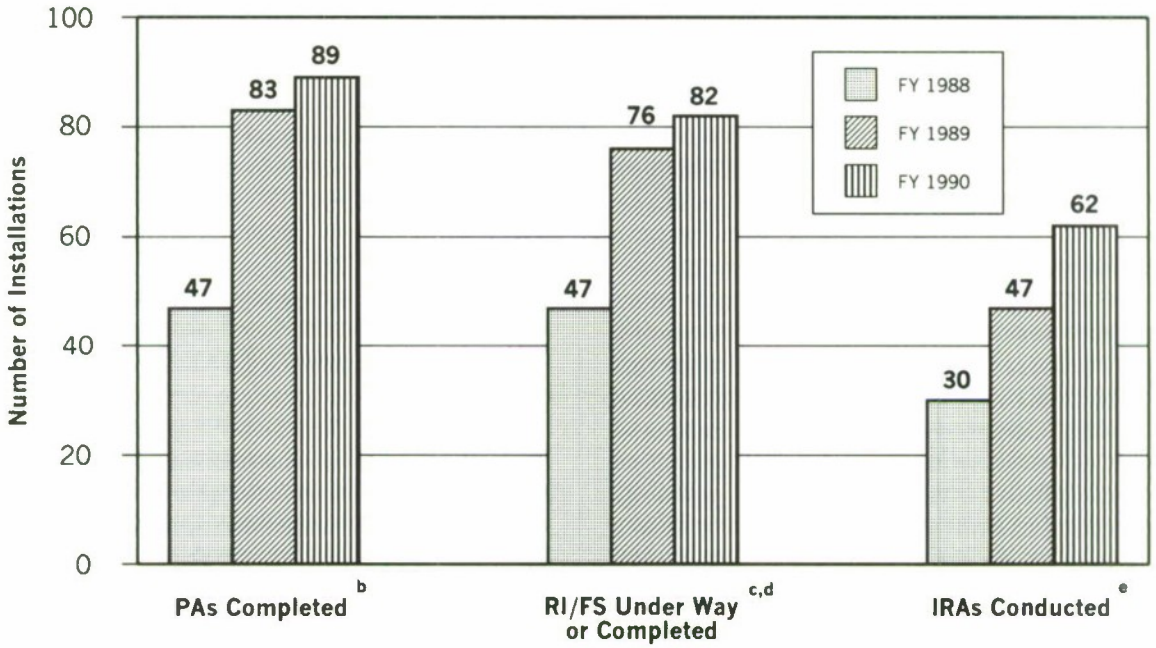
RESTORATION AND HAZARDOUS WASTE MANAGEMENT

In recent years, the DoD has gained significant ground in environmental management. In 1990 alone the Department spent over $600 million of Defense Environmental Restoration Program funds on cleanup efforts. Additional dollars are being spent by the Services. Restoration activities cover more than 17,000 sites at over 1,800 installations. By the end of FY 1990, restoration work had been completed, with no further action required, at more than 6,300 of these sites. The total cost for the entire restoration program is likely to amount to at least $14 billion. The Department will ensure that today's defense practices do not result in the same problems in years to come.

DoD is leading the way among federal agencies in the evaluation and cleanup of its facilities. We are moving quickly towards the cleanup of the highest priority DoD sites and steadily progressing at lower priority sites. Chart 12 summarizes the progress in Fiscal Year 1990 at the 95 DoD sites included on the National Priority List (NPL). The 95 DoD sites are located on 89 installations. The NPL is the EPA's compilation of actual or potentially contaminated sites requiring further study and possible cleanup. At the end of the last fiscal year, preliminary assessments had been completed at all 95 of these NPL sites, and remedial investigation/feasibility study activities had been completed at two of the sites. In addition, remedial

Restoration Progress at DoD NPL[a] Installations as of September 30, 1990

Chart 12



[a] **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.

[b] **Preliminary Assessment (PA)** — An installation-wide study to determine if sites are present that may pose hazards to public health or the environment. Available information is collected on the source, nature, extent, and magnitude of actual and potential contamination.

[c] **Remedial Investigation (RI)** — The RI includes a variety of site investigative, sampling, and analytical activities to determine the nature, extent, and significance of contamination.

[d] **Feasibility Study (FS)** — The Feasibility Study is distinct from, but closely related to, the RI and is usually conducted concurrently with the RI. The FS is intended to:

- Establish criteria for cleaning up the site;
- Identify and screen cleanup alternatives for remedial action; and
- Analyze in detail the technology and cost of the alternatives.

[e] **Interim Remedial Action (IRA) or Removal Action** — An immediate action taken over the short term to address a release or a threatened release of hazardous substances.

investigation/feasibility study activities were underway at 80 NPL installations. Although final remedial action activities had not begun at most of these sites, interim remedial actions (such as removing contamination sources or supplying adjacent communities with alternate water supplies) had been conducted at 62 installations by the end of FY 1990.

The other aspects of hazardous waste management consist of research, development, and demonstration of pollution prevention and hazardous waste management technology. Many of these projects are already saving the Department significant funds while reducing hazardous waste generation rates. The military departments are also working to find less-hazardous substitutes for chemicals used. These and other measures have reduced hazardous waste generation at DoD facilities by over 40 percent in the last three years. This is part of our effort

Part IV
Defense Programs

NUCLEAR FORCES AND STRATEGIC DEFENSE

Introduction

The forces and programs discussed in this section fall into four categories. The first category consists of strategic offensive forces — intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and bombers. The components of the second category — strategic command, control, and communications (C^3) systems — provide the essential links for planning, coordinating, and executing strategic missions. Nonstrategic nuclear forces — the third force category — provide the flexibility to deter attacks or respond to aggression at the tactical (or theater) level. Strategic defensive forces form the final category.

Nuclear Deterrence Policy

U.S. policy for several decades has been based on deterring attacks — particularly nuclear attacks — against U.S. territory, deployed U.S. forces, or U.S. allies. Deterrence has worked over the past four decades. Implementation of strong strategic modernization programs has largely been responsible for that success and has precipitated Soviet cooperation in nuclear arms reduction efforts. Therefore, three fundamental objectives will continue to underpin U.S. strategic nuclear policy in the future:

- Maintaining effective deterrence, so that a potential aggressor would conclude that the cost of an attack against the United States or its allies would far exceed any expected gain;
- Fostering nuclear stability, a condition whereby no nation is pressured to use nuclear weapons preemptively; and
- Maintaining the capability, if deterrence fails, to respond flexibly and effectively to an aggressor's attack.

To achieve the first objective, our strategic modernization programs and force structure have focused on countering the Soviet threat. The Soviet Union continues to modernize its ICBMs, SLBMs, and bombers, as well as its air and ballistic missile defense forces. The Soviets are developing several new strategic intercontinental missiles that include follow-ons to the SS-24 and SS-25 and a replacement SLBM for the Typhoon submarine. This modernization, coupled with the political, economic, and military changes occurring today in the U.S.S.R., creates an uncertain future. Maintaining effective deterrence will continue to require U.S. forces and a command and control system that are viewed by the Soviet leadership as being capable of inflicting unacceptable damage upon the Soviet Union and of denying Soviet war objectives.

The second objective — fostering nuclear stability — is more difficult to define. Political, social, and cultural considerations, as well as military factors, are involved. Stability largely results from perceptions held by a nation's leadership regarding a potential enemy's sense of urgency, willingness, or need to employ its nuclear weapons. Between nations of comparable military capabilities, such as the United States and the Soviet Union, these perceptions arise from each leadership's awareness of the costs and benefits that will accrue from military action, which in turn depends primarily on a dynamic assessment of the military balance. Each leadership's understanding of the other's enduring objectives is derived from many things, including history, diplomatic encounters, and statements of doctrine, as well as inferences drawn from the characteristics of the other's force structure.

While the U.S. seeks to deter nuclear conflict, should a nuclear attack nonetheless occur, the United States must and will attempt to control escalation and deny the aggressor its wartime goals. The third objective, therefore, calls for maintaining the ability to respond appropriately and effectively to any level of aggression. Options that offer a range of choices with respect to both the timing and scale of nuclear weapons employment must be available. A range of response options provides the hope of reestablishing deterrence at the lowest level of violence. Assuring such capability is particularly important today in light of the proliferation of ballistic missiles and their potential for global use in delivering nuclear weapons in almost any theater. Effective strategic and theater ballistic missile defenses would do much to counter this growing threat.

Implications of a Strategic Arms Reduction Talks (START) Agreement

We have not yet been able to complete a START agreement, although we hope we will be able to do so soon. Such a START treaty would be the first arms control agreement to achieve a real reduction in strategic forces. Though decreasing both U.S. and Soviet arsenals, such a treaty would place few constraints on Soviet and U.S. strategic modernization efforts. START requirements for force drawdowns can be met on the U.S. side through the orderly retirement of some of our oldest systems — such as pre-Ohio-class nuclear-powered ballistic missile submarines (SSBNs), Minuteman II missiles, and B-52G bombers.

Today, the Soviet Union possesses more strategic nuclear delivery vehicles (SNDVs), consisting of missile launchers and bombers, than does the United States; however, a rough parity exists between the two countries in the number of nuclear weapons carried by SNDVs. Under a START treaty, both sides will have at most 1,600 deployed SNDVs and 6,000 accountable weapons, with a sublimit of 4,900 deployed ballistic missile reentry vehicles. There will be considerable flexibility within those limits. The "discounting" of bomber weapons, which are considered more stabilizing and more vulnerable to existing defenses than ballistic missile weapons, will permit each side to deploy more than 6,000 total strategic weapons.

While subject to the same limits, the United States and the Soviet Union are expected to maintain very different strategic force structures under a START agreement. The U.S.S.R., while moving toward a more balanced strategic force, is expected to maintain a dominant ICBM component strengthened by mobile systems. The United States, on the other hand, will continue to deploy the majority of its ballistic missile warheads at sea.

Strategic Forces in a Changing World

The Soviet Union is indeed changing, but some things remain the same. Since the early 1980s, the Soviets have been systematically modernizing their strategic nuclear offensive and defensive forces through the introduction of new or modified systems. While the Soviet transition to a more defensive conventional posture and the withdrawal of Soviet troops from Eastern Europe are welcome changes, modernization on the strategic front continues. Strategic forces seem to be less affected by the kinds of defense reductions we see in other areas. Strategic nuclear capability is less costly to maintain than a large conventional capability, and the Soviet Union will probably view its strategic forces as key to continued superpower status. Thus, while tensions have diminished and the potential for nuclear war has declined, Soviet nuclear capability remains strong. Furthermore, the Soviet Union continues to make substantial investments in air and ballistic missile defenses.

Soviet modernization efforts stand in stark contrast to our own. While the Soviets continue to produce three types of long-range bombers — Blackjack, Backfire, and Bear H — it has been four years since the United States last added a new bomber to its operational force. While the Soviets upgrade their SS-18 force and deploy two types of mobile ICBMs — the SS-24 and SS-25 — U.S. ICBM modernization programs are restricted to research and development. And while the Soviets continue to produce Delta IV SSBNs at the rate of one a year, the United States has decided to complete procurement of Ohio-class SSBNs at 18.

The modernization of Soviet forces is not our sole concern. Nuclear, chemical, and biological warhead delivery systems are also increasing around the world. These are challenges the United States cannot afford to leave unanswered. To meet the dynamic threat to our nation and to world order, the United States must continue its modernization efforts. This nation cannot stand still and allow its deterrent to become ineffective or unresponsive to new requirements. Ballistic missile defenses — particularly in space — make much more sense than ever before, and development of those capabilities through the Strategic Defense Initiative (SDI) program should clearly remain a key component of our modernization efforts. Above all, the United States will continue to encourage cooperation on a global scale, promote efforts to reduce the need for nuclear weapons and proliferation of weapons of mass destruction, and strive to eliminate the threat of employment of such weapons against the United States or its allies.

Strategic Modernization

The strategic modernization programs initiated in the early 1980s were designed to upgrade or replace U.S. forces that had been neglected during the 1970s — a decade during which the Soviet Union continued to

expand and enhance its strategic capabilities. Most notably, in the early 1980s, the United States found itself lagging in the capability to destroy hard targets with ballistic missile warheads. Its ICBM and SLBM forces lacked the needed accuracy; its ICBM silos were becoming more vulnerable to heavy Soviet missiles; and its bombers were facing increasingly lethal air defenses.

The strategic modernization program had five key objectives:

- To improve command, control, and communications systems;
- To modernize strategic bombers and the weapons they carry;
- To deploy new and more accurate submarine-launched missiles;
- To improve the capability and accuracy of land-based missiles, while reducing their vulnerability; and
- To improve existing strategic defenses and to aggressively investigate the potential for defenses against ballistic missiles.

Continued support for these programs has demonstrated the United States' resolve to strengthen its nuclear deterrent and to begin the transition to a more stable nuclear environment. We have seen the development and successful deployment of the Peacekeeper ICBM, the Trident II SLBM, the B-1B bomber, the F-16AD interceptor, and improvements to warning and C^3 systems. Additionally, the SDI program has demonstrated impressive progress toward proving the feasibility of active defenses against ballistic missiles. Continued support for crucial strategic systems will be essential.

The Fiscal Year (FY) 1992-97 Defense Program

Funding levels for strategic programs, just as for defense programs overall, have been substantially reduced from the FY 1990-91 levels. The FY 1992-97 defense program stresses affordability in a time of decreasing defense budgets, while remaining true to the principles that have provided the foundation of our nuclear deterrent for over 30 years:

- **Force diversity** – to confront any potential aggressor with insurmountable attack and defensive problems, and to hedge against the failure of any one U.S. component;
- **Survivability and endurance** – to convince potential aggressors that, in any scenario, sufficient U.S. capability will remain to deliver a devastating retaliatory strike; and
- **Flexibility and effectiveness** – to provide deployment and employment options that allow the United States to maintain effective deterrence and, if necessary, successfully execute a broad array of missions against the full spectrum of potential targets.

STRATEGIC OFFENSIVE FORCES – THE TRIAD

The United States maintains a strategic triad of ICBMs, SLBMs, and bombers as a hedge against unforeseen developments that might threaten U.S. retaliatory capabilities. Each leg of the triad has unique capabilities that complement those of the other legs.

Land-Based Strategic Nuclear Forces

The land-based leg of the triad – the ICBM force – is valued for its promptness, reliability, accuracy, and low operating cost. High alert rates and reliable supporting communications also make silo-based ICBMs the most responsive element of the triad.

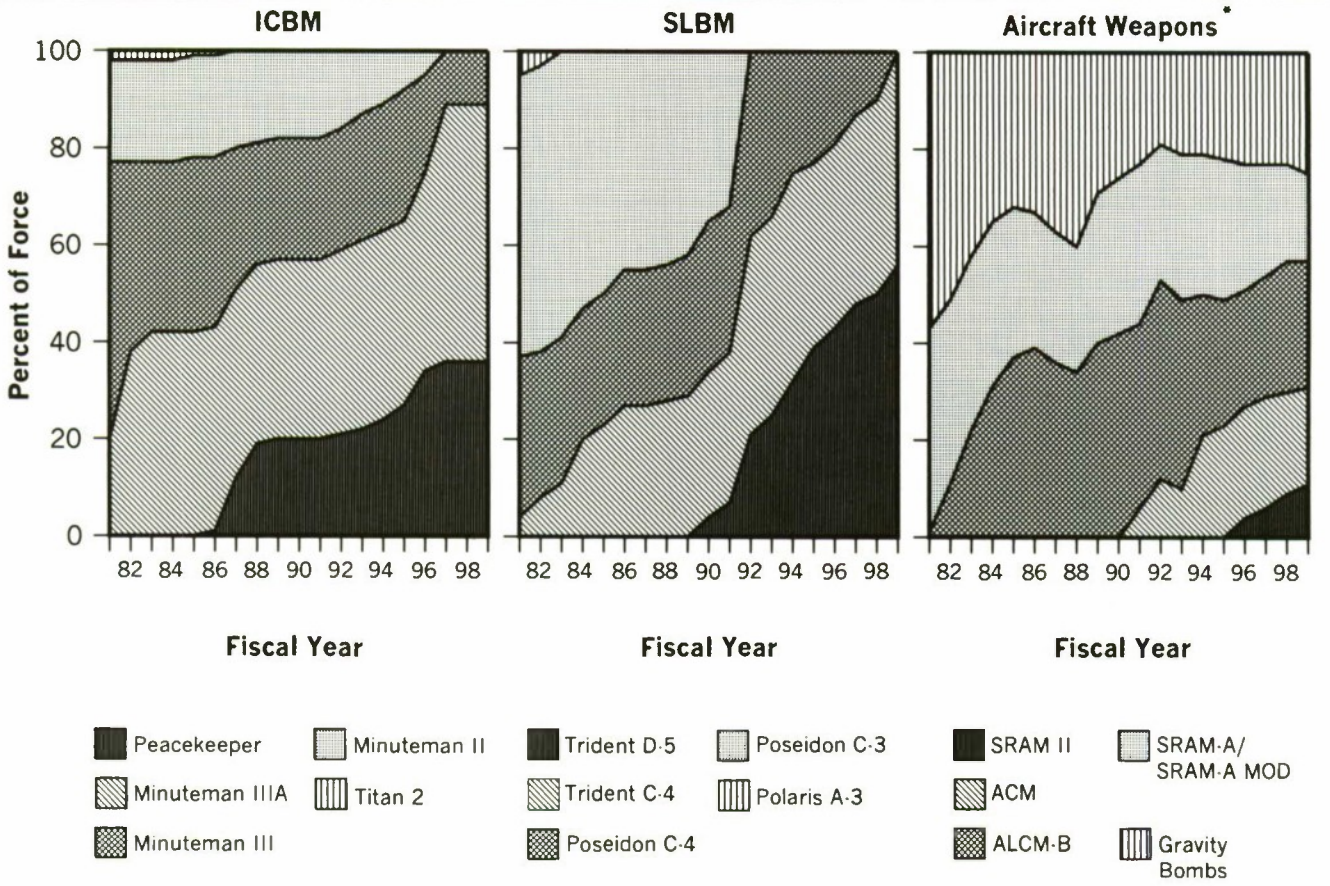
The initial phase of the ICBM modernization program, which focused on improving hard-target-kill capability and reliability, was completed with the deployment of Peacekeeper missiles in silos and the Minuteman life-extension programs. Subsequently, the United States planned to rebase its Peacekeeper force on railroad cars and to develop and deploy a road-mobile, single-warhead Small ICBM. Currently, the U.S. ICBM force consists of 50 silo-based Peacekeeper missiles, 500 Minuteman IIIs, and 450 Minuteman II missiles. The FY 1992-93 budget supports the continued operation of these systems, while beginning the gradual retirement of the 450 older Minuteman II missiles. Adding mobility to our ICBM force would greatly improve survivability without significantly reducing responsiveness and reliability. Therefore, the FY 1992-97 defense program continues development of the Small ICBM, which could provide increased reliability and survivability over existing ICBMs.

Sea-Based Strategic Nuclear Forces

The sea-based leg of the triad – our ballistic missile submarines (SSBNs) – is considered the most survivable and enduring element of the U.S. strategic

Strategic Offensive Force Structure (Warheads)

Chart 13



* Represents weapons that could be loaded on operational bombers.

offensive force structure. In addition, extensive supporting communications allow SSBNs on alert to be highly responsive. Our modernization programs for these forces have been particularly successful.

The focus of modernization efforts in this area has been the Trident II (D-5) missile system. Since the D-5 system was declared operational in March 1990, its demonstrated reliability and accuracy have surpassed expectations. The new missile combines the survivability and endurance qualities traditionally associated with SLBMs with a capability to retaliate quickly and effectively against Soviet hard targets. This new capability enhances deterrence by making SLBMs effective against most of the target spectrum, thereby making the triad more resilient to attacks against the ICBM and bomber legs. The increased range of the D-5 system allows either improved target coverage or expanded operating areas.

Currently, the U.S. sea-based nuclear deterrent consists of 22 pre-Ohio-class SSBNs [10 carrying Poseidon (C-3) missiles, and 12 carrying Trident I (C-4) missiles]; 8 Ohio-class SSBNs equipped with Trident I missiles; and 2 Ohio-class SSBNs deploying the new Trident II (D-5) missile. Eight additional Ohio-class SSBNs, which also will be armed with the Trident II missile, are in various stages of construction or delivery. The FY 1992-93 budget supports continued construction of Ohio-class, D-5-capable submarines (no new

procurement) and production of Trident II SLBMs for those submarines. During the 1990s, as the pre-Ohio-class SSBNs are retired and new Trident SSBNs are deployed, the SSBN force will shrink from the 34 submarines in the inventory today to 18 SSBNs, all equipped with either Trident I (C-4) or Trident II (D-5) missiles. The Department has accelerated the retirement of the aging Poseidon (C-3) missile system, which will remove all of these weapons from the strategic arsenal by FY 1992, although their actual deactivation will not be complete until FY 1994.

Continuous emphasis on SSBN security and survivability has contributed substantially to the relative invulnerability of our at-sea SSBNs today. These programs are critical to the continued survivability of our smaller, but vitally important SSBN force of the future.

The Strategic Bomber Force

Bombers are the most flexible element of the strategic triad, capable of being recalled or redirected while en route to their targets. They are able to attack fixed strategic targets, assess damage inflicted in earlier strikes, and be reconstituted for follow-on missions. They can carry a variety of nuclear weapons — air-launched cruise missiles (ALCMs), short-range attack missiles (SRAMs), and gravity bombs — to complicate enemy air defense operations and effectiveness. They offer the potential to hold the full spectrum of mobile military targets at risk, and they provide our leadership many unique options to demonstrate U.S. resolve in a crisis. In addition to their primary nuclear mission, long-range bombers support conventional ground and naval operations worldwide.

The effectiveness of our bomber force is crucial to deterrence and strategic stability. Continued Soviet air defense modernization, however, makes U.S. bomber effectiveness less certain. Penetrating bombers and cruise missiles have relied heavily on defense suppression by ICBM and SLBM weapons. Our bomber modernization programs have focused on reducing the need for that suppression. As a first step in maintaining the effectiveness of the bomber force, we procured the ALCM-B, which would allow our B-52 aircraft to stand off from enemy defenses when delivering cruise missiles, and deployed the B-1B, whose small radar cross section (relative to the B-52) and high-speed, low-altitude penetration tactics make it effective against all but the most modern air defenses.

At the end of FY 1990, the U.S. bomber inventory consisted of 31 FB-111As, 71 B-52Gs equipped with externally mounted ALCMs, 39 B-52Gs dedicated to conventional missions, 95 B-52Hs, and 96 B-1Bs. The FY 1992-93 budget supports the continued operation of the B-52H, B-1B, and conventional B-52G fleets, while continuing retirement of the ALCM-equipped B-52Gs. In addition, the FB-111As are being transferred to the tactical force and redesignated F-111Gs.

The key components of the second phase of the bomber modernization effort are the B-2 "stealth" bomber and Advanced Cruise Missile (ACM). Both systems are designed to penetrate air defenses using state-of-the-art, low observable technologies. Initial operational capability of the ACM is expected soon, and initial flight testing of the first B-2 aircraft has been successful. The FY 1992-97 program supports an eventual procurement of 75 B-2 aircraft. The FY 1992-97 program also procures enough ACMs to equip most of our B-52H aircraft with 12 of these missiles, which the bombers will carry externally.

The FY 1992-97 program also continues development of the SRAM II missile as a replacement for the aging SRAM-A. This short-range system will make penetrating aircraft more effective against heavily defended targets. The defense program also supports evaluation of two radar warning receivers (RWRs) for potential use on the B-1B to enhance its penetration capability.

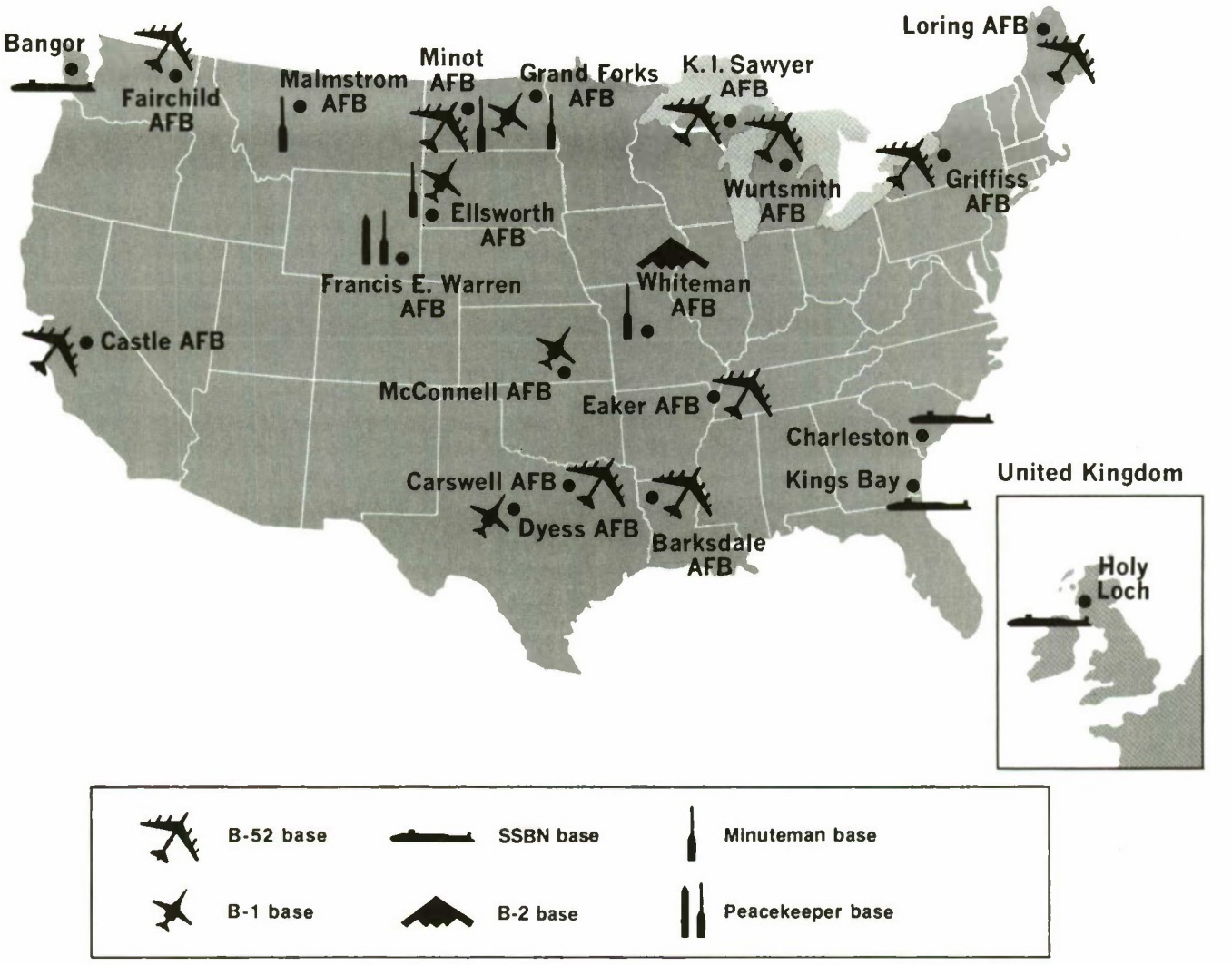
STRATEGIC COMMAND, CONTROL, AND COMMUNICATIONS (C^3)

Deterrence depends on more than our nuclear forces. We also need strategic C^3 systems to ensure that we could employ these forces effectively. Sensors for warning and attack assessment must be able to provide our leaders the information they need to assess the size and scope of an attack and determine an appropriate response. Initial retaliatory orders would be issued from command centers, the focal point of the command and control system. Communications systems link our sensors and command centers, thus ensuring that forces would receive orders and remain responsive to national authority both during and after an attack.

We have seen that the need to maintain a credible nuclear deterrent remains unchanged; and to do so, a credible strategic C^3 posture is absolutely necessary.

Locations of U.S. Strategic Offensive Forces

Chart 14



Note: The B-52 squadrons at Loring AFB and Castle AFB are assigned a dedicated conventional bomber role.

Failure to modernize and upgrade our C^3 capabilities would diminish the credibility of deterrence by calling into question our ability to respond to an attack and by offering the Soviets the possibility of obtaining a significant advantage should the strategic C^3 system break down under the stress of an attack.

Consequently, the Department intends to continue to develop and deploy the Milstar satellite communications system, consistent with applicable law. Milstar — DoD's highest-priority C^3 program — supports both tactical and strategic C^3 missions. For strategic C^3, its primary role is to ensure communications in the early phase of a conflict; it eliminates current vulnerabilities to jamming and to the effects of nuclear weapons on signal propagation. The Milstar program is being restructured to maximize its capabilities within the limits of the reduced funding available.

NONSTRATEGIC NUCLEAR FORCES (NSNF)

To meet both its unilateral and alliance responsibilities for supporting the flexible response strategy and deterring aggression, the United States requires a diverse and operationally flexible spectrum of retaliatory options. Nonstrategic nuclear forces deployed on land and at sea constitute the essential link between conventional and strategic nuclear forces for those responses. The forward deployment of NSNF in Europe demonstrates our commitment to the defense of that continent and provides the principal means by which alliance members share nuclear risks and burdens.

NATO has always stressed that none of its weapons will ever be used except in self-defense and that it seeks the lowest and most stable level of nuclear forces needed to deter war. Reflecting the political and military changes in Europe and the prospects for further changes, the NATO heads of state, meeting in London in 1990, concluded that the role for "substrategic" nuclear systems of the shortest range will be significantly reduced. Accordingly, once arms control negotiations begin on short-range nuclear forces, NATO will propose, in return for reciprocal action by the Soviet Union, the elimination of all nuclear artillery shells from Europe. These actions, coupled with the decision to terminate the Follow-on to Lance (FOTL) program, will place greater reliance on dual-capable aircraft (which can deliver conventional or nuclear weapons) as the means by which NATO could, if required, employ nuclear weapons in defense of its interests.

The United States seeks to confront an opponent's leadership with uncertainty and risk should it contemplate the use of nuclear weapons at sea. Consequently, NSNF also are deployed on a wide variety of U.S. ships. Nuclear-capable carrier-based aircraft and nuclear-armed Tomahawk sea-launched cruise missiles contribute to the nuclear reserve force, provide a worldwide deterrent presence, and deter nuclear attacks against U.S. naval forces.

Credible deterrence worldwide demands that our NSNF be militarily effective, and be perceived as such by all potential adversaries. The Department is therefore pursuing development of a new tactical system — the Short-Range Attack Missile-Tactical (SRAM-T) — to modernize the NSNF inventory. The SRAM-T will provide nuclear-capable aircraft with a standoff capability against heavily defended targets, thereby increasing the effectiveness and survivability of the aircraft.

STRATEGIC DEFENSIVE FORCES

Strategic defenses encompass those systems that protect U.S. territory from nuclear attack or coercion. At present, these systems serve primarily a warning function. The Defense Support Program, the Ballistic Missile Early Warning System and Cobra Dane radars, the SLBM warning system of Pave Paws radars, the Perimeter Acquisition Radar Attack Characterization System (PARCS), and the Nuclear Detonation Detection System would warn and assess the magnitude of an ICBM or SLBM attack. The North Warning System and Distant Early Warning Line radar networks would provide notice of a bomber attack. Only a relatively small dedicated force of air defense fighters, from the Air National Guard, a few active duty units, and the Canadian Defence Force, is available for defending the North American continent against a strategic attack by manned aircraft.

Air Defense

To meet both bilateral agreements with Canada and unilateral responsibilities, the priorities for air defense forces are to maintain sovereignty over U.S. airspace, to ensure adequate warning of a nuclear bomber or cruise missile attack against North America, and lastly, to limit damage should such an attack occur. Active air defense had declined in priority in the 1960s and 1970s because limiting damage from a strategic air attack was viewed to be of little significance so long as we could not defend against the much larger ballistic missile threat.

The modernization of our interceptor forces and surveillance systems, begun in the 1980s, is nearing completion. The North Warning System along the Arctic and Labrador coasts and the F-15 and F-16 interceptor force provide reliable warning and limited active defenses against any penetrating bombers and cruise missile carriers that could threaten us today. We would not, however, be able to detect or defend against future low-observable cruise missiles or bombers by upgrading current systems. This would require radically improved technologies for surveillance, interception of missiles, antisubmarine warfare, and battle management, which the Department is pursuing.

SDI and the Changing Security Environment

Events in the Persian Gulf as well as the dramatic changes within Eastern Europe and the Soviet Union have served to underscore the fact that the strategic environment the United States will confront in the 1990s will differ significantly from that which we faced in the early 1980s, when the Strategic Defense Initiative program was established. Because of these changes, which include the proliferation of ballistic missiles on a global scale, ballistic missile defense has become far more urgent and immediately relevant than could have been projected from the perspective of the early 1980s.

A long-standing objective of U.S. national security policy has been to ensure strategic stability through deep and stabilizing reductions in offensive nuclear forces, while enhancing the role of effective strategic defenses. This objective has been sought through a combination of arms control measures, strategic modernization, and pursuit of a vigorous SDI program.

In light of the adversarial political relationship that existed between the two superpowers in the 1980s, the SDI program was structured to pursue a phased deployment concept designed to maintain and, if possible, improve defense system effectiveness in the face of determined Soviet responses to counter U.S. defenses. The phased deployment concept entailed the development and deployment of increasing technical capabilities that would continuously reduce the value of Soviet offenses. As a result the United States expected the Soviets to ultimately agree to pursue a cooperative transition toward a strategic balance in which deep offensive reductions were coupled to strategic defenses, resulting in a more stable strategic relationship between the United States and the U.S.S.R.

The recent rapid changes in the strategic environment have provided both the opportunity (relative to the Soviet Union) and the incentive (because of ballistic missile proliferation) to move toward effective defenses sooner and at lower cost than was believed possible when the program was initiated.

Our evolving relations with the Soviet Union in the 1990s are changing the calculus with respect to strategic defenses. Movement toward a START agreement is indicative of an improving political relationship and evidence that stability can be enhanced in ways that are acceptable to both sides. Nonetheless, even under START, the Soviet Union will retain large, modern strategic forces, and political instabilities in the Soviet Union heighten concerns about the possible use of ballistic missiles.

Furthermore, there have already been some signs of a more positive Soviet attitude toward U.S.-Soviet cooperation on the problem of ballistic missile proliferation. Some Soviet analysts, including military officials, have pointed out that ballistic missile proliferation threatens the U.S.S.R. more directly than it threatens the United States, and they have admitted that strategic defenses would be more compatible with the stated Soviet interest in a "defensive doctrine." The United States would welcome a formal shift in the official Soviet position regarding strategic defenses since it would provide a lasting basis for a less-threatening strategic relationship more consistent with the improvements in our overall relationship.

While the United States remains cautiously optimistic about the prospects for further improvements in U.S.-Soviet political relations, and remains hopeful that agreements to reduce U.S. and Soviet strategic offensive forces will be reached, we recognize that Soviet strategic offensive and defensive modernization continues. As a result, Soviet strategic forces under a START treaty will be fully modern and capable of holding at risk the full range of U.S. targets. Therefore, the United States will continue to call upon its strategic forces to deter Soviet strategic nuclear attack.

The Ballistic Missile Proliferation Threat

While the requirement for the United States to deter Soviet strategic nuclear attack remains, the spread of military technology of increasing sophistication and destructiveness is a development that must increasingly be considered as we develop military forces to be fielded in 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.

The United States remains a global power, with continuing political, economic, and other vital interests in distant regions. In promoting regional stability and upholding American interests, U.S. forces increasingly will be operating within range of ballistic missiles armed with conventional or mass-destruction weapons. The United States cannot accept a situation in which these

capabilities are allowed to constrain a U.S. president's flexibility in pursuing global interests and responsibilities. This nation also cannot ignore the growing threats posed to friends and allies around the globe.

Although these technologies pose a threat today that is primarily regional in character (e.g., short-range missile systems), the trend is clearly in the direction of systems of increasing range and sophistication. Thus, while the threat to the U.S. homeland from such systems is minimal today, within the decade the continental United States could be in the range of the ballistic missiles of several Third World nations in a world dominated by multipolar geopolitical considerations, rather than the East-West strategic paradigms of the past 40 years.

SDI Program Refocused

Having reviewed the changing nature of the threat the United States will face in the 1990s, the Department has adjusted the focus of the SDI program to reflect these changes. This adjustment is mandated by several factors:

- The increased threat posed by the proliferation of ballistic missiles;
- A concern that political instability could increase the potential for ballistic missile use; and
- A recognition of the continued pursuit of strategic arms reductions.

The initial objective of a defense deployment is to protect U.S. forces deployed overseas, U.S. power projection forces, U.S. friends and allies, as well as the United States itself from accidental, unauthorized, and/or limited ballistic missile strikes. Because this concept for a defense deployment stresses protection against ballistic missiles irrespective of their source, it is called Global Protection Against Limited Strikes (GPALS).

A GPALS deployment could provide an appropriate level of ballistic missile defense within the U.S. strategic force structure for the foreseeable future. At less than half the size of the Phase I architecture, a GPALS defense would be capable of meeting the initial objectives described above.

The decision to proceed with GPALS satisfies valid military needs and is consistent with preserving the potential for meeting the broader objectives of existing military requirements stemming from significant remaining Soviet strategic capabilities. If the U.S. decides that it needs to achieve more ambitious mission objectives at some point in the future, or if changes in the international environment result in a requirement to expand U.S. strategic defense efforts, the SDI program will have developed the systems and technologies required to do so. Such a decision would ultimately require consideration of the status of Soviet military power, and in particular Soviet strategic capabilities, and of political developments in the Soviet Union, progress in concluding and implementing U.S.-Soviet arms reduction agreeements, and changes in the ballistic missile threats from Third World countries.

Because it addresses a threat of mutual concern — accidental and unauthorized launches and Third World proliferation — GPALS may facilitate progress at the Geneva Defense and Space Talks between the United States and the Soviet Union. At the June 1990 Washington Summit, the U.S. and U.S.S.R. committed to follow-on strategic negotiations aimed at implementing an appropriate relationship between strategic offenses and defenses. We believe GPALS provides the basis for success in such negotiations.

A GPALS defensive system would consist of the following:

- Space- and surface-based sensors to provide global, continuous surveillance and to track, from launch to interception or impact, ballistic missiles of all ranges. The use of space sensors would allow for a reduction in the size, cost, and number of surface-based weapons and sensors, while increasing their performance. In combination, the sensors would provide information to U.S. forces, and potentially, to those of our allies as well.
- Interceptors, based in space, on the ground, or at sea, capable of providing high-confidence protection to targets under attack. Space-based interceptors could provide continuous, global interdiction capability against missiles with ranges in excess of 600-800 kilometers. The surface-based interceptors, located in the United States, deployed with U.S. forces and, potentially, deployed by U.S. allies, would intercept any type of warhead.

The Department's Theater Missile Defense (TMD) and SDI programs have been integrated. This will permit the United States to deploy significant surface-based

theater defenses by the mid-1990s and, beginning in the late 1990s, to deploy surface- and space-based elements of a global defense capable of detecting, tracking, and intercepting ballistic missiles of all ranges and in all phases of their flight trajectory, should such a deployment decision be made.

An important result of the new GPALS policy approach is that outyear funding requirements will be reduced substantially. Total outyear funding costs for GPALS will be approximately 20 percent less than previous Phase I estimates for FY 1992-97. Research on follow-on technologies will continue to be funded, but at a more relaxed pace and schedule, to provide a hedge against future potential threats in the post-Cold War era.

Conclusion

Despite dramatic changes in the international security environment, and our hopes for achieving a START agreement, Soviet strategic programs have changed very little in size or direction. Deployments of mobile ICBMs and quieter SSBNs are making the Soviet strategic missile force more survivable, while Soviet air defenses are becoming increasingly capable. START will constrain the number of warheads and launchers, but not the modernization or quality of Soviet strategic forces. The Soviet strategic posture will continue to be formidable. Looking beyond the Soviet threat, the continued proliferation of ballistic missiles around the world adds uncertainty to regional nuclear stability.

U.S. nuclear policy has emphasized deterrence, and there is no question that this policy has been successful or that U.S. offensive modernization and strategic defense programs have been largely responsible for that success. Our modernization process is, and must remain, a dynamic one. Preserving our security in changing circumstances depends in part on the nation's willingness to maintain its commitment to a strong nuclear deterrent that includes an increasing role for strategic defense. Initial deployment of defenses would hedge against missile proliferation and enhance regional stability by providing global protection against accidental, unauthorized, and/or limited ballistic missile strikes. Such defenses could protect U.S. forces deployed overseas, U.S. power projection forces, and U.S. friends and allies — as well as the United States itself.

LAND FORCES

Introduction

U.S. land forces are in a period of transition. The end of the Cold War, the unification of Germany, and the beginnings of freedom emerging in Eastern Europe and the Soviet Union presage a new world order. These changes, remarkable though they are, do not alter the fact that the Soviet Union will remain the dominant military force on the European landmass. At the same time, military capabilities in the Third World are increasing, as evidenced by the aggressive procurement of modern, lethal weapons by Third World nations and a willingness to use them.

The challenge for the United States is to provide, with reduced land forces, capabilities to deter the residual Soviet threat, as well as to confront increasingly formidable Third World adversaries who threaten critical U.S. interests or those of friends and allies. The revised U.S. defense strategy responds to these requirements by emphasizing the capability to reconstitute forces to address the possibility of a resurgent Soviet threat or other unforeseen major threats, and by making regional crisis and contingency response requirements critical criteria for sizing and structuring the standing forces.

Evolving Mission

The United States is reshaping its land forces to meet the needs of an evolving security environment. Previously, our major need was for powerful forward-based forces capable of conducting, in concert with our allies, extended combat operations against mechanized and armored forces possessing the latest in high-technology weaponry and support. Our strategy of forward defense has been successful, and the Soviet Union is now reducing its capability to employ general purpose forces in Western Europe.

As the threat of war in Europe decreases, the need for large numbers of forces in that theater also decreases. However, some forward-based forces will remain. These forces and those stationed elsewhere must still be able to take quick and decisive action to protect the nation's interests. This will require heavy and light land forces that can function effectively across the spectrum of operations, in peacetime or in war. Geopolitical trends and national interests require a global military strategy supported by regionally-oriented, theater-specific operational plans. Specifically, the broad objectives of the land forces of the United States will be to:

- Deter aggression against the United States or its allies and friends;
- Maintain a capability to conduct continuous operations across the spectrum of missions, from peacetime engagements to high-intensity armored warfare;
- Maintain forward deployments in those regions of greatest strategic importance, providing deterrence and regional stability through visible evidence of U.S. resolve and the ability to protect U.S. interests;
- Develop and maintain the capability to deploy forces that are essential to the rapid projection, reinforcement, and sustainment of forces; and
- Be capable of meeting a wide range of security challenges and of supporting actions designed to prevent conflicts from occurring or to control escalation.

Force Structure

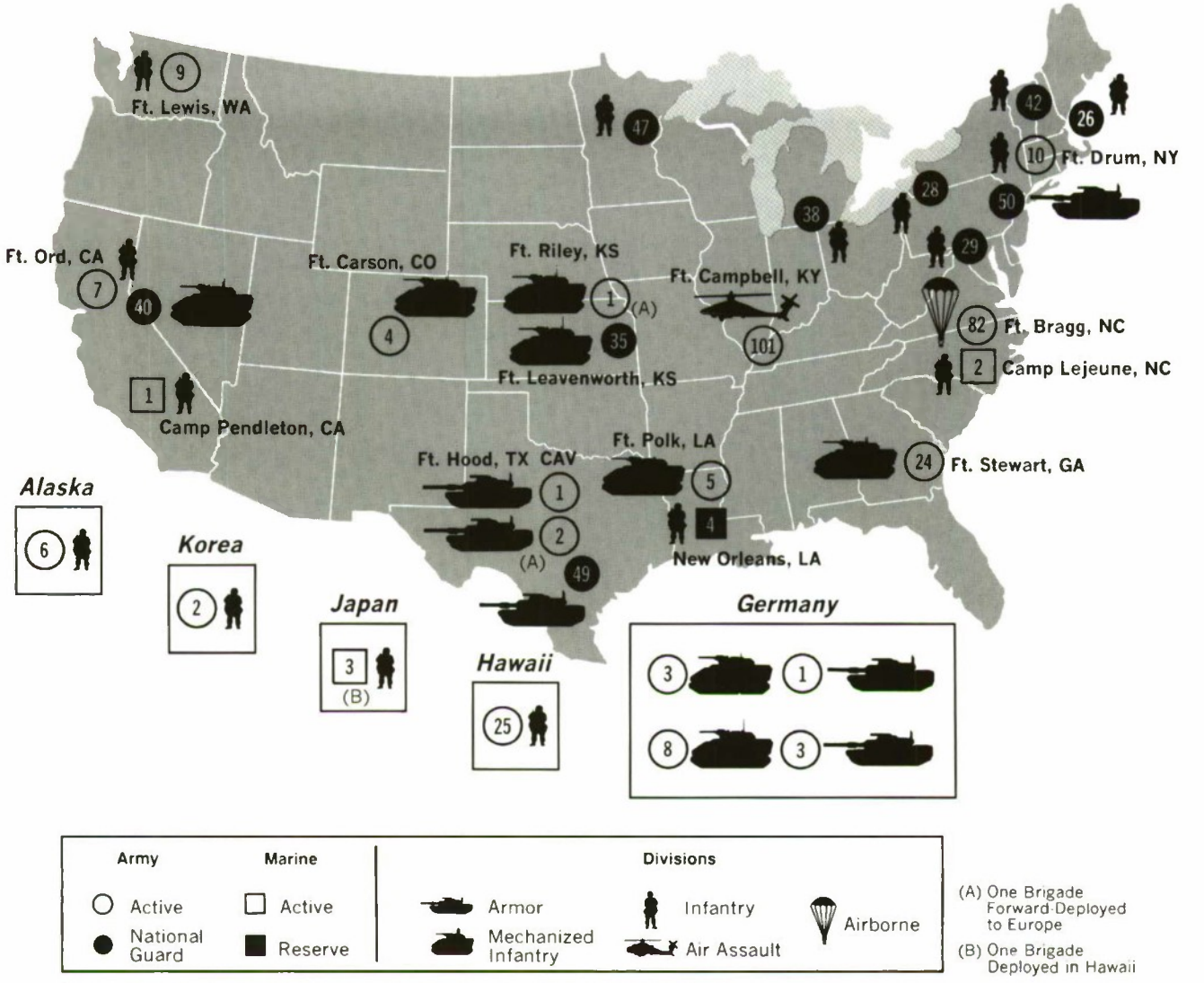
In this time of change, the challenge will be how to maintain the strength, versatility, and preparedness of U.S. land forces to respond to any threat, while reducing the size of those forces. Reductions must be made logically and with careful consideration for the type of capabilities that will be needed in the 21st century. The general trend will be toward smaller land forces that are more versatile, deployable, and mobile. At the same time, U.S. combat forces must be more lethal, ready, and self-sufficient than they are today. Our combat support and combat service support elements must have readiness and mobility commensurate with the forces they support.

The two components of our land forces — the Army and Marine Corps — are complementary. The unique capabilities that each provides enable national authorities to tailor forces as necessary to deter aggression, respond to crises, or wage war.

As the military service primarily responsible for prompt and sustained land combat, the Army today

Deployment of U.S. Divisions

Chart 15



NOTE: Indicates official activations/inactivations/conversions as of January 1, 1991. One active Army motorized division and one active Army armored division are scheduled to be inactivated during FY 1991.

maintains 28 divisions and 5 corps. These are allocated among its forces currently forward-based in Europe, the Persian Gulf, and the Pacific; a contingency corps and a reinforcing corps based in the United States; and forces to sustain them in combat (most of which are U.S.-based). About half the Army's combat forces are in the active component. The balance of the combat forces and the bulk of the combat support and combat service support units are in the reserve components.

The armored, light, and special operations forces maintained by the Army can be tailored to meet the requirements of any necessary operation. For example, in Operation JUST CAUSE, the Army deployed

primarily light and special operations forces, reinforced by small mechanized and armored units. In the much larger Operation DESERT SHIELD, by contrast, U.S. land force strength is provided by armored and mechanized divisions, supported by airborne, air assault, and special operations forces. These recent deployments also highlight the capability of Army forces to conduct joint operations with other U.S. forces and combined operations with friends and allies. Furthermore, Army forces are organized and trained to execute peacetime missions such as disaster relief, nation assistance, counternarcotics missions, and evacuation of U.S. citizens abroad.

While the Army will continue to provide powerful forces for rapid deployment worldwide, the future will see significant reductions in its active and reserve force levels. These reductions will be based on a thorough assessment of threats, missions, required capabilities, risks, and affordability. The reduced likelihood of a short-warning conflict leading to a prolonged conventional engagement in Europe allows for a reduced forward presence in that theater, accompanied by an increased reliance on units based in the continental United States (CONUS).

As events in the Persian Gulf make clear, the post-Cold War world still provides dangerous and unpredictable threats to U.S. interests. Consequently, both during and after the reductions, the remaining Army forces must be trained, ready, properly equipped, and supported to respond to regional contingencies and to project power in support of U.S. national interests around the globe.

The Marine Corps, which is essentially naval in character, provides the ability to project sea-based combat power ashore. The Marine Corps is designed to conduct the land portion of naval campaigns, using forcible entry and maritime prepositioning ships when appropriate.

Marine forces — by virtue of their high state of readiness, forward presence, and task organization — provide highly flexible capabilities for responding to contingencies around the globe. Marine combat operations are conducted by combined-arms teams called Marine Air-Ground Task Forces (MAGTFs), with a single commander controlling both ground troops and supporting aircraft. Task-oriented for specific missions, MAGTFs provide forcible entry, land combat, and expeditionary capabilities that contribute uniquely to the nation's ability to project combat power ashore from the air and sea. Other operating Marine forces that may be employed ashore are Marine Security Forces, such as Fleet Antiterrorism Support Teams (FASTs). Also, under the direction of U.S. ambassadors, Marine security guards protect American embassies worldwide.

The Marine Corps will assist in providing the credible and responsive combat power necessary to deter adventurism. It will continue to maintain three divisions: two oriented toward the Pacific and Indian Ocean regions (the First Division at Camp Pendleton and Twentynine Palms, California, and the Third Division, based on Okinawa and Hawaii) and one oriented toward the Atlantic and Mediterranean basin (the Second Division at Camp Lejeune, North Carolina).

Marine combat service support elements will continue to be matched to the size of Marine combat forces, leaving the Marines with a lean "tooth-to-tail" ratio. The ability of Marine forces to sustain themselves in combat will be preserved.

Readiness, Quality, and Training

By FY 1995, our land forces will be smaller than they have been since 1951, but the Department will work to maintain readiness and strengthen the capabilities of those forces. Regional crises might develop quickly, allowing little time for improving combat readiness. Maintaining readiness while reducing forces and budgets is therefore a major force management challenge facing the Department. Meeting that challenge will require a continued high emphasis on force quality and training.

Recruiting and retaining quality personnel will continue to receive priority attention. It is important over the long term, especially as forces are downsized, to guard against the random effects of force structure cuts that reduce quality. Quality and strength can be maintained as long as force reductions are managed carefully and are calibrated to our changing security requirements.

Realistic and demanding training is essential to effective fighting forces. Leaders and the forces they command must be familiar with opposing military doctrine, tactics, and techniques, and with the weapon systems that they might face in combat. Training exercises and programs must emphasize joint and combined

operations, and test the interoperability of active and reserve forces. To enhance force survivability and effectiveness, our soldiers and Marines must be able to operate continuously in day and night in nuclear, chemical, biological, and directed-energy (such as laser or microwave) environments. We will place increased emphasis on mobilization and deployment training, on appropriate social and cultural awareness and linguistic skills, and on training that extracts maximum advantage from our technological achievements. Low-cost simulations must be developed to augment high-cost field exercises, to ensure that commanders and their staffs maintain a high state of readiness.

A well-educated, well-led, and rigorously trained force is essential for success in combat, regardless of its size. Training is the centerpiece of readiness, and readiness is essential to force effectiveness.

Modernization

While Soviet forces may be declining in size, the quality of their weaponry is improving. At the same time, the acquisition of advanced-technology weapon systems by Third World countries means that we could still confront large armored forces, possibly equipped with ballistic missiles and chemical and biological weapons. To respond to these emerging challenges, we must maintain the combat capability of our forces through vigorous modernization programs.

Many technologies will be available over the next several decades that can be leveraged to enhance our land forces' capabilities. Technological breakthroughs in electronics, biotechnology, communications, artificial intelligence, composite materials, and robotics will continue at an accelerated pace. Sophisticated computers will aid decisionmaking and lead toward automated battlefield management systems. High-technology weapon systems with greater range, lethality, and mobility will require simple man-machine interfaces.

But while many modernization technologies are possible, only a select number can be brought to fruition because of fiscal constraints. Thus, the decision to pursue specific technologies will preclude others, making the choice of which ones to pursue all the more critical. From an equipment standpoint, the areas that most concern our land forces as they make the transition to the future battlefield environment are: strategic deployability; reconnaissance, surveillance, and target acquisition capabilities; command, control, communications, and intelligence (C^3I) support; deception capabilities; lethality of weapon systems; battlefield mobility; medical protection against battlefield threats, environmental extremes, and disease; and the survivability and sustainability of forces and equipment in the field. Although the benefits of technological sophistication are well-established, the Department continues aggressively to search for simple solutions that can be applied at low cost and with readily available assets. Building low life-cycle costs into systems remains an important dimension of the Department's application of technology.

In the near term, the Army seeks to improve its warfighting capability in five functional areas using a "system of systems" approach. The five areas are:

- Armor-antiarmor (A^3), including new-technology antiarmor weapons, an armored gun system for light and

Army and Marine Division Structure

Table 8

	Heavy[a]	Light[b]	Total
Active Army Divisions			
Fully Active	4	5	9
Roundout (Battalion)	2	–	2
Roundout (Brigade)	4	3	7
Army National Guard	4	6	10
Active Marine Corps	–	3	3
Reserve Marine Corps	–	1	1
Total	**14**	**18**	**32**
Nondivisional Maneuver Brigades/Regiments[c]			
Active Army	6	2	8
Army Reserve Components	9	9	18
Total	**15**	**11**	**26**

[a] Armored, mechanized
[b] Marine forces, and Army infantry, air assault, airborne, light infantry, and motorized divisions
[c] These units have not been assigned a roundout mission.

NOTE: Indicates official activations/inactivations/conversions as of January 1, 1991. One active motorized division and one active Army armored division are scheduled to be inactivated during FY 1991.

contingency forces, and a family of armored systems developed under the Armored Systems Modernization concept, which maximizes commonality and survivability at reduced development, procurement, and sustainment costs;

- Deep attack, including systems necessary for target acquisition, target information fusion, and attack;
- Aviation, which is crucial for armed reconnaissance, light attack, and defensive air-to-air combat missions;
- Forward-area air defense, correcting air defense deficiencies with a family of systems that ensures adequate coverage of units near the forward lines; and
- Command and control (C^2), incorporating automated upgrades to enhance battle management capability.

For the Marine Corps, modernization efforts focus on:

- New technologies — especially for amphibious assault and communications — to extend and enhance over-the-horizon capabilities;
- Lighter, more deployable, and more effective weapons — particularly armor, antiarmor, and indirect fire systems;
- Improved support gear for individual Marines — lighter load-bearing equipment; better clothing for adverse weather; improved nuclear, biological, and chemical defense equipment; and better night-fighting systems;
- Weapons and equipment that are easier to operate and maintain in austere environments; and
- Product improvements and modifications, where feasible, to avoid costly long-term development programs.

Summary

Our land forces will continue to evolve to meet the challenges of a changing world. But while the conditions of warfare change with time and circumstance, the fundamental dynamics of violent conflict remain unaltered. The essential qualities of skill, tenacity, boldness, and courage that have always marked successful forces, along with superior equipment, will determine the victor in any future conflict, as they have in the past. It therefore remains critical that our land forces be organized, trained, and equipped to meet any defense challenge this nation might confront.

NAVAL FORCES

Introduction

Profound changes are taking place in the Soviet Union, Eastern Europe, and elsewhere that will markedly alter the future international security environment. To address these changes, we have adopted a new defense strategy that gives greater emphasis to flexibility and responsiveness. Robust naval forces that stress mobility, forward presence, and crisis response will thus figure prominently in our future defense structure.

New Challenges

As we reshape our military strategy to respond to the changing demands of a post-Cold War order, we will adapt our naval forces as well. The virtual demise of the Warsaw Pact as a military alliance has already made the Soviet Union a lesser threat, and there is reason to hope that the momentum of internal political and economic reform will be the harbinger of even more fundamental reductions in Soviet military power. Our current force structure was designed primarily to deter Soviet aggression. Though many of its elements have wider utility, some components do not; we will have to adjust these latter components to meet revised strategic needs and current budget targets.

Recent changes notwithstanding, the Soviet Union retains considerable naval power and, hence, still poses potential threats to U.S. interests. While the Kremlin has noticeably reduced some of its military forces, a formidable arsenal remains. The United States must bolster the quality of its maritime forces, even as it reduces their number. The continued development by the Soviets of a range of sophisticated weapons — including new aircraft carriers, cruise missiles, and increasingly advanced submarines — underscores that meeting the Soviet naval challenge is no less technologically demanding than it was before *perestroika*.

Political and economic change has not been confined to the Soviet Union and Eastern Europe. The rest of the world is evolving as well, and more important, the evolutions are occurring in geographic areas where regional and low-intensity conflicts are likely to become more frequent and more deadly, as recent experience in the Middle East shows.

The proliferation of technologically sophisticated weapons, combined with the demonstrated will of the recipients of this technology to use it, poses dangerous threats to U.S. naval forces deployed overseas. As an example, more than 30 Third World countries possess some combination of ship-, air-, or submarine-launched antiship cruise missiles, and more than 10 of those countries have coastal missile defense batteries. More than 15 Third World nations operate diesel submarines, and almost one-third of these countries either produce or have recently produced conventional (nonnuclear) submarines. Exacerbating this situation, a number of more advanced developing nations have themselves become arms exporters, which will undoubtedly increase the already rapid pace of arms transfers to the Third World.

FY 1992-97 Defense Program

The FY 1992-97 defense program begins the process of adaptation that lower budgets and new challenges require. Our goal is to reduce, where appropriate, naval forces that were geared to meet the Soviet threat in favor of other, more versatile systems.

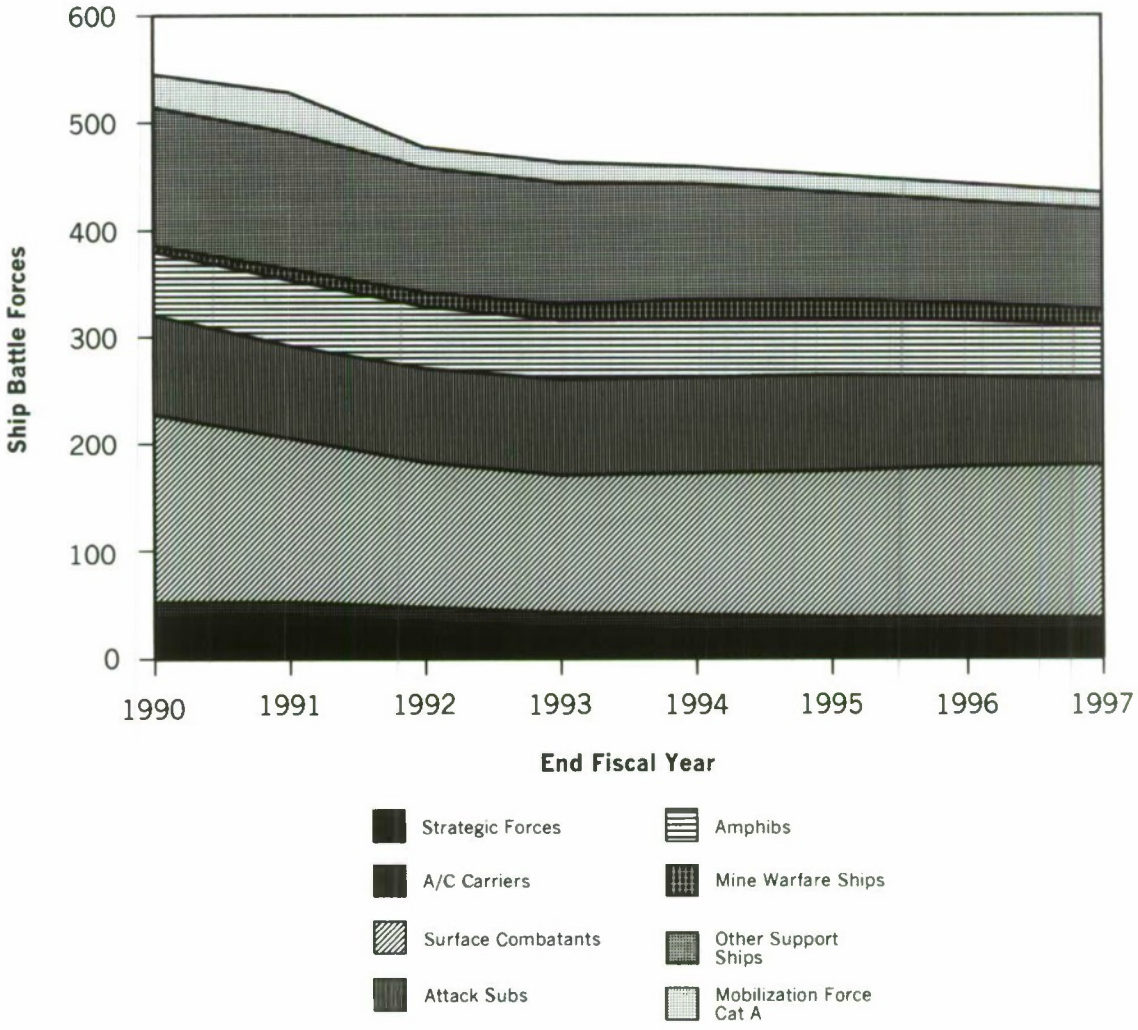
Chart 16 shows how the FY 1992-97 program will affect our naval force structure. The Department projects that net adjustments will bring the battle force inventory to 435 ships by the end of the program period.

The goal of the program is to create smaller but more flexible naval forces. We will accomplish this by offsetting force structure decreases with improvements in force quality. Major programs and force structure adjustments will be undertaken in the areas of power projection, antisubmarine warfare (ASW), antiair warfare (AAW), space and electronic warfare, and mine warfare.

Sea-based power projection forces — namely, carrier battle groups, and amphibious groups with embarked Marines — offer to decisionmakers military power that is multifaceted in capability and deployable around the world. The wide breadth of missions that these forces perform stems from their inherent mobility and organic

Naval Force Structure (FY 1990-97)

Chart 16



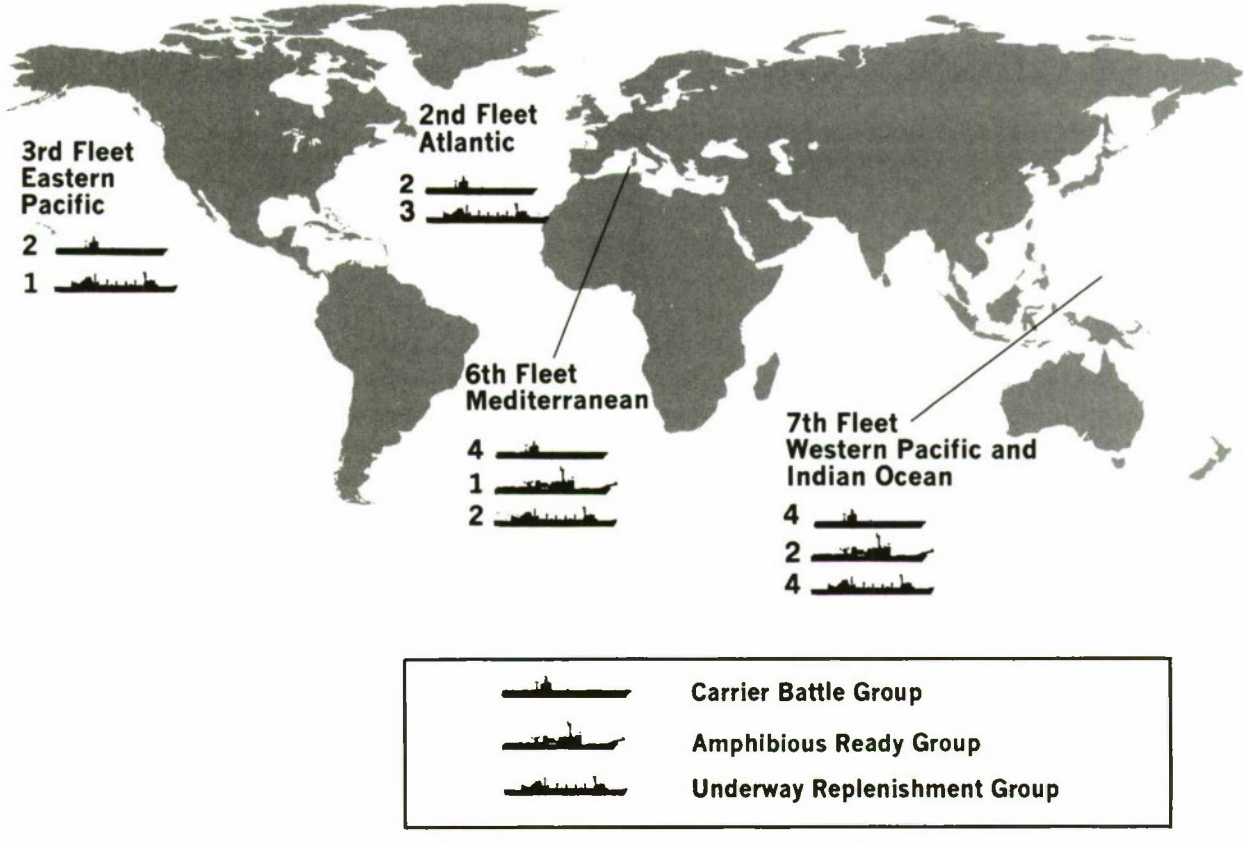
support. These forces are crucial to the defense of American interests in areas of the world in which the U.S. lacks access to land bases for its forces.

Power projection force deployments are global in scope. The FY 1992-97 program provides a force structure adequate to maintain the global reach of our naval forces. The program reduces aircraft carrier force levels from 16 (including a training carrier) in FY 1990 to our long-term objective of 13 (including a training carrier) in FY 1995; and amphibious lift will be provided for the assault echelons of 2.5 Marine Expeditionary Brigades (MEBs). These reduced objectives will allow retirement of some carriers and amphibious ships earlier than planned a year ago. The forces still need upgrading, however, and a variety of procurement programs now under way will give them added defense, mobility, and support to enhance their flexibility.

The future effectiveness of U.S. power projection forces depends on continued procurement of DDG-51 Arleigh Burke-class destroyers equipped with the Aegis

General Fleet Assignments of U.S. Naval Forces, 1995

Chart 17



fleet air defense system. Though the threat of a global, multipronged Soviet attack is becoming increasingly unlikely, antiship threats — in the form of cruise missiles — abound throughout the Third World, threatening the nation's most vital ships from land, sea, and air. Adequate protection of our naval forces requires the deployment of Aegis ships in sufficient quantities to support forward deployments and protect our sailors and Marines. Programs to procure more capable amphibious ships and auxiliary support ships to replace retiring vessels will enhance the mobility and combat support of U.S. power projection forces.

Antisubmarine warfare will remain a critical warfighting priority for the foreseeable future; its importance is due to the threat posed by Soviet ballistic-missile and attack submarines. The continued development by the Soviets of increasingly quiet attack submarines, equipped with modern conventional and nuclear weapons, cannot go uncountered.

Reductions in Soviet out-of-area deployments and defense spending, coupled with a less belligerent Soviet foreign policy overall, will allow some budget-reducing force structure cuts with little increased risk. The retirement of 38 FF-1052-class ASW frigates will be completed by FY 1993, and SSN-637 Sturgeon-class submarines will be retired as they become ready for overhaul, which will reduce their number by 17 ships between FY 1992 and FY 1997. Plans to deploy the SQQ-89I ASW combat system on FFG-7-class frigates have also been retracted; this ASW combat system will now be deployed only on battle force combatants (DDG-51, DDG-993, and

DD-963 destroyers and CG-47 cruisers).

Some elements of our ASW force still need bolstering, however. The SSN-21 attack submarine is the only weapon system capable of carrying out many aspects of our national defense strategy against the submarine force the Soviets are likely to carry into the next century. The reduced SSN-21 procurement rate under current plans does not reflect any less need for the system, but rather, a recognition of fiscal constraints and a lesser need for the more vigorous deployment timetable originally envisioned.

Programs in space and electronic warfare promise to enhance our effectiveness in virtually all other warfare areas. Improvements in command and control, communications, intelligence-gathering, navigation, and electronic warfare will make U.S. naval forces more flexible, thus enabling them to carry out more effectively the new defense strategy.

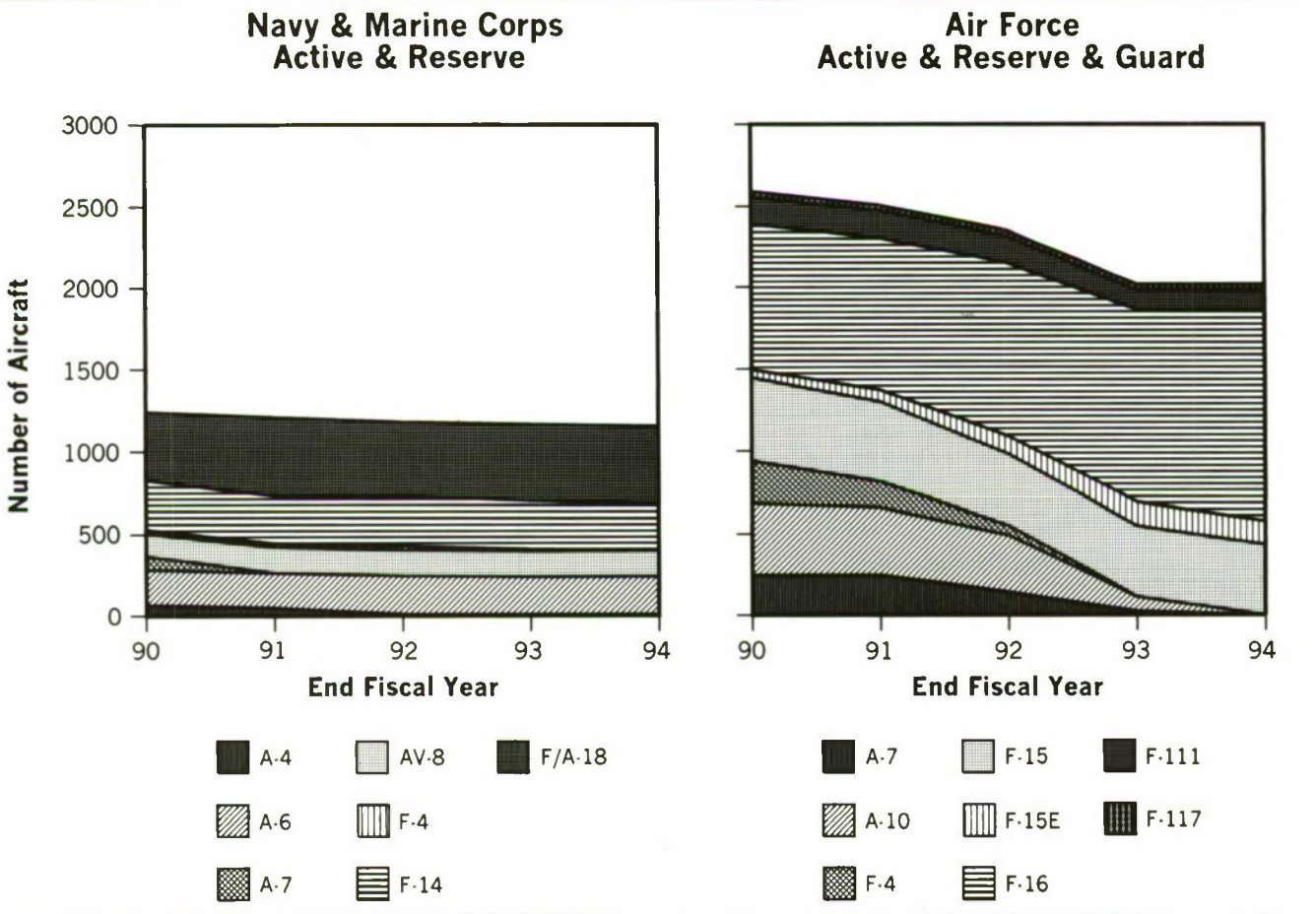
The United States must prepare to respond to a dramatic reshaping of the international order, which will almost certainly foster changes that jeopardize our interests in ways we cannot now foresee. In this climate, capable and balanced naval forces are one of the best guarantees of continued military strength into the next century.

TACTICAL AIR FORCES

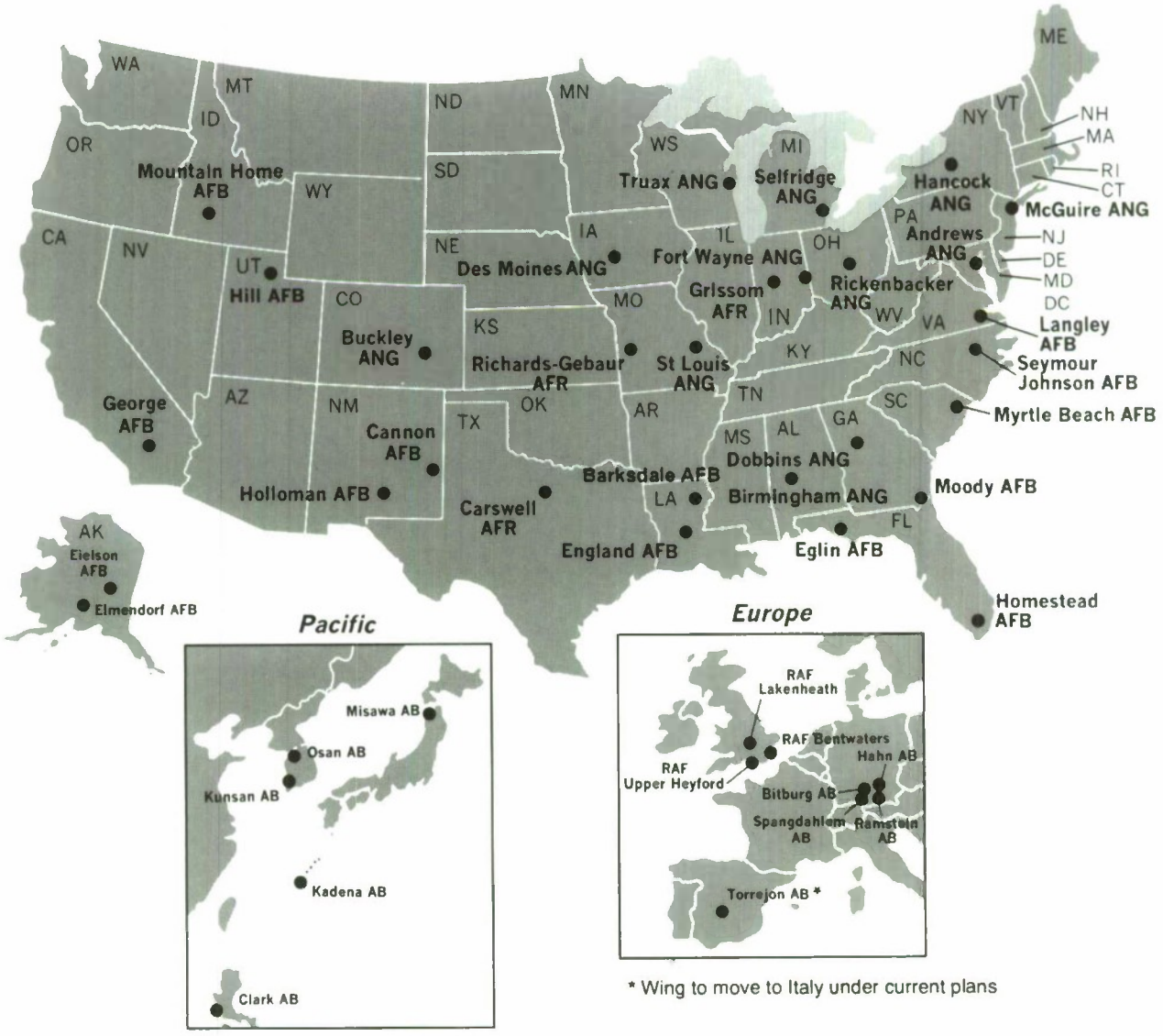
The changing nature of the military threat, and the adoption of a new strategy to deal with emerging challenges, will produce substantial changes in the composition and size of our tactical air forces. Despite the force reductions that diminishing East-West tensions now permit, tactical air forces will continue to constitute a powerful and highly flexible component of the U.S. deterrent. These forces, combining rapid responsiveness with an ability to conduct a broad range of missions worldwide, are critical to success in virtually any military operation and are an essential element of this nation's crisis-response capability.

The size and scope of tactical air operations can be quickly tailored to meet national objectives. For example, over the past 13 months, the United States has twice utilized the rapid-reaction capability of its tactical air forces — first, in Operation JUST CAUSE in Panama and, most recently, as part of Operation DESERT SHIELD in the Persian Gulf. In both cases,

Tactical Air Force Structure Chart 18



Locations of Air Force Tactical Fighter Wings Chart 19



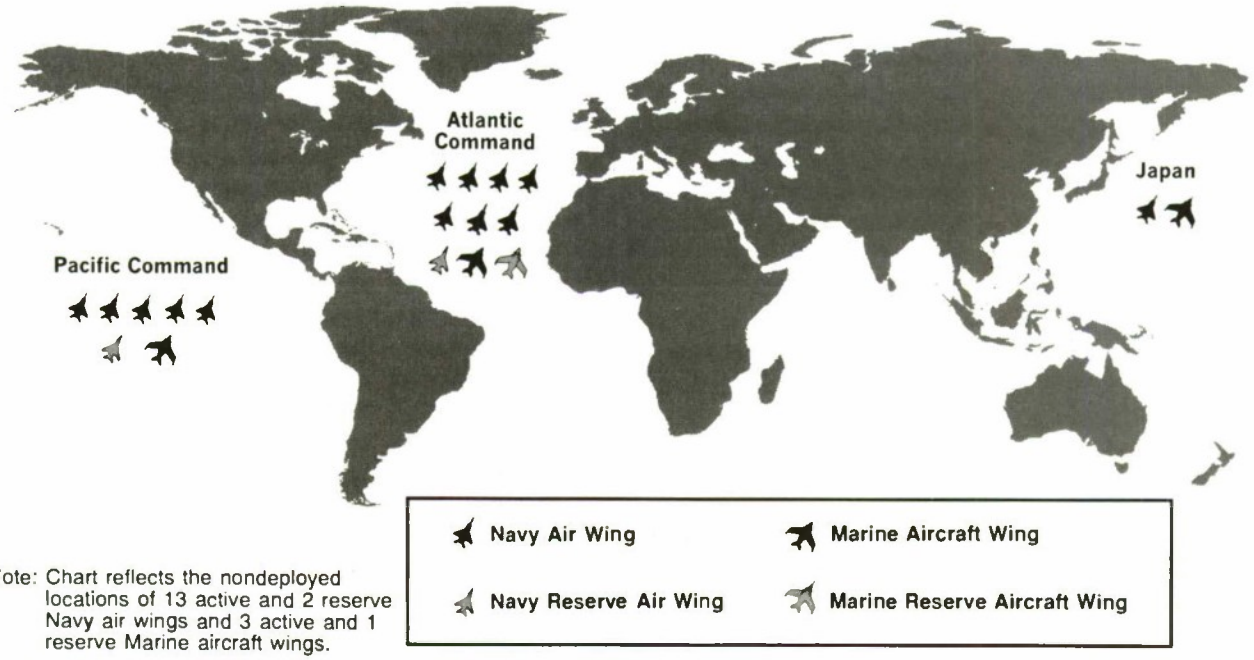
* Wing to move to Italy under current plans

tactical air forces were first to respond — ensuring essential air superiority and providing a capability to attack ground targets or threaten such attack. U.S. forces were available within hours of the decision to deploy, providing the battlefield commander with capabilities critical to success.

Recent deployments underscore the necessity of funding tactical air forces at levels that support a high state of readiness. These forces must be capable of deploying at a moment's notice to trouble spots worldwide, and of sustaining themselves in operation for extended periods, if necessary. Tactical air power has global reach; the FY 1992-97 defense program will ensure that deploying forces have the requisite staying power as well.

Disposition of Navy and Marine Corps Air Wings

Chart 20



Note: Chart reflects the nondeployed locations of 13 active and 2 reserve Navy air wings and 3 active and 1 reserve Marine aircraft wings.

Tactical air forces give us the ability to deploy quickly and deter or, if need be, strike effectively any adversary who threatens U.S. or allied interests. Tactical air forces can perform reconnaissance missions, conduct strikes deep behind enemy lines, gain and maintain control of the skies, or support land and naval operations. They must be able to accomplish their missions during day or night and in all types of weather. Their ability to locate, identify, and destroy both fixed and mobile targets makes tactical air forces a particularly important contributor to the success of military campaigns. Moreover, Navy and Marine aviation forces contribute an important element of flexibility to tactical air operations by virtue of their ability to operate independently of fixed basing.

Air Force tactical aircraft — A-7s, A-10s, F-4s, F-15s, F-16s, F-111s, and F-117s — are currently organized into just under 36 tactical fighter wing equivalents. More than 15 wings are dedicated to multirole missions (air-to-air or air-to-ground); more than 9 wings provide close air support for ground forces; 7 operate in the air superiority role; and 4 others conduct interdiction missions. In addition, large numbers of specialized support aircraft perform reconnaissance, airborne warning and control, electronic combat, and search-and-rescue functions.

The Navy currently maintains 13 active and 2 reserve carrier air wings, consisting of a mix of F/A-18, F-14, A-6, EA-6B, and E-2C aircraft. The somewhat different combinations of aircraft employed by the various wings give them the ability to meet operational demands across the spectrum of conflict. Moreover, each carrier wing contains the support aircraft needed for sustained combat operations. Naval aviation is structured to meet a myriad of contingencies and risks. From air superiority to antisubmarine warfare, carrier air wings perform the full range of naval tactical air missions, with primary emphasis on offensive strike capability.

Typical Composition of Navy and Marine Corps Air Wings

Table 9

Navy			Marine Corps	
	Number of Aircraft			
Type of Aircraft	Traditional Wing	"Roosevelt" Wing	Type of Aircraft	Number of Aircraft
F-14	24	20	F/A-18	48
F/A-18 (or A-7)	24	20	A-6	10
A-6	10	20	AV-8B	60
KA-6D	4	0	F/A-18D	12
EA-6B	4	5	EA-6B	6
E-2C	4	5	KC-130	12
S-3	10	10	CH-46	60
SH-3	6	6	CH-53	48
Total	86	86	AH-1	24
			UH-1	24
			OV-10	12
			Total	316

The tactical air forces of the Marine Corps are organized into three active and one reserve air wings — consisting of F/A-18, A-6E, AV-8B, EA-6B, and support aircraft. These forces are employed with their associated ground elements in MAGTFs, with both ground and air operations coming under the control of a single commander. The missions of Marine tactical air forces range from air superiority, ground attack, and electronic combat to in-flight refueling and other support functions. Marine tactical air forces specialize in providing close air support for engaged troops.

The tactical air forces of the Air Force, Navy, and Marine Corps can effectively support our defense strategy today. As we shift our focus away from Central Europe — where the disintegration of the Warsaw Pact guarantees more warning time and a less potent adversary — we will be able to make appropriate reductions in our forces in that region. But at the same time, the proliferation of technologically sophisticated weapons among Third World countries has created some new threats with which we must be prepared to deal.

Soviet exports of high-technology aircraft and antiaircraft missile systems, as well as exports of weaponry by European and Asian nations, are continuing. A number of Third World nations continue to pursue a nuclear weapons capability; at least 12 Third World states now have chemical weapons and others have biological weapons. The number of potentially threatening ballistic missiles, cruise missiles, and submarines is also increasing. The conclusion is clear: the turbulent events of the past few years have left us with a different world, but not necessarily one that is less threatening to national interests.

U.S. interests will become increasingly vulnerable in the years ahead to threats from nations, political factions, or other elements (drug cartels, terrorists) that heretofore lacked significant military capabilities. To counter these emerging threats, maintain critical tactical advantages, and enhance the survivability of our forces, the United States must continue to pursue the improved capabilities afforded by advanced-technology aircraft. As resources allow, DoD will modernize its forces with systems that preserve our qualitative edge against a still powerful Soviet force while providing the capabilities needed to counter increasingly sophisticated Third World threats.

We must adapt our force structure to respond to the new challenges we will confront. The FY 1992-97 defense program accomplishes the careful reductions in force posture and resources that are warranted, while retaining a mix of tactical air forces with the capabilities necessary to protect U.S. interests against the threats we foresee in the decade ahead.

SPACE FORCES

Introduction

Space forces remain critical to deterrence of conflict, to the accomplishment of the key duties of the President and the Secretary of Defense, as well as the missions of our unified and specified commands — the warfighting forces. The employment of space forces in support of the day-to-day operations of U.S. armed forces, joint exercises, and actual operations such as DESERT SHIELD and JUST CAUSE, clearly demonstrate the vital contribution that U.S. space forces make to national security. In Saudi Arabia, Panama, and elsewhere around the globe, space systems provide combat support that saves lives and contributes to efficient and successful military operations.

Contributions of Space Forces

Space forces provide capabilities such as precise positioning, reliable communications, and timely surveillance. These services take on added significance for deployed units using sophisticated weapons and equipment without the availability of established on-site base infrastructures. Missile Warning Crew members at the Cheyenne Mountain Air Force Base "see" the launch of a ballistic missile; a Joint Task Force Commander receives helpful information on the disposition and capability of opposing forces; a Special Forces squad conducts predeployment area familiarization on maps that did not exist the week before. Several examples of actual military operations illustrate how space forces provide support to operational forces:

- In 1986, shortly before military strikes in Libya, information provided by space systems helped prepare U.S. pilots for their missions, dramatically enhancing aircrew performance.
- During the 1987 mine-clearing operations in the Persian Gulf, the Global Positioning System (GPS) terminals employed on ships and helicopters enabled precision navigation which made mine sweeping operations timely, efficient, and safe.
- On December 18, 1989, less than 24 hours prior to the 82nd Airborne Division's airlift from Ft. Bragg, North Carolina, for Operation JUST CAUSE, a military weather satellite (DMSP) accurately predicted the arrival of icing conditions. Had this weather front gone unnoticed, icing conditions would have grounded the staging aircraft for several hours, complicating or possibly causing the postponement of the operations at the last minute. Ground crews were able to bring in the necessary deicing equipment and the 82nd's deployment was not hampered by adverse weather.
- For Operation DESERT SHIELD, space forces were ready and are being fully used. Satellites provide command and control links to forces in the Middle East as well as vital communications between forward deployed units and their base of operations in CONUS. Troop movements to the Middle East were aided by DMSP weather satellite information. Additional United States Space Command (USSPACECOM) space systems were readjusted to provide support in the Middle East. The lack of dominant terrain features in the desert makes GPS receivers even more valuable than usual to terrestrial forces. For that reason, a GPS satellite, launched in August, was placed in service earlier than planned to provide added coverage. Furthermore, through the Tactical Exploitation of National Capabilities (TENCAP) program, the Services have fielded specialized ground terminals that provide tactical users with a dynamic interface with multiple sources of information. By carefully managing this limited resource, key field commanders are provided timely information that reduces weapon system vulnerabilities while

Missions of Spaceborne Forces Table 10

Communications	Global Command & Control; Single Integrated Operations Plan Execution; Crisis Intervention. Average Utilization: 30% Strategic, 70% Tactical
Navigation	Precise Land, Sea, & Air position, speed, and time. Mapping; Precision Targeting; Geodetic Survey; Satellite Orientation; Cruise Missile Guidance
Surveillance	Missile Warning; Nuclear Detonation Detection; Treaty Verification/Monitoring; Environmental Monitoring; Intelligence Cuing; Search and Rescue; Information Collection via spectral emissions; Earth Resources Measurements; Oceanographic Data Collection

increasing the potential for mission success.

During peacetime and wartime operations, space forces provide or significantly enhance the ability of decisionmakers and tactical commanders to exercise command and control over their forces, to communicate with on-scene commanders, and to carry out thousands of routine tasks that would otherwise be enormously expensive or impossible. Additionally, space forces provide a deterrent to the still potent Soviet strategic nuclear threat and to other regional threats. Should deterrence fail, space forces would contribute to successful warning, preattack preparation, warfighting, escalation control, and war termination operations. In the face of an extensive and robust Soviet space program, and the need to support a tactical reaction to regional contingencies as geographically dispersed as Panama and the Middle East, space forces are vital to our national security.

Many challenges remain as the Department continues to pursue new technologies, complete programs, and deal with the problems of vulnerability, launch-on-demand under emergency conditions, and development of a more robust space support infrastructure. These challenges are magnified by fiscal constraints, reductions in our active duty force levels, and by the planned reduction of forward-based U.S. forces.

Meeting the Challenges

Today's national security threats and those that are projected for the foreseeable future remain formidable. Numerous recent changes in the nature of the challenges to U.S. defenses mandate that those threats be reevaluated.

During the Cold War, the high risk end of the spectrum (nuclear war) demanded our closest attention because political tensions raised the likelihood of conflict. Although the Soviet strategic nuclear capability has not appreciably diminished, tensions and the potential for nuclear war have declined in 1990, making a strategic attack by the Soviet Union less likely. But the U.S. is still confronted with potentially explosive regional conflicts and with persistent drug trafficking and its related violence. U.S. citizens and bases overseas are threatened by the conduct of violent terrorist attacks. Without diminishing the importance of strategic deterrence, space-related development efforts must be shifted toward new threats and challenges.

The high priority given in the past to strategic space capabilities for warning and deterrence has been extended in recent years to space support for our conventional forces and tactical operations. The Department will continue to emphasize satisfying the requirements of the tactical users.

A requirement exists for a space-based wide area surveillance (SBWAS) capability designed specifically to meet the combined needs of our unified and specified Commanders-in-Chief (CINCs). Integrating data from different ground-based surveillance systems with a space-based constellation of satellites, such a system would detect and track aircraft and ships worldwide and reduce the likelihood of being surprised by an adversary. A SBWAS would provide continuous, day/night, all weather surveillance — a tremendous force multiplier.

Military satellite communications systems represent an essential component in the overall command, control, communications, and intelligence architecture. Heavy

U.S. National Security Satellites

Table 11

Satellites	Orbit	Purpose
FLTSATCOM/AFSATCOM (Fleet and Air Force Satellite Communications)	Geosynchronous	Mobile Communications
Leased Satellites (LEASAT)	Geosynchronous	Mobile Communications
Defense Satellite Communications System (DSCS II & III)	Geosynchronous	Support/High Data Rate Communication
Satellite Data System (SDS)	Elliptical/Inclined	Communications/Communications Relay
Defense Meteorological Satellite Program (DMSP)	Polar	Global Weather
TRANSIT	Polar	Naval Navigation
Global Positioning System (GPS)	Medium Earth Orbit	Land, Sea, Air, & Space Navigation, and Nuclear Detection
Defense Support Program (DSP)	Geosynchronous	Missile Warning
National Security	All	Treaty Monitoring & Verification

reliance during Operations DESERT SHIELD and JUST CAUSE showed that satellite communications provide flexibility and capability unmatched by any other type of communications system. Ultrahigh frequency (UHF) systems are relied on by mobile users who depend on quick reaction and long-haul capabilities. Superhigh frequency (SHF) systems provide high capacity, point-to-point connectivity among many critical strategic and tactical high volume users. With anticipated completion in the early 1990s, we are continuing to modify and upgrade our UHF and SHF satellite constellations to increase capacity and efficiency; however, U.S. forces could be denied use of these systems in certain hostile environments. Assured satellite communications across nuclear disturbed environments, or while subject to hostile jamming, are absolutely vital. The Milstar extremely high frequency (EHF) satellite constellation will provide flexible, agile, and assured communications for U.S. forces engaged in crisis operations.

Through the communications, navigation, and surveillance support they provide, space forces continue to be a vital component of DoD operations. Given the critical roles these systems play, the United States must ensure that hostile forces cannot destroy or blind our space assets or deny our use of space. Additionally, the U.S. must pursue operational antisatellite capabilities to have the option of preventing an adversary's satellites from monitoring U.S. operations from space in wartime and using that information to conduct hostile actions against our forces.

Several initiatives are under way which will improve the effectiveness and cost efficiency of space launch operations. In response to a recommendation by the Advisory Committee on the Future of the U.S. Space Program, the Department of Defense and the National Aeronautics and Space Administration (NASA) are refocusing the Advanced Launch Development Program. This joint effort will be designed to meet future national security space launch needs as well as those of the civil space program. A commercial company under contract with the Defense Advanced Research Projects Agency (DARPA) successfully launched Pegasus using a B-52 in place of the first stage, proving the feasibility of a very responsive launch capability for small payloads. Related initiatives include efforts to reduce costs. One concept under exploratory development is the recovery and reuse of major components of an unmanned booster positioned by ship and launched from the surface of the ocean. This could reduce the price-per-pound-to-orbit cost significantly.

Summary

The demands placed on U.S. space forces will increase. The still formidable strategic warfighting capabilities of the Soviet Union require an effective U.S. space-based strategic capability. Operations like DESERT SHIELD and JUST CAUSE illustrate the growing importance of space-based tactical support. Reduced tensions with the Soviet Union will allow increased use of space-based systems to provide vital combat support to deployed U.S. forces worldwide. Continued aggressive technology research will reduce the cost and increase the efficiency, capability, and survivability of these space systems. The capabilities which our space forces provide will continue to be of vital importance.

STRATEGIC MOBILITY

Introduction

The ability to move forces rapidly to areas of potential conflict remains crucial as the United States adapts its military strategy in response to the changing threat. Although much longer warning times are now projected for the scenario that once dominated U.S. defense planning — a massive European or multitheater reinforcement — very short warning and reaction times are foreseen for the increasingly likely prospect of non-European contingencies. In fact, the need to respond rapidly to regional crises or contingencies — such as in Operations DESERT SHIELD and JUST CAUSE — calls for enhanced mobility capabilities. Thus, the FY 1992-97 defense program makes prudent improvements in mobility forces, consistent with future requirements and anticipated funding levels.

In the 1980s, strategic mobility programs were designed to support the early phases of a NATO reinforcement and to provide a means of projecting military power to trouble spots elsewhere in the world. Thus, airlift requirements were driven largely by the need to deploy forces (and residual materiel) for which equipment had been prepositioned in Europe and to carry out the initial stages of a regional deployment. Sealift requirements took into account the extensive support that allies would provide in a European reinforcement; hence, planning in this area focused on the more demanding sealift requirements associated with deployments to other regions, such as the Persian Gulf.

Mobility planning for regional contingencies has emphasized systems that are better suited to non-European needs, such as the C-17 cargo aircraft, which can use small, austere airfields. Regional contingency planning has emphasized sealift and afloat prepositioning programs that provide capabilities to discharge cargo in less-developed ports. As a result of these regionally-oriented requirements, the dramatic changes in Europe and the Soviet Union have had much less of an effect on mobility planning than they have had on planning for other U.S. force components.

The plans for a European reinforcement are being redefined to reflect the new requirements of the post-Cold War era. Though the prospect of a major conflict in Europe is much reduced, there remains the possibility of smaller, but still substantial, European crises or contingencies for which a timely reinforcement capability must be retained. The United States has asked the NATO allies to work with it in redefining our European reinforcement and land-based prepositioning goals.

Deployment Operations

Mobility has been one of the biggest successes in Operation DESERT SHIELD. During the first 147 days of the deployment (as of December 31, 1990), the United States dispatched to the Persian Gulf:

- More than 300,000 troops and more than 305,000 short tons of cargo by air, using a mix of military and civilian aircraft;
- Almost 2.5 million short tons of cargo by sea, using 8 fast sealift ships, 54 Ready Reserve Force (RRF) ships, and more than 162 chartered ships (including about 120 foreign vessels); and
- Almost 220,000 short tons of equipment and supplies, and 190,000 barrels of fuel, transferred from 9 maritime prepositioning ships (MPS), 8 afloat prepositioned cargo ships, and 2 prepositioned tankers stationed in the region.

One year earlier, during Operation JUST CAUSE, DoD delivered:

- About 40,000 troops and 20,000 short tons of cargo by air, using military aircraft exclusively. Because of the short duration of this operation, and given that many of our forces were already in place, the majority of deliveries were made by air.

In both operations, mobility forces performed well, clearly demonstrating why lift and prepositioning are cornerstones of our contingency capability and important elements of our deterrent strength.

Program Objectives

In the 1980s, major improvements were made in all three components of U.S. mobility forces: airlift, sealift, and prepositioning. Airlift capability grew from about

25 million ton-miles per day (MTM/D) of cargo capability at the beginning of the decade to the present 48 MTM/D. The amount of unit equipment transportable in a single sailing increased from about 600,000 to more than 830,000 short tons. Additional combat and support equipment was prepositioned in Europe, bringing the amount of on-hand materiel in that theater to more than 400,000 short tons.

Mobility remains a critical priority in the post-Cold War era. Hence, in relative terms, DoD plans for a modest growth in mobility programs, in contrast to the large reductions being made in other mission areas. However, even mobility programs cannot continue at the levels planned in previous years. The previously planned growth in airlift capability therefore has been slowed to a rate that will maintain approximately today's capability over the program period. That decision was based on a reduced need to airlift forces to Europe and the reduced likelihood of a multifront, U.S./Soviet conflict.

For sealift, the Department has under way a study of defense mobility requirements that will address these issues. In addition to the funding contained in the FY 1990-91 budget, the Department plans to allocate between $200 and $300 million per year beginning in FY 1993.

The mobility programs that DoD is proposing for FY 1992-97 rely on civil aircraft and ships to the maximum extent possible. When these programs are complete, they will provide the following capabilities:

- For contingencies outside Europe, the ability to deploy about five Army divisions, along with tactical fighter and naval forces, in about six weeks; and
- For European contingencies, the ability to augment the United States' in-place forces with about 4 Army divisions, 30 tactical fighter squadrons, 1 Marine Expeditionary Brigade, and their associated support within 10 days of a reinforcement decision, and to deploy the remaining forces within 2 to 3 months.

Program Implementation

Counting the full contribution of the Civil Reserve Air Fleet (CRAF), the United States currently has about 48 MTM/D of airlift capacity when fully mobilized. Of that amount, 32 MTM/D is provided by military aircraft and the remainder by CRAF planes. In addition, the U.S. airlift fleet can provide about 147 million passenger miles of capacity a day, virtually all of which comes from CRAF. Airlift capability is projected to remain at about the current level through FY 1995, then increase gradually to 51 MTM/D by FY 1997. This modest growth reflects the projected delivery of C-17 aircraft at rates that exceed planned C-141 retirements.

Using the U.S.-flag fleet and other fleets under effective U.S. control to the maximum extent possible, the United States has the ability today to move more than 830,000 short tons of unit equipment and about 2.3 million short tons of resupply and ammunition by sea in a single sailing. More than half of the unit equipment capacity is provided by government-controlled ships, including the RRF, which contributes about one-third of the total. The RRF, administered by the Maritime Administration (MARAD) in the Department of Transportation, is a vital part of DoD's sealift capability. DoD works closely with MARAD in planning for and managing the RRF in an effort to ensure that it meets DoD needs. The planned increase from 96 to 142 cargo and tanker ships by FY 1994 is based on requirements for non-European contingencies.

The U.S.-flag fleet contributes significantly to DoD's lift capability. During the program period, the portion of the fleet that is capable of carrying unit equipment is projected to decrease in size. By FY 1997, without a new DoD sealift program, this decline would be expected to result in a net loss of about 60,000 short tons of capability to transport unit equipment by sea. Most resupply and ammunition support will continue to come from the commercial fleet, which also is expected to decrease over the program period. By FY 1997, U.S.-flag carriers will provide about 1.2 million short tons of capability. However, both the unit equipment and sustainment capability provided will allow DoD to meet, without allied support, the sealift requirements of most Third World contingencies (except those in the Persian Gulf).

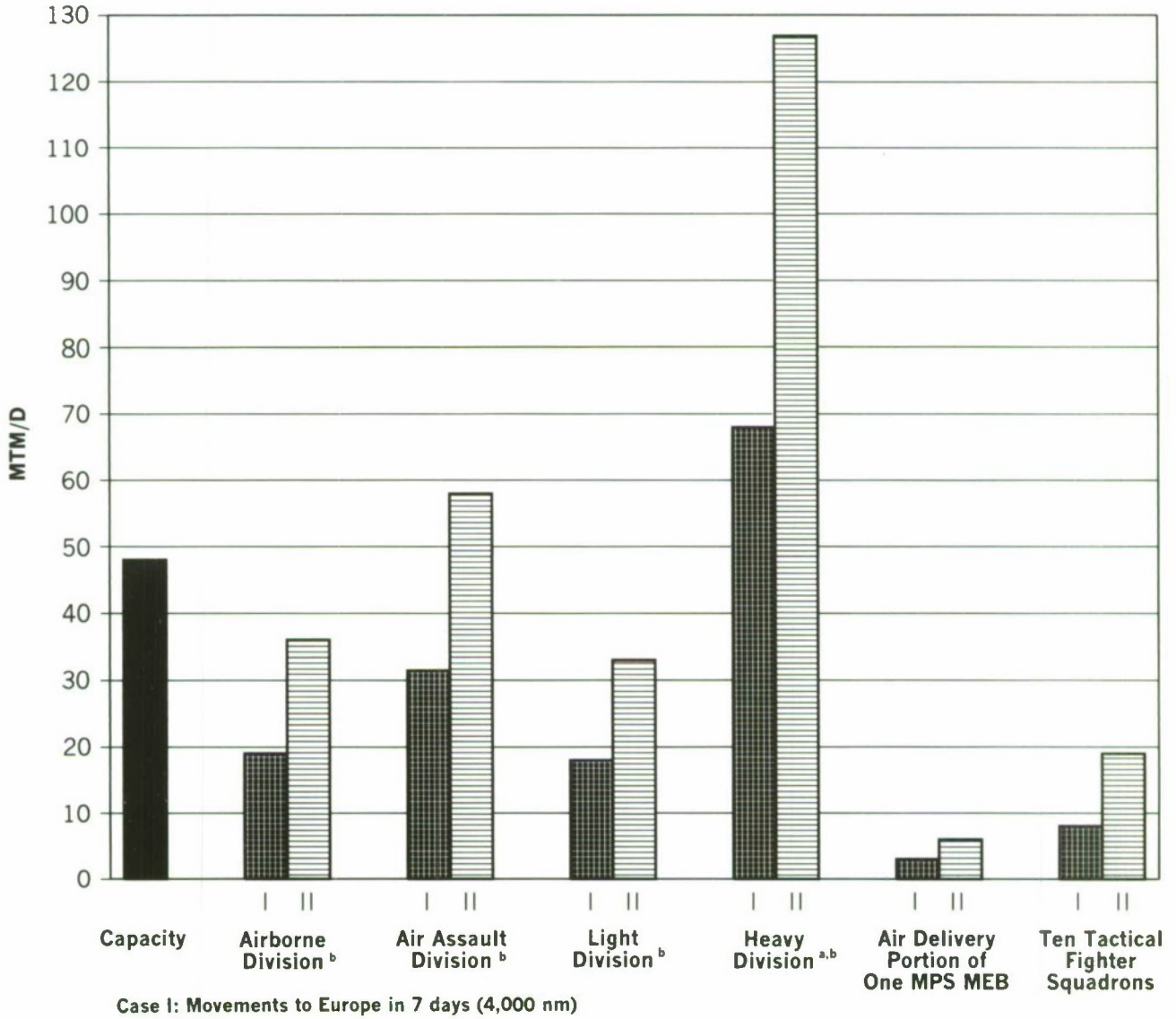
Today, DoD has achieved over half of the goal of providing prepositioned materiel in Europe for six Army divisions and their support (nondivisional) elements. This objective, established as part of the prepositioned overseas material configured to unit sets (POMCUS) program, will be revised downward as a result of the changing European strategic situation. As U.S. force levels in Europe are reduced, equipment from some of the departing units will be added to the existing

POMCUS sets, at no additional acquisition cost. There will also be 14,000 short tons of prepositioned materiel for Air Force units that would deploy to the theater in a crisis, along with 30,000 short tons of materiel stored in Norway for a MEB. Afloat, some 275,000 short tons of equipment, supplies, and fuel will be stockpiled for 3 MEBs on 13 MPS ships and for Army and Air Force units on 12 other prepositioning ships, normally stationed at Diego Garcia.

Charts 21 and 22 give some examples of what these capabilities provide. Chart 21 compares the United

AIRLIFT
Current Capacity and Required Lift

Chart 21



Case I: Movements to Europe in 7 days (4,000 nm)

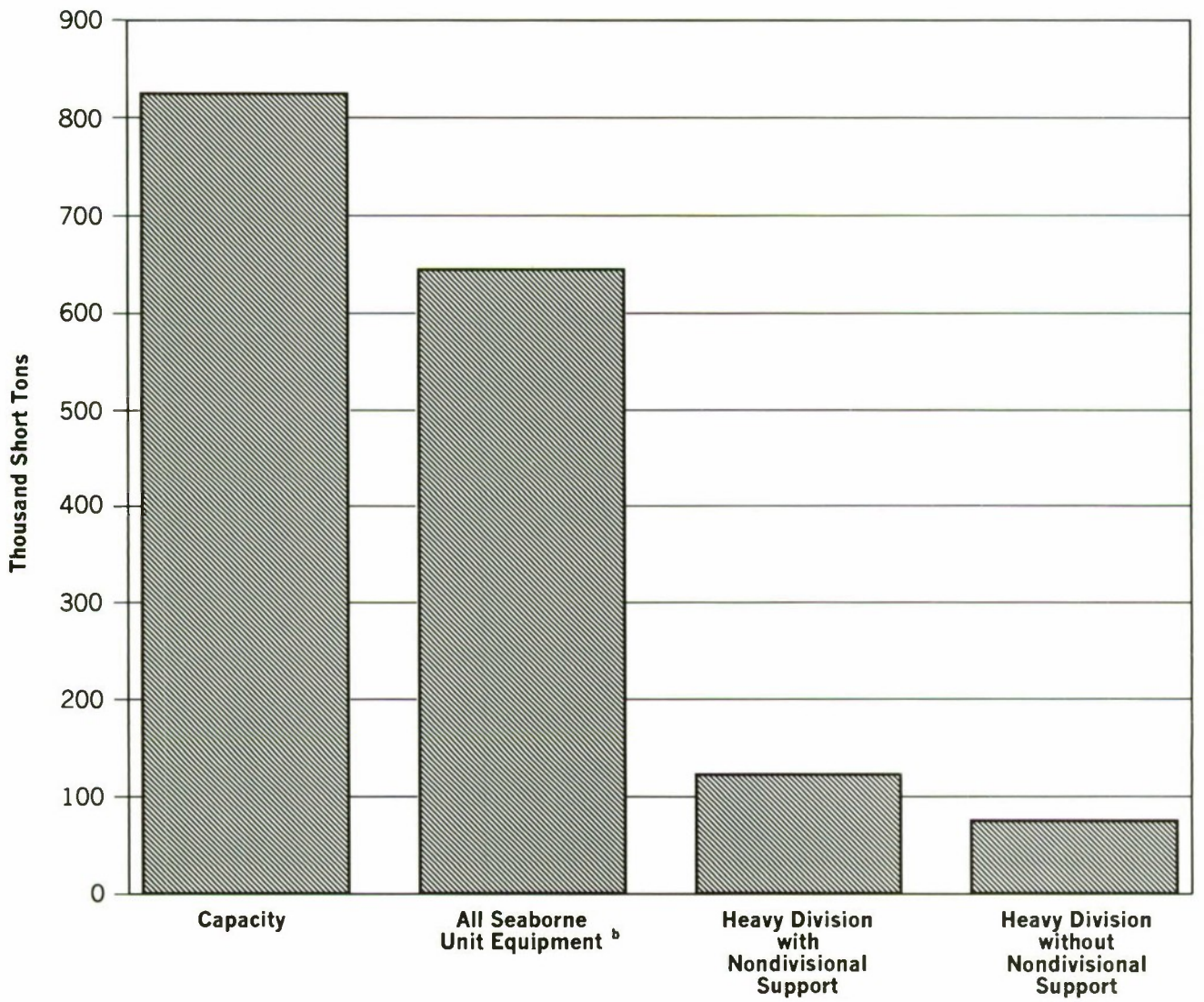
Case II: Movements to Southwest Asia in 7 days (7,500 nm)

[a] Would travel by sea – airlift figures are for comparison only.
[b] Figures are for divisions with initial nondivisional support units included.

States' current airlift capability with the amount required to move various Army, Air Force, and Marine Corps force packages (combat units with initial support) to Europe or the Persian Gulf. For example, about 19 MTM/D of airlift capability would be needed to move an airborne division (with initial nondivisional support) to Europe in seven days, while approximately 36 MTM/D of capability would be required to airlift that same force to the Persian Gulf in a week's time. If the force could be moved more slowly, the required lift values would be cut proportionately. Hence, if the airborne division was not needed in Europe until 14 days

SEALIFT
Current Capacity and Required Lift [a]

Chart 22



[a] Single sailing capacity

[b] The unit equipment for a notional four-division force that would be delivered by common user sealift.

after it was ready to deploy, only 9.5 MTM/D of airlift would be required.

Chart 22 provides similar comparisons for sealift capabilities. As the figure shows, about 120,000 of our current 833,000 short tons of sealift capacity for unit equipment would be needed to move a mechanized infantry division (including initial nondivisional support but not sustainment) in a single sailing. A deployment timetable that allowed ships to recycle would reduce the requirements accordingly.

The amount of airlift and sealift needed to move a force to a region is the sum of the lift required to move the force's individual components, such as the airborne and mechanized divisions depicted in Charts 21 and 22. For example, the more than 115,000 short tons of cargo that were moved by air during the first 55 days of Operation DESERT SHIELD accounted for an average of 17 MTM/D of airlift capacity, out of an available capacity, if fully mobilized, of 32 MTM/D of military lift and 3 MTM/D of CRAF Stage I cargo lift. Air deliveries in the early days of the operation were limited by airfield availability.

For sealift, the cargo that was moved by sea during the first 55 days of Operation DESERT SHIELD used a fleet with about 60 percent of the United States' capacity to transport unit equipment in a single sailing. DoD employed the RRF's roll-on/roll-off ships and chartered foreign ships for this portion of the deployment. These ships were used because Saudi seaports are well-suited to roll-on/roll-off vessels and because many foreign ships were available in a timely fashion at less cost (for a single voyage) than breaking out RRF ships. The RRF ships not used in the initial phase of the deployment take longer to load and unload but are valuable because they are better suited to operations in undeveloped areas.

Conclusion

The potential for contingencies in regions outside Europe continues to grow. As a result, strategic mobility takes on increased importance. The Defense Department will continue to place a high priority on the maintenance and improvement of U.S. strategic mobility forces.

SPECIAL OPERATIONS FORCES

Introduction

The scope and complexity of the challenges to the security of the United States have increased in the face of rapid and fundamental changes in the international security environment. Special Operations Forces (SOF) play a vital role in the U.S. response to recent changes in global strategic relationships and related, multinational threats such as overt Iraqi military aggression in the Persian Gulf, terrorism, chemical/biological weapons proliferation, and narcotics trafficking. Also, rising political and economic expectations, enhanced by new technologies and global media communications, combine to heighten the potential for disaffection and conflicts in the developing world. Special Operations Forces remain ready to conduct or support operations in peacetime and at every level of conflict.

Special Operations Forces and Conflict

Special Operations Forces have played and will continue to play a vital role in protecting U.S. national interests that are challenged by a variety of threats. SOF operations are conducted in pursuit of national security objectives and encompass a wide range of special roles that include providing humanitarian and security assistance, and supporting counternarcotics operations. Additionally, psychological operations and civil affairs forces support the full range of conventional and special operations missions to include foreign internal defense, counternarcotics, nation-building, and international information programs.

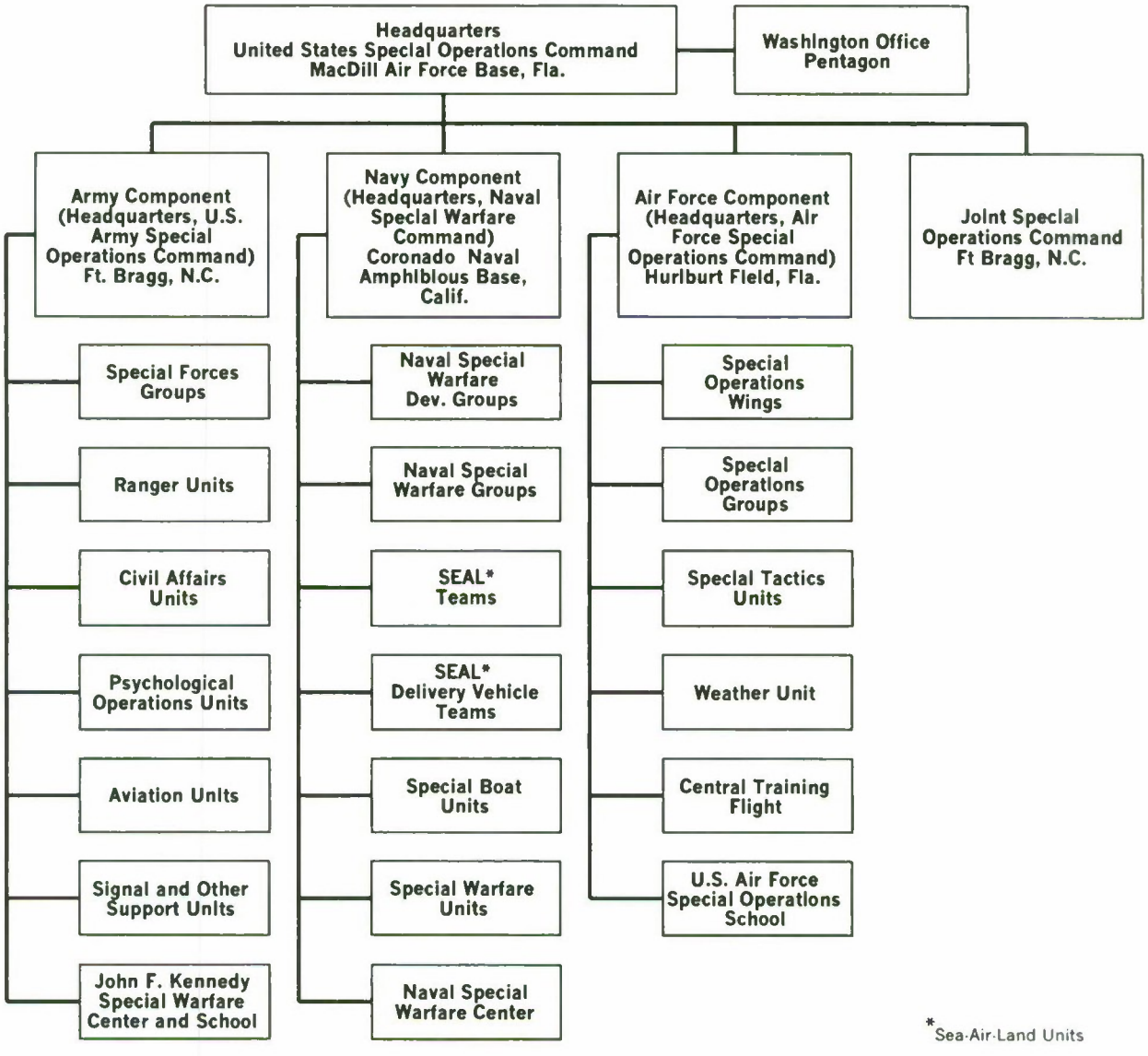
Special Operations Forces are particularly capable of conducting contingency, counterterrorism, and antidrug operations. They are capable of conducting complex and urgent contingency operations in response to crises. Such forces can be tailored to conduct conventional and unconventional operations, independently or in concert with or in support of other forces, and on short notice. They also are capable of conducting difficult, sensitive, and vital counterterrorism operations. Increased ethnic and religious tensions, emergent nationalism, and the proliferation of sophisticated weapons of increased lethality may lead to a significant increase in the incidence of terrorism. These forces must remain ready in order to deter and, if necessary, preempt or respond to terrorism. In addition, SOF participate in the ongoing war against narcotics trafficking. They provide training to foreign military and security forces. They also assist the National Guard and domestic law enforcement agencies in order to enhance their effectiveness in combatting narcoterrorism and the flow of drugs into this country. These organizations and host country domestic forces are then better prepared to counter drug violence by drug lords and to provide security for local law enforcement agencies to more effectively attack the drug trafficking infrastructure. Of particular importance, this low-key SOF approach complements efforts of other U.S. government agencies to persuade host countries that counternarcotics operations are also one of their major responsibilities.

Special Operations Forces also are particularly well-suited to assisting host countries to strengthen their emerging democratic governments. Characterized by small, flexible organizations with a wide range of specialized skills and area expertise, they perform difficult and complex tasks that require cultural familiarity and language ability. Special Operations Forces can help strengthen emerging democracies by providing numerous forms of expertise and assistance, particularly humanitarian aid, security and training assistance, military-civic actions, psychological operations, and civil affairs support. It should be noted that, even in areas where a larger American presence might not be welcome or possible for political or fiscal reasons, their low profile, relatively low cost, small logistics signature, and significant potential impact make them an important national resource.

At the middle and high intensity levels of conflict, SOF support conventional forces by providing economy of force capabilities to delay, disrupt, or divert enemy forces through direct action, special reconnaissance, or unconventional warfare. They are capable of conducting operations deep in an enemy's rear areas of operation. Thus, the close integration of SOF and conventional forces remains an essential element of our deterrent strategy.

Organizational Structure of the U.S. Special Operations Command

Chart 23



SOF Operations and Activities

The diverse capabilities and important contributions of Special Operations Forces have been amply demonstrated in recent operations. In Operation JUST CAUSE, SOF units played major operational roles. The continuing reconstruction of Panama, Operation PROMOTE LIBERTY, relies heavily upon civil affairs expertise drawn from both the Active and Reserve components. In Operation DESERT SHIELD, all of these forces are being employed in support of conventional contingency operations. Numerous other SOF operations support a variety of countries in coping with challenges as part of our peacetime engagement strategy.

The decade-long effort to revitalize special operations capabilities has largely been accomplished, although additional capabilities are needed in some areas.

The integration of intelligence support to SOF is a vital, ongoing concern. Another major near-term project includes the establishment of the Special Operations Research, Development, and Acquisition Center to manage SOF-unique equipment programs.

The establishment of the U.S. Special Operations Command (USSOCOM) has not only increased the interoperability and effectiveness of our national capability in special operations, but has provided centralized, efficient management of functions such as SOF airlift.

Other significant organizational developments during the past year were the activation of the U.S. Army Special Operations Command (December 1989), activation of the Air Force Special Operations Command (May 1990), and the establishment of a Special Forces Group oriented to address the needs of friendly nations in Africa.

Summary

The strategy of peacetime engagement harnesses the training, talent, equipment, and doctrine of special operations and conventional forces to deter conflict, to offer opportunities to assist allied and friendly nations, and to conduct low- to high-intensity operations. Special Operations Forces provide unique capabilities and make important contributions to our national security. Continued emphasis on sustaining and enhancing SOF capabilities will enable the United States to adapt to the new emerging challenges to our national security.

DRUG INTERDICTION AND COUNTERDRUG PROGRAM

Introduction

Powerful drug cartels produce and transport drugs to our streets and neighborhoods, as well as use private forces to inflict havoc and violence on the governments of our allies, often on a crippling scale. They threaten the economy, the ecology, the political process, and the social institutions of the regions in which they operate. In countries such as Colombia, they have waged campaigns of terror and assassination against government officials, at times threatening the functioning of the government.

The supply of illicit drugs to the United States from abroad, the associated violence and international instability, and the use of illegal drugs within the country continue to pose a national security threat to the United States. As a result, the detection and countering of the production, trafficking, and use of illegal drugs is a high-priority national security mission of the Department of Defense. In close cooperation with the Department of State and key U.S. law enforcement agencies, DoD is devoting significant resources and is playing a leading role in the attack on the supply of illegal drugs from abroad under the National Drug Control Strategy.

Evolution of the Armed Forces Antidrug Efforts

In October 1988, Congress passed comprehensive legislation in the 1989 Defense Authorization Act that mandated stepped-up assistance by the armed forces to drug fighting law enforcement agencies in three broad areas of responsibility. In order to combat the importation of illegal drugs from other countries, the 1989 Act made DoD the single lead agency of the federal government for detection and monitoring of aerial and maritime transit of illegal drugs into the U.S. To allow law enforcement agencies and the military to communicate and transmit vital intelligence to each other more efficiently and effectively, it directed that command, control, communications, and technical intelligence assets of the United States dedicated to drug interdiction be integrated by DoD into an effective communications network. The 1989 Act also provided an enhanced role for the National Guard, under the direction of state governors, to support state drug interdiction and law enforcement operations.

The Secretary of Defense's Counternarcotics Guidance, issued to all DoD components on September 18, 1989, established a comprehensive strategy for attacking the flow of illegal drugs at every phase of the flow: in countries that are the sources of the drugs, in transit from source countries to the United States, and in distribution in the United States.

In carrying out its mission to combat drugs in countries that are the sources of illegal drugs, DoD is furnishing assistance for nation-building, providing a broad range of operational support to host country forces, and cooperating with host country forces to prevent exports. DoD has placed particular emphasis on assisting the Andean nations of Colombia, Bolivia, and Peru — the source and transshipment points of virtually the entire world supply of cocaine. In addition to other significant support, DoD provided $65 million worth of equipment, training, and related services to Colombia under the FY 1989 drawdown authority of Section 506 of the Foreign Assistance Act, including C-130, A-37, and UH-1 aircraft; riverine patrol boats; fuel trucks; sidearms; and ammunition. The FY 1990 budget authorized the U.S. to provide $53 million in similar support to Colombia and five other nations — Bolivia, Ecuador, Belize, Jamaica, and Mexico.

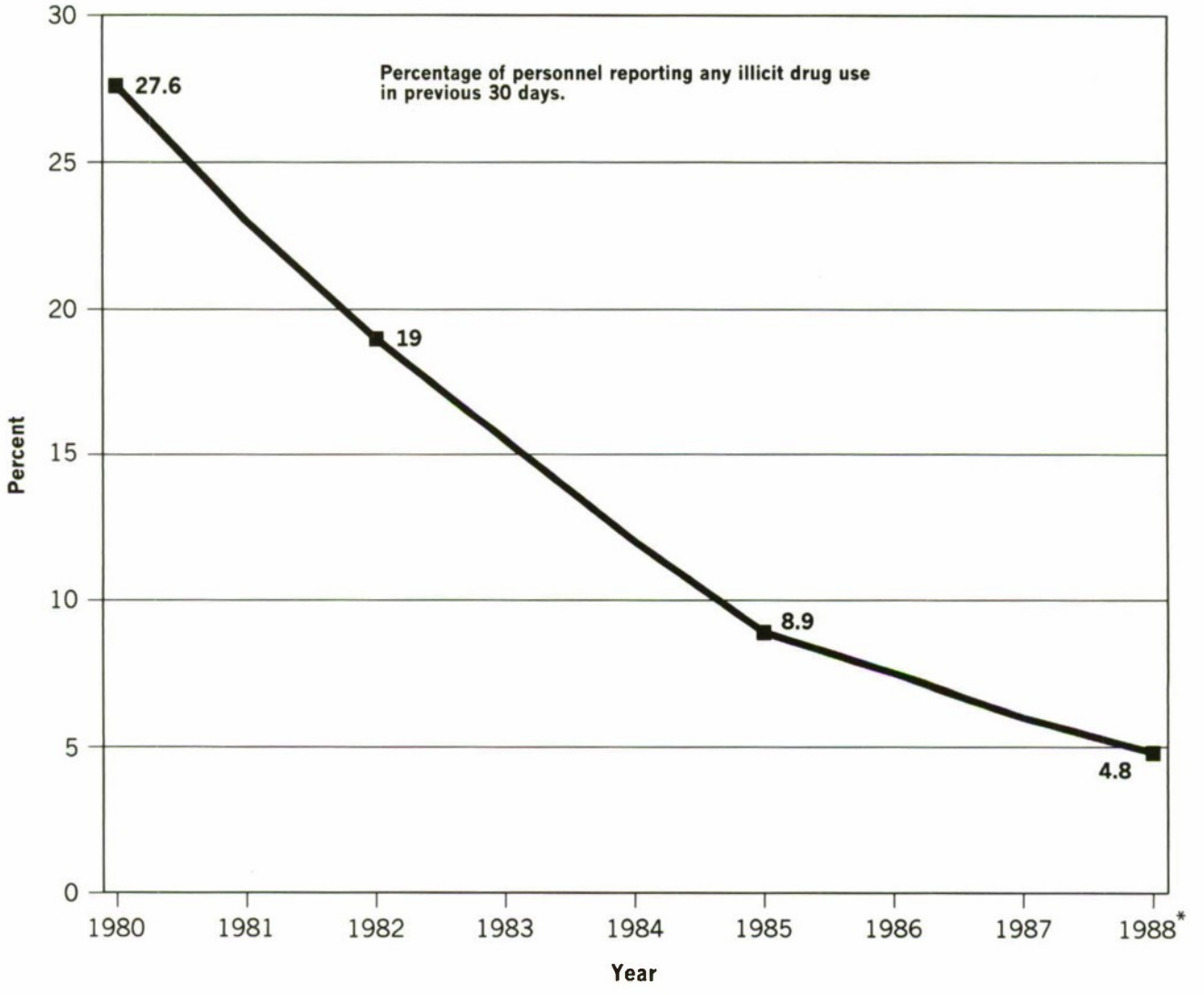
The attack on drugs in transit has also been expanded. Overall DoD detection and monitoring activity, in air flying hours and ship steaming days, has increased from 39,989 flying hours and 2,081 ship steaming days in FY 1989 to over 100,000 flying hours and 3,600 ship steaming days in FY 1990, increases of over 150 percent and 70 percent respectively. Until the execution of Operation DESERT SHIELD requirements, the percentage of airborne warning and control system (AWACS) flying hours dedicated to counternarcotics had grown from 38 percent to a high at one point during the year of 51 percent of total AWACS flying hours worldwide. Mobile and fixed ground radars have been deployed to supplement U.S. Customs Service and Coast Guard aerostats in detecting low-flying aircraft near U.S. sea and land borders. The Air National Guard maintains alert aircraft in Panama and supports three

full-time deployments of Tactical Air Control units in the Caribbean region.

Here in the U.S., the National Guard, in state status and under plans submitted to the Secretary of Defense by the governors of all 54 states and territories, performed over 5,100 counternarcotics missions in FY 1990. Every day spent by National Guard personnel on counternarcotics duty is entirely voluntary. In FY 1990, they spent almost 533,000 mandays — over triple the total of last year. National Guard personnel helped eradicate over six million marijuana plants last year, with a conservative estimated street value of at least $9 billion. They assisted law enforcement agencies in confiscating over $18 million in cash and helped seize over 16.9 tons of cocaine, with an estimated retail value of $1.2 billion.

Decline of Drug Use in the Military

Chart 24



*Last year for information available. 1991 survey currently in progress.

With help from the National Guard, the United States Customs Service is now inspecting 14 percent of all containers from cocaine source or transit countries, up from 4 percent prior to expanded National Guard support.

DoD is now almost two-thirds of the way to completing a secure communications system allowing federal law enforcement agencies to communicate and exchange data. This includes the establishment of a DoD communications system known as the Anti-drug Network (ADNET). Originally 17 ADNET sites around the country were planned; due to the success of the system, over 100 sites are now planned and 48 of those are currently operational. Eventually, the system will be available to agents in the field.

Efforts to reduce drug use in the military, through a policy of zero tolerance, remain a solid success story. At the beginning of the fiscal year, drug abuse in the military had fallen by over 80 percent in the preceding eight years, and continues at very low levels.

In addition to the uniformed military, DoD's education and urinalysis programs are being extended to DoD civilians, while DoD regulations require defense contractors to include a testing component in their mandated drug free workplace plans. In addition, the Department is continuing its efforts to provide drug abuse education to over 190,000 children attending DoD dependent schools.

Activities of the Unified and Specified Commands

On September 18, 1989, Secretary Cheney directed the Commanders-in-Chief of the Atlantic, Pacific, and Southern Commands, to submit detailed plans for counternarcotics operations in their areas of responsibilities. Their plans substantially elevated the priority of counternarcotics operations in their commands.

To facilitate command and control, three fully operational joint task forces are dedicated to DoD's counternarcotics mission: on the East Coast and the Gulf of Mexico, Joint Task Force 4; on the West Coast, Joint Task Force 5; and along the Southwest Border, Joint Task Force 6. The Atlantic Command (LANTCOM) has deployed a Caribbean counternarcotics task force, with appropriate planes and ships, to help reduce the flow of drugs from Latin America.

To combat the flow of cocaine out of the Andean region toward the U.S., LANTCOM and Southern Command (SOUTHCOM), in cooperation with host nations, are using the Caribbean Basin Radar Network (CBRN), together with deployed air and sea surveillance platforms, to detect potential drug smuggling and pass the information to law enforcement agencies and to cooperating foreign governments.

The Atlantic Command's Caribbean counternarcotics task force of Navy ships and Coast Guard cutters conducts counternarcotics detection and monitoring operations in the Caribbean. The Atlantic Command also uses ships from the Pacific Command for coordinated patrols off the Pacific coast of Central America. These joint Navy-Coast Guard patrols are the largest since the Vietnam conflict.

The Atlantic and Pacific Commands currently make use of at least eight other types of aircraft, including the E-3 AWACS, and six ship classes to perform their monitoring and detection missions.

The increased presence of detection and monitoring assets and the presence of law enforcement agencies in the Caribbean, with support from DoD, has resulted in significant disruption of the traditional cocaine trafficking pattern through Miami and the East Coast.

The Commander-in-Chief, Forces Command (CINCFOR) has deployed appropriate forces to support U.S. law enforcement agencies and cooperating foreign governments and to focus especially on the southern border with Mexico. CINCFOR is now offering a wide range of training and support to federal, state, and local law enforcement agencies. This includes transportation of law enforcement agents, use of ground sensors, photo reconnaissance, and engineering support, such as construction of observation posts, brush clearing, road improvement, and firing range improvement.

Along the Southwest border, CINCFOR established Joint Task Force 6 in November 1989, in El Paso, Texas, to spearhead DoD support to law enforcement agencies in this increasingly critical area of trafficking. Working closely with Operation Alliance, a consortium of federal, state, and local law enforcement agencies for the border states, Joint Task Force 6 has supported requests from law enforcement agencies for assistance along the Southwest border. DoD has conducted training in long-range border patrols and ground reconnaissance and

provided assistance in tunnel detection, surveillance, and cross training of military and law enforcement personnel. This level of cooperation reflects tremendous growth in the joint effort to reduce trafficking in the border region.

Missions supported by active duty personnel under CINCFOR auspices also include, for example, major marijuana eradication efforts coordinated by the Drug Enforcement Administration and other federal and state agencies in California and Oregon. In May 1990, with the help of tunnel detection equipment provided by DoD, a joint mission of the military and the Customs Service uncovered a football-field-long concrete tunnel under the Mexican-Arizona border. The tunnel was a major artery for transport of drugs from South and Central America into the United States.

The North American Aerospace Defense Command (NORAD) has increased its efforts to detect and monitor illegal drug traffic into the U.S. NORAD has expanded its mission to defend the air sovereignty of the United States to include the detection and monitoring mission, using a network of ground and mobile radars to help law enforcement agencies form a detection fence along the southern border, together with increasing use of E-3 AWACS and other airborne early warning (AEW) aircraft, as well as interceptor alert aircraft at several locations across the U.S.

Southern and Pacific Commands are also combatting the production and trafficking of illegal drugs in conjunction with cooperating host countries in their respective areas of responsibility. The Southern Command is providing operational support and materiel to the counternarcotics forces of cooperating host nations. To combat the distribution of cocaine and the precursor chemicals required for its production along the vast South America river networks, Coast Guard, Navy, and Marine Corps personnel are training host nation personnel in riverine operations. In addition, DoD and various other government agencies have assisted in nation-building in South America through economic and security assistance.

The Southern Command, with the approval of host nation governments, has also sent a number of mobile training teams to train South American counternarcotics forces in air surveillance and tracking operations leading to arrests and confiscations on the ground, and use of radar and communication equipment. SOUTHCOM has also recommended expansion of the CBRN to enhance the surveillance capabilities which support counternarcotics missions.

Defense intelligence analytic efforts have tripled in support of U.S. counterdrug activities, with particular emphasis on assisting the nations in the Andean region. Information analysts and computer systems are being integrated into theater efforts and key law enforcement agency centers. In addition, the Defense Mapping Agency is providing critical mapping, charting, and geodesy support to the drug interdiction efforts of the CINCs and the Drug Enforcement Administration.

Due to the vast scale of the Pacific Ocean, the Pacific Command is concentrating on intelligence cuing and data collection, diverting substantial intelligence manpower to fully dedicated counternarcotics functions. The Commander-in-Chief, Pacific Command (CINCPAC) is also assisting marijuana eradication in Hawaii and is making military dog teams available to assist in searching for drugs in cargoes entering the United States. Additionally, CINCPAC has provided surface assets to bolster the detection and monitoring effort in the Eastern Pacific.

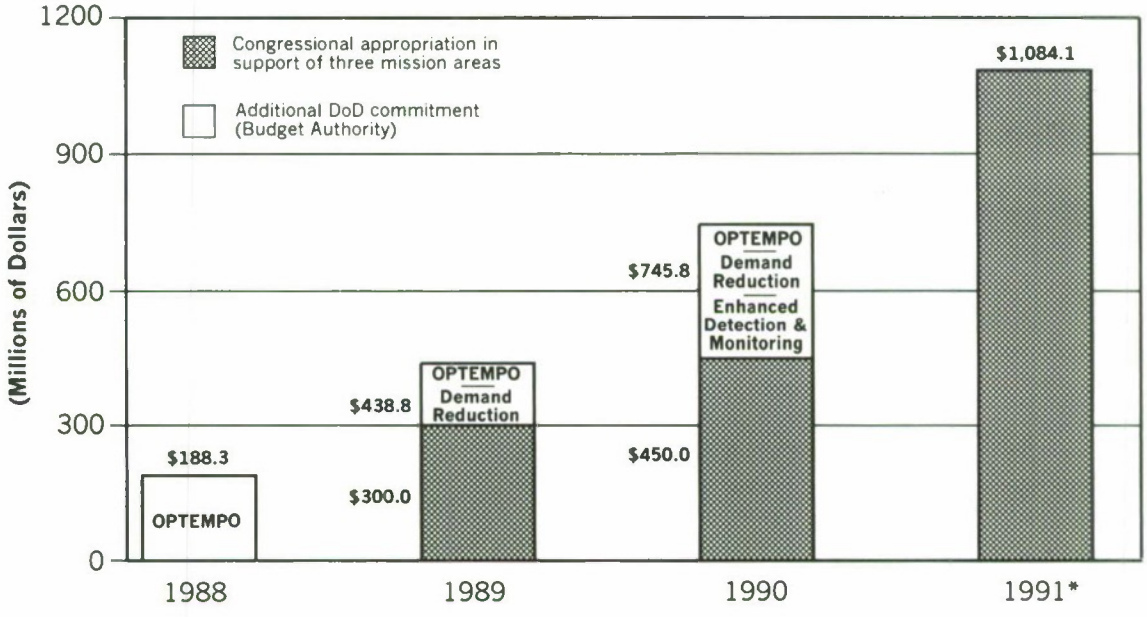
Additional DoD Support to the Overall Effort

The September 1989 guidance also directed immediate implementation of other actions to support the President's National Drug Control Strategy.

Up to 275 military personnel are being assigned to federal law enforcement agencies and the Office of National Drug Control Policy to provide liaison, training, and planning support. Most have already reported for duty at agencies in the U.S. State Department, the Drug Enforcement Administration, the United States Customs Service, the Immigration and Naturalization Service, the Coast Guard, and other law enforcement agencies, as well as the Office of National Drug Control Policy. Four regional logistical support offices have been established — in Buffalo, New York; Miami, Florida; El Paso, Texas; and Long Beach, California — to speed handling of requests for equipment and training support for law enforcement agencies. A number of domestic law enforcement personnel have been trained in intelligence, tactics, operations, and other vital skills. This training has been conducted abroad by military training teams and in the U.S. by a variety of military training programs for law enforcement officials. Also,

DoD Counternarcotics Budget 1988-1991

Chart 25



*First Year of the Counternarcotics Central Account. Includes the full appropriation of $1,084.1 million.

DoD's assistance to law enforcement agencies canine counterdrug programs has been significantly expanded. In the past year, DoD furnished 41 military working dog teams to assist law enforcement agencies with cargo inspections at land, air, and sea ports of entry around the United States.

The Department has also begun an innovative program to train prison officials in the operation of military style rehabilitation oriented training camps for first-time offenders. DoD conducted the first Rehabilitation Oriented Training Camp for the Maryland Department of Corrections earlier this year at Quantico Marine Base, and additional training is planned at Quantico and several other military installations.

Drug Interdiction and Counterdrug Funding

The counterdrug budget of the Department of Defense increased from $300 million in FY 1989 to $450 million in FY 1990. In addition, demand reduction funding of the military departments and other defense agencies, along with dedicated operating tempo (OPTEMPO) funding for drug interdiction and counterdrug activities, have been placed under centralized management and control. Coupled with additional requirements (see Chart 25), the total budget authority for FY 1990 was $745.8 million, compared to $438.8 million in 1989. DoD has also furnished additional equipment, training, and services to countries in the Andean region, under the Foreign Assistance Act.

Armed Forces Counternarcotics Support in the Future

In its first full year of operation under the President's National Drug Control Strategy, the Department of Defense has greatly expanded and intensified its support of the nation's counternarcotics efforts. The Department will continue to develop flexibility and capabilities to

counter the adjustments traffickers will inevitably make to our efforts.

As national and international law enforcement agencies step up the fight against illegal drugs, and producer and transit nation governments increase their cooperation with our own, opportunities for the U.S. armed forces to support law enforcement agencies in counternarcotics activities will likely increase. The Administration expects to make it harder for traffickers to get their product through, and to reinforce the increasing image of the unacceptability of illegal drugs in our society. The Department of Defense and the U.S. armed forces are fully committed to the fight against illegal drugs.

RESEARCH AND DEVELOPMENT

Introduction

Recent dramatic global events, particularly the reduction of the conventional Soviet threat in Europe, attest to the importance of strong research and development (R&D) programs for the Department of Defense. U.S. technological advantages, gained through aggressive R&D programs, contributed to Soviet decisions to reduce military competition with the United States, and begin large scale force reductions. The commitments made years ago to maintain a robust R&D effort directly contributed to the changes we are currently seeing in our relationship with the Soviet Union and to the U.S. ability to stand fast in the current Persian Gulf crisis. The technology edge we enjoy over potential adversaries is a result of past investments in science, technology, and system development and the continued search by industry, universities, and in-house government laboratories for innovative approaches to the solution of national security problems.

The technological edge the U.S. enjoys today over its potential adversaries was obtained by developing the proper array of technologies over the past 20 to 30 years to give the decisionmakers the flexibility to develop systems to counter the threats once they were identified. Evidence is now seen that our adversaries are recognizing the success of our strategy and are beginning to follow suit.

To preserve for future generations the margin of technological superiority the U.S. enjoys today, the Department of Defense continues a strong R&D program in defense-related technologies. The Department must be prepared to facilitate the rapid exploitation of technology to meet a crisis situation. The Department of Defense has accepted these challenges and has initiated the efforts to maintain the technology edge we will need for the future.

Defense Technology Strategy

During this past year the Department of Defense has been developing a defense technology strategy to better communicate to the defense technical community the broad task of the DoD R&D efforts and to describe broadly the technical problems that must be solved. Led by the Director of Defense Research and Engineering, this effort is envisioned as supporting the Defense Planning Guidance, to help focus some major acquisition and development issues, and as a means to develop meaningful and realistic resource requirements. The strategy places a strong emphasis on the upgrades to existing systems, the development and introduction of manufacturing technology, and on training technology. Moreover, the strategy introduces a much greater emphasis on an integrated approach to engineering analysis, simulation, gaming, prototyping, and net technical assessment. Responsive planning by the Services/Agencies will result in a coherent plan that integrates the Science and Technology (S&T) program with system/subsystem development and production to solve the military problems these programs address.

Science and Technology (S&T)

Since World War II the U.S. has depended upon qualitative superiority to deter attack and, should deterrence fail, to bring conflict to a successful conclusion. The U.S. must continue to maintain that technology edge. Maintaining a significant technology edge promises to be a formidable challenge for the future. There are many factors that contribute to the increase in the challenge. Other nations are now perceiving the economic and military advantages they gain by technical know-how. They too are now pursuing viable technology to position themselves better in a changing world. In addition, as *glasnost* and other events bridge the international information chasm, the Soviets and others will have greater access to Western technology. This information will help other nations close the technology gap with Western societies.

An important element of research, development, test, and evaluation is the S&T program. It is the foundation upon which we develop systems. The S&T program consists of research that brings us new ideas, new phenomena, educational progress, and technical leadership; exploratory development that translates promising research into useful scientific and engineering techniques; and advanced technology development that undertakes projects to demonstrate the potential utility of

techniques for the solution of military problems before embarking upon full scale development.

The Department intends to conduct a strong S&T program. The Services — in concert with universities and industry — carry out S&T programs in most areas of military importance. Materials, environmental sciences, optics, integrated circuits, software, computers, propulsion, sensors, and other technology programs will provide options for strategies, tactics, and operations required to carry a successful national security program in a world fraught with uncertain threats.

Balanced Technology Initiative (BTI)

The Balanced Technology Initiative (BTI) is the Department's user-oriented program to hasten application of advanced technology to the most urgent and critical of our operational needs. BTI projects are demonstrating the leap-ahead capabilities enabled by emerging technologies in smart weapons, target acquisition with automatic target recognition, battlefield C^3I, active countermeasures, and ultrawide bandwidth radars and high power microwave systems.

The user orientation of BTI is evident in one group of projects designed to greatly enhance the fighting elements of our ground forces, typically reinforced battalions or battalion task forces. These projects include the Battalion Targeting System that uses advanced radar, acoustics, and electronic support measures to permit a battalion commander to find and track the movement of enemy forces near his force. Target locations can also be forwarded directly to combat vehicles and artillery to engage the enemy. The Multi-Sensor Aided Targeting system applies automatic target recognition and advanced display technology to enable our forward tanks to find enemy vehicles at the greatest range and in the shortest time. The Combat Vehicle Command Control System provides a means for a tank platoon or company commander to know what his tank crews have found and a means to coordinate their maneuver and fire. Finally, the X-Rod guided hypersonic tank round provides a means to achieve high probability of hit and kill at extended ranges, even against the best future tanks postulated.

Other leap-ahead BTI projects include a 20-pound guided missile effective against the latest tanks, a smart minefield system, an artificial intelligence system to automatically fuse intelligence reports and highlight information of greatest significance, an image exploitation system to apply advanced image processing to find enemy units in synthetic aperture radar (SAR) imagery, and an ultrawide bandwidth radar capable of foliage penetration.

The BTI program consists of about two dozen projects, typically lasting two or three years. Each year sees the completion of several and the starting of several others. Radar technology from BTI is being applied to the B-1 bomber. The Artificial Intelligence Module is being deployed to the Persian Gulf. The Image Exploitation System is processing imagery from the Persian Gulf. Subsystems from Quiet Knight are being integrated into MC-130 aircraft for our special forces. Close ties between the BTI program and the users ensures that BTI successes find early application.

Defense Advanced Research Projects Agency (DARPA)

The mission of the Defense Advanced Research Projects Agency is to stimulate, develop, and demonstrate technologies which cause fundamental changes in future defense systems and operations. DARPA places emphasis on those technologies which are changing too rapidly for conventional Department R&D practices to effectively capture. DARPA targets areas for timely transition to weapons capability through specially designed technology demonstrations, prototypes, and associated manufacturing processes which are key to promoting the flexible, modern, and robust defense industrial base needed to face tomorrow's challenges.

DARPA's current main technology thrust is in information science with particular emphasis on solid state microelectronics and scalable high performance computers, including associated software and networks. Other areas of emphasis include advanced materials, sensors, manufacturing processes, and energy systems.

Some of the technology areas and applications for which DARPA has focused efforts include:

- **High performance computing.** Developing a new generation of computing technology building upon revolutionary advances in scalable parallel computing systems, microelectronics, and algorithms. New multiprocessor architectures, high density embedded computers, high performance network com-

munications and advanced software environments, and algorithms are some of the technology areas being developed to provide smaller, more powerful, less expensive military systems. To ensure the key building blocks are available to support these advanced computer architectures emphasis is placed on integrated circuit design, packaging, and associated manufacturing processes.

- **Solid state devices.** Developing new concepts in solid state electronic and electo-optic devices, materials, and processes for future electronic and optical systems used in information transmission, gathering, and processing. Advanced semiconductor processing, quantum devices and circuits, biologically derived materials, new device concepts, increased reliability, innovative optical materials and devices, and artificial neural networks hardware are being developed for the next generation electronic devices.
- **Advanced materials.** Developing materials and processes to enable new weapons concepts. Advances are being made in areas such as intermetallic compounds; novel processing of ceramics and ceramic composites; stronger and more heat resistant polymers; higher power/energy density electrochemical power sources, including batteries and fuel cells; diamond films for electronic packaging applications; high temperature superconductors; and advanced aerospace structural materials to upgrade gas turbine engines and airframe components.
- **Manufacturing processes.** Developing advanced manufacturing process technologies using sophisticated computer technologies, equipments, and innovative manufacturing methods for critical components of future military systems. Manufacturing processes for advanced infrared sensor arrays, electron beam, microwave and millimeter wave analog integrated circuits, and metal matrix composites are examples of efforts being taken to provide manufacturing capabilities in the defense industrial base necessary to maintain the superior technology for reliable and affordable future weapon systems. DARPA's investment in Semiconductor Manufacturing Technology (SEMATECH), an industry consortium established to stimulate the U.S. semiconductor manufacturing industry, has contributed toward assuring that the U.S. semiconductor industry can meet military requirements for advanced electronics.
- **Advanced space systems.** Developing technologies that will enhance military access to space and reduce the cost of space systems; decrease the vulnerabilities of space systems to natural phenomena and hostile actions; and improve the utility of space systems. Applying advances in microelectronics, optics, and materials to improve satellite subsystems and components, developing new space launch capabilities, and demonstrating experimental lightweight satellites are all elements of this effort.
- **Undersea warfare.** Developing technologies in information processing, automation, acoustic sensors and sources, and machine intelligence to improve our antisubmarine warfare capabilities. Development of enabling technologies that will radically reduce the vulnerability of our submarines to detection and demonstrate the utility of unmanned undersea vehicles to complement and enhance manned submarine systems and capabilities are all elements in this effort.

Defense Nuclear Agency (DNA)

The Defense Nuclear Agency (DNA) is the DoD focal point for all research pertaining to nuclear weapons effects and the survivability of all U.S. military assets in a nuclear environment. As noted in earlier sections, decreasing tensions with the Soviet Union do not preclude the need for continued robust research in this area. Nuclear forces effects research will remain important both to meet U.S. strategic needs and to understand the increasing variety and scope of nuclear threats the United States faces, given the proliferation of nuclear technology.

The Defense Nuclear Agency directs research that spans sophisticated supercomputer analyses, high explosive and underground nuclear testing, and the development of high fidelity simulators capable of replicating specific elements of the nuclear environment. The emergence of low observable materials and designs, such as used in the B-2; revolutionary new weapons concepts; and the highly sophisticated electronics used in today's weapons systems are receiving considerable attention to ensure that nuclear survivability requirements can be met.

Strategic Defense Initiative Organization (SDIO)

The Strategic Defense Initiative Organization (SDIO) investment in research and development is about one-third of the total DoD science and technology budget. SDIO research and development programs constitute a key role in advancing the technology required for strategic defense applications. According to its charter, SDIO seeks to develop technologies that allow

a defense against ballistic missiles. In some technologies, such as sensor design, weapon system environment, pulse power, space nuclear power, rocket plume analysis, and projectile development, SDIO has become the dominant research force.

Specifically, during the last year, SDIO made significant contributions in the following research and development areas:

- **Passive Sensor Arrays.** SDIO needs tens of millions of pixels or individual elements to form passive sensor arrays. With a major investment in sensor manufacturability and fabrication, we have reduced the cost per pixel of mercury cadmiun telluride, a leading sensor material, by another factor of two. Our goal is to reduce the cost about a factor of two every year from a cost of about $20 a pixel in 1984 to a cost of 50 cents a pixel in 1995. Our investment in sensor fabrication benefits not only the entire Defense Department, but also the large commercial sensor market as well.
- **Sensitive Radars.** SDIO needs to develop this technology to discriminate between reentry vehicles and decoys during the mid-course phase of a ballistic missile's trajectory. The Firepond facility near Lincoln Lab demonstrated our ability to solve the challenging problem during the last year. A Firefly experiment was conducted in which a laser radar on the ground was able to image a rocket launched from Wallops Island, Virginia. The system successfully discriminated between the reentry vehicle and the decoy at a distance of about 800 kilometers.
- **Phenomenology Measurements.** We have demonstrated a great ability to distinguish missiles against the background. We are collecting data in space, in the air, and from the ground about radiation and particles that make up the background against which we seek our targets. Because the target may change its signature several times, our recent data collection spans many parameters in the electromagnetic spectrum, in temperature, in direction, in season, and in sunlight or the dark of night.
- **Hypervelocity Projectiles.** SDIO is aiming for incredibly small smart bullets. Interceptors are a major thrust area in our present research. Throughout our projectile program, we made a significant progress approaching our ultimate goal of reducing a guided projectile to less than 500 grams.

Chart 26 illustrates several evolving SDIO architectures under study that encompass some of the promising results of SDIO research and development.

Test and Evaluation (T&E)

Test and evaluation (T&E) is a continuous process which goes on throughout the life of each acquisition program. Developmental test and evaluation (DT&E) is a part of the development process. DT&E is conducted throughout various phases of the acquisition process to ensure acquisition and fielding of an effective, supportable system by assisting in the engineering design and development process and verifying attainment of technical performance specifications, objectives, and supportability. Operational test and evaluation (OT&E) is the field test, under realistic conditions and by typical users of the weapon system, to determine its operational suitability and effectiveness. Together, DT&E and OT&E seek to ensure the acquisition and fielding of defense systems that give our forces a reliable edge in combat.

In these times of reduced defense budgets, realistic test and evaluation is receiving increased emphasis and attention. A concerted effort is being made by the Department to improve the test and evaluation process to enhance the acquisition process. The action plan goals include gaining more test program stability, better resolution of test and evaluation issues, improving communication throughout the testing community, and improvements in test and evaluation methodology.

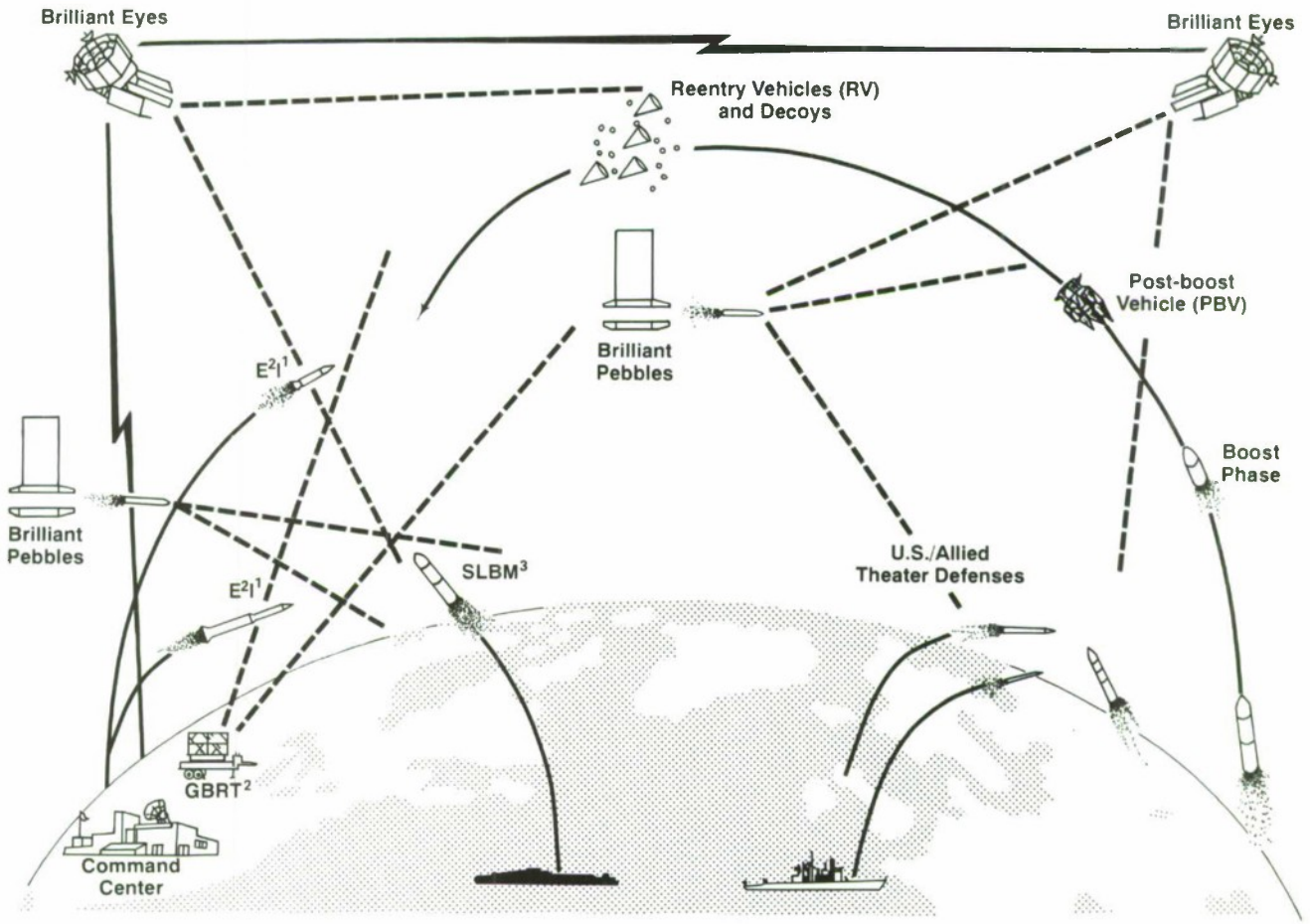
The test community is a disciplining factor in the acquisition process. The T&E challenge is to ensure that adequacy of planned tests will truly test and stress the system to provide sufficient and quality results for decisionmakers to make the most informed decisions. This will pay off with better equipment for our armed forces.

Summary

The importance of maintaining a strong research and development program in the Department cannot be overemphasized. Technology has revolutionized the battlefield time and time again. To match potential adversaries' strength in numbers, the U.S. has always relied upon its technological edge and this proven concept must be continued.

The nation will pay a heavy price if we look for false economies in defense R&D. Systems routinely take a

Evolving SDIO Architectures Under Study Chart 26



[1]Endo-Exoatmospheric Interceptor
[2]Ground-Based Radar Transportable
[3]Submarine Launched Ballistic Missile

minimum of 10 years to move from the drawing board to the battlefield. National defense demands that we plan now for future threats. Decisions made today will either push, delay, or eliminate programs. These decisions will dictate the military forces available to the future leaders of the United States.

Part V
Statutory Reports

REPORT OF THE SECRETARY OF THE ARMY

As the nation's leading force for the conduct of prompt and sustained combat on land, the Army is an essential element of national military power. Today's Army is the best in our nation's history.

The threat that we have faced in Europe over the past 40 years has changed considerably over the past year. President Gorbachev's policies of *perestroika* and *glasnost* have changed Soviet emphasis from massive military power, confrontation abroad, and repression at home to internal restructuring and defensive sufficiency. The Warsaw Pact has ceased to function as a military alliance, and the governments of Eastern Europe no longer pose the threat that they once did. The Cold War has been won thanks in major part to the selfless contributions and sacrifices of thousands of American servicemen and women.

While the world remained focused on the changes in the Soviet Union and Eastern Europe, trends of instability in developing nations have caused us concern.

Wanton aggression such as the unprovoked Iraqi invasion of Kuwait and the political injustice in Panama at the hand of former dictator Manual Noriega are examples of regional instability that are becoming more prominent. The U.S. Army's participation in Operations DESERT STORM, JUST CAUSE, and the subsequent nation-building effort called PROMOTE LIBERTY are clear demonstrations, not only of substantial improvements in joint warfighting and the capabilities of our contingency and special forces, but also validate the six fundamental imperatives that guide the Army's development – Quality Soldiers, Tough Realistic Training, Competent Leaders, Appropriate Mix of Forces, Focused Modernization, and Correct Warfighting Doctrine.

The magnitude of our challenge in executing Operations DESERT SHIELD and JUST CAUSE was profound. Our U.S.-based forces had to be alerted, prepared, and deployed in a matter of hours. Army troops were on the ground in Panama within 53 hours of the President's decision, while in Operation DESERT SHIELD our soldiers were flying to Saudi Arabia within 31 hours of receiving the deployment order. The Army has shown, if there ever was a doubt, that it is a strategic force, able to meet a wide range of contingencies on short notice, to perform in a joint arena, and to provide highly capable forces to the warfighting Commanders-in-Chief (CINCs).

The ability of the Army to maintain combat capable forces responsive to worldwide contingencies is reflected in our unrelenting efforts to refine force structure, modernize our equipment, and sustain our forces.

Faced with an evolving threat and the fiscal realities of a declining defense budget, the Army has set a course for reshaping its force structure to adapt to the changing environment. Required to reduce the Active Component end strength by 20,000 in 1990, the Army inactivated or reduced existing units rather than underman them and create a "hollow force." As a result, during the past year the Army inactivated brigades at Forts Hood and Lewis, and artillery battalions at Forts Ord, Stewart, and Hood. Additionally, the 194th Separate Armored Brigade at Fort Knox was reduced to a battalion task force. Our civilian force, also faced with the consequences of declining resources, was reduced by over 15,000. While future force structure actions will be necessary, the Army remains committed to prudent personnel management practices and to reshaping a force that, as Operations DESERT SHIELD and JUST CAUSE have demonstrated, is versatile, deployable, and lethal.

As we reshape the force, we must continue to modernize. Modernization is more than developing and fielding of advanced weapons and equipment. It also includes developing production and sustainment bases as well as doctrine, organizations, and training plans to support these advanced weapons. Our modernization efforts in programs such as the Light Helicopter, Armored Systems Modernization, Anti-Armor Weapons System-Medium, and the Forward Area Air Defense System illustrate the commitment made to our soldiers to provide them with the finest equipment possible.

In 1990 the Army fielded 10 battalions of M1 Abrams tanks in Europe and 2 in Korea. Additional fieldings included: in Europe, 3 Patriot Missile batteries, 4 companies of Bradley Fighting Vehicles, and 20 MLRS

Army Tactical Missile System (ATACMS) launchers; and in CONUS, 6 battalions of Bradley Fighting Vehicles, 51 Blackhawk helicopters, and 10 MLRS ATACMS launchers, and 3 battalions of M119 howitzers to improve fire support for our light forces.

The Army's ability to carry out its strategic roles depends heavily upon sustainment programs that allow us to deploy and conduct a broad range of operations in a wide variety of environments. Initiatives to improve deployability such as increased strategic lift capability, management of theater reserve and prepositioned equipment, improved munitions, increased industrial preparedness, and the maintenance of a technology base will ensure that warfighting CINCs have the means to carry out their combat missions.

While providing operational and logistics support to the theater commanders remains our top priority, in 1990 the Army participated in other missions mandated by international agreement or law.

In June 1990, the Army, acting as the Department of Defense executive agent, initiated the destruction of chemical weapons at Johnston Island, located in the Pacific. In September 1990, the Army removed 100,000 chemical projectiles stored in Germany and loaded them for delivery to Johnston Island for eventual destruction. With these operations, the United States provides further substance to the bilateral agreement with the Soviet Union to reduce our stockpiles of chemical weapons.

The Army environmental program made outstanding progress during 1990 in meeting national requirements in contamination cleanup, compliance with environmental laws, and pollution prevention. The Army spent $187 million during the year on evaluating and cleaning up contamination caused by past practices. In the area of environmental compliance, over $200 million was spent to meet current regulatory requirements. The Army is committed to an environmentally sustainable defense. The Army has established an Army Environmental Policy Institute and has set up an Environmental Response and Information Center. Environmental awareness is being incorporated into every element of training for the soldier and civilian members of the Army.

The Army's mission of providing support to the nation's civilian authorities is lesser known, but equally important to the nation's needs. The Army is the lead agency in the Department of Defense for domestic disaster relief and assistance. In the past year, soldiers have assisted local communities in the South affected by floods and tornadoes, and soldiers and airmen assisted in fighting fires on federal lands in the West and South.

The Army is also actively participating in antidrug operations as an integral part of the Department of Defense's execution of the National Drug Control Strategy. The Army's roles in this arena are many and varied, as support is provided to 5 CINCs, over 40 federal and 2,000 local law enforcement agencies throughout the United States, and a growing number of Latin American nations. Over 2,000 soldiers from the Active and Reserve Components participate daily in efforts ranging from stopping the flow of cocaine from Colombia to marijuana destruction in Hawaii. During FY 1989, the "Total Army" provided various forms of assistance to drug law enforcement agencies that resulted in drug seizures exceeding 7,510 kilograms of cocaine and 21,890 kilograms of marijuana. In FY 1990 there were nearly 5 million marijuana plants eradicated; using conservative estimates, the street value of these marijuana plants destroyed would have exceeded $7 billion.

The Army medical community continues in their advanced research on a vaccine called GP 160. This vaccine has been successful in the stimulation of new antibodies and other immune responses directed at the AIDS virus. Army scientists are hopeful that these important first steps may result in a vaccine successful in countering the AIDS virus, and will lead to a new approach for the control and treatment of viral diseases. The Army is in the forefront of our national effort to find a means of fighting AIDS, and, as an institution, we constitute a research resource of immense value.

Improved management initiatives to reduce and eliminate unneeded or inefficient infrastructure remain high in our priorities as we continue to implement Department of Defense Management Report directives. Since the establishment of the Army Acquisition Corps in January 1990, the Corps has accessed 2,264 officers to serve in critical acquisition positions. The rapid development of the Corps reflects its tremendous potential and the Army's dedication to acquisition excellence. In managing installation structure, the Army pursued several major realignment and closure initiatives during 1990. Some of those initiatives were overtaken by new

legislation, enacted in November as a part of the FY 1991 Defense Authorization Act, which created an independent commission to review the Service base realignment and closure recommendations. This is a significant restructuring of the mechanism by which the Department pursues realignment and closures and will affect our realignment and closure activities through 1995. This new legislation also directs the Army to cease all realignment and closure actions which would impact individual installations beyond the thresholds established in Title 10, U.S.C. 2687. The new legislation does not, however, affect the execution of base realignment and closure initiatives mandated under Public Law 100-526, or those which occur outside the continental United States. The Army's goal remains to ensure that we maintain an installation structure that supports our needs into the next century.

The Army achieved great success during the past year, and continues to do so today, in the Arabian Peninsula and around the world. As we continue to support Operation DESERT STORM, we will remain strong and responsive to the needs of a world in flux by maintaining global readiness and by shaping the Army of the future. Today's Army is better trained, better equipped, and better led than ever before. We have answered our nation's call both at home and abroad with pride and distinction. We stand ready to meet any threat, anywhere, anytime. We are proud of what we have accomplished and we look forward to the future.

M. P. W. Stone

Michael P. W. Stone
Secretary of the Army

REPORT OF THE SECRETARY OF THE NAVY

In a year of dramatic international change, the Department of the Navy has continued its measured and careful program of fulfilling the current and future naval requirements of our nation's joint and unified military commanders. The capability of naval forces to conduct prompt and sustained operations supporting the national interest was tested in 1990. The Navy and Marine Corps continued their designated missions of power projection, sea control, amphibious operations, strategic sealift, and strategic deterrence. During the dynamic events of Operation DESERT SHIELD and its present combat phase, Operation DESERT STORM, naval forces participated with sister Services to defend Saudi Arabia, deter aggression in the Middle East, and finally to bring the full range of American military and naval power to bear against Iraq in order to liberate Kuwait and fulfill with our coalition partners the clear mandates of 12 United Nations resolutions. Other naval units deployed across the globe continued to maintain a presence in support of our stated national security objectives.

When Iraq invaded Kuwait on August 2, 1990, the Navy's Middle East Force, part of the existing Joint Task Force Middle East, had a total of eight ships assigned. USS La Salle (AGF 3) was in theater as the Force flagship, accompanied by USS Taylor (FFG 50). USS David R Ray (DD 971) and USS Robert G Bradley (FFG 49) were on station in the northern Persian Gulf. USS Vandegrift (FFG 48) was patrolling the central Persian Gulf. USS England (CG 22), USS Reid (FFG 30), and USS Barbey (FF 1088) were on picket duty in the southern Persian Gulf. In response to the invasion, the aircraft carriers USS Independence (CV 62) and USS Dwight D Eisenhower (CVN 69) moved to station in the Arabian Sea and the eastern Mediterranean, arriving in striking position to deter further aggression by Iraq. The first naval air power was on station three days before the ground force and ground-based air force deployment operation began. Maritime Prepositioning Ships (MPS) sortied from Guam and Diego Garcia on movement day, August 7, with the first ship unloading in Saudi Arabia one day after the initial Marine element arrived. Because of the successful validation of the MPS concept, the Seventh Marine Expeditionary Brigade (7th MEB) was the first fully operational, combat-ready, mechanized force in Saudi Arabia. The activation of 70 ships from this nation's Ready Reserve Force (RRF) and the massive sealift operation supporting our combined ground echelon proved that our national investments in these capabilities over the past 10 years paid off when they were needed. Over 85 percent of United States materiel, munitions, and support equipment in Saudi Arabia moved there by sea. By the time Operation DESERT STORM began on January 16, 1991, over 100 ships, 77,000 Sailors, 6 aircraft carrier battle groups, 2 battleships, attack submarines, a 31-ship amphibious battle group with 18,000 Marines embarked, and a Marine Expeditionary Force with over 70,000 Marines ashore were in theater to participate in our largest and most important military effort since the end of the Vietnam War, and the largest United States deployment of naval forces since the end of World War II.

Operation DESERT SHIELD had a particular importance as the largest and most sustained interdiction operation at sea, short of war, ever undertaken by the United States. In support of the United Nations-enfranchised economic embargo of Iraq, United States Navy ships, Marines, and Coast Guard forces have directly challenged and intercepted over 7,100 ships, while boarding at sea over 800 ships, including forcible diversions of ships bound for Iraq with embargoed cargo. Over half of the actual boardings were accomplished by United States forces in a unique, continuing, multinational maritime operation which brings us together with 13 of our NATO allies and 5 more of our non-NATO allies participating at sea. These interdiction actions represented the most direct military operations in the Persian Gulf theater supporting the 12 United Nations resolutions as our integrated multinational ground and air forces built to an appropriate strength in Saudi Arabia.

Operation DESERT STORM began when Tomahawk cruise missiles were launched from ships in the Persian Gulf and Red Sea to carefully selected targets in Iraq and occupied Kuwait. The cruise missile wave was followed by aircraft carrier air strikes and ground-based air strikes in an operation of unprecedented cooperation between tactical forces of the Navy and the Air Force under the unified command of General H. Norman

Schwarzkopf, Commander United States Central Command. Navy and Marine Corps forces were immediately involved in reactions to Iraqi artillery and antiaircraft fire with suppression operations as the initial air strikes continued unabated, as they do even as this report is presented.

Our nuclear-powered strategic submarine force completed a cumulative total of over 2,875 continuous patrols since the first strategic missile-carrying submarine deployed on November 15, 1960. Providing this strategic deterrent for the national military strategy remains an anchor of the Navy's contributions to the nation's defense, even in the midst of great change.

Naval forces participated in joint operations during the past year beginning with Operation JUST CAUSE, when United States forces were introduced during an extremely volatile political situation in Panama. Operation SHARP EDGE in Liberia, the evacuation of civilians in response to insurgency in that nation, was an outstanding example of crisis response by the Navy and Marine Corps. An Amphibious Ready Group (ARG) with 4 ships, 27 aircraft, and 2,335 Marines was diverted to the west African coast in July. From July 1990 to January 1991, naval forces were continuously at sea in this operation for over 550 ship-days. Marines landed ashore and protected the United States embassy during fighting in Liberia and evacuated a total of 2,609 civilians including 330 American citizens. On January 4, 1991, amphibious ships and Marine helicopters en route to the Persian Gulf evacuated Americans and foreign nationals from Mogadishu, Somalia, during the outbreak of civil war. In this operation, named EASTERN EXIT, naval forces moved 260 noncombatants including 51 Americans in less than 48 hours from their execution orders. The evacuation began dramatically as two Marine CH-53 helicopters launched from USS Trenton (LPD 14) in the Arabian Sea, flew 460 miles, and refueled twice at night from Marine KC-130 tanker aircraft. Naval response to military contingency requirements was a significant part of Fleet operations, even as our forces continued their cycle of deployments in support of other global interests.

As East-West relations continued to improve, a historic exchange of port visits by units of the United States and Soviet Pacific Fleets took place in the summer of 1990. From July 31 to August 4 three Soviet ships visited San Diego, California: the Sovremennyy-class guided-missile destroyer Boyevoy, the Udaloy-class guided-missile destroyer Admiral Vinogradov, and the Kaliningradneft'-class oiler Argun. The Soviet Pacific Fleet Commander, Admiral Gennadiy Khvatov was embarked with the group and represented the Soviet naval leadership. From September 10-14 two United States ships visited Vladivostok in the Russian Soviet Federated Socialist Republic: the Ticonderoga-class Aegis guided-missile cruiser USS Princeton (CG 59) and the Oliver Hazard Perry-class guided missile frigate USS Reuben James (FFG 59). The Commander of the United States Pacific Fleet, Admiral Charles R. Larson, was the senior United States officer returning the Soviets' call in the Soviet Union.

In Fiscal Year 1990, 9 ships joined the active Fleet, 25 ships were retired, and 5 ships were transferred to the Naval Reserve Force. Commissionings of new ships included the nuclear-powered aircraft carrier USS Abraham Lincoln (CVN 72), 3 Aegis guided-missile cruisers, 3 nuclear-powered fast attack submarines, 2 amphibious ships, and 2 mine countermeasures ships.

Navy budget priorities begin with taking care of our people. Our men and women are of the highest caliber, and are extremely dedicated. These qualities enable the naval forces to be successful in operations like those of the past year. Sustaining a high level of professionalism, training, and readiness to fight is the top budget priority of the Navy and Marine Corps. Issues affecting the quality of life and the leadership of our Sailors and Marines are important if we desire continued success in a technologically complex world. Training, combat readiness, and how they relate to military strategy and tactics are all part of this emphasis.

The Department of the Navy is emphatically committed to enhancing the compensation of its members. A reasonable tempo of operations also remains an important goal, even with the realities of declining budgets and the uncertainty of sustained forward operations in the Middle East.

During this time of necessary defense cutbacks and the framing of a security environment for the post-Cold War world order, the combat readiness of our operating units is a principal budget priority. Previously in times of budgetary restraint, infrastructure support and readiness have been sacrificed with the downsizing of the Fleet; we must not make that mistake again. Today, it is clear from the events of 1990 that we must always be ready for combat, and that response time is always short.

Operation DESERT SHIELD was clearly a "come as you are" operation. Its lesson is that our units must be fully manned, trained, and supported, with sufficient ammunition, stores, and spares as part of their combat infrastructure, a point driven home by the combat action in Operation DESERT STORM. As we drawdown the Fleet as well as our Fleet Marine Forces, we must carefully analyze all of our programs to ensure that we do not fail in future contingencies because of shortfalls in Fleet readiness.

Our naval programs emphasize the strategic capabilities inherent in power projection, from carrier-based aircraft, through amphibious strike warfare, or in surface line ship-based cruise missile strike operations. United States antisubmarine warfare superiority remains a critical factor in our warfighting abilities. Modernization of submarine-based strategic weapons systems is likewise crucial to our success in deterrence and long-term strategic stability. The expeditionary capabilities of the Fleet Marine Force give the national command authority an unmatched combat and forcible entry capability that is ready while providing a wide range of options as regional conflicts come to dominate American strategy.

As we live up to the military responsibilities of our national interests and meet the military objectives for the future, our success can only be guaranteed by our technology initiatives. The Navy and Marine Corps enjoy a qualitative competitive edge which we must strive to sustain in every warfare area. Technological superiority demands a vigorous research and development program for forces of the future, regardless of the threat we face, or who presents it. Key to our research and development program is greater emphasis on science and technology to keep pace with worldwide technological advances.

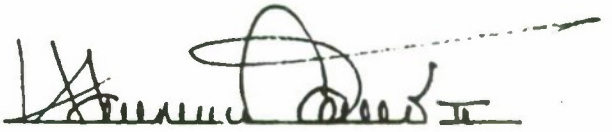
The Department of the Navy's major procurement initiatives include development of the SSN-21 Seawolf class nuclear-powered fast attack submarine, the Trident D-5 submarine-launched ballistic missile (SLBM) as part of our strategic triad defense modernization program, and the Arleigh Burke-class of Aegis-equipped guided missile destroyers. Key research and development programs include a next generation attack aircraft, advances in missile technology, and new developments in advanced propulsion-machinery systems. Marine Corps amphibious warfare modernization priorities for research and development include medium lift replacement, advanced amphibious assault capabilities and improvements in ground combat effectiveness, combat service support, and aviation night attack. The Department of the Navy undertook major initiatives to consolidate and expand its international research, development, and procurement projects with friends and allies, in order to minimize costs and maximize the war-fighting and deterrent capabilities of the Western alliance. The continuing emphasis on technological and readiness improvements must be supported by appropriate infrastructure. Improvements in this area will entail eliminating outdated or inefficient infrastructure, while also modernizing and expanding infrastructure required to meet the support, training, and readiness requirements of the modernized naval forces.

Navy Fleet commanders expanded their drug interdiction efforts with more than 3,800 ship steaming days and 23,000 aircraft flight hours dedicated to detection and monitoring of drug traffic long before it reaches United States shores. In January, these efforts resulted in the participation of USS Gemini (PHM 6) and USS Harry E Yarnell (CG 17) in the 147th combined Navy-Coast Guard drug seizure. Marines' antidrug support ranged from the Andes to Puerto Rico to the southwest United States.

The Navy and Marine Corps have continued with progress in environmental restoration and management programs. The Navy and Marine Corps have together drafted a revision to environmental and natural resources manuals to provide specific program guidance and clarify responsibilities for environmental compliance at all levels of command. New Department of the Navy procedures for implementing the National Environmental Policy Act have been issued to ensure systematic planning and consideration of the environmental impacts of naval actions in operations. The Fleet has reduced the overboard discharge of plastics by 70 percent, and has begun testing new technologies to compact and treat plastic wastes on board ship. Through a memorandum of understanding with the United States Fish and Wildlife Service for mapping wetlands on Navy and Marine Corps installations, the Department of the Navy will contribute to the President's goal of no net loss of wetlands nationwide.

The Department of the Navy has strengthened its commitment to the Department of Defense Total Quality Management (TQM). The Chief of Naval Operations and the Commandant of the Marine Corps have initiated

Total Quality Leadership (TQL) throughout our operating naval forces, in addition to infrastructure, supporting establishments, and the research and development organizations which were formerly under TQM. Initiatives to expand the TQL efforts of the Department of the Navy shore support and headquarters organizations to Fleet and Fleet Marine Force operations are designed to improve the warfare effectiveness of our naval forces. Adapting quality improvement concepts and methods to operational forces significantly enhances the Navy and Marine Corps contribution to overall defense organization and military capability.



H. Lawrence Garrett, III
Secretary of the Navy

REPORT OF THE SECRETARY OF THE AIR FORCE

Extraordinary international developments over the last few years will create a significantly different security environment as we approach the beginning of the 21st century. The Air Force's reassessment of today and tomorrow accelerated in intensity this year. Under Secretary Cheney's guidance, we have worked hard to shape our organization and force structure to underwrite U.S. national security in combination with our sister Services. The framework that evolved was captured in a major Air Force document released in June 1990 entitled *The Air Force and U.S. National Security: Global Reach-Global Power.*

Under *Global Reach-Global Power*, the Air Force seeks to capitalize upon the unique characteristics of airpower — speed, range, flexibility, precision, and lethality — to develop a force with agile and responsive capabilities tailored for the world we see unfolding before us. We have emphasized five main objectives and associated forces to deal with this uncertain world: Sustain Deterrence, Provide Versatile Combat Force, Supply Rapid Global Mobility, Control the High Ground, and Build U.S. Influence.

Sustaining nuclear deterrence must remain the first priority — only Soviet nuclear forces threaten our very survival. The Air Force will continue to keep the bomber and ICBM legs of the TRIAD strong.

When providing versatile combat forces for power projection and combat operations, we are only a matter of hours away by air. Our rapidly deployable fighter forces work with other elements of U.S. military force to protect U.S. interests and allies. Our long-range bombers can precisely deliver massive amounts of conventional ordnance against any location on the planet within hours. In the low-intensity conflict arena, the Air Force is committed to employing surveillance assets and other capabilities to help stem the flow of narcotics threatening the fabric of our society.

Providing global mobility — the contribution of our airlift and tanker force — takes on increased importance when balancing the need for global reach with reductions in overseas bases. Airlift aircraft provide rapid mobility and reach for all the Services. Our refueling forces act as force multipliers — enhancing the range, ordnance loads, and flexibility of aircraft from the Air Force, Navy, Marines, and allied nations.

Controlling the high ground capitalizes on the critical contributions of both space and airborne assets. Rapid technological advances provide the means to exploit the military advantages inherent in space-based systems: global coverage and autonomous operations. Long range surveillance aircraft allow us to deter adversaries by letting them know we are watching their every move.

To build U.S. influence overseas, the Air Force can contribute equipment, training, and humanitarian aid. Since 1947, for example, the Air Force has conducted hundreds of humanitarian airlift operations, earning the respect and good will of millions of people around the world.

In the past year, Operations DESERT SHIELD and JUST CAUSE provided an impressive display of the Air Force's contributions to U.S. national security in two critical joint operations. In JUST CAUSE, the operation in Panama, the USAF delivered firepower, conducted the largest airdrop of U.S. forces since World War II, executed a massive refueling operation, and performed a range of other essential missions.

Operation DESERT SHIELD provided a dramatic illustration of the Air Force's global reach and global power. USAF fighters, long-range bombers, tankers, transports, and surveillance aircraft deployed halfway around the world in a matter of days. USAF fighters were in place, ready to fight, within hours of President Bush's decision to deploy forces to Saudi Arabia. In the first six weeks, the USAF airlift operation exceeded the ton-mile totals of the entire 450-day Berlin Airlift; within two months, the airlift force deployed about 100,000 passengers and almost 90,000 tons of equipment. Air Force tankers provided fuel to Air Force, Navy, and Marine aircraft. And USAF space-based systems are proving essential to enhancing the combat capabilities of all the Services.

New budgetary realities have focused the Air Force this year on emphasizing those capabilities which provide global reach and global power. Affordability concerns have led us to make some difficult and painful

choices in this past year. We have had to significantly cut and restructure personnel, programs, and force structure on an Air Force-wide basis. In pursuing its vision, the Air Force has deliberately chosen to continue modernization and maintain current levels of readiness while sacrificing force size. The end result is a smaller Air Force, but one which is leaner and meaner.

In the past year, we reduced military personnel end strength by over 20,000. Although more reductions will follow, we will continue to offer challenging career paths for quality people. History shows that the human dimension, the dimension of ready, well-trained forces, is vital to success on the battlefield. People continue to be our most vital resource — and the programs to support them remain a top priority.

To operate better and smarter, the Air Force has reemphasized increased efficiency and the process of continuously improving quality. Our goal is to maximize the effectiveness of our core forces. We have laid the groundwork to increase the proportion of reserve units in relation to active units. We have continued to stress readiness and sustainability. Aggressive pursuit of base closures, if approved by Congress, will reduce overhead costs. The Defense Management Report produced numerous initiatives that promise considerable management improvements and savings, and that process has been institutionalized. The search for improvements in efficiency and quality will become an Air Force habit. We have made productivity a common denominator.

Over the past year, we have developed plans to reduce and reprofile many programs to enhance affordability. We will terminate numerous programs and retire numerous older aircraft. To maximize the potency of our smaller force, we have continued over the past year to upgrade and modernize. We have emphasized modification programs (such as the Multi-Stage Improvement Program for the F-15) to help us extract the maximum effectiveness out of existing systems. New subsystems (such as LANTIRN) are increasing the number of fighter aircraft that can conduct night attack operations. New systems (such as the Advanced Medium Range Air to Air Missile, the Sensor Fuzed Weapon, and the stand-off AGM-130B) passed critical test milestones — in service these will put sharper teeth into our smaller, leaner force.

In the past year we continued our progress on developing new systems to maintain U.S. aerospace leadership. The B-2 long-range bomber successfully completed all the major test milestones in the first phase of flight testing and began preparations for low observable testing. Two prototypes for the Advanced Tactical Fighter — the YF-22 and YF-23 — conducted first flights to pave the way toward the fielding of our future air superiority aircraft. The C-17 airlifter, the eventual backbone of the airlift fleet, is in full scale development. The first aircraft completed final assembly at the close of 1990.

The steps taken in this past year illustrate how the Air Force plans to capitalize on key air force characteristics — range, speed, flexibility, precision, and lethality. We have protected quality forces, readiness, and modernization by reducing force structure, streamlining organizations, decreasing overhead costs, and balancing sustainability. In light of the changing global security environment, the Air Force focus is on evolving U.S. national security needs — not simply on fiscal constraints. Spanning oceans and continents, the Air Force can work with other elements of our armed forces to concentrate forces quickly, provide a deterring presence, or spread American good will. Drawing upon the inherent characteristics of aerospace power, the Air Force possesses the flexibility and capabilities needed to provide global reach and global power.

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 during the past year. The Fiscal Year (FY) 1990 Annual Report of the Board will provide a comprehensive review of all aspects of Reserve component programs.

The Board, acting through the Assistant Secretary of Defense for Reserve Affairs, is by statute the "principal policy adviser to the Secretary of Defense on matters relating to the Reserve components" (10 U.S.C. 175(c)). Representatives of each of the seven Reserve components (Army and 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.

Recent events have once again highlighted the essential need for a strong, responsive, ready Total Force. The Total Force Policy served our nation as intended. The active force was augmented by Reservists in support of operational requirements in Operations DESERT SHIELD, JUST CAUSE, and PROMOTE LIBERTY. This was in addition to the ongoing operational missions performed by the Reserve components such as counter-narcotics activities.

Enormous contributions were made by Reserve component volunteers in support of Operations DESERT SHIELD, JUST CAUSE, and PROMOTE LIBERTY. They did not wait to be called up and contributed greatly to the success of these operations. They also provided a means to quickly augment the force in critical areas.

With respect to Operation DESERT SHIELD, the Board strongly supported the decision to exercise the Presidential call-up authority under 10 U.S.C. 673b to activate necessary Reserve component units and personnel to augment our forces in the Middle East. The Board also commended the Secretary of Defense and the Chairman of the Joint Chiefs of Staff for the consideration that they gave to the use of the Reserve components. The Board has long supported the appropriate use of the Presidential call-up authority contained in 10 U.S.C. 673b. The Board's position on this issue was reaffirmed:

"The Total Force Policy of the United States is fundamental to national security. This policy places a heavy reliance on the Reserve components which must plan and train in peacetime for rapid mobilization to support national strategies. The unprecedented progress of the Reserve components in this decade toward achieving readiness goals and improved capabilities is demonstrated routinely in operational missions. The Total Force Policy is effective and successful. The Board believes that the public, employers, Congress, and members of the Reserve components should understand that while the use of volunteers from the Selected Reserve is consistent with the Total Force Policy, the use of the Presidential call-up authority of 10 U.S.C. 673b may be appropriate and required under certain circumstances."

In addition to focusing on the issues of recruiting, training, equipping, and adequately resourcing the Reserve components, the Board concerned itself with the Total Force Policy Study and issues relating to the development of an appropriate force (Active/Guard/Reserve) mix, e.g., the numbers and types of units in the Reserve components and their relationship to Active component units.

Budget cuts have severely impacted both Active components and the Reserve components. The Board believes that budget cuts involving the Reserve components should be based on the threat and not on an "equal share" approach, which would be neither cost-effective nor prudent and could lead to a "hollow," non-ready force.

The following are some additional highlights of Board observations and recommendations during FY 1990:

The Board adopted a resolution that the pay and entitlements for Reserve component members who have been called to active duty under the provisions of 10 U.S.C. 673b should be equal to their Active component counterparts, beginning with the first day of call-up.

The Board has consistently held that when Active component units, having Reserve component combat roundout units, are deployed and there is a call-up under 10 U.S.C. 673b, Reserve component combat units

should be included in the call-up. If the decision is made not to utilize certain roundout units, the reasons should be explained in order to minimize adverse impacts. The Board also noted that there are augmentation units in other services, which are similar to the Army's "roundout" units, which should also be considered for call-up if their parent units are deployed.

Further, the Board recommended that Reserve component units, which are planned to be called to active duty under 10 U.S.C. 673b, be alerted as far in advance as possible to permit necessary preparations and to conserve the maximum call-up time for operational missions.

The Board reaffirmed its recommendation that increased attention be given to airlift and sealift requirements, particularly as they impact the Reserve components. The Board recommended that the Department of Defense plan to examine lessons learned as a result of Operation DESERT SHIELD, regarding overall strategic lift requirements and our ability to meet them.

The Board noted the need for greater awareness of environmental concerns and their impact on the Reserve components, and commended the efforts of the Department of Defense to improve our stewardship of the environment. However, there is concern about the potential personal liability (civil and criminal) of Reserve component commanders and the present enforcement procedure which may include levies of fines for environmental infractions without any advance warning.

It was my privilege as Chairman of the Reserve Forces Policy Board, as a member of the Total Force Policy Study Group, and as a private citizen concerned with the national defense policies of this nation to provide testimony to the Congress this past year. I reiterated the Board's concerns with regard to "equal share" budget reductions and other matters relating to Reserve component readiness.

In response to a request from the Senate and House Veterans' Affairs Committees, a written statement was provided with the Board's concerns that Reserve component members, and their families, are adequately protected and equitably treated when ordered to active duty in support of Operation DESERT SHIELD.

It is clear that the United States is moving toward a smaller military establishment. Reductions in the active force will require 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.

The Board's FY 1990 Annual Report is scheduled for publication in March 1991 and will provide more detailed information regarding Reserve component programs.

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	FY 1992	FY 1993
Current Dollars								
Military Personnel	67,794	74,010	76,584	78,477	78,876	79,021	78,017	77,513
Retired Pay	*	*	*	*	*	*	*	*
Operations & Maintenance	74,888	79,607	81,629	86,221	88,309	86,019	86,452	84,666
Procurement	92,506	80,234	80,053	79,390	81,376	64,099	63,404	66,721
Research, Development, Test and Evaluations (RDT&E)	33,609	35,644	36,521	37,530	36,459	34,550	39,918	41,034
Military Construction	5,281	5,093	5,349	5,738	5,130	4,995	4,537	3,714
Family Housing	22,803	3,075	3,199	3,276	3,143	3,296	3,611	3,554
Special Foreign Currency Program	2	4						
Defense-wide Contingency							−336	−903
Revolving & Management Funds	5,235	2,612	1,246	897	566	1,673	3,400	2,337
Trust & Receipts	−707	−781	−801	−668	−832	−674	−693	−712
Deduct, Intragovt Receipt	−22	−28	−26	−25	−27	−28	−28	−29
Total, Current $	281,390	279,469	283,755	290,837	292,999	272,953	278,282	277,894
Constant FY 1992 Dollars								
Military Personnel	81,265	86,643	86,275	85,601	84,800	82,298	78,017	74,214
Retired Pay	*	*	*	*	*	*	*	*
Operations & Maintenance	94,422	97,123	96,487	97,251	96,096	86,656	86,452	81,404
Procurement	116,201	97,215	93,250	88,874	87,581	66,440	63,404	64,449
RDT&E	42,242	43,433	42,916	42,312	39,467	35,863	39,918	39,578
Military Construction	6,685	6,216	6,265	6,446	5,530	5,181	4,537	3,583
Family Housing	3,489	3,725	3,755	3,693	3,409	3,406	3,611	3,428
Special Foreign Currency Program	2	4						
Defense-wide Contingency							−336	−871
Revolving & Management Funds	6,522	3,168	1,468	1,014	615	1,742	3,400	2,253
Trust & Receipts	−881	−948	−943	−755	−904	−701	−693	−686
Deduct, Intragovt Receipt	−27	−34	−31	−29	−29	−29	−28	−28
Total, Constant $	349,921	336,545	329,442	324,407	316,564	280,857	278,282	267,323
% Real Growth								
Military Personnel	−3.5	6.6	−0.4	−0.8	−0.9	−2.9	−5.2	−4.9
Retired Pay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operations & Maintenance	−4.7	2.9	−0.7	0.8	−1.2	−9.8	−0.2	−5.8
Procurement	−7.5	−16.3	−4.1	−4.7	−1.5	−24.1	−4.6	1.6
RDT&E	4.5	2.8	−1.2	−1.4	−6.7	−9.1	11.3	−0.9
Military Construction	−7.0	−7.0	0.8	2.9	−14.2	−6.3	−12.4	−21.0
Family Housing	−5.2	6.8	0.8	−1.7	−7.7	−0.1	6.0	−5.1
Total	**−4.4**	**−3.8**	**−2.1**	**−1.5**	**−2.4**	**−11.3**	**−0.9**	**−3.9**

[a] Numbers may not add to totals due to rounding.
[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.
* Retired pay accrual included in Military Personnel appropriation.

Department of Defense — Budget Authority by Component [a]
(Dollars in Millions)

Table A-2

	FY 1986[b]	FY 1987	FY 1988	FY1989	FY 1990	FY 1991	FY 1992	FY 1993
Current Dollars								
Army	73,128*	73,984*	75,813*	78,079*	78,479*	72,372*	71,084*	67,718*
Navy	96,113*	93,500*	100,281*	97,675*	99,977*	92,158*	91,631*	92,483*
Air Force	94,870*	91,624*	88,324*	94,685*	92,890*	82,687*	86,464*	91,365*
Defense Agencies/OSD/JCS	15,520	19,195	17,021	18,154	18,663	20,662	21,953	20,717
Defense-wide	1,759	1,168	2,315	2,245	2,989	5,074	7,151	5,612
Total, Current $	**281,390**	**279,469**	**283,755**	**290,837**	**292,999**	**272,953**	**278,282**	**277,894**
Constant FY 1992 Dollars								
Army	90,920*	89,152*	87,742*	86,792*	84,636*	75,062*	71,084*	65,017*
Navy	119,627*	112,515*	116,348*	108,899*	107,945*	94,719*	91,631*	88,968*
Air Force	117,367*	109,892*	102,543*	105,716*	100,573*	84,353*	86,464*	87,961*
Defense Agencies/OSD/JCS	19,798	23,570	20,099	20,478	20,181	21,458	21,953	19,963
Defense-wide	2,208	1,416	2,709	2,522	3,230	5,264	7,151	5,415
Total, Constant $	**349,921**	**336,545**	**329,442**	**324,407**	**316,564**	**280,857**	**278,282**	**267,323**
% Real Growth								
Army	–4.3	–1.9	–1.6	–1.1	–2.5	–11.3	–5.3	–8.5
Navy	–5.5	–5.9	3.4	–6.4	–0.9	–12.3	–3.3	–2.9
Air Force	–6.9	–6.4	–6.7	3.1	–4.9	–16.1	2.5	1.7
Defense Agencies/OSD/JCS	14.9	19.1	–14.7	1.9	–1.5	6.3	2.3	–9.1
Defense-wide	76.5	–35.9	91.3	–6.9	28.1	63.0	35.8	–24.3
Total	**–4.4**	**–3.8**	**–2.1**	**–1.5**	**–2.4**	**–11.3**	**–0.9**	**–3.9**

[a] Numbers may not add to totals due to rounding.
[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.
* Includes Retired Pay accrual.

Federal Budget Trends (Dollars In Millions)

Table A-3

Fiscal Year	Federal Outlays as a % of GNP	DoD Outlays as a % of Federal Outlays	DoD Outlays as a % of GNP	Non-DoD Outlays as a % of Federal Outlays	Non-DoD Outlays as a % of GNP	DoD Outlays as a % of Net Public Spending*
1950	16.0	27.5	4.4	72.5	11.6	17.9
1955	17.6	51.5	9.1	48.5	8.6	34.5
1960	18.2	45.0	8.2	55.0	10.0	28.8
1965	17.5	38.8	6.8	61.2	10.7	23.8
1970	19.8	39.4	7.8	60.6	12.0	23.6
1971	19.9	35.4	7.1	64.6	12.8	20.6
1972	20.0	32.6	6.5	67.4	13.5	18.8
1973	19.1	29.8	5.7	70.2	13.4	17.1
1974	19.0	28.8	5.5	71.2	13.5	16.6
1975	21.8	25.5	5.6	74.5	16.2	15.1
1976	21.9	23.6	5.2	76.4	16.7	14.0
1977	21.1	23.4	4.9	76.6	16.2	14.0
1978	21.1	22.5	4.7	77.5	16.4	13.6
1979	20.5	22.8	4.7	77.2	15.8	13.8
1980	22.2	22.5	5.0	77.5	17.2	13.8
1981	22.7	23.0	5.2	77.0	17.5	14.4
1982	23.7	24.5	5.8	75.5	17.9	15.5
1983	24.3	25.4	6.2	74.6	18.2	16.1
1984	23.1	25.9	6.0	74.1	17.1	16.3
1985	24.0	25.9	6.2	74.1	17.8	16.4
1986	23.6	26.8	6.3	73.2	17.3	16.6
1987	22.6	27.3	6.2	72.7	16.4	16.5
1988	22.3	26.5	5.9	73.5	16.3	16.0
1989	22.2	25.6	5.7	74.4	16.5	15.5
1990	23.1	23.2	5.4	76.8	17.7	14.1
1991	25.1	20.4	4.9	79.6	20.2	12.0
1992	24.2	19.6	4.7	80.4	19.5	11.7
1993	22.6	19.2	4.3	80.8	18.3	11.4

* Federal, 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.

Defense Shares of Economic Aggregates

Table A-4

Fiscal Year	DoD as a Percentage of Public Employment		DoD as a Percentage of National Labor Force		National Income Accounts Percentage of Total Purchases		
	Federal	Federal State & Local	Direct Hire (DoD)	Including Industry	National Defense*	Total Federal	State & Local
1965	71.3	29.3	5.0	7.8	7.3	9.8	9.8
1966	73.0	30.6	5.6	9.0	7.5	10.0	10.0
1967	74.1	31.5	6.0	10.0	8.7	11.0	10.4
1968	74.0	31.3	6.1	10.0	9.0	11.4	10.8
1969	73.2	30.1	5.9	9.4	8.5	10.8	11.0
1970	72.3	27.7	5.3	8.1	7.9	10.1	11.4
1971	68.3	24.3	4.6	7.0	7.1	9.3	12.0
1972	66.0	21.5	4.0	6.2	6.6	9.0	12.0
1973	65.0	20.4	3.7	5.8	6.0	8.2	11.8
1974	63.8	19.4	3.5	5.5	5.6	7.7	12.0
1975	62.9	18.6	3.4	5.3	5.7	8.1	12.8
1976	62.5	18.1	3.3	5.0	5.4	7.8	12.7
1977	62.5	17.5	3.2	5.0	5.1	7.6	11.9
1978	61.9	17.0	3.1	4.8	4.9	7.3	11.8
1979	61.1	16.5	2.9	4.7	4.8	7.1	11.5
1980	61.3	16.5	2.8	4.7	5.1	7.5	11.8
1981	62.4	17.1	2.8	4.7	5.4	7.8	11.4
1982	63.2	17.4	2.8	4.9	6.0	8.4	11.5
1983	63.5	17.6	2.9	5.1	6.3	8.7	11.6
1984	63.5	17.6	2.8	5.3	6.2	8.1	11.2
1985	63.3	17.5	2.9	5.5	6.4	8.7	11.5
1986	63.2	17.2	2.8	5.6	6.5	8.8	11.8
1987	62.9	17.1	2.8	5.6	6.4	8.5	12.1
1988	61.8	16.5	2.7	5.4	6.1	7.8	12.0
1989	61.9	16.2	2.7	5.3	5.9	7.8	12.1
1990	60.5	15.5	2.5	4.9	5.7	7.7	12.2

* Includes 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.

PERSONNEL TABLES

Military and Civilian Personnel Strength [a,b] (End Fiscal Year — In Thousands)

Table B-1

	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
Active Component Military												
Army	780.0	780.0	780.0	781.0	781.0	781.0	772.0	770.0	750.6	702.1	660.2	618.2
Navy	553.0	558.0	656.0	571.0	581.0	587.0	593.0	593.0	582.9	569.7	551.4	536.0
Marine Corps	192.0	194.0	196.0	198.0	199.0	200.0	197.0	197.0	196.7	193.7	188.0	182.2
Air Force	583.0	592.0	597.0	602.0	608.0	607.0	576.0	571.0	539.3	508.6	486.8	458.1
Total	**2109.0**	**2123.0**	**2138.0**	**2151.0**	**2169.0**	**2174.0**	**2138.0**	**2130.0**	**2069.5**	**1974.1**	**1886.4**	**1794.5**
Reserve Component Military (Selected Reserve)												
ARNG	407.6	417.2	434.3	440.0	446.2	451.9	455.2	457.0	437.0	457.3	410.9	366.3
Army Reserve	256.7	266.2	275.1	292.1	309.7	313.6	312.8	319.2	299.1	318.7	282.7	254.5
Naval Reserve	104.8	109.1	120.6	129.8	141.5	148.1	149.5	151.5	149.4	153.4	134.6	127.1
MC Reserve	40.5	42.7	40.6	41.6	41.6	42.3	43.6	43.6	44.5	43.9	40.9	38.9
ANG	100.7	102.2	105.0	109.4	112.6	114.6	115.2	116.1	117.0	117.0	118.1	119.4
Air Force Reserve	64.4	67.2	70.3	75.2	78.5	80.4	82.1	83.2	80.6	85.6	81.2	82.4
Total	974.6	**1004.5**	**1045.8**	**1088.1**	**1130.1**	**1150.9**	**1158.4**	**1170.6**	**1127.6**[c]	**1175.9**	**1068.4**	**988.6**
Direct Hire Civilian												
Army	321.0	332.0	344.0	359.0	354.0	358.0	337.0	347.0	327.0	313.0	288.0	276.0
Navy	308.0	328.0	332.0	342.0	332.0	343.0	338.0	343.0	331.0	320.0	301.0	294.0
Air Force	235.0	238.0	240.0	250.0	250.0	252.0	241.0	249.0	238.0	228.0	213.0	211.0
Defense Agencies	80.0	81.0	85.0	91.0	92.0	96.0	95.0	98.0	101.0	118.0	136.0	133.0
Total	**945.0**	**980.0**	**1000.0**	**1043.0**	**1027.0**	**1049.0**	**1010.0**	**1037.0**	**997.0**	**979.0**	**938.0**	**913.0**

[a] As of December 14, 1990
[b] Numbers may not add to totals due to rounding.
[c] Does 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.

U.S. Military Personnel in Foreign Areas [a] *(End Fiscal Year — In Thousands)*

Table B-2

	FY 76	FY 79	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90[b]
Germany	213	239	244	248	256	254	254	247	250	251	249	249	240
Other Europe	61	61	65	64	67	70	73	75	75	73	74	71	67
Europe, Afloat	41	25	22	25	33	18	25	36	33	31	33	21	16
South Korea	39	39	39	38	39	39	41	42	43	45	46	44	41
Japan	45	46	46	46	51	49	46	47	48	50	50	50	47
Other Pacific	18	15	15	16	15	15	16	16	17	18	17	16	14
Pacific Afloat (Including Southeast Asia)	27	22	16	25	33	34	18	20	20	17	28	25	24
Latin America/ Caribbean	11	12	11	12	11	14	13	12	13	13	15	21	24
Miscellaneous	12	9	31	27	23	27	25	20	26	27	29	13	8
Total	469	468	489	502	528	520	511	515	525	524	541	510	481

[a] Numbers may not add to totals due to rounding.
[b] As of June 30, 1990

FORCE STRUCTURE TABLES

Department of Defense Strategic Forces Highlights

Table C-1

	FY 80	FY 84	FY 86	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
Strategic Offense									
Land-Based ICBMs [a]									
Titan	52	32	7	0	0	0	0	0	0
Minuteman	1000	1000	998	954	950	950	950	875	800
Peacekeeper	0	0	2	46	50	50	50	50	50
Strategic Bombers (PAA) [b]									
B-52D	75	0	0	0	0	0	0	0	0
B-52G/H [c]	241	241	241	234	173	154	125	125	84
B-1B	0	0	18	90	90	90	90	84	84
Fleet Ballistic Missile Launchers (SLBMs) [a]									
Polaris (A-3)	80	0	0	0	0	0	0	0	0
Poseidon (C-3 and C-4)	336	384	320	336	384	368	352	176	160
Trident (C-4 and D-5)	0	72	144	192	192	216	264	288	288
Strategic Defense Interceptors (PAA/Squadrons) [b]									
Active Aircraft	127	90	76	36	36	18	0	0	0
Squadrons	7	5	4	2	2	1	0	0	0
Air National Guard	166	162	198	216	216	216	216	216	216
Squadrons	10	10	11	12	12	12	12	12	12

[a] Number on-line — Operational/not in maintenance or overhaul status.
[b] Primary aircraft authorized — Total inventory (including aircraft in depot maintenance) will be approximately 10% higher.
[c] Does not include conventional B-52 force.

Department of Defense General Purpose Forces Highlights

Table C-2

	FY 84	FY 86	FY 88	FY 90	FY 91	FY 92	FY 93
Land Forces							
Army Divisions							
Active	16	18	18	18	16	14	14
Reserve	8	10	10	10	10	10	8
Marine Corps Divisions							
Active	3	3	3	3	3	3	3
Reserve	1	1	1	1	1	1	1
Army Separate Brigades [a]							
Active	8	7	8	8	8	8	7
Reserve	23	20	20	19	18	18	16
Army Special Forces Groups							
Active	4	4	4	5	5	5	5
Reserve	4	4	4	4	4	4	4
Army Ranger Regiment	0	1	1	1	1	1	1
Tactical Air Forces (PAA/Squadrons) [b]							
Air Force Attack and Fighter Aircraft							
Active	1,734/77	1,764/78	1,868/79	1,719/76	1,644/76	1,506/67	1,254/57
Reserve	852/43	876/43	909/43	873/42	861/42	837/41	762/37
Conventional Bombers							
B-52G	0	0	0	33	33	33	33
Navy Attack and Fighter Aircraft							
Active	616/63	758/65	758/67	694/63	644/59	678/61	676/63
Reserve	75/9	107/10	121/10	109/12	116/12	116/12	116/12
Marine Corps Attack and Fighter Aircraft							
Active	256/24	333/25	346/25	344/26	376/25	366/25	358/23
Reserve	90/8	94/8	96/8	102/8	101/8	101/8	101/8
Naval Forces							
Strategic Forces							
Ships	41	45	43	39	40	34	29
Battle Forces							
Ships	425	437	437	409	385	367	364
Support Forces							
Ships	46	55	60	66	66	57	52
Reserve Forces							
Ships	12	18	25	31	37	19	19
Total Deployable Battle Forces	524	555	565	545	528	477	464
Other Reserve Forces Ships	24	21	21	16	14	19	16
Other Auxiliaries	9	7	5	3	3	2	2
Total Other Forces	33	28	26	19	17	21	18

[a] Does not include roundout brigades; does include the eskimo scout group and the armored cavalry regiments.
[b] PAA — Primary aircraft authorized.

Department of Defense Airlift and Sealift Forces Highlights

Table C-3

	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
Intertheater Airlift (PAA)[a]						
C-5	98	110	109[e]	109[e]	109	109
C-141	234	234	234	234	234	230
KC-10	57	57	57	57	57	57
C-17	0	0	0	0	2	7
Intratheater Airlift (PAA)[a]						
C-130	521	492	460[e]	462[e]	429	420
Sealift Ships, Active[b]						
Tankers	20	29	28	31[e]	31	31
Cargo	41	40	40	41[e]	41	41
Sealift Ships, Reserve						
RRF[c]	91	93	96[e]	103[e]	118	133
NDRF[d]	129	128	121[e]	121[e]	122	122

[a] PAA — Primary aircraft authorized.
[b] Active — Includes Fast Sealift Ships, Afloat Prepositioned Ships, and Common User (Charter) Ships.
[c] RRF — Ready Reserve Force (assigned to 5-, 10-, or 20-day reactivation readiness groups).
[d] NDRF — National Defense Reserve Fleet (beginning in FY 1988, specific NDRF ships were designated militarily useful ships).
[e] Differences from previous year's defense report are due to operational changes (damaged aircraft and actual long-term ship charters) and congressional direction/funding (retention of C-130s in the Reserve Components and underfunding of the Ready Reserve Force acquisitions).

GOLDWATER-NICHOLS ACT IMPLEMENTATION REPORT

This appendix contains the Department's Joint Officer Management Annual Report for FY 1990. Acronyms used in the report are as follows: JSO — joint specialty officer; JDA — joint duty assignment; COS — critical occupational specialty; and JPME — joint professional military education. (Note: this is the first year that 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 1990

Table D-1

Category	ARMY	NAVY	USAF	USMC	TOTAL
Total number of officers designated as JSOs*	0	0	0	0	0
Total number of officers designated as JSO nominees	240	333	529	118	1220
Number of JSO nominees selected under COS provision	193	205	364	67	829

* NOTE: No officers were designated as JSOs in FY 1990 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, 1990)

Table D-3

CATEGORY	ARMY	NAVY	USAF	USMC	TOTAL
Total COS officers who have completed JPME*	1517	1157	1426	490	4590
Total COS officers designated as JSOs	2573	1988	2259	880	7700
Total COS officers designated as JSO nominees	991	604	1412	191	3198
Total COS officers designated as JSO nominees with no JPME	935	433	1168	145	2681
Number of COS JSO nominees currently serving in a JDA	479	345	730	111	1665
Number of COS JSO nominees who completed a JDA and are currently attending JPME	1	2	4	0	7

* Officers who have completed a program of joint education which qualified/qualifies them for designation as JSO Nominees.

SUMMARY OF JSOs WITH CRITICAL OCCUPATIONAL SPECIALTIES WHO ARE SERVING OR HAVE SERVED IN A 2ND JOINT ASSIGNMENT

Table D-4

	Army		Navy		USAF		USMC		Total	
Field Grade										
Have served*	21	(6)	8	(4)	25	(5)	0	(0)	54	(15)
Are serving*	112	(25)	41	(11)	147	(49)	1	(1)	298	(86)
General/Flag										
Have served*	2	(1)	2	(0)	1	(1)	1	(1)	6	(3)
Are serving*	9	(5)	7	(2)	8	(3)	0	(0)	24	(10)

* Number in parenthesis indicates number of second joint assignments which were to a critical joint position.

ANALYSIS OF THE ASSIGNMENT CATEGORY TO WHICH OFFICERS WERE REASSIGNED (IN FY 1990) ON THEIR FIRST ASSIGNMENT FOLLOWING SELECTION FOR THE JOINT SPECIALTY

Table D-5

ASSIGNMENT CATEGORY	ARMY	NAVY	USAF	USMC	TOTAL
Command	247	138	136	56	577
Service HQ	165	84	22	41	312
Joint Staff critical	7	2	5	6	20
Joint Staff other	29	11	17	11	68
Other JDA critical	106	23	35	11	175
Other JDA	365	59	130	41	595
PME	133	80	79	34	326
Other Operations	0	90	102	103*	322
Other Staff	1185	11**	268	90*	1554
Other Shore	—	293	—	0	293

* For the Marine Corps: Other Operations = Fleet Marine Force; Other Staff = Non-Fleet Marine Corps
** For Navy: Other Staff includes other shore assignments.

AVERAGE LENGTH OF TOURS OF DUTY IN JOINT DUTY ASSIGNMENTS (FY 1990) (IN MONTHS)

Table D-6

	GENERAL/FLAG OFFICERS		
	JOINT STAFF	OTHER JOINT	JOINT TOTAL
ARMY	17	30	29
NAVY	30	29	29
USAF	22	28	26
USMC	24	22	22
DoD	23	28	28
	FIELD GRADE OFFICERS		
	JOINT STAFF	OTHER JOINT	TOTAL
ARMY	38	41	41
NAVY	37	40	40
USAF	39	42	42
USMC	39	38	38
DoD	38	41	41

SUMMARY OF TOUR LENGTH EXCLUSIONS FOR FY 1990

Table D-7

CATEGORY	ARMY	NAVY	USAF	USMC	TOTAL
Retirement	157	90	141	4	392
Separation	1	8	9	0	18
Suspension From Duty	4	4	7	1	16
Compassionate/Medical	5	2	5	0	12
Other Joint After Promotion	2	1	6	0	9
Reorganization	14	2	3	2	21
Joint Overseas-Short tours	240	55	194	5	494
Joint Accumulation	10	0	1	0	11
COS Reassignment	85	74	49	12	220
TOTAL	**518**	**236**	**415**	**24**	**1193**

JOINT DUTY POSITION DISTRIBUTION BY SERVICE (FY 1990)

Table D-8

	Joint Duty Positions*				
	JOINT STAFF	OTHER JOINT DUTY	TOTAL JOINT DUTY	PERCENT OF TOTAL DoD JOINT ASSIGNMENTS	PERCENT OF TOTAL DoD COMMISSIONED OFFICERS
ARMY	308	2934	3242	36	32
NAVY	239	1619	1858	21	25
USMC	60	431	491	6	7
USAF	309	3007	3316	37	36
Total DoD	**916**	**7991**	**8907**		

* From the FY 1990 Joint Duty Assignment List

CRITICAL POSITIONS SUMMARY

Table D-9

Category	Army	Navy	USAF	USMC	Total
Total Critical Positions	390	192	381	62	1025
Vacant	38	13	31	2	84
JSO Filled	296 (84%)	148 (82%)	286 (82%)	49 (82%)	779 (83%)
Non-JSO Filled	56	32	61	11	160
Percent Critical Positions Filled by JSOs (Since Jan 1, 1989)	86	86	82	86	85

Reasons above positions were not filled by Joint Specialty Officers:

Position filled by incumbent prior to being a joint position:	22
Position being converted to a noncritical position or being deleted:	3
Joint specialist officers not yet available:	28
Best qualified officers not joint specialists:	56
Position filled by incumbent prior to being a critical position:	37
Other:	14
TOTAL	**160**

THE FOLLOWING ORGANIZATIONS HAVE JOINT DUTY CRITICAL POSITIONS WHICH ARE FILLED BY OFFICERS WHO DO NOT POSSESS THE JOINT SPECIALTY:

Office of the Secretary of Defense (OSD):	4
Defense Nuclear Agency (DNA):	6
Defense Mapping Agency (DMA):	1
Defense Logistics Agency (DLA):	6
Defense Communications Agency (DCA):	7
Defense Intelligence Agency (DIA):	15
National Security Agency (NSA):	3
US Atlantic Command (USLANTCOM):	7
US Central Command (USCENTCOM):	6
US European Command (USEUCOM):	11
US Pacific Command (USPACOM):	17
US Southern Command (USSOUTHCOM):	9
US Special Operations Command (USSOCOM):	6
US Transportation Command (USTRANSCOM):	5
NATO Military Committee:	4
Allied Command Atlantic (ACLANT):	2
Joint Staff:	14
National Defense University (NDU):	5
Joint Strategic Target Planning Staff (JSTPS):	1
Supreme Headquarters Allied Powers Europe (SHAPE):	7
North American Aerospace Defense Command (NORAD):	5
US Space Command (USSPACOM):	4
Armed Forces Information Services (AFIS):	1
Joint Warfare Center:	1
Allied Command Europe:	12
US Military Entrance Processing Command:	1
TOTAL	**160**

COMPARISON OF WAIVER USAGE (FY 1990)

Table D-10

CATEGORY	Army	Navy	USAF	USMC	Total
JSO Designations	0	0	0	0	0
Sequence Waiver	0	0	0	0	0
Two-tour Waiver	0	0	0	0	0
Joint Assignment for JSOs upon completion of JPME	4	16	41	9	70
Waivers Granted	1	2	3	1	7
Number of Field Grade Officers who departed a JDA and no tour length waiver was required	1062	569	1022	139	2792
Number of Field Grade Officers who departed a JDA with a tour length waiver	52	32	29	7	120
General/Flag Officer Section					
Number of General/Flag Officers who departed a JDA and no tour length waiver was required	33	19	34	8	94
Number of General/Flag Officers who departed a JDA with a tour length waiver	7	8	4	2	21
Attended Capstone	44	32	32	10	118
Waiver Granted	1	14	9	0	24
Selected for Promotion to 0-7	42	42	48	10	142
Good of the Service Waivers	6	6	0	2	14
Other Waivers	9	18	33	1	61

*SUMMARY OF JPME PHASE II DIRECT ENTRIES FOR FY 1990**

Table D-11

Category	Army	Navy	USAF	USMC	Total
JPME Phase II Graduates	69	42	68	10	189
Direct Entries who had completed a non-resident PME Course	0	0	23	0	23
Direct Entries who have not completed any PME	0	7	2	3	12

* All officers who were allowed to attend Phase II as Direct Entries have the potential for future JSO designation pending completion of all the requisite requirements. Most of these officers did not complete JPME Phase I because of career progression, operational/ nonoperational reasons, or because they completed a PME program that did not contain a Professional Joint Education program.

PROMOTION OBJECTIVES Table D-12

The DoD Reorganization Act of 1986 requires the Department to report the promotion rates for field grade and general/flag officers (0-7 and 0-8) 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)

		ARE SERVING IN			HAVE SERVED IN			
GRADE	JOINT CATEGORIES	IN ZONE	BELOW ZONE	ABOVE ZONE	IN ZONE	BELOW ZONE	ABOVE ZONE	REMARKS
0-8	Joint Staff	33%	N/A	N/A	75%	N/A	N/A	
	Joint Specialty	31%	N/A	N/A	31%	N/A	N/A	
	Service HQS	50%	N/A	N/A	28%	N/A	N/A	
	Other Joint	–	N/A	N/A	–	N/A	N/A	
	Board Average	32%	N/A	N/A	32%	N/A	N/A	
0-7	Joint Staff	5%	N/A	N/A	0%	N/A	N/A	
	Joint Specialty	2%	N/A	N/A	2%	N/A	N/A	
	Service HQS	2%	N/A	N/A	7%	N/A	N/A	
	Other Joint	1%	N/A	N/A	0%	N/A	N/A	
	Board Average	2%	N/A	N/A	2%	N/A	N/A	
0-6	Joint Staff	55%	6%	29%	64%	4%	0%	See note #2
	Joint Specialty	64%	7%	17%	64%	7%	17%	
	Service HQS	60%	8%	5%	70%	6%	11%	
	Other Joint	48%	2%	6%	40%	3%	0%	
	Board Average	44%	3%	3%	44%	3%	3%	
0-5	Joint Staff	86%	15%	0%	100%	–	0%	See note #2
	Joint Specialty	78%	7%	17%	78%	7%	17%	
	Service HQS	90%	8%	5%	100%	9%	0%	
	Other Joint	77%	6%	10%	63%	3%	5%	
	Board Average	64%	3%	5%	64%	3%	5%	
0-4	Joint Staff	100%	17%	–	–	100%	–	
	Joint Specialty	–	–	–	–	–	–	
	Service HQS	98%	6%	0%	100%	30%	–	
	Other Joint	92%	4%	50%	83%	10%	0%	
	Board Average	84%	2%	9%	84%	2%	9%	

ARMY PROMOTION RATES (ARMY COMPETITIVE CATEGORY)

0-8	Joint Staff	33%	N/A	N/A	25%	N/A	N/A	See note #3
	Joint Specialty	47%	N/A	N/A	47%	N/A	N/A	
	Service HQS	80%	N/A	N/A	20%	N/A	N/A	
	Other Joint	–	N/A	N/A	30%	N/A	N/A	
	Board Average	38%	N/A	N/A	38%	N/A	N/A	
0-7	Joint Staff	0%	N/A	N/A	8%	N/A	N/A	
	Joint Specialty	2%	N/A	N/A	2%	N/A	N/A	See note #4
	Service HQS	5%	N/A	N/A	5%	N/A	N/A	
	Other Joint	3%	N/A	N/A	10%	N/A	N/A	
	Board Average	2%	N/A	N/A	2%	N/A	N/A	

GRADE	JOINT CATEGORIES	ARE SERVING IN IN ZONE	ARE SERVING IN BELOW ZONE	ARE SERVING IN ABOVE ZONE	HAVE SERVED IN IN ZONE	HAVE SERVED IN BELOW ZONE	HAVE SERVED IN ABOVE ZONE	REMARKS
0-6	Joint Staff	41%	4%	0%	45%	0%	5%	See note #5
	Joint Specialty	41%	2%	4%	41%	2%	4%	See note #5
	Service HQS	51%	0%	0%	52%	4%	5%	
	Other Joint	13%	1%	1%	9%	0%	0%	
	Board Average	37%	2%	3%	37%	2%	3%	
0-5	Joint Staff	90%	0%	0%	100%	0%	–	
	Joint Specialty	83%	9%	8%	83%	9%	8%	
	Service HQS	78%	5%	3%	82%	29%	0%	
	Other Joint	50%	4%	9%	22%	2%	0%	See note #6
	Board Average	61%	7%	3%	61%	7%	3%	
0-4	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	–	–	–	–	–	
	Service HQS	100%	–	–	100%	–	–	
	Other Joint	73%	13%	–	67%	29%	–	
	Board Average	65%	7%	4%	65%	7%	4%	
MARINE CORPS PROMOTION RATES (UNRESTRICTED)								
0-8	Joint Staff	–	N/A	–	100%	N/A	–	
	Joint Specialty	55%	N/A	33%	55%	N/A	33%	
	Service HQS	100%	N/A	–	60%	N/A	0%	
	Other Joint	67%	N/A	–	–	N/A	–	
	Board Average	60%	N/A	29%	60%	N/A	29%	
0-7	Joint Staff	0%	N/A	N/A	0%	N/A	N/A	
	Joint Specialty	4%	N/A	N/A	4%	N/A	N/A	
	Service HQS	2%	N/A	N/A	4%	N/A	N/A	
	Other Joint	0%	N/A	N/A	0%	N/A	N/A	
	Board Average	2%	N/A	N/A	2%	N/A	N/A	
0-6	Joint Staff	50%	0%	–	0%	0%	–	See note #2
	Joint Specialty	56%	3%	17%	56%	3%	17%	
	Service HQS	60%	0%	14%	50%	2%	22%	
	Other Joint	43%	0%	0%	0%	0%	0%	See note #4
	Board Average	44%	1%	7%	44%	1%	7%	
0-5	Joint Staff	67%	0%	0%	100%	0%	–	See note #3
	Joint Specialty	72%	4%	9%	72%	4%	9%	
	Service HQS	72%	9%	0%	61%	3%	12%	
	Other Joint	65%	0%	0%	71%	0%	0%	
	Board Average	60%	2%	3%	60%	2%	3%	
0-4	Joint Staff	100%	–	–	–	–	–	
	Joint Specialty	–	–	–	–	–	–	
	Service HQS	63%	18%	27%	69%	0%	13%	
	Other Joint	75%	0%	0%	60%	0%	–	
	Board Average	65%	3%	11%	65%	3%	11%	
NAVY PROMOTION RATES								
0-8	Joint Staff	–	N/A	N/A	20%	N/A	N/A	
Unrestricted Line	Joint Specialty	41%	N/A	N/A	41%	N/A	N/A	
	Service HQS	16%	N/A	N/A	53%	N/A	N/A	
	Other Joint	50%	N/A	N/A	0%	N/A	N/A	
	Board Average	37%	N/A	N/A	37%	N/A	N/A	

		ARE SERVING IN			HAVE SERVED IN			
GRADE	JOINT CATEGORIES	IN ZONE	BELOW ZONE	ABOVE ZONE	IN ZONE	BELOW ZONE	ABOVE ZONE	REMARKS
Intelligence	Joint Staff	–	N/A	N/A	–	N/A	N/A	
	Joint Specialty	100%	N/A	N/A	100%	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	100%	N/A	N/A	100%	N/A	N/A	
Supply	Joint Staff	–	N/A	N/A	–	N/A	N/A	
	Joint Specialty	67%	N/A	N/A	67%	N/A	N/A	
	Service HQS	–	N/A	N/A	100%	N/A	N/A	
	Other Joint	–	N/A	N/A	–	N/A	N/A	
	Board Average	50%	N/A	N/A	50%	N/A	N/A	
AEDO	Joint Staff	–	N/A	N/A	–	N/A	N/A	
	Joint Specialty	50%	N/A	N/A	50%	N/A	N/A	
	Service HQS	–	N/A	N/A	–	N/A	N/A	
	Other Joint	100%	N/A	N/A	0%	N/A	N/A	
	Board Average	50%	N/A	N/A	50%	N/A	N/A	
0-7 Unrestricted Line	Joint Staff	11%	N/A	N/A	0%	N/A	N/A	
	Joint Specialty	3%	N/A	N/A	3%	N/A	N/A	
	Service HQS	5%	N/A	N/A	4%	N/A	N/A	
	Other Joint	2%	N/A	N/A	0%	N/A	N/A	
	Board Average	2%	N/A	N/A	2%	N/A	N/A	
AEDO	Joint Staff	–	N/A	N/A	–	N/A	N/A	
	Joint Specialty	0%	N/A	N/A	0%	N/A	N/A	
	Service HQS	0%	N/A	N/A	0%	N/A	N/A	
	Other Joint	0%	N/A	N/A	0%	N/A	N/A	
	Board Average	2%	N/A	N/A	2%	N/A	N/A	
Engineering Duty	Joint Staff	–	N/A	N/A	–	N/A	N/A	
	Joint Specialty	13%	N/A	N/A	13%	N/A	N/A	
	Service HQS	0%	N/A	N/A	0%	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	
Intelligence	Joint Staff	–	N/A	N/A	–	N/A	N/A	
	Joint Specialty	2%	N/A	N/A	2%	N/A	N/A	
	Service HQS	0%	N/A	N/A	0%	N/A	N/A	
	Other Joint	0%	N/A	N/A	–	N/A	N/A	
	Board Average	1%	N/A	N/A	1%	N/A	N/A	
0-6 Unrestricted Line	Joint Staff	88%	0%	0%	0%	0%	0%	
	Joint Specialty	69%	2%	4%	69%	2%	4%	
	Service HQS	47%	0%	0%	47%	4%	0%	
	Other Joint	21%	0%	0%	0%	0%	0%	
	Board Average	47%	3%	2%	47%	3%	2%	
Civil Engineer	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	67%	0%	0%	67%	0%	–	
	Service HQS	–	0%	0%	–	0%	–	
	Other Joint	–	0%	0%	–	0%	0%	
	Board Average	52%	0%	–	52%	0%	0%	

		ARE SERVING IN			HAVE SERVED IN			
GRADE	JOINT CATEGORIES	IN ZONE	BELOW ZONE	ABOVE ZONE	IN ZONE	BELOW ZONE	ABOVE ZONE	REMARKS
Aeronautical Engineer	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	0%	0%	–	0%	0%	–	
	Service HQS	–	0%	–	–	0%	–	
	Other Joint	–	–	–	–	–	–	
	Board Average	45%	0%	10%	45%	0%	10%	
AMDO	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	0%	–	–	0%	–	
	Service HQS	100%	0%	–	–	0%	–	
	Other Joint	–	–	–	–	–	–	
	Board Average	50%	0%	0%	50%	0%	0%	
Cryptology	Joint Staff	0%	–	–	–	–	–	
	Joint Specialty	29%	10%	–	29%	10%	–	
	Service HQS	–	–	100%	–	–	–	
	Other Joint	–	–	0%	–	–	–	
	Board Average	33%	5%	10%	33%	5%	10%	
Engineering Duty	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	0%	0%	–	0%	0%	–	See note #1
	Service HQS	33%	0%	–	100%	–	–	
	Other Joint	–	–	–	–	–	–	
	Board Average	50%	0%	25%	50%	0%	25%	
Intelligence	Joint Staff	–	0%	–	–	–	–	
	Joint Specialty	22%	0%	0%	22%	0%	0%	
	Service HQS	–	0%	50%	100%	0%	–	
	Other Joint	–	0%	0%	–	0%	–	
	Board Average	36%	0%	8%	36%	0%	8%	
Oceanography	Joint Staff	–	–	–	–	–	0%	
	Joint Specialty	100%	0%	50%	100%	0%	50%	
	Service HQS	100%	0%	0%	33%	0%	–	
	Other Joint	–	–	–	–	–	–	
	Board Average	38%	0%	6%	38%	0%	6%	
Public Affairs	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	63%	0%	0%	63%	0%	0%	
	Service HQS	100%	0%	–	25%	0%	–	
	Other Joint	–	0%	–	–	0%	–	
	Board Average	50%	0%	0%	50%	0%	0%	
Supply	Joint Staff	0%	0%	–	0%	0%	–	
	Joint Specialty	42%	0%	33%	42%	0%	33%	
	Service HQS	0%	0%	–	100%	0%	–	
	Other Joint	100%	0%	0%	33%	0%	–	
	Board Average	46%	1%	2%	46%	1%	2%	
0-5 Unrestricted Line	Joint Staff	100%	0%	0%	67%	0%	0%	
	Joint Specialty	72%	4%	12%	72%	4%	12%	
	Service HQS	78%	0%	8%	77%	0%	50%	
	Other Joint	37%	0%	1%	20%	0%	0%	
	Board Average	62%	1%	4%	62%	1%	4%	

		ARE SERVING IN			HAVE SERVED IN			
GRADE	JOINT CATEGORIES	IN ZONE	BELOW ZONE	ABOVE ZONE	IN ZONE	BELOW ZONE	ABOVE ZONE	REMARKS
Civil Engineering	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	100%	0%	0%	100%	0%	0%	
	Service HQS	–	0%	0%	–	–	–	
	Other Joint	100%	0%	0%	–	–	–	
	Board Average	64%	0%		64%	0%	3%	
Aeronautical Engineering	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	0%	0%	–	0%	0%	
	Service HQS	–	–	–	–	–	–	
	Other Joint	–	–	0%	–	–	–	
	Board Average	72%	0%	3%	72%	0%	3	
Cryptology	Joint Staff	–	0%	–	–	–	–	
	Joint Specialty	50%	0%	0%	50%	0%	0%	
	Service HQS	0%	–	–	–	50%	0%	
	Other Joint	–	–	0%	–	0%	–	
	Board Average	63%	3%	0%	63%	3%	0%	
Engineering Duty	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	60%	0%	–	60%	0%	–	
	Service HQS	–	–	–	–	0%	–	
	Other Joint	33%	–	–	–	–	–	See note #2
	Board Average	70%	1%	7%	70%	1%	7%	
Intelligence	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	79%	0%	25%	79%	0%	25%	
	Service HQS	50%	0%	–	–	0%	–	
	Other Joint	100%	0%	0%	0%	0%	0%	
	Board Average	59%	0%	6%	59%	0%	6%	
Oceanography	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	100%	0%	0%	100%	0%	0%	
	Service HQS	–	–	–	–	0%	–	
	Other Joint	0%	–	–	–	0%	–	See note #1
	Board Average	63%	0%	6%	63%	0%	6%	
AMDO	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	–	–	–	–	–	
	Service HQS	100%	–	0%	–	50%	–	
	Other Joint	–	–	–	–	–	–	
	Board Average	10%	22%	4%	10%	22%	4%	
Public Affairs	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	75%	0%	0%	75%	0%	0%	
	Service HQS	75%	0%	0%	57%	0%	–	
	Other Joint	67%	0%	–	–	0%	0%	
	Board Average	65%	4%	0%	65%	4%	0%	
Supply	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	87%	7%	0%	87%	7%	0%	
	Service HQS	100%	0%	–	75%	25%	–	
	Other Joint	50%	0%	0%	40%	0%	0%	
	Board Average	65%	2%	2%	65%	2%	2%	

		ARE SERVING IN			HAVE SERVED IN			
GRADE	JOINT CATEGORIES	IN ZONE	BELOW ZONE	ABOVE ZONE	IN ZONE	BELOW ZONE	ABOVE ZONE	REMARKS
0-4	Joint Staff	–	0%	0%	–	0%	–	
Unrestricted Line	Joint Specialty	–	–	–	–	–	–	
	Service HOS	50%	0%	–	–	0%	–	
	Other Joint	100%	0%	0%	71%	0%	0%	
	Board Average	80%	2%	13%	80%	2%	13%	
Cryptology	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	–	0%	–	–	0%	
	Service HOS	–	–	–	–	–	–	
	Other Joint	–	–	–	–	–	0%	
	Board Average	73%	4%	0%	73%	4%	0%	
Engineering Duty	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	–	–	–	–	–	
	Service HOS	–	–	–	–	–	–	
	Other Joint	100%	0%	–	–	–	–	
	Board Average	87%	2%	20%	87%	2%	20%	
Intelligence	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	–	–	–	–	–	
	Service HOS	–	100%	–	–	–	–	
	Other Joint	100%	0%	–	–	0%	–	
	Board Average	78%	2%	50%	78%	2%	50%	
Public Affairs	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	–	–	–	–	–	
	Service HOS	100%	0%	–	–	–	–	
	Other Joint	–	–	–	–	–	–	
	Board Average	76%	0%	25%	76%	0%	25%	
Oceanography	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	–	–	–	–	–	
	Service HOS	–	–	–	–	–	–	
	Other Joint	–	–	–	0%	–	–	
	Board Average	72%	0%	20%	72%	0%	20%	
Supply	Joint Staff	–	–	–	–	–	–	
	Joint Specialty	–	–	–	–	–	–	
	Service HQS	–	–	–	–	–	–	
	Other Joint	100%	0%	0%	50%	–	–	
	Board Average	70%	2%	13%	70%	2%	13%	

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.
5: If the Senior Service College students who were selected for promotion were included with their post-JME organization, the promotion rate for "joint staff" would have exceeded the service HO's average by 10%.
6: The promotion rate for officers in "Other Joint" would have exceeded the Board Average if Joint Specialty Officers, in their initial joint assignments, were included.

IN DEFENSE OF DEFENSE

President George Bush's Speech to the Aspen Institute Symposium — August 2, 1990

I am delighted to celebrate with all of you the 40th anniversary of the illustrious Aspen Institute.

In those 40 years, the spirit of Aspen has come to signify the attempt to bridge the worlds of thought and action. And, of course, to understand the tremendous changes taking place around us. Think back to the headlines 40 years ago, the time of that first Aspen conference in 1950. North Korea roared across the 38th Parallel. Klaus Fuchs was caught and convicted for revealing the secrets of the atom bomb to the Soviets. The "Cold War," a term introduced into our political vocabulary by Bernard Baruch, had come into its own as the shorthand to describe the halfway house of an armed and uneasy peace — a world divided, East from West.

That was the world as Aspen came into being, the world Aspen sought to study and to shape. The 40 years since then have been a time of tremendous progress — for the nations of the West, an era of unparalleled prosperity, peace, and freedom. But at the same time, we lived in the constant condition of tension, Cold War, and conflict.

That world is now changing. The decades-old division of Europe is ending and the era of democracy-building has begun. In Germany, the divided nation in the heart of a divided continent, unity is now assured, as a free and full member of the NATO alliance. The Soviet Union itself is in the midst of a political and economic transformation that has brought unprecedented openness, a process that is at once full of hope and full of uncertainty.

We've entered a remarkable stage in our relationship with the U.S.S.R. Just today, I talked to (Secretary of State) Jim Baker in Irkutsk. He had very positive talks with (Soviet) Foreign Minister (Eduard) Shevardnadze. My discussions with President (Mikhail) Gorbachev have been open and honest. All the issues are on the table. We don't dodge the tough ones. That's been the secret to our success so far, and over time that's how we're going to narrow our differences and seize this historic opportunity to create lasting progress.

The changes I'm talking about have transformed our security environment. We are entering a new era. The defense strategy and military structure needed to ensure peace can and must be different. The threat of a Soviet invasion of Western Europe launched with little or no warning is today more remote than at any other point in the post-war period. With the emergence of democracy in Eastern Europe, the Warsaw Pact has lost its military meaning. And after more than four decades of dominance, Soviet troops are withdrawing from Central and Eastern Europe.

The Task Today

Our task today is to shape our defense capabilities to these changing strategic circumstances. In a world less driven by an immediate threat to Europe and the danger of global war — in a world where the size of our forces will increasingly be shaped by the needs of regional contingencies and peacetime presence — we know that our forces can be smaller. Secretary (of Defense Dick) Cheney and GEN (Colin) Powell are hard at work determining the precise composition of the forces we need. But I can tell you now, we calculate that by 1995 our security needs can be met by an active force 25 percent smaller than today's. America's armed forces will be at their lowest level since 1950.

What matters now is how we reshape the forces that remain. Our new strategy must provide the framework to guide our deliberate reductions to no more than the forces we need to guard our enduring interests — the forces to exercise interests — the forces to exercise forward presence in key areas, to respond effectively to crises, to retain the national capacity to rebuild our forces should this be needed.

The United States would be ill-served by forces that represent nothing more than a scaled-back or shrunken-down version of the ones we possess at present. If we

simply prorate our reductions, cut equally across the board, we could easily end up with more than we need for contingencies that are no longer likely and less than we must have to meet emerging challenges. What we need are not merely reductions, but restructuring.

What we require now is a defense policy that adapts to the significant changes we are witnessing without neglecting the enduring realities that will continue to shape our security strategy — a policy of peacetime engagement every bit as constant and committed to the defense of our interests and ideals in today's world as in the time of conflict and Cold War.

And in this world, America remains a pivotal factor for peaceful change. Important American interests in Europe and the Pacific, in the Mediterranean and the Persian Gulf — all are key reasons why maintaining a forward presence will remain an indispensable element of our strategy.

We all remember when the Soviet Union viewed our forward presence as a threat. Indeed, when we met at Malta, President Gorbachev handed me a map purporting to show American encirclement of the Soviet Union. We talked about this in depth. I think he understands now that we have no intention of threatening his country, and I happen to think that it's those kinds of conversations we've had at Camp David that help make such progress possible.

I was candid with President Gorbachev. I told him that, for all the positive changes we have seen, the Soviet Union remains a world-class military power. Even after the conventional arms reductions we are now negotiating, the Soviets will continue to maintain two to three million men under arms. And of course, our No. 1 concern: The Soviets continue to maintain and modernize their arsenal of strategic nuclear weapons.

What Prudence Demands

We and our allies welcome the new course the Soviet Union has chosen. But prudence demands that we maintain an effective deterrent, one that secures the peace not only in today's climate of reduced tensions, but that ensures that renewed confrontation is not a feasible option for any Soviet leadership.

The Soviets will enter a START (Strategic Arms Reduction Talks) treaty with a fully modernized, highly capable, and very large strategic force. To maintain clear and confident strategic deterrence into the next century, we need the B-2. Secretary Cheney has already scaled back the program. Seventy-five aircraft makes strategic sense. Further delays will only increase costs. We need to complete the Trident program. Those 18 submarines will ensure a survivable, submarine-based deterrent. We can defer final decisions on our land-based ICBMs as we see how the START talks proceed, but we must keep our options open. And that means completing the development of the Small ICBM and the rail-based Peacekeeper.

And finally, I am convinced that a defensive strategic deterrent makes more sense in the '90s than ever before. What better means of defense than a system that destroys only missiles launched against us without threatening a single life? We must push forward the great promise of SDI and deploy it when ready.

And the U.S. will keep a force in Europe as long as our allies want and need us there. As we and our allies adapt NATO to a changing world, the size and shape of our forces will also change to suit new and less threatening circumstances. But we will remain in Europe to deter any new dangers, to be a force for stability — and to reassure all of Europe, East and West, that the European balance will remain secure.

Outside of Europe, America must possess forces able to respond to threats in whatever corner of the globe they may occur. Even in a world where democracy and freedom have made great gains, threats remain. Terrorism. Hostage taking. Renegade regimes and unpredictable rulers. New sources of instability. All require a strong and engaged America.

The brutal aggression launched last night against Kuwait illustrates my central thesis: Notwithstanding the alteration in the Soviet threat, the world remains a dangerous place with serious threats to important U.S. interests wholly unrelated to the earlier patterns of the U.S-Soviet relationship.

Come-As-You-Are Conflicts

Such threats can arise suddenly, unpredictably, and from unexpected quarters. U.S. interests can be protected only with capability which is in existence and which is ready to act without delay. The events of the past day underscore also the vital need for a defense

structure which not only preserves our security but provides the resources for supporting the legitimate self-defense needs of our friends and allies. This will be an enduring commitment as we continue with our force restructuring. Let no one, friend or foe, question this commitment.

In spite of our best efforts to control the spread of chemical and nuclear weapons and ballistic missile technologies, more nations are acquiring weapons of mass destruction and the means to deliver them. Right now, 20 countries have the capacity to produce chemical weapons. And by the year 2000, as many as 15 developing nations could have their own ballistic missiles. In the future, even conflicts we once thought of as limited or local may carry far-reaching consequences.

To cope with the full range of challenges we may confront, we must focus on readiness and rapid response. And to prepare to meet the challenges we may face in the future, we must focus on research — an active and inventive program of defense R&D.

Let me begin with the component with great long-range consequences: research. Time and again, we have seen technology revolutionize the battlefield. The U.S. has always relied upon its technological edge to offset the need to match potential adversaries' strength in numbers. Cruise missiles, stealth fighters and bombers, today's "smart" weapons with state-of-the-art guidance systems and tomorrow's "brilliant" ones — the men and women in our armed forces deserve the best technology America has to offer.

And we must realize the heavy price we will pay if we look for false economies in defense R&D. Most modern weapons systems take a minimum of 10 years to move from the drawing board to the battlefield. The nature of national defense demands that we plan now for threats on the distant horizon. The decisions we make today — the programs we push forward or push aside — will dictate the kind of military forces we have at our disposal in the year 2000 and beyond.

Second, we must focus on rapid response. As we saw most recently in Panama, the U.S. may be called on to respond to a variety of challenges from various points on the compass. In an era when threats may emerge with little or no warning, our ability to defend our interests will depend on our speed and agility. We will need forces that give us global reach. No amount of political change will alter the geographic fact that we are separated from many of our most important allies and interests by thousands of miles of water.

In many of the conflicts we could face, we may not have the luxury of matching manpower with pre-positioned material. We will have to have air- and sea-lift capacities to get our forces where they are needed, when they are needed. A new emphasis on flexibility and versatility must guide our efforts.

Readiness Premium

Finally, as we restructure, we must put a premium on readiness. For those active forces we'll rely on to respond to crises, readiness must be our highest priority. True military capability never exists on paper. It is measured in the hours spent and experience gained on the training ground, under sail, and in the cockpit. Nothing is more short-sighted than cutting back on training time to cut costs, and nothing is more demoralizing for our troops. Our soldiers, sailors, airmen, and Marines must be well-trained, tried, and tested — ready to perform every mission we ask of them.

In our restructured forces, reserves will be important, but in new ways. The need to be prepared for a massive, short-term mobilization has diminished. We can now adjust the size, structure, and readiness of our Reserve forces, to help us deal with the more likely challenges we will face.

Our strategy will guard against a major reversal in Soviet intentions by incorporating into our planning the concept of reconstitution of our forces. By the mid-'90s, the time it would take the Soviets to return to the levels of confrontation that marked the depths of the Cold War will be sufficient to allow us to rely not solely on existing forces — but to generate wholly new forces. This readiness to rebuild, made explicit in our defense policy, will be an important element in our ability to deter aggression.

A rational restructuring of the kind I've outlined will take five years. I am confident we can meet the challenges I've outlined today provided we proceed with an orderly reduction, not a fire sale. Any reduction of this magnitude must be managed carefully to minimize dislocations not just to the military balance but to morale. And I can say right now, as commander in chief, that we will take every step possible to minimize the

turbulence these changes will create for our soldiers, sailors, airmen, and Marines. I will not break faith with the young men and women who have freely chosen to serve their country.

All of us know the challenges we face are fiscal, as well as military. The budget constraints we face are very real, but so, too, is the need to protect the gains that 40 years of peace through strength have earned us. The simple fact is this: When it comes to national security, America can never afford to fail or fall short.

Let me say once again how pleased I am to appear here today, especially with our honored friend, Mrs. (British Prime Minister Margaret) Thatcher. Today, of course, is not the only time American and British leaders have shared the stage. The world remembers that day 44 years ago in Fulton, Missouri, when (Winston) Churchill delivered what history calls the "Iron Curtain" speech. But that wasn't what he called it. He titled it "The Sinews of Peace." By that, he meant to summon up a vision of the strength of free nations, united in defense of democracy.

At long last, we are writing the final chapter of the 20th century's third great conflict. The Cold War is now drawing to a close. After four decades of division and discord, our challenge today is to fulfill the great dream of all democracies: a true commonwealth of free nations; to marshal the growing forces of the Free World to work together, to bring within reach for all men and nations the liberty that belongs by right to all.