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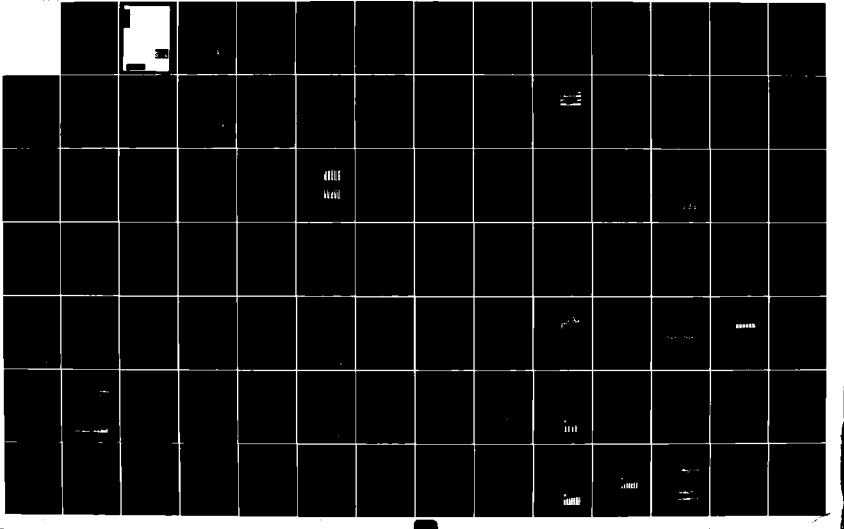

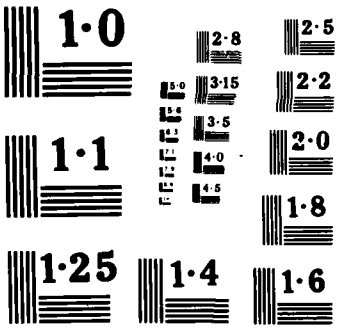
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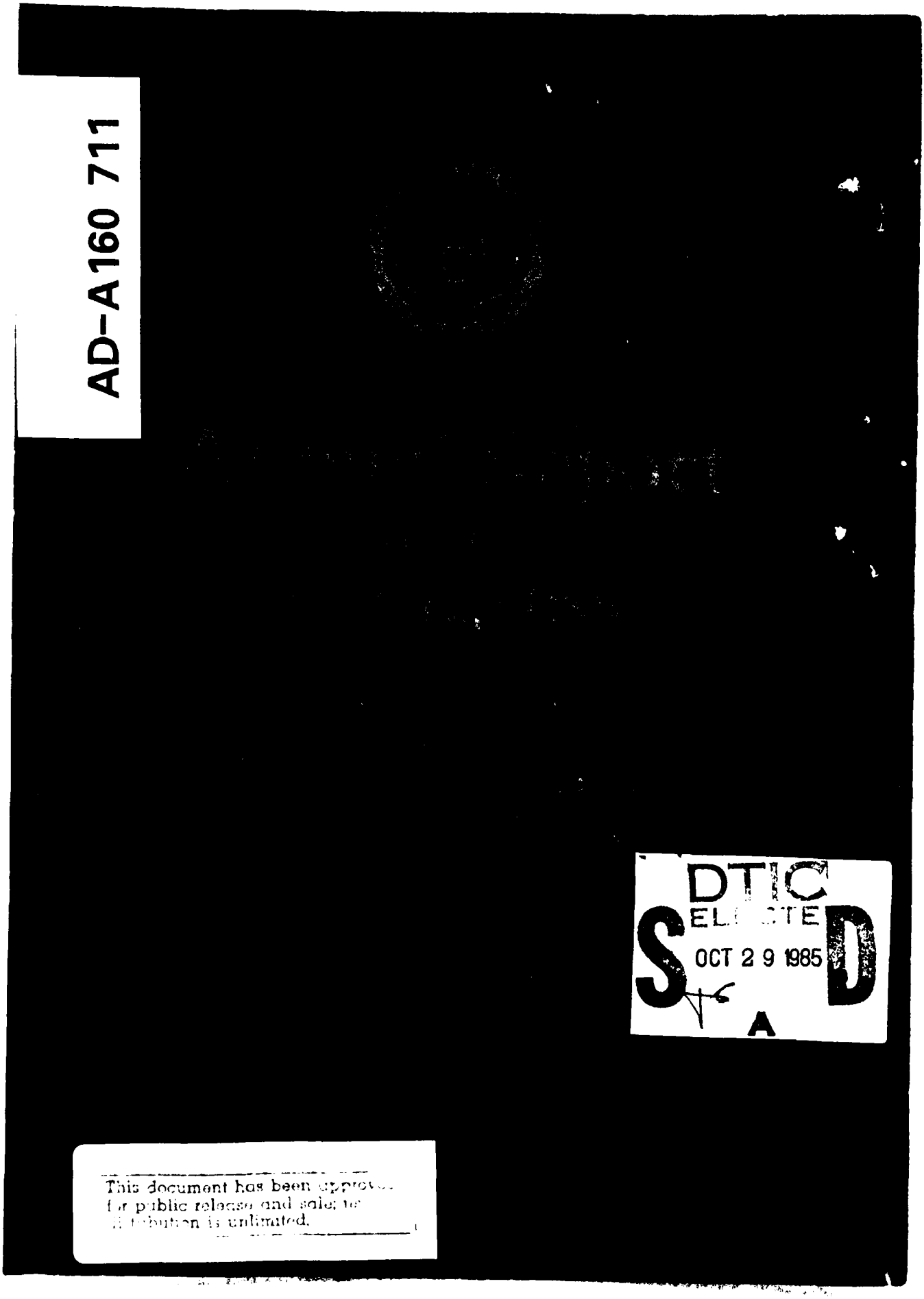

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Report of the Secretary of Defense Caspar W. Weinberger to the Congress

on the

FY 1986 Budget, FY 1987 Authorization Request
and
FY 1986-90 Defense Programs

February 4, 1985

This Report Reflects the FY 1985 Defense Budget
as of January 30, 1985

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TO THE CONGRESS OF THE UNITED STATES

We are now completing four years of steady progress toward fulfilling President Reagan's 1980 mandate to strengthen America's defenses. With the bipartisan support of the Congress and the American people, we have begun redressing the neglect of the 1970s and restoring our nation's strength, confidence, and position of leadership in the world. The FY 1986 Annual Report to the Congress highlights our progress and details the challenges that remain.

The defense programs and budget recommended herein are based on our analysis of the threats facing the United States, our allies, and our interests worldwide. The military capabilities we seek are intended to counter these threats, to provide a safer deterrent, and to ensure peace.

Defense spending is unique, being the only part of the total U.S. budget determined solely by factors external to our nation. The continued Soviet military buildup, as well as the growing menace of international terrorism, regional instabilities, and geopolitical uncertainties around the world, dictate that our nation maintain its commitment to rebuild its deterrent capability.

We know that a strong America requires a healthy economy and financial integrity. To that extent, consistent with our global responsibilities, we have scaled back budget requests significantly to help reduce the federal deficit. The fact that we have been able to make these cutbacks and still deliver our basic defense program is, in part, due to lower inflation rates achieved under the President's economic program, as well as significant savings achieved through aggressive management reforms.

For FY 1986, DoD is requesting $313.7 billion in budget authority and $277.5 billion in outlays, both of which are within the concurrent budget resolution established by the Congress in September 1984. The DoD budget request represents a real increase in budget authority over the current year of about 5.9 percent, an increase both prudent and essential to maintaining America's readiness.

The defense program presented here is balanced and responsible. It will allow further short-term improvements in readiness and sustainability, while continuing our long-range modernization program. It is the result of a rigorous review that seeks to achieve our national security objectives at the least cost to the taxpayer. Our program reflects major management improvements that are providing us more defense for each budget dollar.

The FY 1986 defense program seeks not only to maintain the pace of America's strengthening, but also to secure meaningful arms reductions. America's resolve to remain strong demonstrates to the Soviets that they have nothing to gain from their relentless buildup. If, however, we succumb to budgetary pressures and unilaterally slacken our efforts, not only will our allies lose confidence in our leadership, but our adversaries will lose their incentive to negotiate reductions.

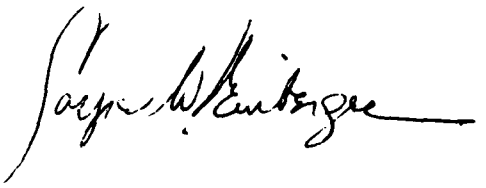
This year a crucial test of United States resolve is the Peacekeeper/MX missile. I urge the Congress to renew its support for the recommendations of the President's Commission on Strategic Forces, as it has done in the past, by voting to release funds for the deployment of Peacekeeper. The success of the Peacekeeper program continues to play a key role in convincing the Soviets to continue the arms reduction dialogue. We cannot jeopardize our arms discussions with naive talk of unilaterally cancelling our only real near-term means of redressing the imbalance in strategic forces.

To enhance security over the longer term, our defense program includes continued research toward an effective defense against ballistic missiles. The Strategic Defense Initiative (SDI) seeks to strengthen deterrence and to enhance our ability to negotiate reductions in offensive weapons. It does so by increasing our adversary's uncertainty that aggression can succeed, thereby devaluing offensive weapons and making it easier to envision genuine reductions.

By staying the course, America can have the security and reassurance of strong defenses. We will progress toward a time, only a few years from now, when we can maintain adequate security without substantial increases in defense spending. If we fail in our resolve now, we simply postpone and worsen the budget sacrifice, while prolonging our security inadequacies and undermining crucial negotiations on arms reductions.

In staying the course for a stronger defense during the next few years, we will fulfill our responsibility to those who follow us. Many of our investments in research and development, including SDI, will not pay dividends for a number of years. If we neglect to invest today in strong defenses for the future, we will be blamed by future leaders and, indeed, by our own children for denying them the peace with freedom that we inherited from our forefathers.

If our nation is to remain safe, prosperous, and free to pursue our other important priorities, we cannot slight our security. For a nation's security is its government's first responsibility. This Annual Report describes how we intend to continue fulfilling that responsibility.



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Part I
Peace with Freedom

A. INTRODUCTION: FOREIGN POLICY, NATIONAL INTERESTS, AND THE STRENGTHENING OF AMERICA

1. U.S. Foreign Policy and Military Strength

For more than four decades, free nations and peoples wishing to be free have looked to the United States for leadership and support. Time and again, often at great cost and sacrifice, America has assisted countries struggling to enhance their security, revive their economies, provide for the basic human needs of their citizens, and improve their quality of life. In response to the growing interdependence of nations and the binding nature of American interests -- historically, culturally, and economically -- with those of many other states, American foreign policy has become increasingly internationalist.

America's paramount national interests are peace, freedom, and prosperity for ourselves and for others around the world. We seek an international order that encourages self-determination, democratic institutions, economic development, and human rights. Since the promulgation of the Atlantic Charter and the establishment of the United Nations, the United States has firmly supported organizations that work for international cooperation. We remain committed to the principle that constructive dialogue among nations with differing political systems can promote understanding and peace. We also are committed to negotiating genuine arms reductions that would establish a more stable and secure military balance.

But dialogue and diplomacy alone are not sufficient to ensure peace in a world in which military force can shatter agreements and assumptions about the intentions of nations. In an increasingly complex world, the fulfillment of U.S. national interests and the successful conduct of diplomacy require military strength, particularly in the face of the numerically superior military forces of our adversaries. As President Reagan has said:

We know that strength alone is not enough, but without it there can be no effective diplomacy and negotiations; no secure democracy and peace. Conversely, weakness or hopeful passivity are only self-defeating. They invite the very aggression and instability that they would seek to avoid.

In essence, military capabilities protect our national interests and enable the other elements of our national power to function. Military strength is not an end in itself; rather, it supports America's peaceful aims and interests.

2. Achievements and Challenges

Since 1981, this Administration has made substantial progress toward ensuring that our military capabilities are strong enough to fulfill their critical purpose. Ongoing programs are building:

-- Better military units whose highly trained and better educated men and women are serving their nation with renewed pride and confidence;

-- More ready conventional forces, better able to sustain themselves in combat;
-- More modern strategic forces and command and control systems, able to provide a more stable and credible deterrent;

-- Modern, well-equipped ground and tactical air forces with the technological edge needed to offset the marked numerical superiority and increasing technological sophistication of the Soviet armed forces;

-- Maritime forces more capable of protecting our interests worldwide; and

-- Strategic mobility forces more capable of supporting our global requirements.

America at mid-decade is strong and proud, a posture befitting our leadership role in the world. The leadership of President Reagan and the bipartisan support of the Congress and the American people have produced military forces that are, by any reasonable measure, more capable and more ready than they were four years ago.

The task now is to sustain our progress. Although we have regained some of the ground lost during a decade of neglect, many important programs are still several years from completion. To maintain America's strength and leadership, we must continue to nurture the broad consensus that has supported our policies and programs to date, so that we will not falter before we reach our goals.

The challenge of strengthening America's military forces has benefitted from the close working relationship between the Joint Chiefs of Staff (JCS) and the Secretary of Defense, reinforcing one of the fundamental principles of American defense organization: informed policy-making by civilian authorities, with the considered advice of the senior military leadership. We are hopeful that recent legislated changes in the powers of the Chairman of the Joint Chiefs of Staff will contribute to the effective performance of JCS advisory responsibilities. Additional changes in the Chairman's role should now await a careful evaluation of the implementation and impact of the new provisions.

The broad rationale for our defense policies and programs is set forth in the chapters that follow. Our policies and programs are geared, as they have to be, to the threats menacing our national interests (Chapter B). They are guided by national security objectives and a defense strategy by which we pursue those objectives (Chapter C). To support our defense strategy, we need military capabilities, both conventional (Chapter D) and nuclear (Chapter E). Arms reductions and related diplomatic priorities (Chapter F) also can contribute significantly to our national security.

B. THREATS TO U.S. NATIONAL INTERESTS

In recent years, as the threats to American security have become more diverse, we have had to cope with situations and crises resulting from many factors other than direct Soviet aggression -- the rescue mission in Grenada being just one example. Still, growing Soviet military capabilities and expansionist policies continue to pose the most direct and formidable threat to our national interests. Until common understanding and arms reductions can reduce the Soviet military threat, we will continue to emphasize programs essential to deterring Soviet aggression.

1. The Soviet Threat

An ambitious and sustained Soviet program of military investment, coupled with restraints on our own defense spending during the 1970s, enabled the USSR to shift critical components of the overall global military balance in its favor. For example, by 1981 the Soviets had achieved an advantage in nearly every measure of strategic arms capability. While continuing to tilt the conventional and nuclear balance in Europe further in their favor, the Soviets were also increasing and modernizing their already considerable air and ground forces in Northeast Asia. The Soviets were also expanding the geographic reach of their forces, moving steadily closer to achieving a global power projection capability. The growth of insurgency and political instability within many Third World nations, the emergence of a worldwide Soviet military presence increasingly able to exploit this instability, and the dependence of the United States and its allies on Third World resources have all contributed to a more complex military balance.

a. The Nuclear Balance

Soviet efforts to achieve military superiority have been particularly pronounced in the area of strategic nuclear forces. The United States, in contrast, has made a conscious and consistent effort for many years to restrict strategic force deployments. During the 1970s, the Soviets undertook a massive expansion of their strategic forces that continues to this day. Through major qualitative and quantitative improvements in offensive as well as defensive systems, they have significantly altered the strategic balance. (See Chapter I-E for a discussion of the nature and implications of the Soviet nuclear buildup to the present day.)

As we look to the future, the Soviet nuclear weapons buildup continues, with a large number of new strategic offensive systems at or nearing the deployment stage. The Soviets are:

-- Continuing production of the Backfire and modified Bear H bombers (the latter of which carries the new AS-15 air-launched cruise missile), while completing development of yet a third type of bomber aircraft, the Blackjack, which we expect to be ready for deployment before the end of the decade;

-- Completing development of several new intercontinental ballistic missiles (ICBMs) -- including the SS-X-24 and SS-X-25 -- which we believe will be deployed both in silos and on mobile launchers over the next few years; and

-- Constructing two new classes of ballistic missile submarines (SSBNs) -- the Delta IV and Typhoon -- and associated submarine-launched ballistic missiles (SLBMs), along with a new sea-launched cruise missile (SLCM), the SS-N-21.

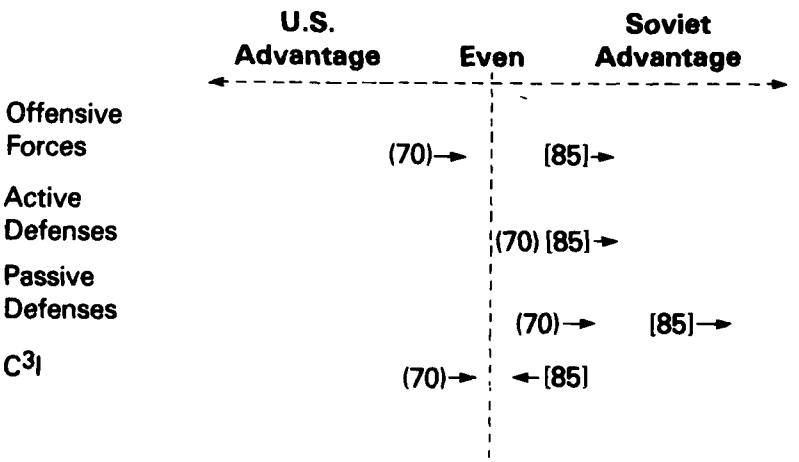
Further complicating the offensive strategic force balance are Soviet developments in the area of shorter range and intermediate-range nuclear forces (INF), which include:

-- Construction of nine additional SS-20 bases, coupled with the continued production of SS-20 missiles and launch equipment; and

-- Continued deployment of 203mm artillery and of SS-21, SS-23, and Scaleboard missiles, the latter in forward locations in Eastern Europe.

Because the overriding purpose of the United States' nuclear posture is to deter the use of Soviet weapons, the Soviet Union's own assessment of the nuclear balance is of great importance. Their assessment, not ours, will determine whether they are deterred. The Soviet Union appears to give relatively greater weight to such contributors to nuclear warfighting capabilities as active and passive defenses, and command, control, communications, and intelligence (C^3I) systems (see Chart I.B.1). When these factors are taken into account, the momentum of Soviet strategic programs over the last 15 years becomes even more pronounced.

Chart I.B.1
Comprehensive Measures of US-USSR Strategic Balance[a] (1970 to 1985)



[a] Relative balance for these aggregate measures estimated for years 1970 and 1985 (bracketed). Arrows indicate the direction the balance is shifting in that year.

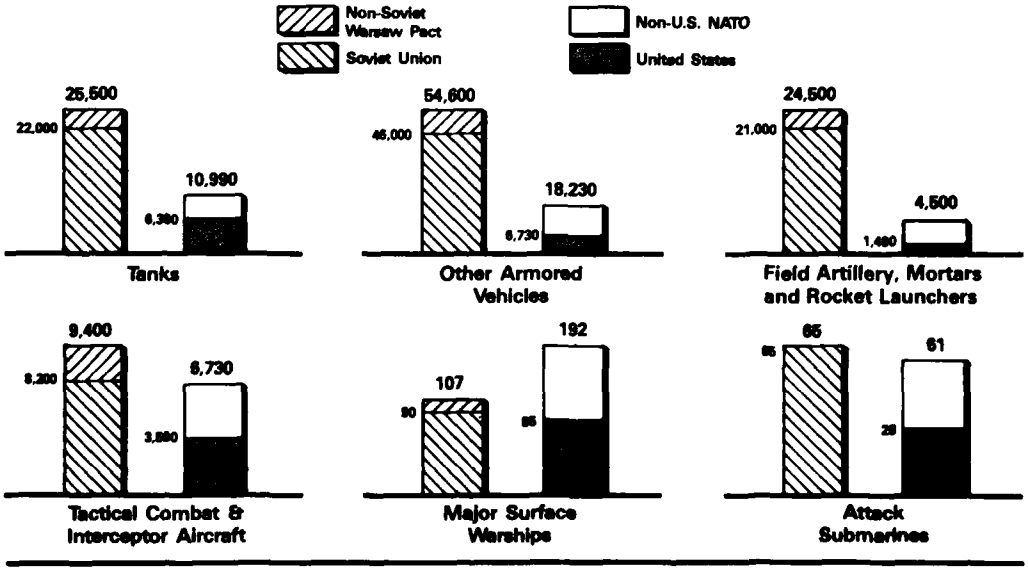
As planned and programmed upgrades are made to our strategic triad, the adverse trends in strategic offensive forces will be arrested and a more stable balance restored. We have already made significant progress over the past four years in strategic C^3I.

At the President's initiative, we are beginning an extensive research and technology program to explore the promise of active strategic defenses. For the next decade, however, the Soviets are likely to retain the lead in active and passive strategic defenses. A comprehensive discussion of the programs to restore the nuclear balance is provided in Chapter I.E.

b. The Conventional Balance

The Soviets have maintained an overall numerical advantage in most categories of conventional forces throughout the postwar period. As Chart I.B.2 shows, since the mid-1970s they have widened their advantage in nearly every force category by producing major weapons at rates exceeding those of the United States and our NATO allies combined. The general quality of Soviet weaponry and equipment has also improved markedly -- often through the purchase or theft of Western technology. All in all, the Soviets and their Warsaw Pact allies have built a military force far exceeding that required for the defense of their territory.

Chart I.B.2
Production of Selected Weapons for NATO and Warsaw Pact Forces (1975 - 1984)



In the critical Western European theater, most measures of the NATO/Warsaw Pact conventional force balance continue to indicate a substantial Pact advantage. In ground combat power alone -- a measure that includes the number and quality of armor, antiarmor, and fire support weapons -- the Warsaw Pact has widened its advantage across the Central European theater from about 1.9-to-1 in 1970 to more than 2.2-to-1 in 1984 (see Chart I.B.3).

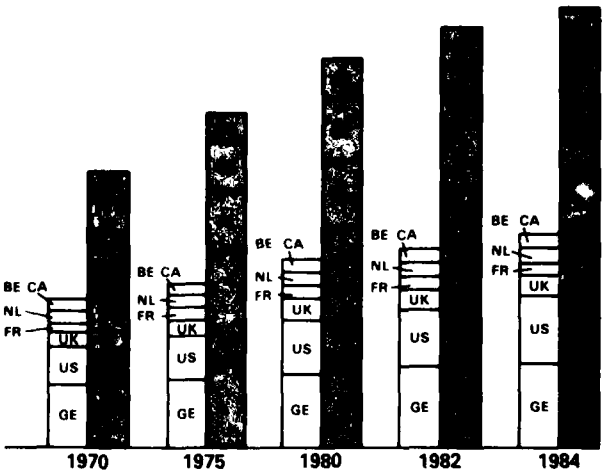
Traditionally, NATO has relied on its theater air forces to offset the Pact's greater combat potential on the ground, and NATO

continues to enjoy some significant advantages in this area. NATO's aircrews and support personnel are better trained and more capable than their Pact counterparts. Its newest front-line aircraft (F-15s, F-16s, and Tornados) are superior in avionics, weaponry, and overall performance to the third-generation models (MiG-23 Flogger and Su-24 Fencer) now being deployed with Soviet and Pact forces. However, while expanding the Pact's tactical aircraft inventory, the Soviets have also been modernizing their air forces. Two new Soviet all-weather counterair fighters with look-down/shoot-down weapon systems, the Su-27 Flanker and MiG-29 Fulcrum, are expected to become operational in Eastern Europe by the late 1980s. And to take full advantage of the increased range, weapons loads, and better maneuverability of these new aircraft, the Soviets have begun to experiment with new tactics that place a greater emphasis on pilot initiative and independence.

Other factors have eroded confidence in NATO's ability to continue offsetting the Warsaw Pact's ground superiority. Warsaw Pact ground forces and air bases are protected by an increasingly diverse and sophisticated array of air defense systems to neutralize NATO air superiority. Warsaw Pact short-range missiles and deep-battle concepts pose growing threats to the survivability of NATO operating bases and air defenses in a conventional war. And by streamlining the command structure for their strategic, tactical air, and air defense forces, the Soviets have improved significantly their capability to launch simultaneous large-scale offensives in widely separated theaters.

Chart I.B.3

NATO-Warsaw Pact Aggregate Ground Combat Power in the "Central Region"[a]



[a] *NATO Central Region Countries: Belgium (BE), Canada (CA), Netherlands (NL), France (FR), United Kingdom (UK), United States (US), and West Germany (GE). Only French forces stationed in the Federal Republic of Germany are included in NATO totals. Warsaw Pact Central Region Countries: East Germany (EG), Czechoslovakia (CZ), Poland (PL), and Soviet Union (SU). Warsaw Pact totals do not include forces stationed in Hungary.*

Complicating such assessments of the conventional balance are a number of factors that do not readily lend themselves to quantitative comparisons. These include the uncertain reliability of the

Warsaw Pact's East European forces in the event of a conventional conflict, the quality of military leadership and troops on both sides, and differences between the opposing forces' military strategies and warfighting tactics. We believe these and other intangibles, together with the dangers of nuclear escalation, continue to help preclude any Soviet perception that a Warsaw Pact invasion of Western Europe would produce a rapid victory.

The conventional balance is also affected by Soviet expansion and modernization of its forces in the eastern military districts of the USSR, opposite Japan and the People's Republic of China. That buildup has not been offset significantly by the countries of that region.

In Southwest Asia, Soviet forces have been modernized more slowly, but they still pose a significant threat. The Iranian revolution deprived the West of a militarily capable regional ally and, together with the Iran-Iraq war, introduced unstable conditions that might tempt Soviet involvement. Indeed, one need look only at the Soviet invasion of Afghanistan to understand the Soviets' willingness to use force in the region. The West's dependence on Southwest Asia's enormous oil reserves makes the region an inherently attractive target for Soviet economic and strategic gain. In response, the creation of the U.S. Central Command has improved U.S. capabilities and demonstrated our commitment to the security of the region. The growth and strengthening of Soviet forces and the tinderbox character of relationships in the area emphasize again the overriding importance of the Middle East peace initiative proposed by the President in 1982. We could help reduce tensions there, and thereby lessen the attractiveness of the region for the Soviets and help our allies in the process, if we could secure adoption of the principles enunciated by the President. We should work ceaselessly for the success of his peace initiative.

c. The Global Reach of Soviet Power

Twenty years ago, the Soviet Union lacked the ability to project power to regions far from its borders. That picture has now changed considerably. Growth in the range and payload of Soviet military transport aircraft (and of civilian aircraft designed to military specifications) has given the USSR the capability to move its forces or proxies throughout the world. The Soviets continue to develop their naval basing facilities worldwide, and they have established a naval air logistics and operations base at Cam Ranh Bay, Vietnam. They have also expanded their access to bases in Syria, Libya, Ethiopia, South Yemen, Angola, and Cuba. And they are now building a nuclear-powered aircraft carrier that we believe will substantially extend the reach of Soviet tactical aviation.

Soviet power projection capabilities and the geographic expansion of Soviet presence are mutually reinforcing. As illustrated in Chart I.B.4, these activities have provided the Soviets with bases and ports near the world's major trade routes and energy resources, threatening U.S. interests as well as those of our friends and allies. In a major NATO/Warsaw Pact or global conflict, for example, Soviet forces currently deployed abroad could, at the onset of hostilities, attack Western naval forces and impede the flow of forces and supplies from the United States to the theater of conflict.

Chart I.B.4

Soviet Global Military Reach

Soviet Military Personnel Abroad	
Latin America (Including Cuba)	4,700
Sub-Sahara Africa	3,600/4,000
Middle East & North Africa	8,000
Asia (Including Vietnam)	2,500
Afghanistan	105,000*

*Includes personnel in units

Soviet military assistance to Third World countries remains Moscow's major instrument for gaining access and influence around the world. Since 1980, as shown in Chart I.B.5, the Soviet Union has delivered far more major weapons systems to the Third World than has the United States, which concentrates instead on economic assistance to promote development in these regions.

Even the nature of the two countries' military assistance is different. While the Soviets emphasize major weapon systems, the United States provides more spares, follow-up support, and technical and training services. Our program is designed to stimulate greater self-reliance, while the Soviets seek to foster military dependency. The Soviets flood recipient countries with more than 20 times the number of permanent military technicians the United States assigns abroad to manage our military assistance program.

The Soviets' ambitious military assistance program, coupled with their strong military forces, allows them to achieve many of their political objectives through coercion. Soviet displays of military might often intimidate nations who lack a strong indigenous defense capability, particularly if they are not members of a strong defensive alliance.

Chart I.B.5

Comparison of Major U.S. and Soviet Equipment Delivered to the Third World[a] (1980 - Mid-1984)

	Total		Near East and South Asia		Sub-Saharan Africa		Latin America		East Asia and Pacific	
	U.S.	*USSR*	*U.S.*	*USSR*	*U.S.*	*USSR*	*U.S.*	*USSR*	*U.S.*	*USSR*
Tanks/Self-Propelled Guns	2,896	4,215	2,426	3,160	20	450	28	400	422	205
Field Artillery	2,559	6,410	808	3,530	123	1,800	505	770	1,051	310
Supersonic Fighter Aircraft	420	1,810	217	1,230	6	290	18	130	129	160
Helicopters	178	773	3	590	0	130	74	70	101	100
Surface-to-Air Missiles	4,558	8,665	2,896	6,900	2,559	545	420	870	178	350

[a] As of June 30, 1984.

d. Soviet Doctrine and Goals

Soviet warfighting doctrine has consistently exhibited an offensive orientation. Even in the immediate postwar period, when U.S. nuclear supremacy made offensive operations by the Soviet army very risky, the Soviets maintained an offensive doctrine that emphasized surprise, high-tempo armored attacks, massive firepower, and the rapid exploitation of breakthroughs. Today, their General Staff's concept of operations represents a continuation of this long-standing Soviet preference. The growing emphasis on operational maneuver groups -- highly mobile formations of up to corps size designed for the rapid seizure of targets in enemy rear areas -- exemplifies this approach. The development of large special operations forces and strategic air armies tailored for attacks on high-priority targets deep in Western Europe and the Far East further illustrates the offensive orientation of Soviet warfighting doctrine. New and more capable Soviet ships and weapons, and the manner in which they are being deployed, indicate clearly that the Soviet fleet is intended ultimately to extend its area of sea-control and sea-denial operations farther from the Soviet landmass, severing the sea-lanes linking the United States with its allies. In short, the Soviet challenge and threat to our interests is global, and thus, deterrence requires that we have global capabilities to respond.

While Soviet leaders regard military power as their primary strength, they view the struggle with the West in a multidimensional context, combining political, economic, social, ideological, propaganda, and military factors into what they characterize as "the correlation of forces." The Soviets believe that the correlation is shifting in their favor, and through invasion, subversion, covert activities, the use of proxies, and the threat of intervention, they work to exacerbate existing instabilities. They also exercise to the

fullest their power to try to influence public opinion in the open societies of the West, while they, with no effective public opinion in their country, are shielded from any similar activities by the West. Academic experts analyzing Soviet statements and actions remain divided as to whether the Soviet leaders are motivated primarily by the ideological desire to spread communism (or just pretend to be as a means of justifying and legitimizing their own authority); or wish to extend their own power or that of the Russian state; or merely have an exaggerated sense of insecurity, so that the accumulation of military hardware and the projection of military presence to neighboring or distant countries is intended as insurance against what they perceive to be external threats. This latter theory is inherently incredible when we note that their military buildup has been continuous, regardless of whether or not they faced any conditions they could conceivably call a threat.

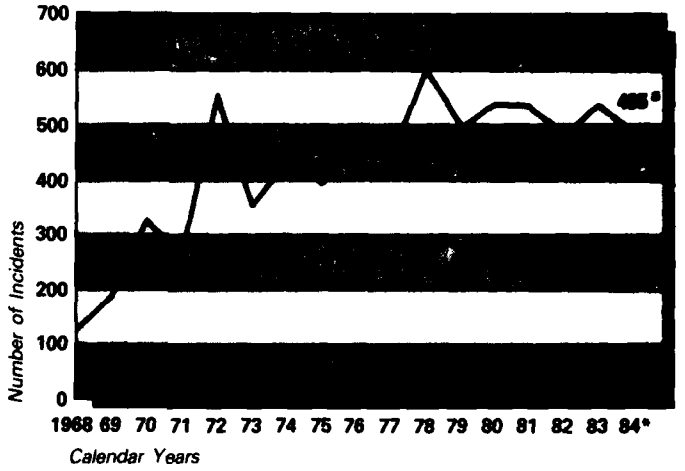
Regardless of the underlying motivations for the Soviet military buildup, postwar history demonstrates a Soviet willingness to take advantage of any perceived weaknesses in the global politico-military balance. A prudent American defense policy cannot rest on unproven and scarcely credible theories of relatively benign Soviet motivations, but must respond to the facts of Soviet policy and behavior and to our knowledge of what the Soviets are, and what they have done: their totalitarian character; their concentration of enormous resources on military purposes, without regard to their overall economy or the quality of life of their people; and their secrecy as a closed society. We must acknowledge the continuing major differences and the long-term competition between our two systems, and try to direct that competition toward more stable and peaceful areas.

2. Other Threats

The United States also has interests abroad that can be threatened by nations or groups much less powerful than the Soviet Union. Terrorism, local warfare disrupting world resource supplies, and insurgent groups or neighboring nations seeking to overthrow governments friendly to the United States all pose challenges to our security. The proliferation of advanced conventional armaments and of nuclear weapons, coupled with the increasing threat posed by chemical and biological weapons, portend even more ominous challenges in the years ahead. In 1984, the military forces of 20 countries were involved in conflicts in 11 areas of the world. Most of those areas contain resources essential to many nations, including the United States. Each area is gripped by instability that has created new opportunities for exploitation disadvantageous to the West. The complexity of the interdependent world system offers no easy solutions.

As Chart I.B.6 shows, terrorism has become an unfortunate fact of international life. The bombing of the U.S. Embassy Annex in Beirut in September 1984 was the third major terrorist attack upon U.S. personnel working in Lebanon. The mining of the Red Sea is an example of a terrorist threat directed against the shipping of all nations. The United States will continue to seek a more active defense against terrorist attacks throughout the world. We are urging individual nations to provide appropriate safeguards against terrorism in their security plans. At the same time, we are consolidating key intelligence assets and seeking the help of other nations in containing the further spread of terrorism.

Chart I.B.6
International Terrorist Incidents (1968 - 1984)



* Data through 31 August 1984.

Low-level threats to our security generally lend themselves to responses short of direct intervention by American military forces. But we cannot exclude the possibility of threats to our citizens or interests, or to those of our friends, that might require the employment of our military forces. Grenada -- where there was indirect Soviet involvement -- is a case in point. In such instances, the flexibility, mobility, and special training of U.S. forces will be important in meeting whatever threat may arise, just as we were able to be highly effective in securing our objectives in Grenada.

But our policy remains, first, to try to alleviate the conditions leading to conflict by fostering political negotiations, extending economic aid, encouraging free enterprise that brings about economic improvement, and providing diplomatic support for human rights and the continued development of democratic institutions. Second, our security assistance programs remain vital channels through which we support other countries' efforts to remain free of external domination and coercion.

C. U.S. NATIONAL SECURITY OBJECTIVES AND DEFENSE STRATEGY

1. National Security Objectives

America's most basic national security objective is to preserve the United States as a free nation at peace, with its fundamental institutions and values intact. From this objective flow supporting objectives for which a defense strategy and military programs must be formulated. These are to:

-- Safeguard the United States, its allies, and friends from aggression and coercion;

-- Ensure continued U.S. access to the oceans and space;

-- Protect American citizens abroad;

-- Protect U.S. economic interests worldwide by maintaining steady access to energy supplies, other critical resources, and foreign markets;

-- Maintain close and productive relations with our allies and friends abroad and work closely with them to build and maintain regional stability in areas of shared vital interests;

-- Inhibit the expansion of Soviet control and military presence throughout the world, while increasing the costs of supporting or using subversive, terrorist, and other aggressive forces, for the Soviet Union or any other nation or group espousing such tactics;

-- Support the development and preservation of democratic political institutions in other nations;

-- Limit Soviet military advantages by strengthening U.S. and allied military capabilities, and by preventing the flow of militarily significant technologies and resources to the Soviet Union; and

-- Pursue equitable and verifiable arms reduction agreements to create a stable and secure military balance and deterrence at lower levels.

2. U.S. Defense Strategy

U.S. defense strategy can be summarized as follows:

-- To deter aggression and coercion against the United States and its allies, friends, and vital interests.

-- Should deterrence fail, to seek the earliest termination of conflict on terms favorable to the United States, our allies, and our national security objectives, while seeking to limit the scope and intensity of the conflict.

A fundamental premise of U.S. defense strategy is the reactive posture of our military forces. The United States does not seek territorial gains from the use of military power. It will use its military forces only in response to clear threats to its security and interests. This places a premium upon seeking means to ameliorate

the causes of conflict before they lead to armed combat. This policy has important implications both for our strategy (how U.S. forces are employed) and for our programs (what capabilities we must build into our forces).

America's defense effort requires a close relationship between our military strategy and the force structure we select to carry out that strategy. Our defense strategy must be anchored firmly in our national security objectives, and our force structure decisions must stem directly from this strategy if our forces are to be able to execute their required missions. Strategy and force structure therefore must be planned together, taking into account the requirements of the strategy, the military capabilities that the defense program is to provide, military doctrine, and the need for priorities that ensure our defense assets meet our most important needs.

a. Deterrence

Deterrence is the core of U.S. strategy. It seeks to provide security by convincing a potential aggressor not to commit aggression. For deterrence to succeed, possible adversaries must be persuaded that the risks and cost of aggression will exceed the gains. The military sources of deterrence are:

-- Effective defenses, to confront an adversary with the likelihood that his aggression will not succeed;

-- The threat of escalation, to warn an adversary that his aggression could start hostilities that might not be confined in the manner he envisions; and

-- The threat of retaliation, to raise the prospect that aggression will trigger attacks on the aggressor's national interests and cause his losses to exceed any possible gains.

To be credible, these three military sources of deterrence require that the United States both have, and be perceived by friends and foes alike as having, the military capability to execute any of these responses -- effective defense, escalation, or retaliation -- and the political will to carry them out.

Of the three military sources of deterrence, the most reassuring is effective defense. A potential aggressor would have little cause to doubt that a nation would use its military capabilities to try to repel an attack. Effective defense is also less likely to cause escalation than are the other two sources of deterrence, and it provides the means for protecting ourselves should deterrence fail.

These advantages of defensive forces help explain why the NATO allies have committed themselves to strengthening their conventional forces. Likewise, because of the limitations and inappropriateness of nuclear weaponry, America's commitments outside Western Europe require strong conventional forces for deterring nonnuclear hostilities. The uniquely valuable contribution of defense capabilities to keeping the peace is also a fundamental justification for the Strategic Defense Initiative (SDI) this Administration is pursuing to try to secure a thoroughly reliable defense against incoming Soviet nuclear ballistic missiles.

In sum, American and allied forces, using strategic, theater, and general purpose weapons, are intended to deter aggression by demonstrating a credible capability to deny Soviet war aims.

b. Defense

Should deterrence fail, U.S. strategy seeks the earliest termination of conflict on terms favorable to the United States, its allies, and its national security objectives. "Favorable" means that if war is forced upon us, we must win -- we cannot allow aggression to benefit the aggressor. It does not mean more territory or other elements of power for the United States. In seeking the earliest termination of conflict, the United States not only would act to defeat the aggression but also would try to convince the attacker to halt his advance because his continued aggression would entail grave risks to his own interests. Still, because of the enormous military strength of the USSR, the United States cannot prepare only for a "short war," which would merely tempt an adversary to believe he could outlast us in combat.

Although U.S. strategy seeks to limit the scope and intensity of any conflict by containing it to its original location, we must have the capability to respond should hostilities erupt in two or more regions simultaneously. The Soviets are fully capable of launching aggression in more than one region at the same time, and U.S. strategy must take account of that fact. In seeking to limit the intensity of a war, our preference would be to end hostilities by employing forces that do not create or risk escalation. Should our attempts to limit the scope or intensity of war fail, however, U.S. strategy provides for the flexible and sufficient application of force to ensure that no area of vital interest is lost by default. Such a strategy simply recognizes that the loss of any vital area would be an encouragement and a springboard for further aggressive acts against us.

America's strategy for defense stresses a reliance on forward-deployed forces. U.S. interests and commitments and the threats we face require that we continue our substantial forward deployments in and around Western Europe, East Asia, and Southwest Asia. The proximity of Soviet forces to our allies and overseas interests imposes severe demands on the timeliness of response, since territory once lost would be difficult to regain. The purpose of our forward-deployed forces are, therefore, to:

- -- Defend the United States far more effectively than attempting to rely on a discredited "fortress America" philosophy or strategy;
- -- Deter aggression in a more convincing and effective way than could be done without a visible presence;
- -- Increase our ability to respond effectively and quickly in the event of a war and to bring it to a favorable end;
- -- Reassure our allies, assist them in resisting intimidation, and enable them to sustain their full contributions to our collective security;
- -- Discourage regional instabilities and low-intensity aggression; and

-- Provide a more stable international environment for constructive diplomacy.

To fulfill these purposes, forward-deployed forces must be ready, highly capable, and sustainable in combat. Joint and combined exercises serve to test, train, and improve our capabilities while bolstering the deterrent value of our forces. We must be capable of responding quickly to aggression if we are to defeat an attack or sustain a defensive line until reinforcements can be brought to bear or a decision made to employ other tactics.

Our overseas deployments are backed up by forces based here in the United States, including the Reserve Components, a significant portion of which must be rapidly deployable. In the event of a conflict, all of these reinforcing units would depend on airlift and sealift to get them to the combat theater in time to be effective. For these reasons, we will continue to complement our rapid-deployment capabilities by expanding our stocks of prepositioned materiel overseas. Furthermore, we will continue to make every effort to secure host nation support, overflight, landing and bunkering rights, and access to essential overseas bases and facilities in advance of potential crises or contingencies.

Should deterrence fail, and war be launched against us, U.S. military responses would be governed by existing commitments, general strategic priorities, the specific circumstances at hand, and the availability of forces. While neither the United States nor any one nation has, or can afford to have, all the forces required for simultaneous, effective defense against major aggression in all areas where the Soviet Union and its allies might launch attacks, we and our allies together must have forces that are strong and flexible enough to respond effectively to the most serious threats to our worldwide interests. That, indeed, is the hallmark of an effective defense.

3. Supporting Policies

Several policies guide U.S. military strategy and programs, and support both deterrence and defense.

a. Alliances

A strong system of alliances and regional cooperation helps the United States and its allies and friends preserve peace and freedom. It enables cooperating nations to share their common security burdens and achieve a division of labor capitalizing on the relative strengths of each state. Efficient alliance security requires that national forces be able to fight together effectively in combined operations. It also requires a coherent program of security assistance and a sharing of key technologies and of the task of providing arms to the alliance so that each alliance partner has the means of increasing its capabilities for the military role it has been assigned.

Because of our alliances, we all are able to achieve a level of deterrence and defense that otherwise would be unattainable for any one of us. Furthermore, cooperation in defense matters can reinforce political cohesion and improve diplomatic and economic relationships.

b. Security Assistance

Security assistance consists of U.S. sales or grants of defense goods or services to allied and friendly nations. It is an indispensable tool of American foreign policy and an essential element in strengthening our defense posture around the world. Because of the magnitude, diversity, and complexity of our global security interests, the United States cannot, and should not, be expected to safeguard the free world's interests alone. Therefore, it is in our national security interest to assist allies and friends in strengthening their defenses against external aggression and internal conflict. Our security assistance program is the principal instrument for accomplishing this goal. The program also helps us gain access to bases and overflight rights, improves our power projection and forward defense capabilities, and enhances our defense industrial mobilization base at home.

c. Superior Technology and Quality

The United States continues to rely on its superior military technology to offset the numerically larger forces threatening its security interests. We and our allies have never advocated a conventional military buildup that matches the Soviet bloc's numbers soldier for soldier, tank for tank, or aircraft for aircraft. Instead, we have depended on superior military technology, and on better readiness, training, leadership, and better educated people steeped in freedom with all of the inestimable advantages that brings, to compensate for quantitative disadvantages. Modern technology makes our systems more effective and more survivable. Additionally, a strong technological edge can protect us against scientific breakthroughs by potential adversaries that could seriously erode the deterrent and defensive capabilities of our own forces.

To ensure that America's technological advantage over the Soviet Union is preserved in the decades ahead, DoD is dedicated to promoting a strong national and Western educational, scientific, and industrial base, while guarding against the inappropriate transfer of technology to the Soviet bloc. Although the West's technological lead remains sufficient to enable us to maintain a viable military balance for the present, the technological balance could shift markedly toward the Soviets if the flow of Western technology to the East is not arrested.

4. Regional Objectives and Strategies

The United States cannot itself provide all of the manpower and weapons necessary to deter aggression worldwide. We must therefore build on and expand the strength of our alliances, linking together improvements in the U.S. defense posture with renewed efforts to stimulate allied contributions and, where required, military assistance.

a. Europe

The strength and resilience of the Atlantic Alliance provides the foundation for the defense of our interests and commitments in Western Europe. The Atlantic Alliance enjoys enduring support in all the states party to it, despite all the propaganda efforts the Soviets have been able to bring to bear on our free public opinion. The propaganda attacks the Soviet Union directed against the

deployment of intermediate-range nuclear forces (INF) in Europe did not diminish public support for the Alliance at all. The deployments were begun only after we had attempted to negotiate an arms reduction agreement with the Soviets that would have rendered such deployments unnecessary.

Since 1967, NATO's strategy has been one of deterrence based on a capability for defense at all possible levels of conflict. The strategy calls for forward defense and for flexibility in response. The United States and its allies seek an effective mix of conventional and nuclear capabilities, one that would neither force NATO to early nuclear use from conventional weakness nor preclude such use should that be forced on the Alliance.

NATO defense policy and military strategy posit a sharing among the member nations of both the risks and the burdens of deterrence and defense. We remain committed to doing our part, and we encourage, in the most effective way we can, our allies to do theirs.

b. South America, Central America, and the Caribbean

In this area, the primary U.S. objective is to maintain the security of the North American continent and the contiguous Caribbean Basin, and to help create a security environment conducive to democracy. The proximity of Central America and the Caribbean, and our close ties of culture, kinship, and trade, make the security of this area of paramount importance not only to our own territorial security but also to U.S. interests in other regions.

The Soviet Union's influence and presence in the region have been growing with the help of its proxy, Cuba. As Cuba and Nicaragua continue to acquire offensive weapons, the threat to neighboring states, and accordingly to U.S. interests, increases. Of considerable concern is the growing Soviet military influence in Peru and increasing Soviet presence in the South Atlantic. The Soviet Union and Cuba have taken advantage of the underlying poverty in the region, and of the other social, economic, and political problems there, by supporting insurgency, terrorism, and destabilization efforts.

Our task is to help our neighbors address their underlying problems, while countering and ultimately reversing Soviet and Cuban expansion. U.S. policy supports the growth of democratic institutions, economic development, the achievement of regional solutions to problems through diplomatic negotiation, and the enhancement of security assistance so that the democratic and democratically inclined nations of this area can help themselves to survive. Without this U.S.-provided shield, there is little hope of achieving the stability required for the development of democratic institutions. The strengthening of democracy is essential if these nations are to improve the protection of human rights and to attract the investment needed to relieve the endemic poverty there.

c. Middle East and Southwest Asia

Since the late 1940s, major objectives for U.S. policy in the Middle East and Southwest Asia (SWA) have remained virtually unchanged: to deter Soviet aggression and prevent Soviet gains in the region; to protect the security of Israel and the territorial integrity of the other regional states; to ensure unimpeded access to oil and other valuable raw materials; and to find a lasting solution to the Arab-Israeli problem. The President's Middle East

peace initiative of 1982 offers the best hope of achieving this, and we should pursue it with vigor.

In the past year, we have faced serious challenges to all our objectives with the continued Soviet occupation of Afghanistan, the escalation in the war between Iran and Iraq, and the Soviets' strong support for Libya and Syria, which in turn have engaged in aggression against neighboring states.

By maintaining a strong deterrent posture and the ability to respond quickly to regional requests for assistance, we have prevented the Soviets and others from exploiting these opportunities, thereby improving regional confidence in U.S. military power and our reliability as a security partner. We also have achieved allied cooperation in contributing to the protection of our shared vital interests in the area. The recent multinational effort to clear the Red Sea of mines and the provision of U.S. and French assistance in response to the Libyan invasion of Chad are examples of such cooperation. In these efforts, more emphasis is being placed on improving the military capability of friendly states in the region so that they can defend themselves in local conflicts, without need of intervention by U.S. forces, and so that they can assist in any broader regional contingencies. Finally, we are giving greater attention to the growing threat of terrorism in the region. We are taking steps to ensure that such threats are detected early, that attacks are deterred, and that U.S. facilities and personnel are adequately protected.

d. East Asia and the Pacific

America is a Pacific power with vital security and economic interests in East Asia and the Pacific region. Four states border the Pacific; a fifth, Hawaii, lies in the center of this vast region; the U.S. territories of Guam and American Samoa occupy strategic positions in the western and southern Pacific; and more than 2,000 other Pacific islands are under U.S. administration. More than 30 percent of U.S. trade is conducted with the nations of East Asia, and five of our eight mutual security treaties link us with East Asian countries.

Our objectives in the region include the defense of U.S. territory and the lines of communications that connect us to our Pacific allies and friends, and the fulfillment of our treaty commitments to assist our allies. We are encouraged by the progress of our Northeast Asian allies in taking on more of the responsibility for defending themselves and thereby contributing to the defense of the region. We continue to urge Japan to develop within this decade the capabilities required to carry out fully its self-defense missions, including defending its sea-lanes out to a distance of 1,000 miles. We also continue to encourage and assist the Republic of Korea's efforts to improve its self-defense capabilities against the North Korean threat, while U.S. forces help to maintain peace and stability on the peninsula.

Elsewhere in Asia, we continue our efforts to develop an enduring relationship with the People's Republic of China. We support Thailand's efforts to strengthen its defense capabilities against the Vietnamese threat, and we also support the Philippines' intentions to improve its capabilities to combat an increasingly violent insurgency and to mass its political and economic strengths. Our bases there are vital to the maintenance of Philippine sovereignty, and to our military and strategic imperatives.

In the Pacific, we have secured long-term denial and basing rights in Micronesia and the Marianas, whose transition to a new and closer political relationship with the United States awaits congressional approval. We look to our ANZUS security partners to continue their contributions to the security of the South Pacific, Southeast Asia, and the Indian Ocean, and to cooperate with us to maintain the strength of the Western Alliance.

e. Africa

In Africa, our principal objectives are to support the independence and stability of friendly governments, recognizing that one of the key elements of stability is a happy, free people fully able to participate in their government; to preserve free access to mineral resources essential for meeting defense and industrial needs of the Western nations; and to deny the Soviet Union and its allies opportunities to make further inroads in the region.

Since important lines of communications run across or near Africa, our ability to deploy forces to nearby theaters, such as Southwest Asia, depends on gaining and maintaining access and transit rights in Africa. To challenge the forces creating instability in the continent, we seek -- through a combination of our own efforts and greater cooperation from both our European allies and other powers -- to provide timely and appropriate security assistance. That assistance is increasingly focused on measures (e.g., logistics, facilities, and management improvements) that will enable African military establishments to provide for themselves more effectively, and on activities that will contribute to nation-building.

D. CONVENTIONAL CAPABILITIES REQUIRED BY U.S. STRATEGY

Strong conventional forces are essential to deterrence and defense. In the past four years, we have made great strides in rebuilding our conventional capabilities. As a result, we can be much more confident today of our ability to counter, and therefore deter, threats to our interests around the world. Yet, during the past year, there have been inaccurate and oftentimes confusing claims of a reduction in the readiness of U.S. forces. Some of these claims have been based on highly technical methodologies that measure unit readiness in terms of narrowly defined criteria (some readiness ratings declined when we made the criteria more stringent to reflect the new capabilities needed to meet a growing threat); others draw on reports using outdated and incomplete data. The belief that our forces are less ready today than they were four years ago is dangerous and untrue. Indeed, our commanders in the field have emphatically declared that their troops are by any measure far more ready today.

One source of public misunderstanding has been a misinterpretation of readiness and its relationship to combat capability. Although often incorrectly used as a synonym for warfighting capability, readiness -- the people, training, equipment, and maintenance needed to keep our forces prepared to deploy and fight -- is only one of four components that, when integrated and maintained in balance, form the pillars of our total combat capability. The other three components are sustainability -- the inventories of munitions, spare parts, fuel, and other items that give our forces "staying power" for prolonged combat; modernization -- the equipping of our forces with more capable, technically superior weaponry and facilities; and force structure -- the number and composition of air wings, battalions, and ships in the Armed Forces.

Our objective is to improve the combat capability of our forces through steady and balanced progress in each of these four pillars. Furthermore, we are working hard to enhance our ability to conduct combined operations with allied forces, while striving to achieve greater interservice cooperation in the development and procurement of equipment, as well as in joint combat roles and missions.

1. Readiness

Our military forces must be able to reach their full combat potential under the most demanding conditions. Should deterrence fail, warning time could be so short that peacetime readiness might become the key determinant of success. For this reason, one of our top priorities has been to build and maintain a combat-ready force -- one that is adequately manned and trained, supplied with modern equipment in good working order, and supported by excellent facilities.

Over the past four years, the quality of our young men and women in uniform has improved markedly. Each of the Services continues to meet its enlistment goals with an increased percentage of better-educated recruits. As Chart I.D.1 shows, more than 93 percent of our recruits in FY 1984 were high school graduates, compared with less than 70 percent in FY 1980. We are also retaining more of our quality people. The overall reenlistment rate has increased from 55 percent in FY 1980 to 68 percent in FY 1984, while first-term reenlistments have jumped by 31 percent, as reflected in Chart I.D.2. Moreover, these important gains have occurred in a revitalized economy.

This increase in both the educational level and experience of our forces has produced better leadership, fewer disciplinary problems, better equipment maintenance, and more effective training (see Chapter II.D). Collectively, these factors indicate improved readiness.

Chart I.D.1

Recruits with High School Diplomas
(Percentage)

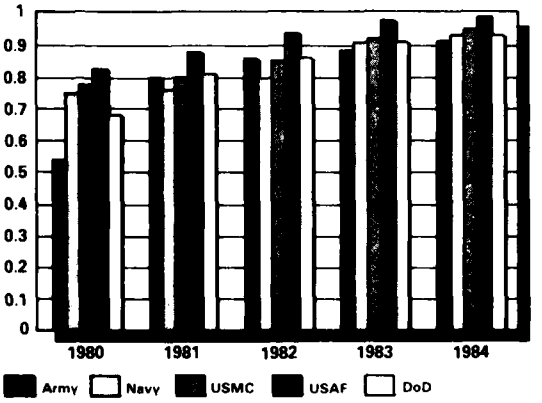
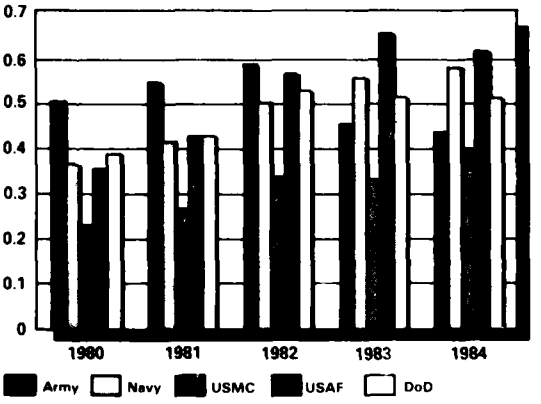


Chart I.D.2

First Term Reenlistments
(Percentage of Eligible)



To complement these improvements in our forces, we are providing our people with additional opportunities for more realistic training. Our aircrews depend on this training to overcome the Warsaw Pact's advantage in numbers of aircraft. Air Force tactical aircrews now get 20 hours of flying time per month (up from 16 hours in FY 1980 and a low of 13 hours in FY 1978), and Navy aircrews get almost 24 hours, more than double that of their Warsaw Pact counterparts. Our Navy ships are steaming an average of almost 35 days each quarter, up from 32 days in FY 1980. And the Army has increased its battalion rotations through the National Training Center at Fort Irwin from 16 in FY 1982 to 24 this year, giving 50 percent more soldiers highly realistic training. In short, training improvements are helping to keep our forces more ready and capable.

Despite the increased use of modern equipment for training, we have been able to improve the immediate operational availability of our equipment through increased funding for repair parts and maintenance. Since FY 1981, we have raised funding for the daily operation and maintenance of our forces by almost 25 percent in constant dollars. At the same time, improvements in spare parts availability have increased by more than 75 percent the number of tactical combat sorties that could be flown in Europe. The number of Navy ships rated "fully" or "substantially" ready has climbed by more than 25 percent since January 1981, while Army and Marine Corps equipment availability rates have continued to increase.

Thus, we have significantly improved our ability to bring forces to bear in the critical early phases of a conflict. Readiness, however, is not a one-time investment. Continued growth in the readiness accounts will be required in order to keep readiness levels high as the force structure increases and our weaponry is modernized. Since our military strategy is fundamentally a defensive one, it is essential that we maintain our forces' readiness at or above that of any potential aggressor.

2. Sustainability

We recognize that our forces, even with improved readiness, might become a "hollow" deterrent if we were unable to sustain them in combat. We must therefore ensure that they have adequate logistical support -- munitions, fuel, repair parts, and in some instances, replacement equipment -- to maintain their combat strength over time.

We have made considerable progress in improving the sustainability component of our military capability. These gains have been achieved despite the fact that building stockpiles of war reserve materiel is a slow, expensive endeavor, and that our job was made all the more difficult by the extremely austere baseline we inherited from the FY 1980 budget. The munitions procured during the past three years will, when delivered, result in a steady growth of war reserve stocks by 14 percent for the Army, 58 percent for the Navy, 62 percent for the Air Force, and 24 percent for the Marine Corps. Overall, aggregate funding for the sustainability accounts will have doubled in real terms between FY 1981 and FY 1986. Additionally, through the Industrial Preparedness Planning Program, we have increased significantly the level of effort devoted to improving the surge and mobilization responsiveness of the industrial base.

In spite of this progress, sustainability is a continuing concern, given the steady improvements in the warfighting capability of our potential adversaries. In Europe, for example, the combat sustainability of NATO's forces remains inferior to that of the Warsaw Pact. It is therefore imperative that we continue, along with our allies, to emphasize increases in sustainability that not only would bolster the deterrent value of our conventional forces but, if deterrence fails, would allow them to survive.

If we continue to build upon the gains made during the past four years, by the end of the decade we will achieve a much safer level of conventional weapons sustainability. The increased surge and industrial mobilization expansion capacity will further enhance the sustaining power of our forces.

3. Modernization and Force Structure

Through a balanced approach, we are improving the combat capability of our forces not only by improving combat readiness and sustainability, but also by modernizing our forces to maintain their qualitative edge, and by developing a force structure that can meet potential threats. Our overall objective is to make our conventional forces more responsive and flexible by improving their striking power and mobility.

The FY 1986-1990 defense program continues our commitment to provide capable systems that will enable our forces to counter a numerically superior and qualitatively improving opponent. The expansion to a 600-ship Navy and the creation of two new Army light infantry divisions, a renewed emphasis on Special Operations Forces (SOF), a gradual expansion of our tactical air forces, and substantially increased investments in airlift and sealift capabilities are among the force structure goals that we are well on the way to achieving. We will continue to seek ways to counter Soviet capabilities through flexible and innovative tactics, operational expertise, and improved weapons technology. We will continue to emphasize force responsiveness and adaptability, improved surveillance and communications capabilities, and increased range, speed, and flexibility -- all needed to meet the rapidly changing conditions of the modern battlefield.

a. Land Forces

The Army, hit especially hard by a decade of limited modernization, is well on the road to rebuilding its capability to respond to aggression over a broad spectrum of conflict, from counterterrorist operations to full-scale armored and mechanized warfare.

NATO's ground forces in Central Europe face a Warsaw Pact army of some 90 divisions, including about 60 Soviet divisions stationed in Eastern Europe or in the western military districts of the Soviet Union and more than 30 non-Soviet Pact divisions based in Poland, Czechoslovakia, and East Germany. Most of these 90-plus divisions are either motorized rifle or armored divisions, deploying about 28,000 tanks and 18,000 artillery pieces and heavy mortars. About two-thirds of the divisions are equipped for rapid, mobile warfare and are deployed in forward areas, where they are maintained in a high state of readiness. Each year, these forces continue to improve in overall quality and sustainability.

To meet the threat in Europe, we are working to improve the antiarmor capabilities and tactical mobility of our forces, as well as to provide them with better command, control, and communications (C^3) support. The M1 Abrams tank, the M2/3 Bradley Fighting Vehicle (BFV) equipped with TOW antiarmor missiles, and the AH-64 Apache attack helicopter carrying Hellfire antiarmor missiles will provide potent additions to NATO's antiarmor defenses. For example, the M1 demonstrated in recent NATO exercises that it can shoot accurately on the move, at speeds of up to 45 miles per hour, in day or night. We have stepped up the pace of our ground force modernization programs, adding more M1s, BFVs, and AH-64s to the procurement levels planned by the previous administration.

Obviously, not all conflicts in which our land forces might become involved would require armored units. Indeed, for many contingencies, armored units might be inappropriate. The Army is forming two new,

10,000-man light infantry divisions -- one to be based in Alaska and the other at Fort Drum, New York. It also plans to convert two existing infantry divisions to a light configuration, and to activate a light infantry division in the Reserve Component. Deployable worldwide up to three times faster than standard infantry divisions, the new light infantry divisions will add a new dimension of strategic mobility to our forces, increasing U.S. fast-reaction capability worldwide. The divisions will be trained and equipped for a wide range of missions, particularly in areas appropriate for close-in fighting, thus demonstrating the United States' resolve to prevent armed hostilities, whether of low-intensity or on a major scale.

Effective use of tactical mobility can help counter a numerically superior opposing force by permitting personnel and materiel to be concentrated at places where they can best exploit enemy vulnerabilities. A new generation of highly mobile helicopters and support vehicles is allowing us to make better use of this tactic. For example, the UH-60 Blackhawk helicopter, which proved its worth in Grenada last year, is a larger, more agile and reliable aircraft than the UH-1 it replaces.

Also supporting our ground forces are highly capable new weapons such as the Multiple-Launch Rocket System (MLRS). In less than a minute, a single launcher can fire 12 rockets beyond cannon range, covering an area the size of six football fields with approximately 7,700 grenade-like submunitions effective against both personnel and lightly armored targets. The MLRS, incidentally, is an excellent example of U.S.-NATO cooperation in arms development.

Complementing these improvemens in combat systems are upgrades to the command and control systems that would support our forces in battle. In the mid- to late 1980s, our commanders will receive lightweight, jam-resistant C^3 equipment that will assist them in managing their forces on a high-technology battlefield.

b. Maritime Forces

We need strong maritime forces to support our forward defense strategy, to fulfill the responsibilities associated with our network of overseas alliances, and to protect the vital sea-lanes linking us to Europe, Southwest Asia, and Northeast Asia. We rely heavily on maritime forces to respond to a wide variety of crises, a role to which their global reach, rapid responsiveness, and integrated combat power are particularly well suited.

The Soviets have greatly expanded and modernized their naval capabilities over the past two decades. They now have a genuine "blue water" navy, capable of projecting power worldwide and oriented toward undermining U.S. maritime defense capabilities. In response, and in support of our global maritime responsibilities, we are enlarging our Navy to 600 ships -- a goal that will be achieved in FY 1989. By the following year, the deployable force will include 15 aircraft carriers, 66 amphibious assault ships, and 4 reactivated battleships fitted with cruise missiles. Modern aircraft carrier battle groups enable our naval forces to respond rapidly to crises anywhere in the world and to conduct sustained operations in areas where we do not have airfields or other major land bases.

To revitalize our amphibious assault capabilities, we are building new high-speed, air-cushioned landing craft and two new classes of amphibious ships. By the middle of the next decade, we will have

expanded our amphibious lift capacity by one-third, allowing assaults to be launched from points over the horizon, thereby reducing vulnerability and increasing the likelihood of surprise. Ship-to-shore mobility will be enhanced by the powerful CH-53E helicopter, now joining the force in large numbers, and the new JVX tilt-rotor aircraft under development. Once ashore, our Marines will be provided greater mobility and firepower by the Light Armored Vehicle (LAV), three battalions of which will have been deployed by the end of FY 1986.

The Soviet submarine fleet, long the world's largest, has recently undergone significant improvements in lethality and detection avoidance. For example, the Oscar-class nuclear-powered cruise missile submarine, introduced in 1981, is about twice as large as our Los Angeles-class submarines, carries 24 long-range SS-N-19 antiship missiles, and incorporates important qualitative advances in sound quieting and self-protection. New Mike- and Sierra-class submarines boast similar improvements. And the Soviets continue to build submarines at a rapid rate, launching a total of seven over the last year alone.

We are working hard to improve our ability to locate and combat enemy submarines. One example is a new attack submarine that we plan to begin producing near the end of this decade. A key design objective is to build a quieter boat with better sensors that will enable it to hunt down and engage enemy forces without itself being detected. At the same time, we are continuing to construct improved versions of the Los Angeles-class attack submarine as replacements for older boats approaching obsolescence; 29 of the 48 Los Angeles-class boats authorized to date are now operational. In addition, LAMPS helicopters, new towed-array sonar systems, and lightweight torpedoes are upgrading the antisubmarine capabilities of our naval surface and air forces.

The growing threat to our fleet from the air is no less worrisome than the submarine threat. The addition of 30 new Backfire bombers to the Soviet inventory each year raises the threat of antiship missile attacks over large sectors of the world's oceans. The Soviets are producing several types of antiship missiles, capable of being launched from aircraft, surface ships, and submarines. These missiles travel to their targets at high speeds, and follow elusive flight profiles. Our defenses against them will be improved by the wide-area surveillance systems now under development and by strengthened area air defense systems. Central to those efforts is the development of tactical over-the-horizon radars that will be able to detect enemy aircraft hundreds of miles away, thus enabling our land- and carrier-based interceptors to mount a more effective defense of our ships at sea. Likewise, the deployment of new CG-47 cruisers and DDG-51 destroyers, both of which incorporate the Aegis air defense system, will improve our ability to intercept high-speed cruise missiles and aircraft at extended ranges. Ultimately, we plan to build a total of 27 Aegis cruisers and 29 DDG-51 destroyers.

c. Tactical Air Forces

Well-trained and properly equipped tactical air forces can quickly destroy targets on land and at sea, as well as provide an air defense umbrella in support of ground and naval forces worldwide. Our forces have long been considered superior to the Soviets in air combat capabilities, but that advantage has been diminishing in the face of an aggressive modernization of the Soviet air forces. The

Soviet Union now has more than 5,000 tactical aircraft in its inventory and is continuing to produce aircraft at rates higher than our own. New generations of Soviet fighters, attack aircraft, and bombers, complemented by an early warning aircraft similar to our AWACS, now challenge our air superiority.

To retain our qualitative edge in this area, we must continue to improve our tactical aircraft inventory. To that end, we are acquiring systems that will allow for rapid, multiple engagements beyond visual range, while being highly maneuverable and lethal at close-in ranges.

The Navy is modernizing its carrier-based force of combat aircraft. The F-14, our primary fleet air-defense fighter, and the long-range Phoenix missiles it carries are being upgraded to improve their ability to cope with the more sophisticated electronic countermeasures employed by new Soviet bombers and air-to-surface missiles. By the end of the decade, all of the Navy's fighter and medium-attack squadrons will be equipped with F-14s and A-6Es, and the F/A-18 will have replaced almost 80 percent of the A-7E light-attack inventory.

The Air Force is continuing to modernize its F-15 and F-16 forces. Since 1980, it has more than doubled its inventory of F-15s and F-16s, bringing the combined total to nearly 1,400 aircraft. These planes, flown by Israeli pilots in Middle Eastern operations, have repeatedly proved their superb combat capabilities against both air and ground targets. New, more durable, and easier-to-maintain engines, scheduled for installation on the aircraft in the early 1990s, will further enhance their combat effectiveness.

Aerial combat in the Middle East and in the South Atlantic also demonstrated the lethality of U.S. air-to-air missiles. Armed with new systems such as the Advanced Medium-Range Air-to-Air Missile (AMRAAM), our fighters will be more effective in aerial combat, and our F-16s will, for the first time, be able to engage enemy forces well beyond visual range.

The Air Force is also upgrading its inventory of ground-attack systems. Currently in development are a new airborne targeting system, the Low-Altitude Navigation and Targeting Infrared System for Night (LANTIRN), and new infrared air-to-surface missiles that will allow F-15Es, F-16s, and A-10s to strike enemy targets whenever they present themselves. Finally, some squadrons of B-52G aircraft have been assigned general purpose missions, such as minelaying, antiship attack, and conventional bombing, supplementing their strategic duties.

Overall, our inventory of tactical aircraft has grown by the equivalent of two wings over the past four years. Over the next five years, we plan to buy 1,284 fighter and attack aircraft for the Air Force and 954 for the Navy and the Marine Corps. This will allow us to reach our goal of 14 carrier air wings by FY 1987, and of 40 Air Force tactical fighter wings by FY 1991.

d. Projection Forces

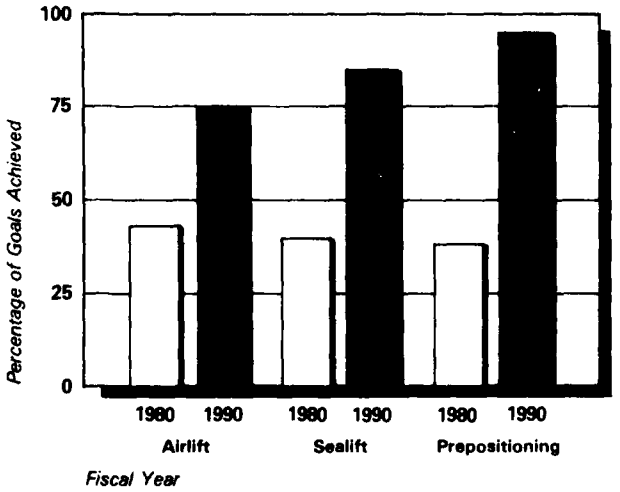
Our forward-defense strategy dictates that we be able to conduct concurrent deployments to widely separated areas of the globe. Our present goal is to achieve the capability to deploy forces to a remote theater such as Southwest Asia, while maintaining an acceptable capability to reinforce NATO and key areas of Northeast Asia.

Further, we must be capable of sustaining our forces once deployed and of redeploying them in response to changing regional priorities or conditions. Forces able to meet these combined objectives should be adequate for virtually any contingencies we might face.

The ability to respond promptly on warning of an attack requires a heavy reliance on airlift and prepositioning. Although the combat units deployed by air would constitute only a small fraction of the total force required for a conflict in an area such as Southwest Asia, they would be essential to preempt the enemy from seizing critical facilities. The units' early arrival in the theater could be necessary to slow the advance of an enemy force and to protect the ports and other facilities that would serve our main forces, which would deploy by sea. In Europe, U.S. forces deployed entirely by air and equipped with prepositioned materiel would rapidly boost NATO's tactical air power, while contributing most of the ground force reserves needed to stave off a Warsaw Pact breakthrough. We plan to incorporate allied lift assets into our reinforcement efforts to the extent possible. Our NATO and Northeast Asian allies have earmarked a substantial number of ships for the transport of reinforcements to their regions, but because their airlift capabilities are relatively limited, we would have to provide the bulk of the airlift capacity needed for a multitheater deployment.

In four years, we have increased our intertheater mobility capabilities by about 35 percent. Between 1982 and the end of the decade, we will have added 50 C-5B cargo aircraft and 44 KC-10 tankers to the airlift fleet, and modified 19 commercial aircraft to carry military cargo in an emergency. The procurement of new C-17 cargo aircraft and of new equipment for unloading ships in austere ports is especially important to our NATO and Southwest Asian goals.

Chart I.D.3
Progress Toward Mobility Goals



Modifications will be completed in FY 1986 on seven of eight fast sealift support ships, providing an early sealift surge capacity not previously available, and we will have loaded eight maritime prepositioning ships with equipment and supplies for a brigade-size Marine Corps force. Overall, by the end of the decade, we will have increased airlift capacity by 80 percent, sealift capacity by 110 percent, and the amount of materiel prepositioned in key locations by 150 percent (see Chart I.D.3). These improvements will allow us to conduct major concurrent deployments to the most critical theaters if required.

4. Special Operations Forces

The United States must also be prepared to deter and, if necessary, respond to low-intensity conflict -- including terrorism and guerrilla insurgencies -- when our national interests are threatened. Since low-level conflict will likely remain the most immediate threat to free world security for the rest of this century, specially trained forces have been established for such operations. To help others defend themselves, Special Operations Forces (SOF) are heavily engaged in security assistance efforts. In the last ten years, these forces have dispatched some 500 U.S. mobile training teams (MTTs) to almost 60 countries worldwide. Such efforts, while low-key and generally low-cost, provide very large payoffs, strengthening Third World countries and demonstrating our commitment to peace and stability.

Special operations forces provide us the ability to respond to a range of crises in a flexible manner. They contribute to our ability to deter and defeat major conventional attacks through their capability to disrupt an enemy's rear echelons, and to engage in unconventional warfare, psychological operations, counterterrorism, and intelligence missions.

When this Administration took office in 1981, we committed ourselves to rebuilding a capability that had been nearly lost during the 1970s. We undertook a revitalization of our Special Operations Forces, activating a new Army Special Forces Group and a new Navy SEAL team, as well as strengthening undermanned units. More units, including another Special Forces Group and an additional SEAL team, are planned for the coming years, as are new MC-130 Combat Talon aircraft and naval special warfare craft. SOF missions are being realigned to enhance the forces' effectiveness and cohesion. Outdated equipment is being replaced, and better training and logistical support are being provided to the forces. The completion of this multiyear effort will require continued congressional support.

5. Reserve Forces

Under the Total Force Policy, the Reserve Components have assumed an increasingly important role in our conventional defense strategy. The creation last year of the position of Assistant Secretary of Defense for Reserve Affairs recognizes the critical role that Reserve Component forces would play in any conventional conflict.

During the past four years, we have upgraded significantly the combat capabilities of the Reserve Components of all four Services. We have, for example, improved the equipment, training, and manning of Army and Marine Corps reserve units. Following the "first to fight, first to be equipped" policy, early deploying Army National Guard and reserve units are receiving modern weapons systems before later-deploying active duty units. In FY 1985, these units are

scheduled to receive more than 10,000 new items of equipment costing about $1.4 billion -- including 180 M1 tanks, 64 BFVs, and 8,000 modern support vehicles. New Marine Corps equipment includes KC-130T tanker aircraft and M198 howitzers. Guard and reserve units are also benefitting from the more rigorous training afforded by increased participation in realistic field exercises.

Under the Total Force Policy, the Naval Reserve is continuing its most ambitious expansion since World War II. The Navy's reserve structure is being simultaneously enlarged and modernized, to meet the needs of a 600-ship fleet and to strengthen the contribution of reserve forces across the entire spectrum of warfare. Overall, the end strength of drilling reserve units will have grown by 30 percent by FY 1989, and their equipment inventories will have been substantially upgraded. Naval Reserve pilots are now flying the F-14 and the F-4S, and are training in the F/A-18. By the end of FY 1985, we will have transferred 11 modern FF-1052 and FFG-7 frigates to the Naval Reserve Force (NRF), leading to a total of 26 reserve frigates by the end of the decade. Based aboard these ships will be the SH-2F antisubmarine helicopters of the three reserve squadrons now being formed. We will depend on the NRF to man almost all of our new MCM-1 and MSH-1 mine countermeasures ships, now under construction. In addition, we are modernizing our 13 reserve squadrons of P-3 maritime patrol aircraft. By FY 1989, we will have completed upgrades to the AN/AQA-7 acoustic processor systems aboard the older P-3 "A" and "B" models now operated by the reserves. As a preliminary step in the eventual transition of the reserves to the modern P-3C aircraft, we have established our first Master Augmentation Unit with two P-3C aircraft. Two more such units are planned in FY 1987-88.

The combat capability of our reserve fighter forces (Air National Guard and Air Force Reserve) has also continued to improve. We have transferred highly capable F-16 aircraft to reserve units, and are replacing early model F-4C/Ds with the more capable "E" version of the aircraft. And in FY 1986, we will introduce F-15 air superiority fighters into the reserve inventory.

In addition to deploying more modern systems with our reserve forces, we are upgrading the combat capabilities of the aircraft. Enhancements include the equipping of fighters with advanced AIM-9L air-to-air missiles and with low-smoke engines and improved radar-warning receivers. The forces are receiving modern air-to-air and air-to-ground munitions, along with the advanced training needed to employ these weapons effectively.

Reserve forces also are being modernized through the transfer of long-range C-141 and C-5 transport aircraft to the Air Force Reserve and Air National Guard. These transfers expand upon the successful Associate Reserve Program, under which active and reserve units are collocated. Modernization of shorter range airlift forces continues as new C-130 aircraft are brought into the air reserve inventory. This force expansion is in keeping with the objective of transferring to the reserves those missions that are cost-effective and do not decrease the combat capability of the Total Force.

6. Mission Allocation and Force Integration

For years critics have argued, with considerable persuasiveness in some instances, that our basic allocation of missions among the Services, established in the aftermath of World War II, was not

properly attuned to the demands of modern warfare. This Administration has encouraged the harmonization of military missions and integration of operations wherever possible, and significant progress is being made in these vital areas. For example, recent naval exercises in the Northwest Pacific and Sea of Japan reflected an unprecedented degree of Air Force support for the Navy in the areas of aerial refueling, surveillance, and C^3I. And the Army and Air Force chiefs, working closely together, have now crafted a series of initiatives -- covering planning and procedures, joint studies, operational doctrines, systems development and procurement, and basic mission allocations -- that collectively will improve our combat capabilities and DoD's overall management efficiency. For example, it was agreed that the Army would assume responsibility for all ground defense of our air bases beyond their perimeters, with the Air Force transferring Reserve Component manpower to the Army to aid in this task if necessary. Of the 31 Army and Air Force initiatives agreed to, seven have been completed, and the remainder will be under way by early 1985. We feel this effort merits strong congressional support, and we will continue to look for other opportunities to make our various military forces operate more effectively together.

7. Joint Chiefs of Staff (JCS) Special Fund

In 1981, this Administration developed the idea of giving our field commanders direct responsibility for allocating a very small portion of DoD's budget directly for high-priority operational needs that could not be met in a timely fashion through the normal budgeting process. The JCS Special Fund, as this program is now called, would be monitored by the JCS, but the CINCs themselves would initiate all requests for its use. We try to decentralize budgeting control to the lowest practical level, and we strive to enhance the day-to-day readiness of our current forces. Even though there are expressed congressional desires, the program has yet to achieve full congressional backing. We hope that the Congress will appropriate the $50 million requested to start this effort in FY 1986, and will consider favorably future requests for larger amounts if our first year's experience is a success, as we fully anticipate it will be.

E. NUCLEAR POLICIES AND PROGRAMS

1. Deterrence: The Policy and the Challenge

This year marks the fortieth anniversary of the end of World War II and of the use of atomic weapons to bring that conflict to a close. During the past four decades, there has been no armed conflict between the United States and the Soviet Union, or between NATO and the Warsaw Pact. Unlike the first 45 years of the twentieth century -- in which we witnessed two global conflagrations -- there has been peace among the major powers during the past 40 years. These years also represent the longest continuous period of peace Europe has known since the early nineteenth century. This is no accident. It is, in large measure, a result of the policy of deterrence adopted by the United States and the Western democracies in the wake of World War II, a policy designed to deter any aggression, either conventional or nuclear, against ourselves or our allies.

The awesome destructiveness of modern warfare, coupled with the introduction of nuclear weapons, has made the prevention of major conflict imperative. U.S. policy is based upon this principle. But this recognition on our part alone is not sufficient to prevent the outbreak of war; it is essential that the Soviet leadership understand it as well. As the Scowcroft Commission's first report stated so succinctly:

Deterrence is not an abstract notion amenable to simple quantification. Still less is it a mirror-image of what would deter ourselves. Deterrence is the set of beliefs in the minds of the Soviet leaders, given their own values and attitudes, about our capabilities and our will. It requires us to determine, as best we can, what would deter them from considering aggression, even in a crisis — not to determine what would deter us.

We are under no illusions about the dangers of nuclear conflict. I can think of no clearer or better statement of U.S. policy than that which President Reagan has made on numerous occasions: "A nuclear war cannot be won and must never be fought." Even a cursory glance at our nuclear force structure and modernization plans makes clear that this in fact is our policy: we do not have, nor do we seek, a first-strike capability; we do not have a "nuclear warfighting" posture; all of our exercises and doctrine are defensive in nature.

Unfortunately, we face an adversary whose collective leadership has, through its strategic force deployments and exercises, given clear indications that it believes that, under certain circumstances, nuclear wars may be fought and won. The Soviets' development of a potential first-strike force of SS-18s and SS-19s, their plans to reload ICBM silos, the refire missiles associated with systems such as the SS-20, the extensive hardening of key assets, and the amounts they spend on civil defense are all indicators of such an attitude.

As a result, it is our task to ensure that the Soviet leadership, in calculating the risks of aggression, recognizes that because of our retaliatory capability, there are no circumstances in which it would benefit them to attack us or our allies at any level.

In the final analysis, effective deterrence requires not only that we have the capability to respond adequately to any aggression but also that we be perceived by potential adversaries as having that capability. If Soviet leaders understand that a nuclear conflict could lead to the destruction of those military, political, and economic assets they value most highly, Soviet plans for aggression lose whatever attractiveness they might otherwise hold, and the risk of war is diminished. Accordingly, we must have sufficient forces to make certain that the Soviets understand clearly that we can and will deny them their objectives at any level of conflict they might contemplate.

a. Flexible Response

By 1961, Soviet nuclear capabilities had grown to the point that the inflexible U.S. strategy of massive retaliation was no longer credible. Consequently, the Kennedy Administration formulated a strategy of flexible response that combined a wide range of conventional and nuclear capabilities to enforce deterrence. Today, some 24 years later, U.S. policy remains one of deterrence through flexible response. To be sure, as the Soviet threat has evolved, so too has our strategy of flexible response. Additional response options and capabilities were built into our nuclear plans and our forces in order to maintain deterrence in the face of Soviet developments. Each of the changes under succeeding administrations had been designed to ensure that the United States possesses the capability to meet aggression at any level an adversary might contemplate -- and thus to prevent it.

Unfortunately, many who have chosen to criticize the evolution of U.S. nuclear strategy seem to measure our current deterrent requirements against some threat of days past, thereby wishing away the reality of emerging imbalances. For example, in 1974, Secretary Schlesinger's nuclear policy modifications were met with concern and misunderstanding. Yet his important step, which increased the flexibility with which a President might respond to an attack (and therefore our ability to deter one), was denounced by some as a move toward "nuclear warfighting." The same thing occurred in 1980 to Secretary Brown. The Reagan Administration has not been spared similar criticism and misrepresentation. The fact remains, however, that deterrence through flexible response continues to be our policy and strategy today, and it will remain so throughout the President's second term. The fact also remains that any discussion of the nuclear strategies needed to deter Soviet attacks always brings forth denunciations of those who discuss or have to deal with these matters.

In order to ensure deterrence, we need to think about and plan against possible failures of deterrence. While we cannot predict how a conflict would escalate should deterrence fail, the credibility of our deterrent forces increases as we demonstrate flexibility in our response options and in our forces. That flexibility offers the possibility of terminating a conflict and reestablishing deterrence at the lowest level of violence possible, avoiding further destruction. Although there is no guarantee that we would be successful in creating such limits, there is every guarantee such limitations would not be achievable if we do not attempt to create them. Flexible response

does not, however, imply that we seek to fight a limited nuclear war or, for that matter, to fight a nuclear war under any conditions. It does imply our profound belief that, if we have the capability to present the Soviet leadership with unacceptable consequences at any level of aggression of which they are capable, then that aggression will not occur in the first place.

b. Coupling: The Conventional-Nuclear Linkage

To enhance deterrence in NATO, we have for many years stationed nuclear forces in Europe. Many of those delivery systems are "dual-capable," meaning they can use both conventional and -- with proper authorization from the President and in consultation with our allies -- nuclear weapons. These nonstrategic nuclear forces, along with conventional forces provided by the United States and other NATO nations, constitute the front line of defense against any Warsaw Pact aggression. All of our nuclear forces are governed by a single coherent policy that governs the linkage among our conventional, nonstrategic nuclear, and strategic nuclear forces. Therefore, the Soviets must understand that an attack on NATO constitutes an attack on the United States and risks the engagement of U.S. nuclear forces.

It is important to note that, in addition to providing a range of nuclear options for deterrence, the adoption of the flexible response strategy in the 1960s also had as a goal improving NATO's conventional capabilities so as to reduce reliance on nuclear weapons to deter or cope with a nonnuclear attack. Unfortunately, neither we nor our allies ever fully met this goal. Thus, with our present effort to increase our conventional strength, NATO is essentially seeking to secure a long-established but elusive goal. The greater urgency with which we have approached this task stems from the fact that, over the past decade, the Warsaw Pact has strengthened its nonnuclear as well as its nuclear forces to a far greater extent than has NATO.

The very purpose of our effort to strengthen conventional forces is to lessen NATO's reliance on the threat to use nuclear weapons to stop a conventional attack. If it is clear to the Soviets that a conventional assault cannot produce a victory, either through a quick campaign or by outlasting NATO in conventional combat, then no rational Soviet planner would launch such an assault in the first place. But we cannot allow our security to rest entirely on the calculations of a Soviet planner as to whether he can successfully attack and invade NATO Europe with his conventional military power. As a result, in addition to our conventional modernization and sustainability programs, our nuclear forces remain an important element in deterring a Soviet attack, especially one supported by nuclear weapons. If the Soviet leadership is aware that NATO will respond to an attack with all the means necessary to defend itself and prevent the USSR from achieving its war aims, then deterrence is strengthened, and the chances of both conventional and nuclear war are reduced.

c. Deterrence at Sea

The United States also deploys dual-capable weapons systems aboard a wide variety of ships. In addition to deterring Soviet first use of similar nuclear weapons at sea, U.S. nuclear antiair and antisubmarine weapons provide unique capabilities that serve as a hedge against a massive and catastrophic failure of our conventional systems. Nuclear-capable carrier-based aircraft and nuclear Tomahawk sea-launched cruise missiles have three vital roles:

contributing to our nuclear reserve force; providing a worldwide deterrent presence; and deterring attacks on our naval forces by Soviet nuclear antiship missiles (especially those aboard Backfire and Badger bombers). U.S. sea-based nuclear forces, along with our land-based forces, support our policy of confronting the Soviet leadership with uncertainty and risk should they contemplate a nuclear war at sea.

2. The Emergence of Nuclear Imbalance

Throughout the 1960s, the United States possessed a strong deterrent, and as a result, the nuclear balance between the United States and the USSR was extremely stable. Our nuclear posture confronted the Soviet leadership with a retaliatory capability sufficient to deny any aggressive ambitions it may have harbored. The United States attempted to maintain this stability by initiating the SALT talks in November 1969. During the negotiations, the United States did not add any strategic launchers to its forces. Indeed, it publicly stated that it was freezing its launcher levels at their 1967 totals and signalled its willingness to see the USSR build up to parity. In contrast, over the next three years of negotiations, the USSR added about 500 ICBM launchers and quadrupled the size of its SLBM force.

The SALT I Interim Agreement on Offensive Arms, signed in 1972 after three years of negotiations, froze the number of ICBM launchers then operational or under construction, while permitting an increase in SLBM launchers up to an agreed level.[1] Qualitative aspects of the arsenals, however, were not addressed. Left unconstrained were the number of weapons on strategic delivery vehicles,[2] the accuracy of those warheads, and the individual throw-weight of the vehicles. When SALT I was signed, the USSR had roughly 2,300 strategic weapons. In 1972, the throw-weight of the entire Soviet ballistic missile force was about 3 million kilograms, and while we had provided some degree of hardening to our 1,000 Minuteman silos, the entire Soviet force could have destroyed only about 200 of the silos.

Negotiations for SALT II began in November 1972 and lasted seven years, spanning three administrations. By the time an agreement was signed by former President Carter and the late Secretary General Brezhnev in June 1979, the Soviet strategic arsenal had more than doubled to roughly 5,500 strategic weapons, with a ballistic missile throw-weight of about 4 million kilograms, enabling the force to destroy promptly about 1,200 hardened targets. Today, the Soviet arsenal contains over 8,000 strategic ballistic missile warheads.

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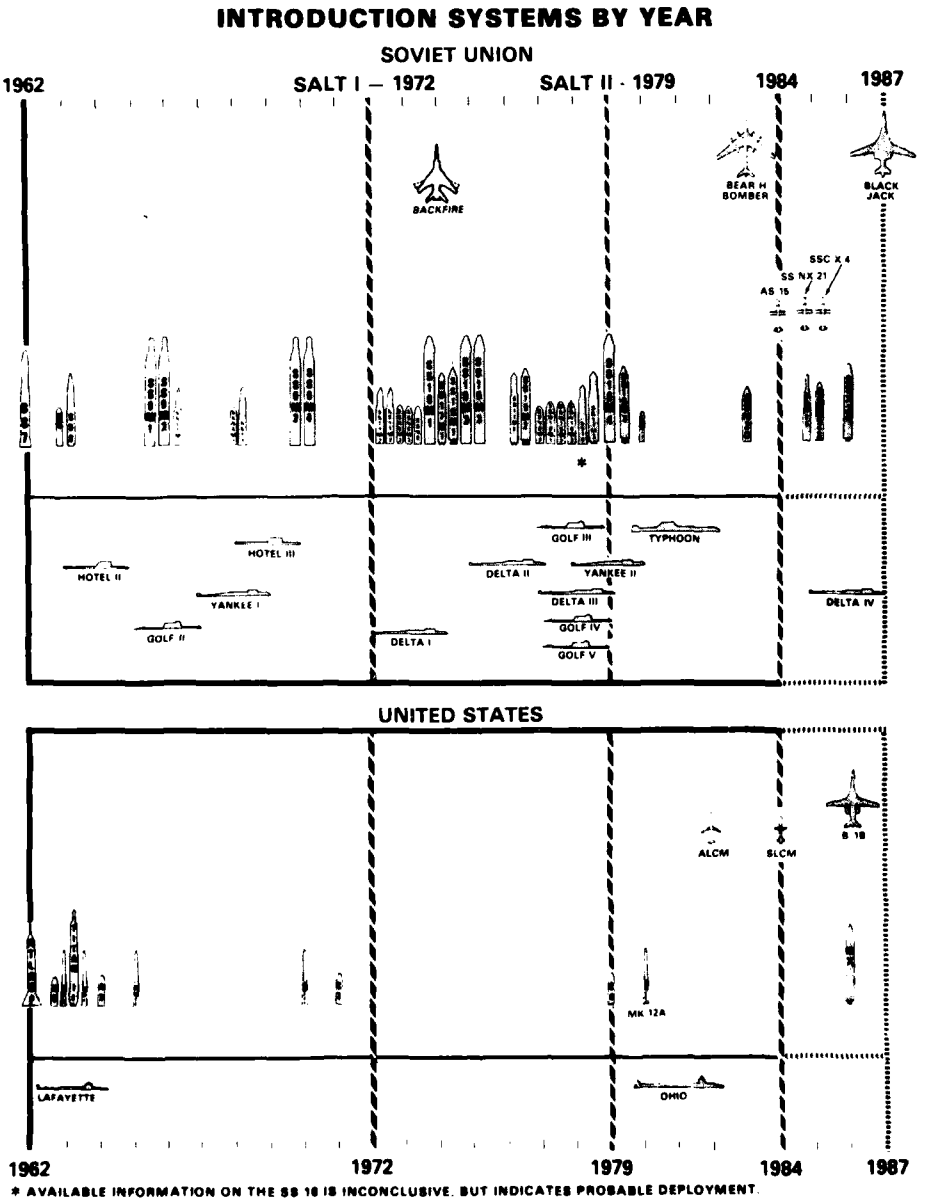
1 At the date of signing, the United States had 1,054 ICBM launchers with no additional ones under construction; the USSR had 1,618 launchers either operational or under construction. Under the terms of the accord, the United States was permitted to increase its 656 SLBMs to 710 if it retired 54 older ICBM launchers (an option we did not exercise at the time); the USSR was permitted to increase from 740 to 950 SLBMs, if it retired older ICBM launchers -- an option it did exercise.

2 Indeed, in the SALT I ratification hearings, the Nixon Administration noted that the U.S. lead in warheads, and our ability to increase that lead further through MIRVing, were an adequate offset to the Soviet superiority in launchers.

This growth in Soviet capabilities reflects the fact that, during the 1970s and continuing to this day, the Soviet Union has been making major qualitative and quantitative improvements in both its offensive and defensive strategic systems that have significantly altered the strategic balance. The following chart illustrates the tremendous magnitude and pace of the Soviet effort.

Chart I.E.1
Introduction of Strategic Systems



The Soviet buildup encompassed all aspects of their nuclear capabilities: long-range aviation, the strategic submarine force, and the land-based missile force. Of greatest concern for strategic stability, however, was the development and deployment of the SS-18 and SS-19 ICBMs. Since the late 1970s, the USSR has deployed more than 300 SS-18s, each twice as large as the U.S. Peacekeeper/MX and capable of carrying ten warheads, and 360 SS-19s, each larger than the MX and capable of carrying six warheads. It would take only a fraction of this force of approximately 5,000 highly accurate warheads -- itself representing only a portion of the Soviet ICBM force -- to destroy most of our land-based missile silos. The emergence of this potential first-strike force occurred fully within the restrictions of SALT I and those being discussed for SALT II. And, perhaps most disconcerting, it occurred despite the fact that in the mid-1970s the United States made a well-publicized choice (of which the Soviets were well aware) to restrict improvements in the Minuteman force's yield and accuracy so as not to threaten the Soviet Union with the creation of a U.S. first-strike capability. That the Soviets did not follow our example in the 1970s must be considered by those who would have us undertake other unilateral restraints today.

In conjunction with their offensive force buildup, the Soviets increased their active and passive defenses in a clear and determined attempt to blunt the effects of a possible U.S. retaliation. This included a modernization of their already large air defense network -- which is today the most sophisticated in the world -- and the development of a new ABM network for the Moscow area. It also included hardening to an unprecedented degree (far above the strength of our Minuteman silos) their ICBM silos and launch facilities, and other key C^3 and leadership bunkers.

The net result of this combination of Soviet defensive measures and U.S. restraint in modernizing its offensive nuclear forces was to allow the Soviet Union a "sanctuary" for its ICBM force and for the other key assets that were protected by hardening. This, combined with the Soviets' ability to attack our Minuteman force using only a portion of their ICBMs, significantly eased the problems of Soviet nuclear planners. They could begin to envision a potential nuclear confrontation in which they would threaten to destroy a very large part of our force in a first strike, while retaining overwhelming nuclear forces to deter any retaliation we could carry out. This ability to conduct a first strike also threatened to make less credible the deterrent linkage between our strategic nuclear force and our forward-deployed conventional and nuclear forces. In addition, the increasing Soviet emphasis on blunting the effects of U.S. retaliation held open the prospect of undercutting deterrence further, because the Soviet leadership could come to believe that their hardening programs would permit them to emerge from a major conflict with their forces, command and control, and other support systems damaged, but still functioning.

The Soviet Union also expanded its intermediate-range and battlefield nuclear forces, including developing an entirely new generation of nuclear artillery and short-range ballistic missiles. Of gravest concern was the wholly unjustified creation and subsequent rapid expansion of the SS-20 missile force. This force, together with other Soviet intermediate-range nuclear forces that can reach Europe and Asia but not the United States, could give the Soviet Union significant coercive leverage, and preclude the Alliance from achieving its objectives in the event of war.

The SS-20 buildup occurred even while the Soviets were conducting a carefully orchestrated propaganda offensive designed to portray the USSR as a peaceful state facing a growing nuclear threat from NATO. In fact, NATO's historic 1979 dual-track decision to deploy 572 cruise and Pershing II ballistic missiles (but to cancel or reduce those deployments if an equitable, verifiable arms reduction agreement was signed) was a studied and measured response to the introduction and rapid growth of Soviet nuclear capabilities as exemplified by the SS-20 force. At the time of the NATO decision, the Soviets already had 140 SS-20 missiles. Over the next four years, years in which NATO did not deploy a single Pershing II or ground-launched cruise missile despite strident Soviet propaganda claims that NATO was increasing the threat to peace in Europe, the number of SS-20s almost tripled.

3. Nuclear Modernization

Aware of these disquieting developments, one of my first tasks on assuming office in 1981 was to conduct an evaluation of the state of our strategic deterrent forces. That review produced two major conclusions.

First, the concept of a strategic triad provides an indispensable element of deterrence. The combined effect of having three complementary legs complicates Soviet attack planning and any efforts to prevent U.S. retaliation. The existence of the three legs provides, in addition, an important hedge against the possibility that a single Soviet technological breakthrough could threaten our overall deterrent capability. By maintaining a triad of forces, we compel the Soviet Union to disperse its resources against three components, preventing if from concentrating its considerable resources on defeating only one or two U.S. strategic systems. The strengths of each triad leg not only complement the strengths of the other two but also compensate for their weaknesses. To deter successfully all types of nuclear attack, our forces as a whole must possess a number of characteristics and capabilities -- including survivability, prompt response, endurance, mission flexibility, and sufficient accuracy and warhead yield -- to retaliate against hardened Soviet military targets. No single weapon system can incorporate all of these capabilities. Submarines are less vulnerable but they are difficult to communicate with at times, and currently their missiles are less accurate. Bombers are accurate and retrievable, but they are much slower. ICBMs are easier to command and provide a quicker response, but they are more vulnerable than submarines. The three systems together can incorporate all of the elements necessary to deter any type of nuclear attack. Thus, the key advantage of the triad is that it provides an important measure of strategic stability.

The second conclusion of my review was that the triad we inherited had deficiencies and was becoming obsolete in all three of its legs. Also, its associated command, control, and communications systems lacked the survivability and endurance necessary to support our nuclear policy. The strategic modernization program begun by the President in October 1981 is designed to address these problems. A little more than three years later, I am pleased to report on our progress.

a. The Support Systems

We are taking steps to ensure that our C^3 systems are survivable and are able to function throughout any sequence of Soviet

attacks. We are upgrading our warning networks to ensure that in the event of attack we would have ample time to respond and that we would be able to respond at the proper level of force. We are upgrading our logistics network to ensure that our deterrent forces remain strong and endurable over extended periods, so that the Soviets could not hope to gain an advantage by trying to outlast us in a crisis. All of these qualities are essential to our ability to implement the flexible response strategy.

b. The Bomber Force

While examining the requirements for deterrence, we recognized that an effective bomber contribution is best served by a combination of penetrating aircraft and standoff cruise missiles, which together could stress Soviet air defenses to the maximum degree.

Our B-52 force has served us well; it has adapted to the upgraded Soviet defenses over the last 25 years. And it will serve us for yet a few more years by providing a standoff capability with the cruise missile while we are procuring 100 B-1B bombers to provide a continued penetration capability. We also are developing an advanced technology bomber (ATB), which we expect to begin deploying in the early 1990s. As the ATB is fielded, some of the older B-52G models will be retired, and the B-1Bs will assume the role of cruise missile carrier. This will maintain a mix of cruise missiles and manned penetrators well into the next century.

c. The Submarine Force

The fleet of 31 Poseidon submarines forms the backbone of our sea-launched ballistic missile force. All of these submarines were built in the mid-1960s. In the late 1970s, 12 of these submarines were modified to carry the longer range Trident I (C-4) missile. Neither the Poseidon missile nor the Trident I missile is capable of retaliating against hard targets; furthermore, the Poseidon submarines themselves will approach block obsolescence beginning in the 1990s, when they reach their 30-year service anniversaries. In order to provide for a modern SSBN force in the future, we are continuing to build Trident submarines at a rate of one per year. Four of these SSBNs are already operational carrying the Trident I missile, and a fifth, the USS HENRY JACKSON, will soon begin patrol. To rectify the inability of existing SLBMs to deal with hardened Soviet targets, we are developing the Trident II missile. When deployed at the end of this decade, the Trident II will strengthen our flexible response deterrent by providing an enduring hard-target capability. For the near-term, in accordance with the President's strategic modernization program, we completed development in 1984 of the nuclear Tomahawk sea-launched cruise missile (SLCM) and began deploying the system aboard selected Navy combatants.

d. The Intercontinental Ballistic Missile Force

The Congress is well aware of the controversy surrounding the issue of ICBM force modernization. Through the efforts of the Scowcroft Commission, a genuine bipartisan solution to this formidable problem was developed in 1983 and was subsequently endorsed by both the Administration and the Congress. The solution recommended by the Commission addresses the twin problems of restoring U.S. ICBM hard-target capability, jeopardized by Soviet hardening programs, and of ensuring the survivability of the U.S. ICBM force, endangered by Soviet SS-18 and SS-19 deployments. The solution advanced by the

panel calls for deploying two different types of missiles in different basing modes, which together, will restore the viability of the ICBM leg of our triad.

The Peacekeeper missile, scheduled for deployment in selected Minuteman silos in 1986, is the only near-term answer for providing a prompt capability to hold time-urgent hardened Soviet assets at risk. It has been debated for eleven and one-half years. During that time, we have invested over $6 billion in the system. The Peacekeeper force will have all the positive attributes traditionally associated with fixed-based ICBMs, such as high effectiveness across the target spectrum, low operational costs, a near 100 percent readiness level, and highly redundant command, control, and communications links.

The new, small, single-warhead ICBM is being designed to be mobile -- and therefore highly survivable and endurable. It will be deployed in the early 1990s. Together, it and the Peacekeeper will form the backbone of our land-based missile force in the 1990s and into the next century. We are also exploring other techniques to increase the survivability of our silo-based forces through such methods as super-hardening and deep underground basing, in combination with active defenses.

The Congress will face a number of decisions early this spring that are crucial to the Peacekeeper program. The Peacekeeper is an essential element of the triad. It helps to preserve a strong deterrent by offsetting the Soviet hardening program, thus providing a strong incentive for arms reductions agreements.

e. Nonstrategic Nuclear Forces

In accordance with its 1979 dual-track decision, NATO began deployments of Pershing II and ground-launched cruise missiles at the end of 1983 in the absence of an INF arms control agreement and as a response to the unprecedented growth of Soviet nuclear capabilities, particularly the SS-20 force. These deployments continued on schedule during 1984. In accordance with the Alliance program, deployments will continue at a gradual and steady pace over the next four years.

Also under way is the implementation of the October 1983 Montebello decision, in which NATO Defense Ministers mandated the withdrawal of 1,400 nuclear weapons from NATO's stockpile over the next several years. These reductions are consistent with Alliance policy that the number of nuclear weapons in the stockpile should be at the lowest level commensurate with our security needs. Steps are also under way within the Alliance to improve NATO's nonstrategic nuclear forces in accordance with the Montebello mandate so as to ensure that the nuclear weapons stockpile retains its capability to deter aggression, even in the face of increasing Soviet theater nuclear capabilities.

4. The Strategic Defense Initiative

What if free people could live secure in the knowledge that we could intercept and destroy strategic ballistic missiles before they reached our own soil or that of our allies?

President Reagan's historic speech on March 23, 1983, challenged the notion that we must always remain hostage to enemy ballistic missiles. Much has happened since then. The FY 1985 DoD budget, submitted to the Congress a year ago, contained a research program restructured on the basis of technology and policy analyses conducted in 1983. This new program focused our efforts on powerful new technologies that may provide options for an effective defense against ballistic missiles. In early 1984, I created a new organization within DoD, the Strategic Defense Initiative Organization (SDIO), directly responsible to me. Under able leadership and with the assistance of the Joint Staff, Service staffs, and various elements of OSD, the SDIO is directing research into the vast array of technologies applicable to the new weapons, sensors, and data-processing capabilities required for a task of this magnitude.

As a broad research program, the SDI is not based on any preconceived notions of what an effective defense system would or should look like. A number of different concepts, based on a range of promising technologies, are being examined, but no single concept or technology has yet been identified as the best or most appropriate one.

The goal, however, is clear and unchangeable:
It is to secure a thoroughly reliable defense against all incoming Soviet missiles, either intermediate or long-range, and to destroy, by nonnuclear means, those missiles before they get near any target.

Effective defenses against ballistic missiles can significantly enhance deterrence. Such defenses could increase an aggressor's uncertainties regarding the ability of his weapons to penetrate them and destroy their intended targets. If the Soviet leaders were ever to contemplate initiating a nuclear attack, their purpose would be to destroy U.S. and NATO military forces that would be able to oppose their aggression. Yet, it would be very difficult for Soviet military planners to predict the likely outcome of a nuclear attack in the face of strategic defensive systems. Defenses that could deny to Soviet missiles the objectives of an attack, or deny to the Soviets confidence in the achievement of those objectives, would discourage them from even considering such an attack, and thus be a highly effective deterrent.

Based on our research so far, we cannot now say how soon we will be in a position to make decisions on defensive options; nor can we today describe all the forms such defenses could take. Clearly, Soviet military planners and scientists are confident that strategic missile defenses will be effective. Their extensive effort to acquire such defenses provides ample evidence of their conviction, as does their major effort to stop us from proceeding with our own defense initiative.

We all recognized from the outset that a complete system, or combination of systems, of strategic defenses could not be deployed overnight. There could well be a transitional period when some defenses would be deployed and operating before others might be ready.

Some have argued that such a transition would be particularly dangerous; that it would upset the present deterrent system without putting an adequate substitute in its place. The opposite is the case. If properly planned and phased, the capabilities deployed first would strengthen our existing deterrent. In fact, the initial capabilities could make a major contribution to the prevention of nuclear war before a fully effective system is deployed, because they would create many of the same uncertainties for Soviet planners that a fully deployed system would engender.

Thus, based on a realistic view of Soviet military planning, the transition to strategic defense would not be destabilizing. On the contrary, initial defense capabilities would offer a combination of benefits. They would contribute to deterrence by denying Soviet attack goals. Should deterrence ever fail, they would save lives by reducing the scope of destruction resulting from a deliberate Soviet attack. And, in the case of an accidental Soviet launch, defenses would be the only hope for protecting our people. The more effective the defense, the more effective this protection would be.

Nevertheless, we would not want to let our efforts toward a transitional defense exhaust our energies or dilute our efforts to secure a thoroughly reliable, layered defense that would destroy incoming Soviet missiles at all phases of their flight. Such a system would destroy weapons, not people. It would not raise the question of whether we were trying to defend missiles or cities. We would be attempting to destroy Soviet missiles by nonnuclear means before Soviet missiles could approach any targets in the United States or the territory of our allies. The choice, therefore, is not one of defending people or weapons.

a. The Strategic Defense Initiative and The Defense of Allies

Because the security of the United States is inextricably linked to the security of our friends and allies, the SDI program will not confine itself solely to an exploration of technologies with a defensive potential against ICBMs and SLBMs. We will also examine, and at the same time work to achieve, technologies that will be effective against shorter range ballistic missiles. Indeed, there is reason to believe it will be at least as easy to destroy lesser range missiles as to destroy ICBMs. Throughout 1984, we held extensive discussions with our allies on the SDI effort. Given its potential contribution to collective security, SDI will be a major topic of mutual interest, and therefore will continue to be discussed with our friends and allies over the months and years ahead.

An effective defense against shorter range ballistic missiles could have a significant impact on deterring Soviet aggression in Europe. Soviet doctrine stresses the use of conventionally armed ballistic missiles to initiate rapid and wide-ranging attacks on crucial NATO military assets throughout Europe. The purpose of this tactic is to reduce NATO's ability to resist effectively the initial thrust of a Soviet conventional attack and to impede NATO's ability to resupply and reinforce its forces from outside Europe. By reducing or eliminating the military effectiveness of such ballistic missiles, defensive systems have the potential for enhancing deterrence not only of nuclear war, but of conventional war as well.

Over the next several years, the United States will continue to work closely with its allies to enhance security. In the event that a decision to deploy defensive systems is made, consultation with our allies will play an important part.

b. Hedge Against Soviet Defensive Technology Program

Some critics of the President's Strategic Defense Initiative have the misconception that this increased emphasis on defensive systems is solely a U.S. initiative, which will alter the strategic balance. This is not the case. The Soviet Union has always considered defense to be an important and natural part of its national security policy. The extensive, advanced Soviet air defense network and the Soviets' large civil defense program are obvious examples of the priority they have attached to strategic defenses. In addition, the Soviets have for many years been working on a number of technologies, both traditional and advanced, with a potential for effectively defending against ballistic missiles. The Soviet Union currently is upgrading the capability of its Moscow ABM defense system -- the world's only operational ABM system. The Soviets also are engaged in research and development (R&D) on a rapidly deployable ABM system that raises concerns about their potential ability to abrogate the ABM treaty and deploy a nationwide ABM defense system within the next ten years should they so choose.

In addition to these ABM efforts, the Soviet Union is deploying a new surface-to-air missile system, the SA-10, and is flight testing another, the SA-X-12, both of which we believe can intercept some types of ballistic missiles. These air defenses and their radars are of concern because of their potential to provide the Soviet Union and its Warsaw Pact allies some degree of ABM protection -- all within the bounds prescribed by the ABM treaty.

Since the late 1960s, the Soviet Union also has been pursuing a substantial advanced defensive technologies program -- a program that has been exploring many of the same technologies of interest to the United States in the SDI program. In addition to covering a wide range of advanced technologies, including various laser and neutral particle beams, the Soviet program is much larger than the U.S. effort in terms of the amount of resources invested -- plant, capital, and manpower. These efforts could lead to the testing of space-based ABM systems in the mid-1990s and to their deployment after the turn of the century. The President's initiative, therefore, is being pursued in part as a prudent response to Soviet R&D activities in this field and as insurance against unilateral Soviet efforts to develop and deploy an advanced defensive system. A unilateral Soviet deployment of such advanced technologies, in concert with the Soviet Union's massive offensive forces and its already

impressive air and passive defense capabilities, would make this a far more dangerous world than it is now.

These Soviet programs amply demonstrate that the Soviet Union does not feel restrained by the ABM treaty's prohibition against a widespread defense against ballistic missiles. Consistent with the importance Soviet doctrine places on defense, if the Soviets were to develop such a system as a result of their intensive research program, in all probability they would deploy it.

In the near term, the SDI provides a powerful deterrent to a potential Soviet breakout from the ABM treaty, a prospect made more worrisome by recent compliance questions -- such as the construction of a new Soviet radar, which almost certainly is in violation of the ABM treaty. The SDI research program also makes clear that the United States takes seriously the Soviet buildup in offensive arms.

In the long term, SDI may provide the means by which both the United States and the Soviet Union can safely agree to very deep reductions and, someday, even the elimination of nuclear arms. We have sought to engage the Soviet Union in comprehensive discussions on how to make arms reductions more effective in the near term and on how to provide a safer future for all mankind.

F. ARMS REDUCTIONS AND RELATED DIPLOMATIC PRIORITIES

Our overall national security policy complements military strength with active diplomacy to maintain the peace and reduce tensions.

1. Nuclear Arms Reductions

The United States has long exercised restraint in its nuclear posture. We now have 25 percent fewer nuclear warheads and 75 percent less nuclear explosive power (measured in megatonnage) than we had in the 1960s. The reductions in our nuclear arsenal during the past two decades attest to our commitment to retain the fewest possible nuclear forces consistent with the requirements of defense and deterrence.

We are in the process of implementing similar substantial reductions in NATO's nuclear arsenal, independent of any arms control agreement. As part of the December 1979 dual-track decision on the modernization of longer range intermediate-range nuclear forces (LRINF), NATO decided to withdraw 1,000 nuclear weapons from Europe, an action completed in 1980, and to remove one nuclear warhead for each of the 572 Pershing II and ground-launched cruise missiles deployed. After careful study of the Alliance's nuclear needs, the NATO defense ministers decided in October 1983 to remove an additional 1,400 nuclear weapons from Europe over the next few years. As a result of those decisions, we will have withdrawn more than five nuclear warheads for each new LRINF warhead deployed -- even if we do not succeed in reaching an intermediate-range nuclear force (INF) arms reduction agreement.

Unfortunately, the Soviet performance has been quite different. Rather than reducing, or even curbing the growth of its nuclear arsenal, the Soviet Union has engaged in an unprecedented and relentless expansion of its nuclear forces. Disregarding our efforts to establish a stable balance at lower force levels, the USSR took advantage of U.S. restraint to try to achieve clear nuclear superiority. As a consequence, the United States has gone as far as it should with unilateral nuclear arms reductions. Further reductions must be negotiated bilaterally.

The United States is committed to far-reaching nuclear arms reductions that are equitable and verifiable and increase international stability and security. The approach taken by earlier agreements like SALT I and II, which simply limited, and thereby legitimized, future growth is not enough; at best, they can only divert us from the real goal of actual reductions. Furthermore, the record of Soviet noncompliance with earlier arms control agreements demonstrates how vital it is that future accords be precisely drafted, include effective verification provisions, and be complied with by all parties. In this regard, if arms control is to be an effective stabilizing force in the future, it is imperative that the Soviet Union take a more constructive approach to its obligations than it has in the past.

In the Strategic Arms Reduction Talks (START) and the intermediate-range nuclear force (INF) negotiations, the United States proposed deep cuts in nuclear arms, focusing on the systems of greatest concern to each side. In START, we called for a 33 percent decrease in the number of warheads deployed on strategic ballistic missiles. In the INF negotiations, we proposed the elimination -- or at least a

substantial reduction -- of U.S. and Soviet LRINF missiles Additionally, in START we have called for limitations on bombers and other strategic systems. Regrettably, the Soviet Union walked out of the INF talks in November 1983, and shortly thereafter refused to agree to a date for the next round of START.

In June 1984, although the USSR had not returned to either START or the INF talks, it proposed that our two governments meet in Vienna in September to begin "talks to prevent the militarization of outer space." The United States promptly accepted the proposal, and at the same time, made it clear that we considered the most pressing task to be reductions in offensive nuclear arms. The United States pointed out that the militarization of space began when the first ballistic missiles were tested and when such missiles and other weapons systems using outer space were first deployed. Faced with a positive U.S. response to their proposal, the Soviets then demanded that we institute a moratorium on antisatellite (ASAT) weapons tests before opening any talks. That precondition represented an unacceptable attempt to preserve a Soviet weapons monopoly and consequently to weaken U.S. deterrence capability. Since the United States is only now developing an ASAT capability, a testing moratorium would leave the USSR as the only nation with an operational ASAT weapon.

In his September 1984 speech to the United Nations General Assembly, President Reagan suggested a bold initiative to break the impasse in nuclear arms reductions:

We need to extend the arms control process to build a bigger umbrella under which it can operate – a road map, if you will, showing where, during the next 40 years or so, these individual efforts can lead. This can greatly assist step-by-step negotiations and enable us to avoid having all our hopes or expectations ride on any single set or series of negotiations. If progress is temporarily halted at one set of talks, this newly established framework for arms control could help us take up the slack at other negotiations.

After discussing the President's proposal, the United States and the Soviet Union agreed to begin negotiations on the whole range of questions concerning nuclear and outer-space arms. Secretary of State Shultz and Soviet Foreign Minister Gromyko met in Geneva in January 1985 to discuss the agenda and objectives of the negotiations. They agreed that the forthcoming talks would address a complex of questions concerning space and nuclear arms, both strategic and intermediate-range. The timing and location of the negotiations will be arranged through diplomatic channels. We expect that each delegation will be divided into three groups and will address strategic nuclear arms, intermediate-range nuclear arms, and space and defensive arms. In that last forum, we plan to discuss both the means of moving toward a more defense-oriented deterrence, as well as space-based systems that can attack targets in space.

There is a clear relationship among all the different types of arms to be addressed in the negotiations. Since the Strategic Defense Initiative is only a research program, and while we are still many years away from any decision on whether to develop and deploy advanced defenses against ballistic missiles, nevertheless, we are prepared to discuss with the Soviet Union the issue of strategic defense. However, these talks will consider existing Soviet defenses as well as each side's research programs in this area.

The agreement between Secretary of State Shultz and Soviet Foreign Minister Gromyko marks a welcome new beginning. We have a long and difficult task ahead of us, but if we are patient and persistent, I have every hope that we can achieve deep reductions in nuclear weapons along with increased strategic stability, both of which are in the best interests of the United States, the Soviet Union, our allies, and indeed, the entire world. In order to achieve that goal, we must retain the same determination to preserve the military balance that has encouraged the USSR to return to the negotiating table. Our firm commitment to nuclear force modernization, to the continued development of an antisatellite (ASAT) capability, and to strategic defense is vital to the success of the coming negotiations.

While we seek bilateral nuclear arms reductions with the Soviet Union, we must also be attentive to the problem of nuclear proliferation. If the number of nuclear-armed nations were to increase, the risk of nuclear war would grow. Moreover, the spread of nuclear weapons raises the possibility of these weapons falling into the hands of subnational groups. Along with more than 100 other nations, the United States supports the Non-Proliferation treaty, which recognizes the universal interest in controlling the spread of nuclear arms. In recent years, the United States and the Soviet Union have discussed this issue periodically. We have now decided to hold these consultations on a regular basis.

2. Related Diplomatic Priorities

We also are actively engaged in seeking other important force reductions. In April 1984, the United States presented a draft treaty to the Geneva Conference on Disarmament calling for a comprehensive and verifiable global ban on the production, stockpiling, possession, transfer, and use of chemical weapons. To ensure that parties to a global ban would not be able to violate it, as has been the case with the Geneva Protocol forbidding chemical weapons use, the U.S. draft treaty provides for unique, cooperative verification measures.

In the Mutual and Balanced Force Reduction (MBFR) talks, the United States and its NATO allies are negotiating with the Warsaw Pact to reduce conventional forces in Central Europe. NATO has called for reductions to 700,000 ground force personnel and for a combined total of no more than 900,000 air and ground force personnel on each side. Progress in the MBFR talks has been stymied primarily because of the Warsaw Pact's intransigence in agreeing to provide force level data and permit adequate verification measures. In April 1984, the West presented a new initiative designed to overcome those obstacles. It offered Western flexibility on the data question in exchange for Warsaw Pact flexibility on verification.

In other discussions with the Soviet Union, we are seeking agreements on measures to reduce the risk that conflict could ever break out as a result of accident, miscalculation, or misunderstanding.

While such steps -- known as confidence-building measures -- would not affect the level or type of military forces, they could help ensure that those forces are never used inadvertently.

In April 1983, with strong congressional support, I recommended to the President several improvements in the U.S.-Soviet communications network that would significantly enhance our ability to resolve a crisis or avert a misunderstanding. Specifically, I called for the addition of a high-speed facsimile capability to the Direct Communications Link (or "hotline"); the establishment of a Joint Military Communications Link for the transmission of urgent military-related information; and the establishment by both the U.S. and Soviet governments of improved communications with their embassies in each other's capital.

The President endorsed those proposals, and we began negotiating with the Soviet Union in August 1983. In July 1984, the two sides agreed to add a high-speed facsimile capability to the Direct Communications Link (DCL). This modest but positive step will enable the U.S. and Soviet heads of government to transmit messages over the DCL far more rapidly than they can now. For the first time, they will be able to use the DCL to exchange graphic materials such as maps and photographs; that kind of information could be invaluable in helping to resolve an ongoing crisis or military incident.

In his September 1984 United Nations speech, the President suggested several further bilateral measures to enhance U.S.-Soviet knowledge and understanding. These include regular U.S.-Soviet Cabinet-level meetings on a variety of issues, sharing of information on weapons procurement and development plans, exchange of observers at military exercises, and direct measurement of nuclear test yields.

In January 1984, the United States, its NATO allies, the Warsaw Pact, and Europe's neutral and nonaligned states opened the 35-nation Conference on Confidence- and Security-Building Measures and Disarmament in Europe (CDE). Early in the conference, NATO proposed a set of measures designed to reduce the risk of conflict by surprise attack or miscalculation, limit the opportunities to use military force for political intimidation, and enhance communications among the signatory states. These measures include: an open exchange of information on ground and air forces; forecasts and notification of, and observer invitations to, a range of military activities; verification through on-site and aerial inspection; and methods for improved communications.

3. Compliance

As the President stated in his 1984 Report to the Congress on Soviet Noncompliance with Arms Control Agreements, if the concept of arms control is to have meaning and credibility as a contribution to global or regional stability, it is essential that all parties to agreements comply with them. Unfortunately, the Soviet record of compliance is not supportive of this objective. In his January 1984 report to the Congress, the President concluded that the Soviet Union has violated or probably violated several of its major arms control obligations and political commitments.

Thus the Soviets have used, or supported the use of, chemical agents and toxin weapons in Afghanistan and Southeast Asia in violation of the Geneva Protocol and the Biological Weapons Convention. They have violated the Helsinki Final Act requirement of

advanced notification of certain major military exercises, and the SALT II limits on encryption of missile test telemetry. A new large phased-array radar that they are now building in the central USSR is almost certainly in violation of the 1972 ABM treaty. The SS-X-25 missile is probably a second new ICBM type, prohibited by the SALT II agreement; if it is not, it violates the SALT II provisions regarding the permitted ratio between the weight of an ICBM reentry vehicle and the missile's total throw-weight. In addition, it is likely that the Soviets have violated the Threshold Test Ban treaty limits on the size of underground nuclear tests, and they probably have deployed SS-16 missiles in violation of SALT II.

In response to additional requests from the Congress, the President will submit a further report of his findings regarding other Soviet arms control noncompliance issues. Furthermore, at congressional request, in October 1984, the President submitted both classified and unclassified versions of an independent review by the bipartisan General Advisory Committee on Arms Control and Disarmament. Based on a year-long analysis, that report cited numerous instances of Soviet noncompliance with arms control agreements over the past 25 years.

Dialogue with the Soviet Union must encompass our compliance concerns as well as our arms control objectives. We are continuing to pursue these issues with the Soviet Union, seeking explanations, clarification, and corrective actions. In current and future arms negotiations, just as in our defense policy, we must take into account the Soviet compliance record as we search for productive avenues to preserve peace and enhance global stability.

G. FACING THE CHALLENGES OF THE 1990s

As a capstone to this overview of defense policy, we should look ahead to the security challenges we likely will face through the end of our program years (1990) and beyond.

Because America's security and economic well-being will continue to depend on events and resources abroad, our vital national interests worldwide will remain at least as extensive as they are today. Our political, economic, and financial ties with other nations will grow as the world becomes more interdependent and more closely linked by improved international communications and transportation.

Unfortunately, there is scant evidence that the diverse threats to world peace and U.S. interests abroad will subside. Because of its unrelenting military investment coupled with an opportunistic foreign policy, the Soviet Union will remain the most serious threat facing U.S., allied, and mutual interests. Moscow's current and past behavior justify no optimistic assumptions about its future intentions. Furthermore, America's interests will also remain threatened by terrorism, the proliferation of arms, low-intensity conflicts, and widespread political and economic instabilities.

The constancy of American interests and the threats facing them suggest that our strategy of deterrence and defense will retain its validity. For that strategy to continue to preserve the peace, America must restore and preserve the military balance. While we have made considerable progress to date, we cannot say that we have finished the task because the Soviets continue to add to their military might, and deterrence is not a static concept. Our nuclear forces must be strengthened to bolster our deterrence and to provide incentives for the Soviets to agree to significant mutual arms reductions. We also need to continue the balanced improvement of our conventional forces, maintaining our progress in readiness and sustainability while persevering in our long-term modernization efforts.

In sum, our future defense efforts should be much like those of the past four years. And if, as we expect, those efforts continue to protect our nation, our allies, and our interests, we will have carried out our primary security responsibility successfully. But many Americans, with characteristic idealism, legitimately may ask if the future might hold the happy prospect of even more hope for all mankind.

There is a brighter message. The most prominent ray of hope is the promise of strategic defense. President Reagan's Strategic Defense Initiative (SDI) is a bold start toward freeing people from the threat of nuclear weapons. We are pursuing new technologies that someday may enable us, if we are completely successful, to reduce substantially, and we should hope ultimately to end, the terror of offensive nuclear ballistic missiles. If we can attain that goal, all nations will become more secure and better in every way.

The President's SDI is just one example, although a very special one, of how the United States and its allies can develop and exploit new technologies to protect our security and freedom more effectively. Other innovations can markedly improve our military capabilities in ways that will enhance our deterrence and defense posture. Advanced technology is an inherent advantage that the West must continue to keep and to exploit in order to ensure the security of us all. America and its allies have not sought to protect themselves by

matching their adversary's capabilities quantitatively. In the future, our wisest course will continue to be to seek security through quality of our forces. The intensive development and fielding of advanced technology can enable us to do this in the most achievable and affordable way.

The freedom that we and our allies seek to safeguard fortunately supports economic systems and open societies in which helpful new ideas can flourish. Freedom is the West's foundation for peace. But neither technological advantage nor improved security flow automatically from conditions that support them. We must actively cultivate and protect our technological edge.

The United States is not caught up with the Soviet Union in some spiraling competition that can lead only to more arms and greater budgetary burdens. In fact, from the West's resolve to ensure our security can flow the incentives for our adversaries to agree to diminish their stockpile of arms and curb their aggressive behavior. The Reagan Administration is firmly committed to the achievement of meaningful, verifiable arms reductions. Unfortunately, we cannot predict our success at arms agreements because we do not know how seriously the Soviets will bargain. We do know, as history has shown, that successful bargaining with the Soviets takes patience and firmness. We will continue in future years to take every opportunity to obtain genuine arms reductions. Recent Soviet actions do give us some cause for hope. We trust we will not again be disappointed.

Optimism about the future prospects of peace and freedom is reinforced by renewed confidence in America's leadership in the world. Supporting that leadership role, is a broad-based, bipartisan consensus that we must be strong to protect ourselves and our interests; that realism, not wishful thinking, is the only basis for evaluating our adversaries; that we must deal with the world as it is, not as we would like it to be; that uncomfortable facts of modern life, like nuclear weapons or terrorism, cannot be wished away; and that genuine arms reductions are achievable if we have patience and determination.

More reassuring and cost-effective security is our nation's hope and this Department's mandate. This document highlights what we are doing, and what we need to do, to achieve that end. The key to progress in all we seek, from correcting our military vulnerabilities to attaining arms reduction agreements, is the resolve to stay militarily strong, maintaining the deterrent and defense necessary to preserve peace and freedom.

Part II
Defense Resources

A. THE DEFENSE BUDGET

1. Introduction

Too often overlooked in any discussion of defense requirements is the overriding purpose of America's military forces, that is, to guarantee and maintain peace. It is not really so incongruous that the weapons and equipment that we plan for and buy each year, while implements of war, are also guarantors of peace. Without a firm national resolve reinforced by a strong military force, our adversaries would have no incentive to temper their increasingly global incursions or to negotiate arms reduction. Therefore, America's military forces assume an important function in international diplomacy. In fact, the military's role of peacekeeper is equal in importance to its traditional role of warfighter.

The worldwide presence of our troops in international peacekeeping forces, other deployments, and our ships strategically placed in the Mediterranean, Indian Ocean, and Caribbean all bear witness to America's commitment to the pursuit of peace worldwide. As the Soviets and their allies have projected their military power across the globe, it has been even more crucial that we establish and maintain our own military forces on a global basis. Our naval fleets provide a mobile and impressive presence underscoring our resolve to preserve our national interests and those of our allies. Obviously, this peacekeeping role is dependent upon the existence of a military force of sufficient capability to defend our interests against military threats and foreign aggression. The defense program is designed to meet our worldwide commitments and still provide for increased modernization, improved sustainability, and guaranteed readiness. It reflects security requirements based upon Soviet intentions and capabilities. It is not precisely the program we would most like to have if we lived in a world in which we could make our defense program decisions unilaterally. Unfortunately, we do not live in such a world, so our defense budget and programs are driven by growing Soviet worldwide capabilities.

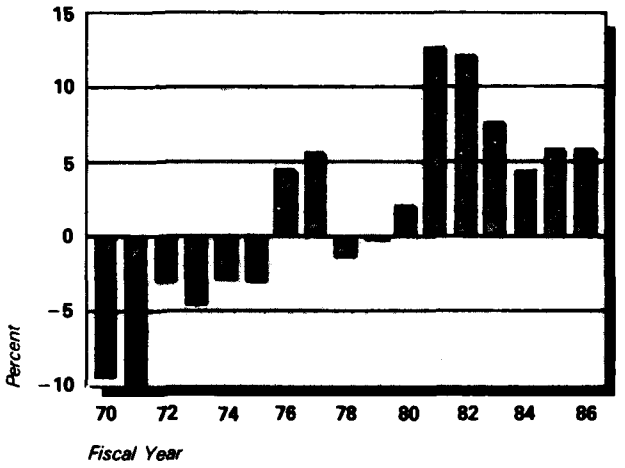
The determination of the level and mix of budget resources necessary to meet our security requirements is a difficult and complex task. It involves detailed planning, programming, and budgeting efforts at all levels of the Department of Defense. Fundamental to the development of our defense objectives is the determination of the national security requirements of our foreign policy goals and the threats to those objectives. We must develop a strategy to achieve those objectives and identify the manpower, logistics, and materiel requirements to implement that strategy. Finally, we must determine the total level of resources necessary to fund these requirements and their most effective allocation. But even then the process does not stop, for once we receive these resources from the Congress, we must make sure that they are spent efficiently.

Substantial resources are required to preserve and enhance the security of our nation. As history clearly reflects, when there is an extended period of inadequate funding for our national defense, a deterioration of our military capabilities occurs. The funding requirements to restore these capabilities then become even larger and more burdensome. This is exactly the situation we faced in 1981. As Chart II.A.1 shows, DoD budget authority declined during most of the 1970s. The resultant deterioration in the combat readiness and equipment modernization of our forces, combined with an unprecedented growth in Soviet military spending during the same

period, had a detrimental effect on our ability to counter threats to our security. Therefore, we must invest increasingly greater levels of resources for defense to rebuild our military strength.

Chart II.A.1

Real Growth in DoD Budget Authority



There was strong congressional and public support for the view that while the nation cannot afford to provide a limitless amount of resources for national defense, it must provide whatever is needed to ensure the future security of our economic and political institutions. The Congress became a full partner in this effort and supported more than 12 percent real growth in defense budgets for both FY 1981 and FY 1982. From FY 1983 to FY 1985, growth in defense budgets increased as well, but at a much lower rate. This was due, in part, to the perceived need by the Congress to trim defense spending, along with other federal spending, as part of the overall fiscal constraint necessary to control the federal budget deficit. However, the slowing pattern of growth reflects an evident weakening of congressional commitment to continued support for the necessary levels of defense funding.

As a result, there has been a loss of momentum in our efforts to achieve our national security goals, and there is considerable concern that a continuation of this loss will eventually undermine the improvements we have made thus far and will indefinitely defer and make more expensive the achievement of an adequate national security posture.

The defense improvements that are currently under way are significant, and we are accruing many benefits from this substantial investment in our future security. A heightened state of readiness, a very high level of morale and combat-effectiveness in our military personnel, and a firm foundation in our modernization program all demonstrate the worth of that investment. Our willingness and ability to support U.S. security interests worldwide have met with the approval and support of our allies. Faced with this increased resolve, the Soviets, following a period of aggression in the mid- to late 1970s, have realized no geopolitical victories in the last four

years. But, there is the fear that, having accomplished so much, we may again become complacent and impatient with the continuation of the long, difficult, and expensive task of regaining our deterrent capabilities and studying how to obtain and deploy a thoroughly reliable strategic defense. The Soviets feel they can always outwait us. In doing so, they hope to prevent "impatient democracies" from achieving their goals.

We now face a critical point in our rebuilding program. Our challenge is to sustain the progress we have made to date as we continue the steady march toward our goals. The programs provided for in the FY 1986 defense budget are a necessary part of our ability to meet that challenge.

The FY 1986 defense budget builds upon the foundation laid in FY 1982-85. It reflects not only our efforts to increase the level of national security but also ongoing efforts to improve the efficiency of DoD expenditures and program execution. We have sought to invest our resources wisely, to improve the way we do business, and to attain more efficient production levels for our industrial base. A few headlines (generated by our own audits of past years) notwithstanding, significant progress has been made within DoD in achieving not only more defense but more defense for the dollar. This budget represents our continued emphasis upon good management practices. It reflects known and anticipated benefits from long-term institutional changes designed to address fraud and mismanagement. This is consistent with our stewardship role in providing adequate levels of defense through the most efficient use of our nation's resources.

2. Components of the FY 1986 DoD Budget

Table II.A.1

Department of Defense Budget
($ Billions)

Current-Year Dollars	FY 1984	FY 1985	FY 1986
Total Obligational Authority (TOA)[a]	258.2	285.3	314.4
Budget Authority (BA)[b]	258.2	284.7	313.7
Outlays[c]	220.8	246.3	277.5
FY 1986 Dollars			
Total Obligational Authority (TOA)[a]	279.6	296.7	314.4
Budget Authority (BA)[b]	279.5	296.1	313.7
Outlays[c]	238.3	256.1	277.5

[a] *Total Obligational Authority (TOA)* represents the value of the direct defense program for each fiscal year, regardless of the method 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* represent actual expenditures. Less than 62 percent of FY 1986 outlays will result from FY 1986 budget authority; the remainder will come from budget authority provided in earlier years.

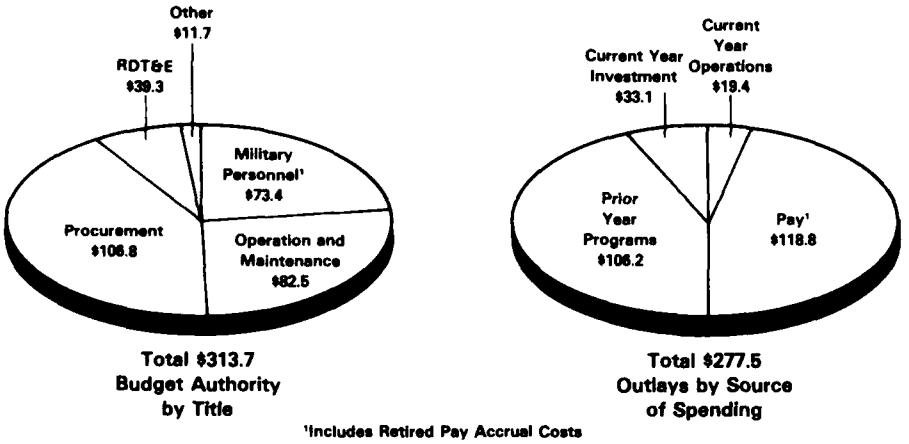
a. Overview

The President's defense budget, shown in Table II.A.1, proposes budget authority (BA) of $313.7 billion for FY 1986. This represents an increase of $29 billion over FY 1985. The tables in Appendix A provide budget data by appropriation title and by component in current and FY 1986 constant dollars.

The distribution of FY 1986 BA by major appropriation title and FY 1986 outlays by source of spending is shown in Chart II.A.2. Operating costs, including Military Personnel (MP) and Operations and Maintenance (O&M) appropriations, represent about 50 percent of DoD's budget authority. This category includes: payments to military and civilian personnel and the accrued retirement cost of the current military force, allocations for maintenance and repair of equipment, and for utilities, medical costs, training, petroleum and lubricants, and spare parts.

Chart II.A.2

FY 1986 DoD Budget
(Dollars in Billions)



¹Includes Retired Pay Accrual Costs

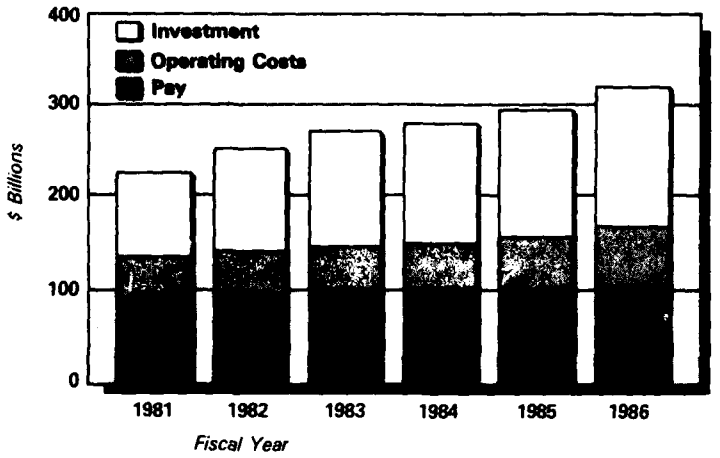
The remainder of the budget contains funds for investment in research and development (R&D), procurement of weapons systems, and military construction and family housing. Of particular importance is the continued development of state-of-the-art, high technology defense systems.

Outlays in FY 1986 again will go primarily for current year operations (7.0 percent), pay and pay-related items (42.8 percent), and prior year investment requirements (38.3 percent). Current year operations relate to the base structure and support costs. Outlays from prior year programs represent amounts already on contract and are largely a function of procurement and R&D investments made in previous years. Only 11.9 percent will be spent on new investment programs.

The FY 1986 budget again provides for real growth in all categories of the defense program (Chart II.A.3).

Chart II.A.3

DoD Budget Shares
(Budget Authority in FY 1986 Dollars)



b. Personnel

The FY 1986 budget includes $103.3 billion to pay our military and civilian personnel. This represents an increase of 1.5 percent in real terms and includes a 1.2 percent growth in Active Component military strength. These added personnel are needed to operate and maintain new weapons systems being deployed as part of our modernization program. Selected Reserve strength will increase by 4.4 percent. This increase will provide further enhancement to our mobilization readiness and warfighting capability, as the Reserve Components provide continued depth and balance to the responsiveness and flexibility of the active force. Civilian strength will increase by 1.7 percent. It is significant that all of our manpower and per-personnel-related costs total about 45 percent of our budget that the comparable figure in the Soviet military budget is between 10 and 15 percent.

c. Operating Costs

The steady upgrading in the operation and support of our forces to improve readiness and sustainability will continue in FY 1986. Further improvements in materiel readiness are expected as a result of the increased procurement of spares and repair parts, equipment maintenance and modification, and other logistical support. Increased funding will be provided for base maintenance and repair programs.

The Army and Air Force will increase flying hours in FY 1986. The Navy will fund a further increase in ship modernization, fleet outfitting, and aviation depot level repairable parts programs. These increases will enhance the training of all our military personnel in tactical operations and in the operation of sophisticated weapons.

The FY 1986 budget provides for the continued buildup of major and secondary item war reserves in Europe and the further upgrading of existing communications facilities. Increased training and education of officer and enlisted personnel for initial skill and skill progression are to be funded, and much needed improvements are planned for the seriously deteriorating condition of training and medical plant property.

d. Investment

Critical improvements to the modernization of our conventional and strategic forces will be funded in FY 1986. Investment funding, (i.e., procurement, R&D, and military construction) will increase almost 10 percent in real terms. We are emphasizing ground forces modernization by continuing the procurement of 840 M1 tanks and 716 Bradley Fighting Vehicle Systems for the Army.

Significant progress has been made in our shipbuilding program in the past three years. The budget provides for a total deployable battle force of 551 ships. In FY 1986, we will fund 28 ships, including 5 ballistic missile and attack submarines, 3 cruisers, 3 amphibious ships, 8 mine warfare ships, and 9 support ships.

We will continue to modernize and expand our tactical air forces. In support of these plans, and to continue the modernization of existing units, we are requesting funding for 400 additional tactical aircraft for the Air Force, the Navy, and the Marine Corps. Also, we will continue development of a wide range of tactical programs in order to achieve a balanced conventional warfare capability.

This budget continues to implement the President's program to modernize and upgrade all aspects of our strategic forces against a threat that has made significant technological progress in recent years. We plan to continue our commitment to procure several major strategic programs such as the Peacekeeper missile, B-1B bomber, and the Trident nuclear submarine.

The FY 1986 budget request for research, development, testing, and evaluation (RDT&E) reflects real growth of over 20 percent and is highlighted by continuing investment in defense technologies. Of particular importance is continuing research on the Strategic Defense Initiative and developmental work on a small single-warhead intercontinental ballistic missile (ICBM) to ensure the credibility of our deterrent strength into the 1990s.

The Military Construction Appropriation (MCA) request will continue the progress we have made in overcoming prior years' inadequate funding. The modernization of our physical plant and improvements to working and living conditions for our Service personnel are high priorities.

Resources are again provided for the key acquisition initiatives. The budget request includes 6 major multiyear procurements to allow economical lot buys and the more efficient use of production resources. Productivity improvement projects for modernization of tools and equipment for our in-house production operations have been funded. Resources are budgeted for manufacturing technology programs, which develop innovative, more productive processes for manufacturing

defense materiel. While these innovations require large near-term expenditures, they should achieve significant outyear savings in major systems costs. They are examples of our commitment to the long-term efficient use of defense resources.

3. Price-Level Assumptions

The level of funding required to accomplish programs in FY 1986 and beyond is dependent on the course of inflation in the intervening years. Estimates of the future impact of inflation on the defense budget are prepared on the basis of guidance furnished by the Office of Management and Budget (OMB). The gross national product (GNP) deflator is used for all purchases of goods and services except major weapons systems and fuel. Special weapons systems commodity inflation estimates have been used since the FY 1983 budget and are based on analyses of historical trends of defense inflation published by the Department of Commerce's Bureau of Economic Analysis (BEA), as part of the offical GNP statistics. Special estimates are also used for purchases of fuel due to the potential volatility of fuel prices.

The use of these special deflators is a major factor in ensuring that DoD's thorough financial management protects the funding integrity of its programs by properly programming for inflation. The budgets for acquisition programs now are prepared in a manner that enables the Congress and others to see what the likely, fully funded costs will be, based on appropriate inflation expectations for several years in the future. This change puts more realistic cost estimates up front, where they should be, and is clearly an important component of improved acquisition management.

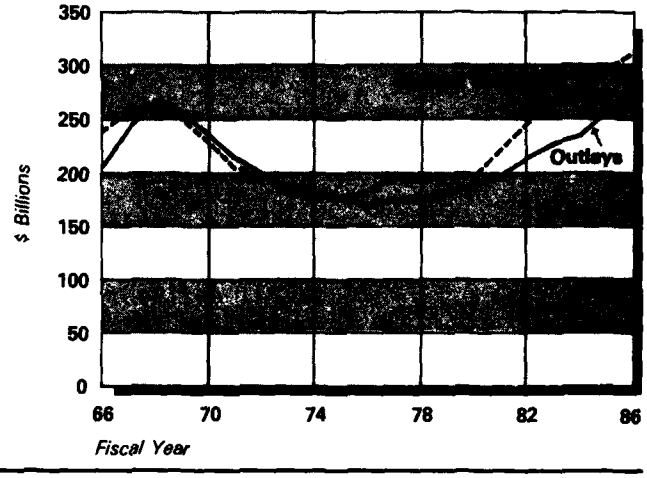
One of the most important benefits of the current economic recovery has been the dramatic decline in the rate of inflation. Today, prices are increasing in the general economy at a rate less than one-half that experienced in 1981. Even though price increases for many defense weapons systems have not declined as sharply during the last three years, the progress made in fighting inflation has played a very positive role in our efforts to meet national security goals with fewer budget dollars. The FY 1986-90 program reflects the assumption that this favorable trend will continue. However, because of the unique nature of price changes for many defense commodities, reductions to the defense budget due to lower inflation trends will be monitored closely to prevent possible underfunding of programs.

4. Budget Trends

The FY 1986 budget continues the well planned growth in defense resources begun in FY 1981 in comparison to the continuous no-growth trend through much of the 1970s when defense spending did not keep up with the level of inflation (Chart II.A.4).

Chart II.A.4

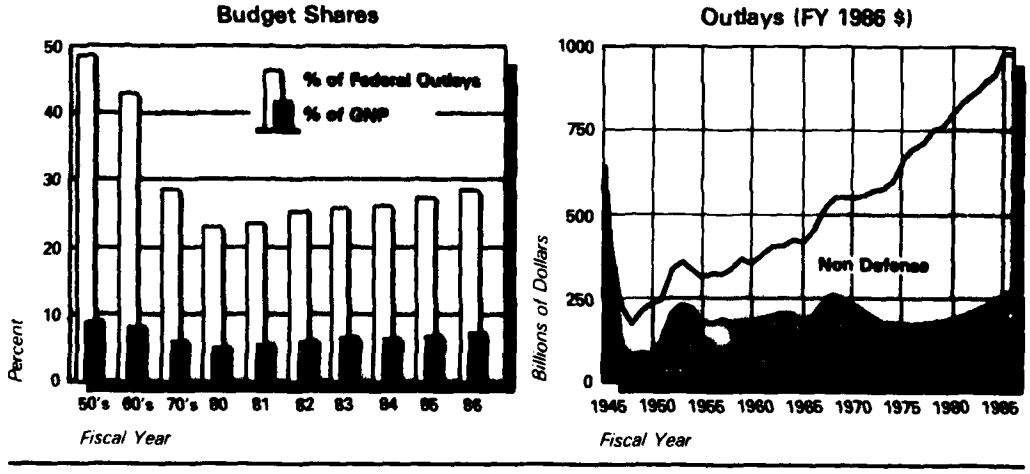
DoD Budget Trends
(In FY 1986 Dollars)



To be sure, total federal spending has grown significantly over the past 20 years. However, this growth was characterized by a dramatic shift from defense to nondefense spending. The defense share of federal outlays, which was more than 50 percent in FY 1955, will be only about 30 percent in FY 1986 (left figure, Chart II.A.5).

Chart II.A.5

DoD Budget and
Total Federal Outlays



Even with the continuing buildup, defense spending will account for less than 33 percent of the federal budget in FY 1990. The trend in nondefense spending has been exactly the opposite. It comprised less than 50 percent of total federal outlays in FY 1955, but will represent more than 70 percent of the budget in FY 1986. These trends are further highlighted in the right figure of Chart II.A.5. Nondefense federal payments adjusted for inflation have increased precipitously since 1970, reflecting a continuous rising trend in payments to individuals. Conversely, defense spending declined during most of the 1970s and has only experienced sustained growth since 1981. In fact, in FY 1986 it will be only slightly higher than the 1968 level.

It is also important to note that the recent growth in defense requirements has not taken a disproportionate share of the nation's wealth. The defense share of the nation's output of goods and services (GNP), based on the current estimates for defense outlays and economic growth, will average only slightly more than 7 percent over the next five years (left figure, Chart II.A.5). This is well below the peacetime 1950s and the early 1960s. Should the economy grow faster than currently forecasted, the defense share of GNP could be even less. Defense shares of the federal budget and economic aggregates are shown in Appendix A.

5. Defense Spending and Economic Recovery

It is apparent from available data on the current recovery that the nation's economy is accommodating the Administration's defense program and is also achieving sustained growth without creating employment problems, inflationary pressures, or supply shortages. The unemployment rate is declining steadily while employment levels are at all-time highs. Inflation has been more than halved since 1981 and continues at a moderate rate. Industrial capacity utilization continues to expand, and supply bottlenecks are rare and of short duration. These conditions apply to both defense-related as well as nondefense industries, and we expect this favorable trend to continue.

Studies, such as the exhaustive review done by the Department of Commerce on industrial capacity and the defense buildup, have shown that industry in general will easily continue to be able to accommodate our rebuilding program. There may be occasional spot shortages in certain industries, but they are not widespread and should not lead to significant labor or material shortages that could impede either our defense program or our overall economic growth. Therefore, we believe that our defense program complements the other aspects of the President's Economic Recovery Program and will continue to do so in the future.

But, even as we are well into our revitalization program, the prospect of continuing high deficits increases pressure to lower the level of resources available to meet our defense commitments. While no one contends there is any lessening of the military threat we face, some critics argue that large reductions in defense spending must be made, not because they are wrong or unnecessary, but simply to lower future federal deficits. The federal deficit situation is, of course, a very real concern, but it is quite wrong to conclude that the defense buildup is the primary cause of that situation. Other factors, both on the receipt and outlay side, have influenced the level of deficits far more than the recent upward trend in defense budgets. For example, the growth in nondefense spending during the past two decades has dwarfed that of defense spending.

Also, since we first announced our increased defense program in FY 1981, there have been significant reductions to planned increases in defense spending, primarily due to concerns about the deficit.

It is important to understand the economic effect of the budget because it requires a commitment of the nation's resources. Therefore, we will continue to evaluate the relationship of defense spending and the economy and develop our defense plans as economically and efficiently as possible. The defense budget is neither the primary tool of economic stabilization policy, nor a jobs program. What's more, it should not be used solely to stimulate industrial development. We must remember that defense spending does indeed produce both jobs and tax revenues. Cutting the defense budget does not automatically cut the deficit by the same amount.

The primary responsibility of a defense budget must be to provide our military forces with the resources necessary to counteract the threats to our security and to perform their peacetime role as an instrument of diplomacy and world stability. We cannot afford to prepare a defense budget that helps meet short-term, economic, non-defense goals, but does not meet our short- and long-term security goals. To do so would be ineffective economic policy and would be a very dangerous way to provide for our national defense.

6. Conclusion

The President's FY 1986 to FY 1990 defense program, shown in Table II.A.2, continues the commitment to meet our nation's security goals. This program, which totals $2.0 trillion, is based on a careful evaluation of the threats to our security and provides a balanced mix of defense resources to implement our strategy for meeting these threats.

Table II.A.2

FY 1986 Department of Defense Budget
Long-Range Forecasts
($ in Billions)

Budget Authority	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990
Total, Current Dollars	313.7	354.0	401.6	438.8	477.7
Total, Constant (FY 1986) Dollars	313.7	339.4	369.5	388.0	406.7
Percent Change	5.9	8.2	8.8	5.0	4.8
Outlays					
Total, Current Dollars	277.5	312.3	348.6	382.3	418.3
Total, Constant (FY 1986) Dollars	277.5	299.0	319.3	336.1	353.8
Percent Change	8.4	7.7	6.8	5.3	5.3
Composite Pay/Price Assumptions for Outlays	100.0	104.5	109.2	113.7	118.2

Even though we have achieved much success over the last four years, congressional reductions to requested funding levels have lengthened the time necessary to complete our rebuilding program, and this has increased the cost.

However, with sustained congressional and public support, we can still complete our rebuilding program and achieve the goals we established in FY 1981. This will require a renewed commitment on the part of the Congress to address its share of the stewardship role for our national defense. If we continue to receive resources that are less than necessary, we will further delay our modernization program and increase the risk of returning to unacceptably low levels of military readiness. This five-year program precludes that from happening and is designed to meet both the short- and long-term requirements as efficiently and effectively as possible. So far as we can tell now, it is imperative that we follow this course so that we may continue the progress we have already made toward restoring American leadership and preserving peace with freedom. If events change and the Soviet threat significantly and verifiably diminishes, so can our defense spending plans.

B. MANAGEMENT REFORMS

1. Introduction: The Challenge of Management Reform

President Reagan took office four years ago with a promise to cut the fat out of government. He did not make an exception for the Department of Defense. While he was determined that defense would have a greater claim on the nation's resources than in the decade of neglect of the 1970s, it would not have a limitless claim. To fulfill the President's pledge to restore America's military strength, we were charged to get more defense from each defense dollar.

During the 1970s the United States accumulated serious shortfalls in weapons and equipment, and much of what we had was becoming increasingly obsolete compared to new Soviet hardware. Even when new systems were acquired, they took too long to develop, cost too much, and too often failed to meet our requirements. In order to rebuild our forces as quickly and cost-effectively as possible, and to ensure that the weapons we procured could perform when and where they might be needed, we undertook a comprehensive program of management reform.

This reform program faced several challenges. One was the sheer scale of defense acquisition. In FY 1984 alone we entered into contracts with thousands of firms, for a total of $146.2 billion. This does not include the hundreds of thousands of earlier, ongoing contracts involving hundreds of billions of dollars, which still must be monitored.

These earlier contracts, indeed, present another challenge. Many existing contracts were very bad contracts from the government's viewpoint. For example, contractors were permitted to retain proprietary data rights indefinitely, making it very difficult to encourage competition, and enabling contractors to charge sometimes unreasonable prices for vitally needed spare parts.

Likewise, many inherited programs were already over budget and behind schedule. The first Trident submarine, for example, was 22 months behind schedule when it arrived. We have been working to correct these problems. The last four Trident submarines, for example, were delivered to the Navy four to seven weeks early, and the ships now under construction are on or ahead of schedule. Some other troubled programs now back on track include the M1 tank engine, the Tomahawk cruise missile, and the Los Angeles-class submarine.

A final and even more basic challenge to our defense acquisition reform program is the continuing need to balance competing management goals.

Our weapons acquisition programs must respond to changes in our national security interests and the threats to those interests, as well as to innovations in technology, strategy, and tactics. For these reasons weapons acquisition must remain flexible; yet it often takes 15 years for a system to move from the drawing board to the field. During this time, program stability is the key to containing cost growth. Good management, then, requires balancing flexibility and stability.

As a nation with worldwide interests, we must be prepared to meet a broad spectrum of potential conflicts. Therefore, the acquisition

process is crowded with programs, each of which places legitimate demands upon our limited resources. Too many programs, however, force managers to make difficult choices between competing priorities. Sometimes this results in decisions to cancel or stretch-out programs that, under better budgetary circumstances, should be allowed to continue undisturbed.

Reducing the time it takes to acquire a weapon system also involves a variety of managerial dilemmas. Developing several components of a system concurrently, for example, can shorten acquisition time significantly. However, it also heightens program risk and can add major costs. Entering production too early may lead to costly and time-consuming changes if tests reveal new problems. On the other hand, developing system components in strict sequence can delay by years the time it takes to deploy a new system and may render it obsolete before it is deployed.

Efforts to shorten acquisition time must also be balanced against the need for comprehensive planning. Our management reforms emphasize planning early to ensure that we provide for such critical factors as logistics support, competition, capital investment, test equipment funding, warranties, and the use of simplified specifications and standards. While these will save money, they may increase the time required for the early phase of program planning. Traditionally, the early phase of a program is most susceptible to stretch-out.

Other tradeoffs between short-term costs and long-term savings affect many of our management reforms. Multiyear procurement, economic production rates, improved support and readiness, and even competition generally require higher initial investments to achieve eventual savings. In FY 1986, for example, we are requesting additional resources for multiyear programs, with estimated long-term savings of $1.3 billion. These additional up-front costs, however, increase the demands on the current budget, already under greater pressure than the out-years.

These challenges have not discouraged us. We have pressed forward with our acquisition reform efforts, making great progress in a short period. We have also come to a clearer understanding of the nature and scope of today's most pressing acquisition problems. Our commitment to achieve even higher levels of efficiency and effectiveness through further reforms of the acquisition process and greater efforts to identify and eliminate waste, fraud, and abuse remain undiminished.

2. Reforming the Defense Acquisition Process

In March 1981, I ordered a sweeping review of the defense acquisition process. Our investigative team was asked to undertake a forthright analysis of DoD's management weaknesses, to present a plan to reduce costs and acquisition time, and to increase the stability and efficiency of defense acquisition. The result was the Defense Acquisition Improvement Program (DAIP).

The record shows that we have taken major strides toward achieving our management reform objectives during the past four years. The nonpartisan Congressional Budget Office has estimated that annual cost growth on selected major systems has been reduced from 14 percent in CY 1980 to only 1 percent by the end of FY 1983. Several important programs (e.g., aircraft carriers and the B-1B bomber) are now on or ahead of schedule. We have simplified and streamlined the acquisition

process in accordance with sound management principles. We have increased competition, improved readiness levels, and met support requirements. Finally, despite continued problems with program instability, caused in no small part by budget cutbacks, we have introduced a number of measures, such as multiyear procurement, that will improve program stability.

a. Simplifying Acquisition Decisionmaking

Our FY 1981 defense acquisition review revealed that our planning and acquisition process had become overburdened with paperwork and excessive regulation, leaving senior defense managers with little time to focus on such major problems as cost control. In response we have simplified the acquisition process considerably.

By doubling the dollar thresholds that define a major program (which had been set in FY 1974 and remained unchanged despite almost 100 percent inflation) to $200 million in research and development and $1 billion in procurement, we have ensured that senior managers review only the highest priority programs. Programs that formerly met the threshold definition, such as the Tomahawk cruise missile and the Rattler antiarmor weapon, have been delegated back to their respective Services for regular management review.

We have also reduced to two the number of milestone decision reviews of major systems. What was once the first milestone has now been incorporated into an annual review of new program proposals conducted by a strengthened and expanded Defense Resources Board. There it can be examined in the context of our entire defense program and overall budget constraints. Unless major cost or schedule thresholds established at Milestone II have been breached, the Milestone III production decision is retained by the parent Service. This enables us to give closer scrutiny to major systems.

Special emphasis has also been placed on tailoring program specifications and standards to the minimum essential to meet objectives. Our goal is to avoid unnecessary costs and delays from specifications and standards that are not truly essential. Twelve pilot programs, including the Advanced Tactical Fighter, the LHX light rotorcraft, and the JVX Joint Services Advanced Vertical Lift Aircraft, have been selected for application of this tailoring initiative. Already we have achieved significant savings in applying this initiative to the Navy's new trainer program, the VTXTS.

b. The Defense Acquisition Improvement Program (DAIP)

The DAIP was the product of our initial review of the defense acquisition process. In April 1981, the Deputy Secretary of Defense issued 32 management initiatives. A subsequent review of how these initiatives were being implemented led us to focus on six major areas: program stability, multiyear procurement, economic production rates, realistic budgeting, improved readiness and support, and greater competition.

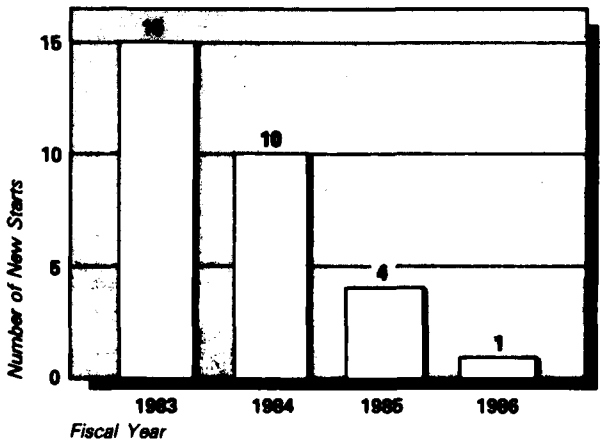
(1) Program Stability

Ultimately, improving the affordability of defense programs depends on achieving greater program stability. Arbitrary changes to programs cost the taxpayer billions of additional dollars as programs are redesigned, stretched out, or interrupted to meet near-term budgetary demands. The Services have instituted important management

improvements aimed at discouraging and eliminating arbitrary changes to programs. The Army and Air Force baseline management programs ensure that only essential changes are introduced into a program. The Secretaries of the Navy and Air Force personally review proposed changes to their programs. Certain high priority programs are subject to frequent Secretarial Program Reviews, where proposed changes must be approved by the Secretary or Deputy Secretary of Defense. As a result of these reviews, for example, we have rejected some expensive engineering modifications proposed for the B-1B bomber.

During the past three years, we have also improved overall affordability and contributed to greater stability by reducing the number of approved new programs from 15 in FY 1983 to only one new program in the FY 1986 budget. The Integrated Electronic Warfare System (INEWS) included in the FY 1986 budget is a high priority Joint Service program to develop a self-protection system for the Air Force's Advanced Tactical Fighter and for the Navy's Advanced Tactical Aircraft. Other high priority programs approved in recent years include the Navy's next generation attack submarine and the inner-zone antisubmarine warfare helicopter; the Army's Antitactical Missile (ATM) and Multiple-Launch Rocket System (MLRS); and the Air Force's Advanced Tactical Fighter (ATF) and space surveillance programs.

Chart II.B.1
DoD Approved New Starts



While these and other priority programs have been approved, the number of programs for which approval has been withheld has gone up during the past two years. Two of the programs proposed in FY 1985 were not approved. This year, four new program candidates were not approved. These decisions represent our best judgement about the appropriate balance between meeting essential security needs and satisfying budgetary constraints.

We have also sought to cancel and reduce lower priority programs. We continually review existing acquisition programs to identify any that give us marginal capabilities at high cost, duplicate other programs, or involve unacceptable development risks with the potential for major cost increases.

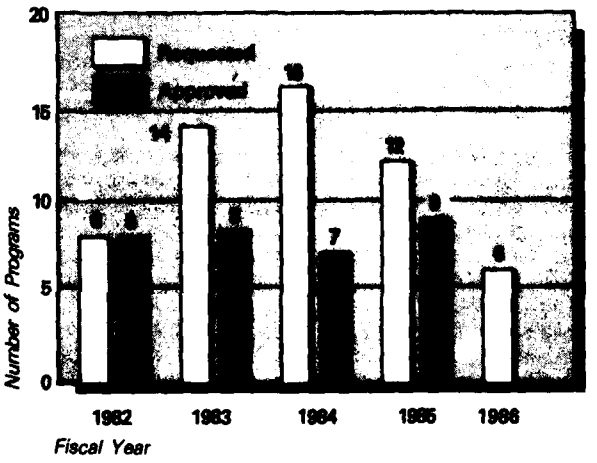
Unfortunately, the systematic efforts being made within DoD to improve program stability have often been offset by the impact of budgetary constraints and other actions taken by the Congress. For example, as a result of budget reductions, the FY 1985 amended budget contained 12 additional program stretch-outs that will raise the total costs of these programs. Indeed, almost every line item in our annual budget submission is adjusted on a regular basis by one of the several congressional committees that review the defense budget. Congressional understanding of the hidden costs of arbitrary program changes is required to achieve greater program stability and better cooperation between DoD and the Congress.

(2) Multiyear Procurement

Multiyear procurement can reduce long-term costs by enabling contractors to purchase materials in more economical lot buys. It also encourages program stability, another management goal. We have already saved over $4 billion from multiyear procurement, and we believe that, with continued congressional cooperation, the potential exists for far greater savings in this area.

In the FY 1985 budget we proposed 12 multiyear candidates for a savings of $1.1 billion. Of these, nine programs, for a savings of $1 billion, were approved. Overall, the Congress has approved 32 programs for multiyear contract starts since FY 1982, including two F-16 airframe contracts (savings: $256.8 million and $358.3 million, respectively), the MLRS (savings: $209.1 million), the KC-10 aircraft (savings: $658 million), and the B-1B bomber (savings: $1,188.2 million). This year's budget contains an additional six programs (the LHD amphibious assault ship, MK-46 torpedo, P-3C, M1 engine, M1 fire control system, and T-700 engine) for estimated savings of $1.3 billion over annual procurements of these systems. In the 1986 budget we propose 6 multiyear candidates with a savings of $1.3 billion.

Chart II.B.2
Multiyear Procurement



(3) Economic Production Rates

Initial progress through this initiative was very gratifying. In FY 1983 we achieved $2.3 billion in unit cost savings for 18 programs by producing them at rates that take advantage of economies of scale. For example, the AIM-9M air-to-air missile unit cost was reduced from $178,000 in FY 1981 to $83,000 when the procurement quantity was increased six-fold. Higher production rates also significantly reduced costs for the F-16 and F-14A aircraft.

However, since budget restrictions have reduced acquisition resources more than $100 billion below planned levels for FY 1983-87, we have been unable to achieve additional comparable economies. During the past two years we have added only $500 million in savings. Reducing unit costs through more efficient production requires full budgetary support. In 1986, our plans are to save $100 million by this method, if the Congress approves.

Another approach to reducing unit costs emphasizes the producibility of a design during the full-scale engineering development phase. Most of our early operational difficulties stem from failure to make an efficient transition from development to production. The unfortunate result has been higher-than-programmed unit production costs and operational support costs. We have two new DoD directives governing this transition from development to production, and a new DoD manual has been drafted that is aimed at assessing -- and reducing -- a program's production risk.

(4) Realistic Budgeting

One of the problems plaguing defense acquisition in recent years has been a tendency to understate the ultimate cost of a program. Sometimes a contractor offers a low bid to win a contract, confident that as costs rise so will payments from the Department of Defense. This is one reason we have increased the use of fixed-price contracts. Last year, 82 percent of all military procurement dollars were under fixed price contracts, up from 75 percent three years ago.

In times of budgetary restriction, moreover, the Services may choose to rely only on the most optimistic cost forecasts, underestimating the risks of cost growth in a program. For this reason, we are making greater use of independent cost estimates to achieve more accurate cost projections. During preparation of the FY 1986 budget, 27 programs were independently reviewed.

(5) Improved Readiness and Integrated Logistics Support

Reducing costs and acquisition time for major systems is a top management priority. But we must also be careful not to wait until a system is nearing deployment before we consider what kind of integrated logistics, manpower, and training support it will require -- and how much this support will add to the cost of the system. We must invest now to improve the reliability of our new systems and reduce their maintenance burden. All three Services have implemented programs to review support and readiness requirements in the early stages of development. Readiness objectives are now being assigned to all new programs as they enter the acquisition process, and these objectives are tracked at each milestone review, as well as during the program budget review. In addition, we have systematically reviewed the logistics support requirements and funding for 29 of

our major systems over the past few years, and we have made the necessary budgetary adjustments to fulfill requirements.

(6) Competition

Probably no reform holds greater promise for reducing costs and improving quality than enhanced competition. Competition encourages risk-taking and innovation; at the same time, it offers an incentive for controlling costs and speeding production. Competition also helps preserve our defense industrial base and, therefore, our mobilization capacity.

We have made encouraging progress in expanding competition. For example, contracts for 19 of 22 ships were competitively awarded in FY 1984. Savings included $228 million on the Aegis cruiser and $108 million on the Los Angeles-class submarine. In fact, in FY 1984 we saved enough money through competition and tough bargaining to finance the entire cost of renovating the battleship USS MISSOURI -- despite earlier criticism that our estimates were too optimistic. Likewise, competition for a new fighter aircraft engine not only pushed costs below the initial estimates but also provided DoD with impressive warranties. The fighter engine contract also provides for future competition for replacement spare parts.

We are working to identify areas where competition has not yet been exploited. The Deputy Secretary has asked the Services to look at all major programs expected to enter full-scale development within the next two years to identify greater competition opportunities. The Services have also been asked to identify additional investment needed to encourage competition -- a recognition that competition, like so many management reforms, often requires greater up-front spending. For example, it is sometimes desirable to keep a contractor who has lost an initial development bid involved in a program that might later be produced competitively. However, unless the eventual production quantities are sufficiently large, this investment in competition may not be recouped in eventual savings.

In addition, the Services and Defense Agencies have appointed almost 600 competition advocates, individuals who have institutional interest in identifying potential areas where competition can be introduced. Among the changes in defense acquisition successfully proposed by competition advocates are: establishing a second production source or accelerating second-sourcing for the Phoenix and Rolling Airframe Missile (RAM) programs; opening the engineering development contract for a major avionics upgrade to the P-3 aircraft to competition (the first time competition has ever been applied to the P-3 program); and developing a second production source for the MARK 21 reentry vehicle for the Peacekeeper program.

c. Spare Parts Initiatives

Competition is also one of the keys to ending spare parts overpricing, another top reform priority of this Administration.

Overpricing of spare parts is not a new problem; studies as far back as 1961 indicated that this was an area in which defense management was ineffective. These problems were exacerbated during years when replenishment of spare parts was a dangerously low priority. The increasing age of our systems drove up the cost of spare parts, as did the increasing technological sophistication of our new programs. Meanwhile, thousands of suppliers dropped out of the defense

marketplace -- the number of aerospace suppliers alone dropped from 6,000 in FY 1967 to just over 3,000 in FY 1980. This reduced price competition and, in some cases, required that parts for aging equipment be redesigned and completely rebuilt. Above all, the spare parts purchasing system was fraught with such inefficiencies as small lot buys, inequitable overhead costs, and over-engineering of parts.

For these reasons, the newly appointed Assistant for Review and Oversight decided to undertake a major exploratory audit of aircraft engine spare parts pricing. The problems revealed by this audit led to a sweeping, Department-wide audit of spare parts pricing involving over 400 auditors and consuming 18,000 auditor days. Although DoD has received very little credit for uncovering these problems, our audits and investigations gave us the information we needed to institute a full-scale reform of spare parts acquisition practices.

In July 1983, I issued a ten point program for ending spare parts abuses -- a program that included incentives for employees who discover cost savings and stern disciplinary action against those who allow abuses to continue; an aggressive effort to seek voluntary refunds where mistakes were made and to refuse unjustified price increases; additional audits and investigations; debarring of contractors who refuse to meet contracting standards; a strong commitment to the competition advocate program; and greater attention to spares problems. Above all, the program emphasized fundamental changes in acquisition procedures to reform the entire system of spare parts procurement.

Chart II.B.3
Spare Parts Story

You heard about the	But did you hear that
$400 Claw Hammer	– DoD Identified the Overcharge and Obtained a Refund from the Contractor.
$110 Diode	– DoD Identified the Overcharge and Obtained a Refund from the Contractor.
$9,000 Hexagonal Wrench	– DoD Identified the Overcharge and Refused to Pay.
$1,100 Plastic Stool Cap	– DoD Identified the Overcharge, Obtained a Refund, and Gave an $1,100 Award to the Air Force Sergeant Who Challenged the Price.

Our efforts are paying off. We have received over $2.1 million in refunds from over 250 contractors and are seeking more. Three hundred and seventy DoD personnel have received a total of $200,000 in awards for identifying over-pricing. Each Service has instituted a new spare parts reform plan. The Army has increased spare parts competition from 45 percent in FY 1981 to more than 55 percent in

FY 1984. The Air Force Logistics Command saved more than $60 million through spare parts competition in FY 1984. The Navy's program to find alternative spare parts suppliers saved $53 million in FY 1984, and two-thirds of the items reviewed for possible competition are now being purchased competitively.

Some of the steps we are taking to reform spare parts contracts and contracting procedures include:

-- Assigning additional personnel -- 3,500 in FY 1984 -- to implement our spare parts reform initiatives;

-- Requiring contractors to identify the subcontractors from whom they purchase spare parts. This enables us, in many cases, to break out spare parts -- that is, to purchase directly from the subcontractor at a lower rate;

-- Requiring contractors supplying items that are also sold commercially to certify to DoD that their prices are as low or lower than those charged to their "most favored customer;"

-- Performing intensive reviews of parts with an annual buy requirement of $10,000 or more, to see if we can identify parts that can be broken out for competition; and, in some cases, using reverse engineering techniques to develop competitive data packages;

-- Requiring contracting officer certification for the purchase of any spare part with a price increase of more than 25 percent in the last 12 months;

-- Buying replenishment spare parts in conjunction with the initial production of a system -- a reform that saved $188 million last year in its initial application;

-- Challenging contractor claims of proprietary rights to data that prevent competition for spare parts;

-- Promoting the use of standard parts in the development and production of a weapon system, allowing us to make more cost-effective quantity buys;

-- Undertaking value engineering analyses to determine which spare parts are "over-engineered" and could be produced more simply and inexpensively; and

-- Establishing a new Deputy Assistant Secretary of Defense position to oversee spares management within the entire Department.

These spare parts initiatives, along with our other major acquisition reforms, are helping us recover our long neglected military strength at a lower cost and with greater efficiency. We have made major contributions to improving the overall affordability of defense programs; we have simplified the acquisition process; and we have increased management accountability at all levels. We will always face difficult choices between reducing costs and reducing acquisition time, between promoting stability and promoting flexibility, and between undertaking promising development risks and undertaking more thorough initial planning. Tradeoffs are inevitable; but,

having established a firm management foundation through our acquisition reform programs, we are confident in the ability of the acquisition process to meet our security requirements while achieving the efficiencies necessary to keep our economy strong.

3. Identifying and Curbing Waste, Fraud, and Abuse

During the past four years, we have witnessed dramatic improvements in our ability to detect and curb waste, fraud, and abuse. DoD improvements reflect the greater resources (2,000 additional auditors and investigators) and higher level attention now being given to these activities.

a. Office of the Inspector General

(1) Audits

In April 1981, I established the position of Assistant to the Secretary of Defense for Review and Oversight -- now the Office of the Inspector General -- to ensure better coordination of DoD's audits and investigations. Since then, over 68,000 internal audits have been completed with a potential savings of over $7.9 billion.

Chart II.B.4

Inspector General Efforts to Curb Waste, Fraud, and Abuse in FY 1984

• Audits of Internal Management of Defense Operations and Programs	– Reports Issued	18,532
	– Potential Savings	$2,714M
• Investigative Cases	– Cases Closed	15,837
	– Cases Referred for Prosecution or Administrative Action	5,546
	– Convictions	548
	– Fines, Penalties, Restitutions, and Recoveries Collected from Referrals to Justice Department	$18,031M
	Military Departments	$11,151M
• DCAA Audits	– Reports Issued	61,081
	– Net Savings from Reports Closed	$7,400M
• Army Corps of Engineers Contract Audit	– Reports Issued	416
	– Net Savings from Reports Closed	$20.1M
• DoD Inspection Organizations	– Reports	10,102
• Follow-up Actions Completed	– Audit Recommendations	63,351
	– Estimated Savings	$1,900M
• Defense Hotline	– Calls and Letters Received	7,820

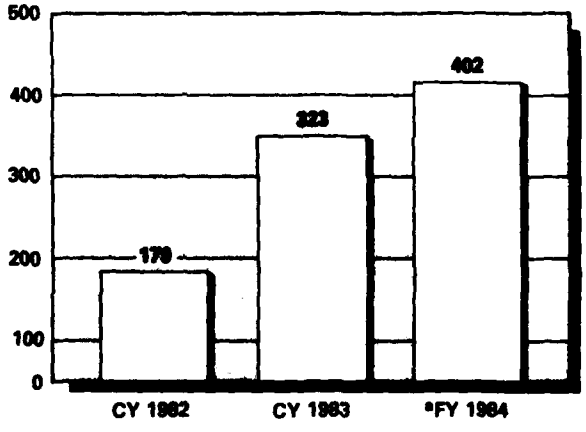
A vital element in this success has been aggressive audit follow-up -- long the Achilles' heel of our audit program. Thus far, 156,410 corrective actions have been completed on 50,939 DoD internal audit reports, resulting in savings of $3.5 billion over the past three years. For the same period, 2,350 corrective actions on 1,077 General Accounting Office (GAO) reports have been taken, resulting in monetary benefits of $4.6 billion. An additional 3,782 DoD and GAO reports are being tracked with potential savings of $3.2 billion. The GAO has praised DoD's increased responsiveness -- and DoD managers now know that accepted audit recommendations must be implemented.

(2) Investigations

A three-pronged campaign is under way to protect the Department's resources from unscrupulous individuals and corporations. The major elements of the campaign are: increased resources to combat criminal activity, including a new unit specializing in white collar crime; improved cooperation with the Department of Justice to increase the number of prosecutions -- a special DoD/Justice Department Procurement Fraud Unit has been established; and a new program to help DoD employees prevent and detect criminal activities -- over 10,000 personnel have participated in the program to date.

During the past year, we placed increased emphasis on procurement fraud involving major DoD contractors and providers of medical services. For example, investigation of one corporation revealed mischarging of labor hours from one contract to another. As a result, the corporation paid $30,000 in fines, $650,000 in damages, and was barred from recovering $300,000 in legal and defense fees. Another investigation revealed that a contractor had falsely certified required testing results of certain microchips purchased by government agencies. A plea agreement was made in which the corporation agreed to pay $247,000 in criminal fines and reimburse $105,000 for the cost of prosecution, plus $1.4 million in damages and civil penalties.

Chart II.B.5
Suspensions and Debarments



aAdjustments Made to Change Reporting from CY to FY.

The Department is now conducting a vigorous campaign to suspend or debar individuals or corporations who abuse the procurement process. The Department has made use of this powerful deterrent tool over 1,000 times since FY 1980, 402 times in FY 1984 alone -- an increase of 25 percent over the previous year.

During the past three years, the Department's criminal investigative organizations have opened nearly 49,000 cases. About 20,000 of these cases have been referred for prosecution or administrative action, and over 1,500 convictions have been obtained. More importantly, the trend is positive -- convictions increased 70 percent in FY 1983 over the previous year.

To help our employees identify procurement fraud, on June 1, 1984, DoD published Indicators of Fraud in Department of Defense Procurement. This publication identifies circumstances in which fraud is likely to occur, shows how to detect fraud that has already occurred, and outlines steps to take when fraud is uncovered. More than 45,000 copies of this publication have been distributed. In addition, more than 400 of our criminal investigators and auditors and more than 2,000 procurement personnel have been given procurement fraud detection training.

(3) Defense Hotline

In June 1981, we established a DoD Hotline to encourage reports of waste, fraud, and abuse in defense programs. Since then we have received over 23,000 calls or letters, of which more than 7,500 merited in-depth inquiry. Since May 1982, we have documented $3.5 million in savings from Hotline suggestions. Following are some examples of important cases handled by the Hotline during the past three years:

-- In a case developed from a Hotline tip, two employees of a DoD contractor pleaded guilty to shipping falsely marked and inferior quality materials and presenting fraudulent invoices. The materials were used in armor plating for the battleship USS NEW JERSEY and the space shuttle program. The employees were sentenced to ten years in prison and five years probation.

-- When a Hotline complaint reported that asphalt tile floors were being replaced with wood parquet in five senior officers' quarters, action was taken to cancel the excessive work. A direct savings of $10,680 was realized and indirect costs of $17,750 were avoided.

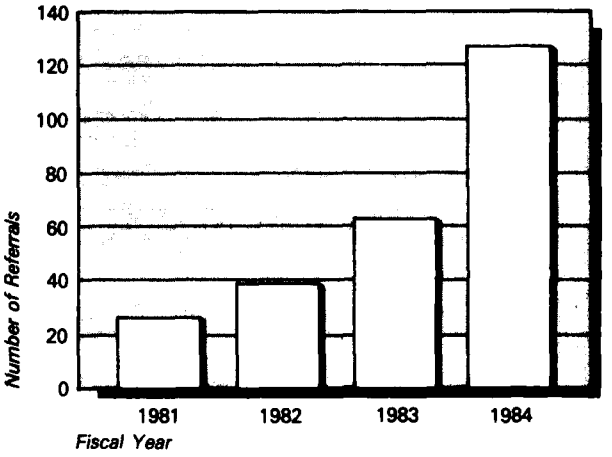
-- Two Hotline-initiated inquiries showed that the Navy Ships Parts Control Center at Mechanicsburg, Pennsylvania, was being overcharged for various spare parts. In the first case, the contractor, while denying intentional over-pricing, agreed to refund $3,271 to the government. In the second instance, a one-time savings of $36,544 was realized. Future purchases will cost about $9,000 less per unit.

-- A Hotline complaint focused attention on a sixfold increase in the price of a navigational light. After a review, the contractor refunded more than $30,000 to the government and reduced other prices awarded under its blanket purchase agreement. Eventually the blanket purchase agreement was terminated and contract surveillance increased.

b. Defense Contract Audit Agency (DCAA)

DoD's worldwide contract audit activities are conducted by the Defense Contract Audit Agency (DCAA) -- a separate agency within DoD reporting to the Assistant Secretary of Defense (Comptroller). In FY 1984, the DCAA issued 61,081 audit reports, resulting in net savings of $7.4 billion. Likewise, in FY 1981-84, the DCAA reported 255 suspected contractor fraud cases. As the chart indicates, the number of cases per year has increased more than four times from FY 1981 to FY 1984. The percentage of audit exceptions sustained increased from 55 percent in FY 1981 to 65 percent in FY 1984.

Chart II.B.6
Defense Contract Audit Agency
Number of Referrals for Investigation



The following efforts to improve efficiency and reduce costs will be emphasized this year:

-- Conducting special systems and operations reviews of major weapon systems contractors and subcontractors;

-- Using special computer software programs to provide direct auditor access to contractors' computerized accounting records;

-- Providing new guidelines to help auditors recognize fraudulent pricing practices;

-- Emphasizing the evaluation and review of contractors' compensation costs and salary escalation costs; and

-- Installing new agency-wide information systems that exploit technological advances in automated equipment and software.

Effective management of DoD's worldwide contract audit operations has achieved significant reductions in procurement spending as depicted in Table II.B.1.

Table II.B.1
DoD Reduction in Procurement Spending — 12-Month Period Ending June 30
(Dollars in Millions)

	1982	1983	1984
Review of Contract Proposals	$7,194.4	$8,642.4	$9,655.0
Audit of Incurred Contract Cost	670.1	650.2	659.6
Cost Accounting Standard Issues	19.3	32.2	19.9
Defective Pricing Adjustments	22.8	55.5	52.3
Total Reductions[a]	$7,906.6	$9,380.3	$10,386.8

[a] Reductions in contract prices are due to contract audit effort.

Examples of significant individual contract audit findings include:

-- Audit of a $480 million fixed-price proposal resulted in a $58 million savings to the government. A major portion of the savings was attributable to historical differences between vendor quotes and actual purchase orders.

-- Audit of a change order proposal totaling $68.2 million resulted in government net savings of $25.5 million. Savings came primarily from identified duplications of direct and indirect costs.

-- Examination of a $19 million fixed-price proposal for spare parts resulted in net savings of approximately $3.5 million. The audit disclosed that the contractor's proposed material cost was significantly overstated due to application of several inappropriate or incorrectly computed add-on factors.

4. Other Management Initiatives

a. Internal Management Control Program

Consistent with the Federal Managers' Financial Integrity Act of 1982, DoD has established the Defense Internal Management Control Program. The purpose of this initiative is to identify and correct management weaknesses before they can cause problems and to strengthen management at every level, in line with our decentralized management policy.

Under the Internal Management Control Program, managers throughout DoD are required to make a formal assessment of their department's vulnerability to, and safeguards against, waste, fraud, and abuse, and then to submit plans for strengthening internal controls. Identifying and solving internal management problems will now be part of every manager's performance review.

The Internal Management Control Program has top level support throughout DoD. It is closely monitored by the Defense Council for Integrity and Management Improvement, which is chaired by the Deputy Secretary of Defense. During FY 1984 alone, 52,000 managers were involved in assessing their organizations. Based on these assessments, 29,710 intensive reviews of controls were conducted. Major areas of material weakness that were identified include management of foreign military sales; property management; cash and debt management; and security, procurement, and accounting system certification. In FY 1985 we will be working to correct these weaknesses.

b. Reform '88

Reform '88 is a long-range Presidential initiative to improve administrative management within the Federal Government. Many of the reforms already discussed in this section, such as improved internal management controls, increased Inspector General audit recoveries, and procurement reforms, are consistent with the Reform '88 initiative.

Similarly, we are already seeing results from our efforts to reduce administrative systems, improve the collection of debts owed to the government, and manage revenues and disbursements.

The Deputy Secretary of Defense has established an Administrative Systems Exchange Project to reduce the number of administrative systems and to increase their commonality. For example, the Defense Logistics Agency is currently operating a consolidated personnel/payroll system. Similarly, the Services have initiatives aimed at consolidating numerous pay and personnel systems into one personnel system as well as a single payroll system per Service.

In the area of debt collection, we are developing guidance for employing administrative and salary offsets, increasing the use of credit bureaus and collection agencies, and helping other federal agencies in collecting debts. For example, we are helping the Department of Education collect student loans from DoD employees.

To improve cash management, DoD has made procedural changes and improvements (e.g., Treasury Financial Communications System, Direct Deposit/Electronic Fund Transfer, lockboxes, and automated teller machines) that accounted for about $31.7 million in annual savings during FY 1984.

5. The Grace Commission

When the President's Private Sector Survey on Cost Control was established in June 1982, we viewed it as an opportunity for identifying additional means of enhancing management efficiency. Following the release of the Commission's reports, we embarked on a comprehensive review of all defense-related recommendations.

As a result of this review, the Department is now moving aggressively to implement Grace Commission recommendations. For example,

we have already made improvements in stock positioning, freight bill audits, airframe maintenance, and contract travel.

To expedite implementation of other Grace Commission recommendations, we have issued guidance for improving basic acquisition management activities such as acquisition planning, stability, and prioritization; multiyear procurement; and economic production rates. We have issued additional guidance in other areas such as wholesale depot-level distribution functions, petroleum product procurement, and improved inventory management.

The savings associated with these improvements have been incorporated into our budget. DoD will continue its efforts to ensure that all prudent recommendations are implemented.

6. Conclusion

During the past four years, we have identified management problems within DoD and initiated reforms to eliminate these problems. Of course our job is far from done. We will continue to uncover problems, even as we continue to evaluate and, when necessary, revise our management reforms. A comprehensive program to improve acquisition management, to end spare parts pricing abuses, and to curb waste, fraud, and abuse is in place -- and, it is working.

Our challenge in the coming years will not be just to solve problems, but to prevent them. As we develop new weapons systems, we must plan at the outset for competition, for efficient production, and for adequate support and readiness. We must write tough contracts and enforce them strictly. And we must examine our operations to see not just where waste or fraud is occurring, but where it could occur -- and then see to it that the taxpayers' dollars are not squandered.

C. READINESS AND SUSTAINABILITY

1. Introduction

Over the past four years, we have greatly improved the combat capabilities of both our active and reserve conventional forces -- an improvement essential to our deterrent and warfighting strategies. Moreover, we have achieved this increased capability in a balanced fashion, with improvements in each of the elements of capability: readiness, sustainability, modernization, and force structure. While our modernization programs and force structure initiatives may be the most visible of our conventional forces' capability improvement efforts, we have not neglected the equally important readiness and sustainability elements, as some have contended. We recognize that our forces, regardless of the technical sophistication of their equipment, offer only illusory deterrent value if perceived as unable to respond quickly and effectively, or unable to sustain themselves in combat. We have therefore accorded readiness and sustainability high priority in our defense resource allocations for the past four years.

Overall, readiness and sustainability funding has increased from $50.3 billion in FY 1981 to $80.4 billion in FY 1986, an increase of 50 percent in real terms. Despite our increased investment in modernization during this period, readiness and sustainability have not been sacrificed, but received essentially a constant share of total defense funding.

These real increases for readiness and sustainability funding have allowed us not only to realize significant progress in correcting the deficiencies that existed in these areas four years ago, but to achieve improved levels of readiness and sustainability with a larger, considerably more modern force. The result is a conventional force significantly more effective -- both as a deterrent and in warfighting capability. Some have used highly technical indices of specific aspects of readiness to charge we have gained nothing by our improvements. The real life practical answer is best given by the Chairman of the Joint Chiefs of Staff who summarized our progress:

By every common sense measure we are far more ready now than in 1980 . . . we have better people, they're armed with more and better equipment, their training has improved, and they have better support behind them. And that makes for a readier force.

We will continue this progress with balanced improvements in each of the elements of our conventional forces' combat capability.

This chapter discusses several specific areas of our materiel and unit training readiness and sustainability improvements, assesses our current posture, and identifies expectations for the future. Our manpower, installations, and mobilization programs which contribute to readiness and sustainability are discussed in separate chapters.

2. Readiness

Our readiness objective is to provide and train personnel, and equip our forces to a level that will enable them to achieve full combat potential within tasked response times should a conflict arise. We evaluate our achieved readiness in four basic areas:

-- Equipment Fill: The amount of equipment (aircraft, tanks, trucks, etc.) we field relative to our combat requirement;

-- Equipment Condition: The operability of this fielded equipment;

-- Personnel Fill: The availability of people, with the right skills and training for our force structure; and

-- Unit Training: How well our individual units are collectively trained.

These readiness components require various resources that have different procurement lead-times as depicted in Table II.C.1.

It is important to note that relatively few readiness areas can be improved quickly. Some important readiness areas have lead-times as long as our modernization programs. This "resources-to-readiness" lag is much greater than the strategic warning we are likely to get. For this reason, we continue to give readiness a high funding priority, in that we will not have time to "get ready" once hostilities commence. Our achieved readiness in peacetime will largely determine the effectiveness of our conventional forces in the first days of combat.

Table II.C.1
Resource to Readiness Lag-Time

Component	Lead-Time (Years)
Equipment Fill (PA)	2 - 3
Equipment Availability	
— Depot Maintenance (O&M)	1
— Repair Parts (PA, SF)	1 - 3
Unit Training	
— Flying/Steaming Hours and Battalion Training Days (O&M)	1
— Simulators (PA)	2 - 3
Personnel	
— Recruiting and Retention (O&M, MP)	1

PA - Procurement Accounts Investments
O&M - Operations and Maintenance Account Expense
SF - Stock Funds Investment
MP - Military Pay

a. Equipment Fill

The Army's readiness continues to be affected by shortages of equipment. After the Vietnam War, the Army needed to modernize its equipment to counter the most effective equipment being deployed by the Warsaw Pact. As this essential modernization program grew, so did its costs. As a result, we have not been able to modernize as fully as we wished, to procure enough equipment to replace that wearing out, or to fill all existing shortages. Consequently, with the exception of the most important combat equipment, equipment fill still needs additional funding.

This problem has existed for some time, but we have lacked the data necessary to assess the shortages of specific ancillary equipment. We have initiated an effort to compile and assess these shortages in all combat and support units. The results of this study will allow us to target the necessary resources to this long-standing problem area.

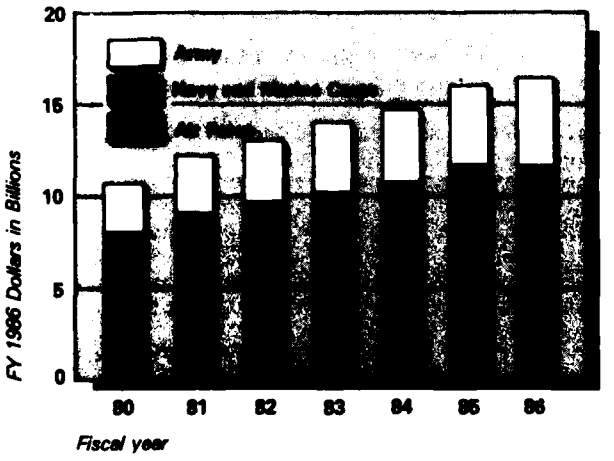
b. Equipment Condition

The operational availability of our fielded equipment is a function of our maintenance programs and the availability of repair parts and other components to keep this equipment in combat-ready condition. We have made considerable progress in both areas.

(1) Depot Maintenance

Overhaul of ships, aircraft, tanks, missiles, and other major weapon systems at the depot level is central to the equipment maintenance strategy of each Service. We have significantly increased funding for depot level maintenance in each of the Services since FY 1981, as Chart II.C.1 illustrates.

Chart II.C.1
Depot Maintenance Funding (FY 1980 - 1986)

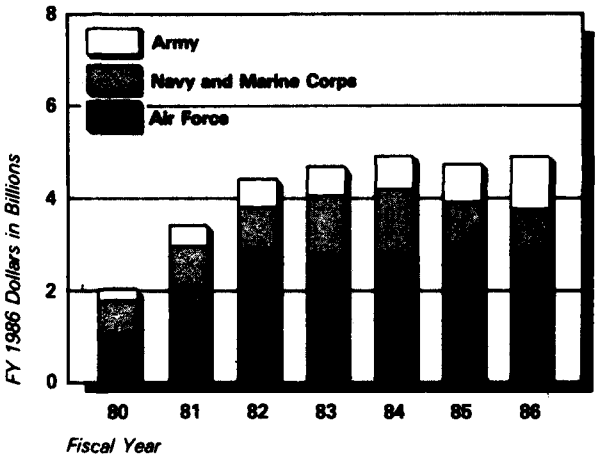


The budget reflects continued emphasis on improving our depot maintenance posture by providing adequate funding in support of depot maintenance requirements. We will continue to emphasize depot maintenance funding because of its central contribution to equipment availability and readiness.

(2) Spares and Repair Parts

The effectiveness of both depot and organizational maintenance programs is dependent on the availability of spares and repair parts. We require both replenishment spares to replace those consumed during maintenance and initial spares to support new weapons systems entering the inventory. While replenishment spares requirements are driven largely by peacetime activity levels (aircraft flying hours, for example), initial spares requirements are primarily a function of our modernization programs.

Chart II.C.2
Peacetime Replenishment Spares Funding (FY 1980 - 1986)



As shown in Chart II.C.2, we have substantially increased our annual investment in replenishment spares to support our peacetime activity levels and improve the operational availability of our ships, aircraft, and combat vehicles. In addition, we have fully funded the requirement for initial spares each year to keep support abreast of new equipment deliveries and to ensure that our newest and most effective equipment is fully supported. We will invest over $4 billion in initial repair parts purchased through the Defense Stock Funds between FY 1983 and FY 1986. As a result, the new weapons systems procured through our modernization programs are better supported at delivery than were their predecessors.

(3) Equipment Readiness Results

Our increased attention to equipment maintenance and repair parts support is largely responsible for the measurable improvement in equipment readiness. Our primary measures of force-wide equipment

availability include mission capable (MC) and fully mission capable (FMC) rates for aircraft and ground forces equipment, and command operationally ready (COR) rates for ships. These measures each describe the percent of weapons systems in the inventory that are

Chart II.C.3
Aircraft Mission Capable Rates
(FY 1980 - 1984)

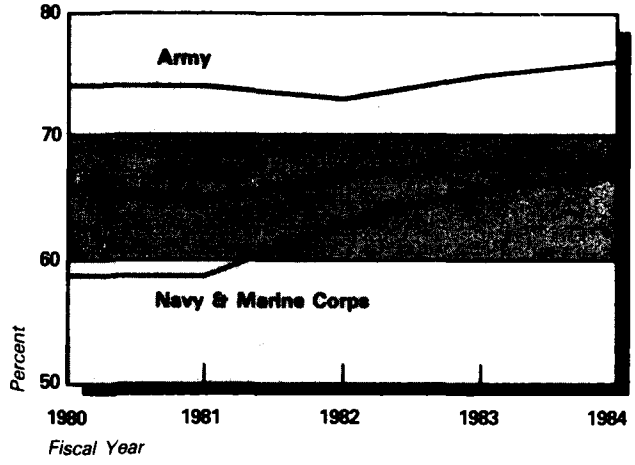
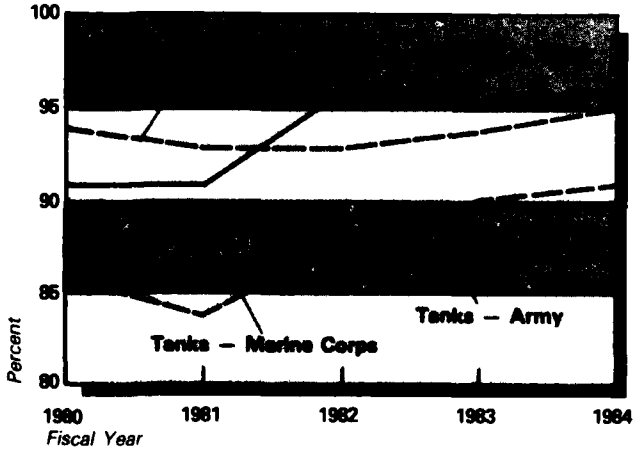


Chart II.C.4
Selected Ground Forces Equipment
FMC Rates
(FY 1980 - 1984)



capable of performing at least one primary mission (MC) or all designed missions (FMC). We have experienced positive trends in aircraft and ground forces equipment availability as illustrated in Charts II.C.3 and II.C.4. The COR rate for ships, the percent rated fully or substantially combat-ready, has increased from 54 to 78 percent between FY 1980 and FY 1984.

We expect these trends to continue as our expanded investments in spares and repair parts are fully delivered. The FY 1986 Force Readiness Report provides detailed historical and projected MC, FMC, and COR rates by specific weapon system and Service.

c. Training Readiness

In addition to possessing adequate inventories of well-maintained equipment, our forces must be systematically trained and exercised as teams in order to develop the collective skills required for success in wartime missions. The amount and quality of collective unit training define the training component of force readiness.

The ability to conduct good collective unit training is heavily dependent on personnel and materiel readiness. The favorable trends described in the Manpower chapter of this report -- high-quality enlistees, good retention of noncommissioned officers, improvements in personnel stability -- allow units to concentrate on perfecting collective skills. Improved availability of operational equipment also increases the opportunity for sound collective unit training.

And we have also improved training readiness by increasing the value of training time -- for example, the development and use of more effective training ranges. Another important way in which training is being made significantly more effective is through the increased development, procurement, and use of simulators and other training devices. These devices complement and supplement training on the primary equipment and raise proficiency beyond that which could be achieved in the past using primary equipment alone.

d. Unit Readiness Measures

The measures of equipment availability and unit training discussed above are examples of force-level readiness indicators. We also measure some components of readiness on a unit basis.

Our basic system for reporting readiness at the unit level is the Unit Status Reporting System (UNITREP). UNITREP is designed, managed, and controlled by the Organization of the Joint Chiefs of Staff (OJCS). The Services collect and report unit status statistics to OJCS in accordance with specific Service reporting rules, developed within broad OJCS guidelines.

The UNITREP system rates units as C-1 (fully ready), C-2 (substantially ready), C-3 (marginally ready), C-4 (not ready), or C-5 (not ready for a preplanned reason, such as a ship in overhaul). Furthermore, under UNITREP, units are rated in four resource areas -- two related to materiel and two related to people. They are:

-- Equipment Status: Quantities of equipment and supplies on-hand relative to that required and authorized for the wartime mission;

-- Equipment Readiness: The average condition of the equipment on-hand;

-- Personnel: People on-hand relative to wartime requirements in terms of numbers, critical skills and grades; and

-- Training: Whether the unit is trained to perform its wartime missions.

UNITREP assigns a C-rating to each unit in each of these four resource areas and an overall C-rating that is the lowest of the area ratings unless modified by the commander's judgement.

UNITREP data, although classified, support many of the trends mentioned in this section. For example, equipment status trends are up for Navy and Air Force aircraft; training trends are also improving. A more complete discussion of UNITREP, as well as detailed UNITREP data, is contained in the DoD report, Improvements in U.S. Warfighting Capability FY 1980-84, and its classified annex. This report documents the specific improvements that have been made in each of the elements of our combat capability, and substantiates readiness gains measurable at both the force and unit level.

3. Sustainability

Our sustainability objective is to ensure logistical support to our conventional forces from initiation to successful termination of any hostility. Our requirements for combat-essential materiel during a conflict will be several times greater than our normal peacetime consumption. For this reason, we are striving to build up war reserve stocks sufficient to support the combat forces until our industrial base can mobilize to meet our wartime requirements. Unfortunately, long production lead-times and the large quantities required make building stockpiles of war reserve munitions and repair parts a slow, expensive process.

Sustainability, like readiness, cannot be purchased quickly. Although the sustainability resource areas were allocated some of the largest real funding increases over the last four years, less than half of this investment has been produced and delivered. We have recognized and sought accelerated sustainability funding as a high priority and we need congressional support for this.

a. Munitions

We have continued the progress reported last year toward redressing critical deficiencies in our munitions sustainability. Funding for the last seven budget years is shown in Chart II.C.5. This graph demonstrates our resolve to build our munitions inventories to the point that we would never be forced to escalate to theater nuclear weapons because our conventional sustainability had been exhausted. Even with these increases, however, achieving our modest mid-term objective is slow. The long production lead-time for munitions, about two years, means that the increased funding in FY 1982 is only now beginning to be translated into increased combat staying power. This is one of the best arguments for avoiding the drastic budget erosion we experienced in the 1970s.

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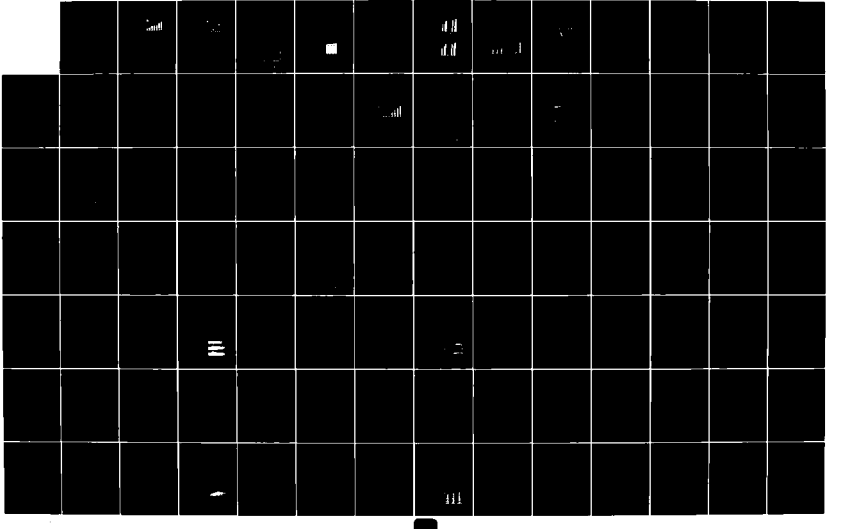

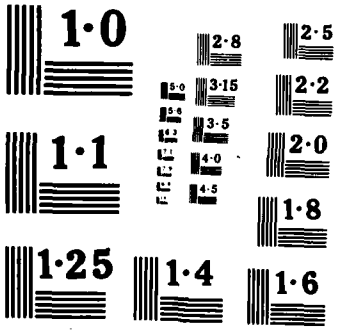
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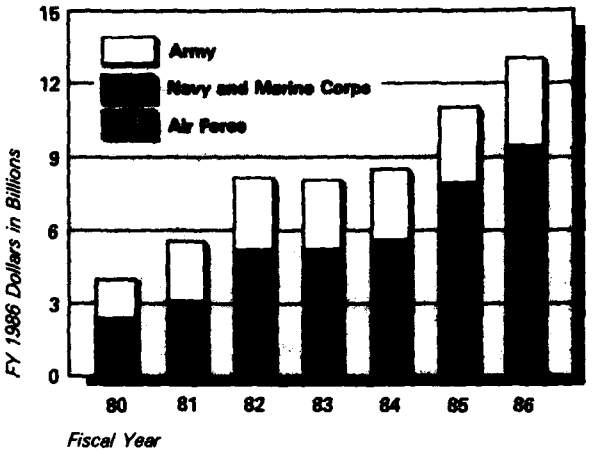
Chart II.C.5
Munitions Sustainability Funding
(FY 1980 - 86)



Procurement of modern munitions supports our sustainability and modernization programs. When we buy Maverick missiles, for example, we not only arm a number of sorties, we also increase by an order of magnitude the potential effectiveness of those sorties. Similarly, the Copperhead offers an increase in capability that cannot be matched by any number of the older artillery rounds.

The exact level of our sustainability -- how many days or weeks that we could fight -- is highly scenario-dependent, and our estimates for specific scenarios are classified. In general terms, we have not yet attained the levels necessary to constitute a prudent risk deterrent. Sustaining a conventional war is very expensive. It will take many years of increased budgets to build our stockpiles to the required level. However, we think it is worth the expense to provide the conventional sustainability necessary to reduce the risk of nuclear escalation.

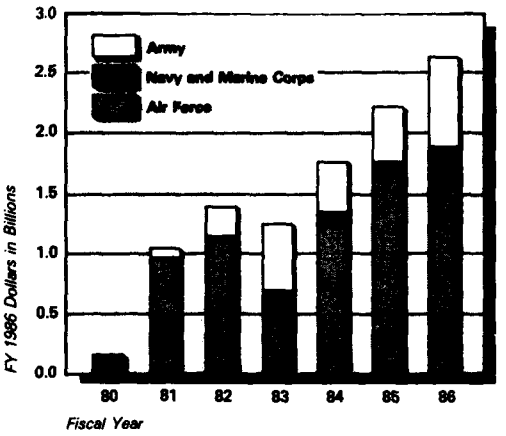
b. Spares and Repair Parts

Our increased consumption of repair parts to keep aircraft, ships, and other combat equipment fully operational at the much higher level at which they will be operated during conflict is the basis for our war reserve requirement for these items. We have concentrated on filling the necessary stockpiles of prepositioned repair parts -- those that would be required first. To accomplish this, we have increased our funding for war reserve spares and repair parts in both the procurement accounts and the stock funds (see Chart II.C.6)

Because of the production lead-times for these items, more than half of our investment over the last four years has yet to be delivered. Today, we have only about one-third of our war reserve prepositioning objective on hand, but we expect that the increased sustainability funding already approved, as well as that planned,

will allow us to achieve more than 80 percent of that objective by the end of this decade.

Chart II.C.6
War Reserve Spares and Repair Parts Funding (FY 1980 - 86)



4. Conclusion

Without question, we have made substantial improvements in both the readiness and sustainability posture of our conventional forces over the past four years. With regard to readiness, we are confident that we have achieved the level necessary to deter aggression today and, if necessary, to react effectively. This improvement is substantiated by readiness indicators. Our equipment is more operationally available, we have more and better people to operate it, and they are better trained, individually and collectively. But, we need more modernization and more expenditures for sustainability.

So we can, and should, do better. We will continue to improve our equipment availability by eliminating depot maintenance backlogs for both end-items and components and by fully funding requirements for both initial and replenishment spares. In addition, we plan to continue funding for collective unit training at the current level for the Navy and Air Force, and at an increased level for the Army's flying hour program.

We have not progressed as quickly in improving the sustainability of our conventional forces. This is due in part to the longer lead-times required to procure modern munitions and repair parts, and in part to the large sustainability deficiencies that existed four years ago. Our sustainability requirements have also increased both to support our modernized weapons systems and to meet the larger threat we must deter and, if necessary, defeat. We will not reach a point of confidence in our sustainability posture until late in this decade even with the large real increases in funding we will propose. But as a result of these investments, each year our conventional sustainability posture improves and reduces the probability of having to use nuclear alternatives should deterrence fail. This is not an investment area in which we can afford to be frugal.

D. MANPOWER

1. Introduction

Almost every aspect of our manpower program has experienced noteworthy improvements in the last four years. Whereas in FY 1980 there was genuine concern that the all-volunteer concept might not succeed, in FY 1984 all Services met their recruiting goals. Retention was up, the quality of our new recruits exceeded that of the civilian youth population, and our Selected Reserve Forces increased their strength by 22 percent to the highest level in history. We remain committed to protecting our people programs, safeguarding equality of opportunity for all servicemembers, and ensuring that our manpower investment continues to pay dividends in improved readiness.

This chapter discusses our military and civilian manpower programs. More detailed information on these programs is provided in the Defense Manpower Requirement Report and the Military Manpower Training Report.

2. The Manpower Program

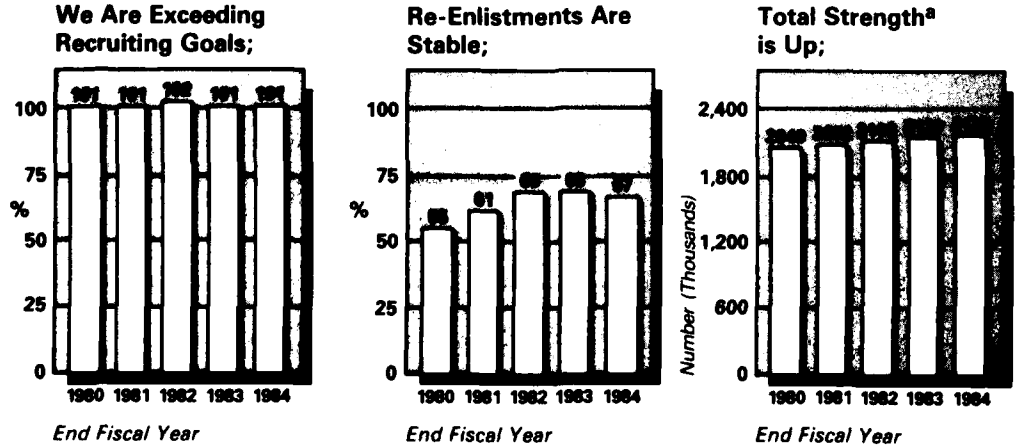
a. Active Component Military Manpower

This Administration, with the support of the Congress, has built a strong, quality force that not only provides for the immediate defense of the nation, but offers the soundest foundation we have ever had upon which to build to meet our future defense needs.

The growth in capability of our Active Component has permitted development of a credible, formidable military force that can meet its commitment of supporting our security program.

The record high quality of our new recruits gives us a solid foundation from which we can staff our force and draw our future leaders.

Chart II.D.1
Improvements in Military Manpower



[a] Includes Navy, Training and Administration of Reserves (TARs) that are counted as Selected Reservists.

Existing supervisory and leadership shortfalls are gradually being eliminated, providing us with a more appropriately graded force possessing the necessary skills and experience to win on today's battlefield.

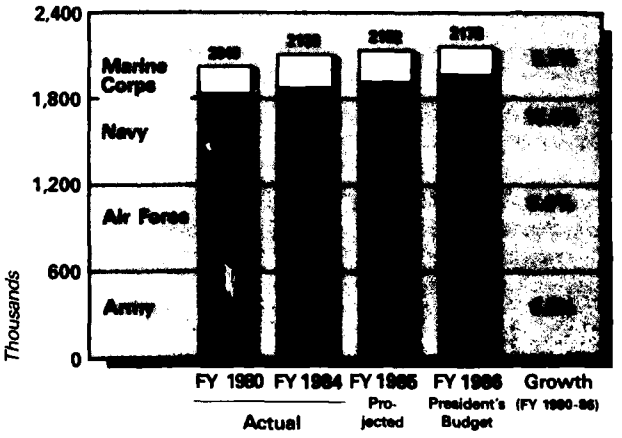
Our success in quality of life programs is reflected in the improved morale of our force and the decline in disciplinary actions taken during the past year. We now have a force that is prepared and able to support our worldwide commitments.

We will examine the four aggregate indicators of personnel readiness: end strength, experience, skills, and stability. These indicators clearly convey the greater capability of today's military personnel. We now must focus on sustaining our manpower successes of the past four years, particularly in the support to our people.

(1) Active Component End Strength

From FY 1980 to FY 1984, Active Component end strength increased by 98,568 personnel, or about 4.8 percent. The Navy and the Air Force experienced the greatest growth, both in absolute and relative terms (7.1 percent from FY 1980 to FY 1984). Navy's manpower growth of about 2 percent per year approximates the increased number of billets at sea; however, the fleet support requirements have not been met. Air Force growth supports new and expanded missions and associated force structure modifications. The manning of Marine units increased at a rate proportional to the growth in the Marine force structure, which is essentially the same as that programmed prior to FY 1983.

Chart II.D.2
Active Military Strength[a]
(End Strengths)



[a] Excludes Navy Training and Administration of Reserve (TARs) that are counted as Selected Reserves.

(a) Active Component Military Manpower

Adequate strength is a fundamental determinant of unit personnel readiness. However, over the past two years, the Congress denied about 60 percent of the growth in Active Component end strength

requested for FY 1984 and FY 1985. This denial comes at a time when our force structure must expand to meet the increasing threat. Manpower requirements and strength levels are not independent of other modernization programs. As end strength levels are artificially constrained, the resultant undermanning of much needed new programs ultimately degrades overall readiness.

We plan to increase the number of active military personnel at the end of FY 1986 by about 25,600 (about 1.2 percent) over FY 1985 end strength levels (see Chart II.D.2). Concomitantly, we anticipate the percentage of minorities will remain relatively stable, and the overall percentage of women will increase slightly.

(b) Recruiting

We continue to make every effort to enhance both the attractiveness of military service and our competitiveness in the youth labor market. Our success in recruiting the necessary quality and quantity of new personnel has continued as all four Services met or exceeded their accession objectives. Table II.D.1 shows actual enlisted accessions for FY 1984 and planned recruiting levels through FY 1986.

Table II.D.1

Enlisted Active Duty Accessions (Numbers in Thousands)

	Actual		Planned	
	FY 1984 Number	Percentage of Objective	FY 1985 Number	FY 1986 Number
Army	142.3	100	139.9	145.1
Navy	82.9	100	85.8	89.1
Marine Corps	42.2	109	39.2	37.6
Air Force	61.1	100	67.0	69.8
Total	**328.5**	**101**	**331.9**	**341.6**

The young men and women we recruit to meet our objectives are of an unprecedented high quality. The quality of our enlistees as measured by educational attainment (high school graduation) and scores on the enlistment test reflects substantial improvement since FY 1980. Charts II.D.3 and II.D.4 reflect these increases in quality.

We are confident that we can continue to satisfy our personnel requirements with volunteers. However, the sustained economic recovery and the decline in the military age youth population pose difficult recruiting challenges. There is some evidence of this decline in quality and quantity of reserve pools of potential recruits. We must provide a competitive level of pay and benefits and ensure that the Services have adequate recruiting resources in order to continue attracting high quality men and women.

Chart II.D.3

High School Diploma Graduates (HSDG) and Armed Forces Qualification Test (AFQT) Category Among Nonprior Service (NPS) Active Duty Accessions (Percentage of NPS Accessions)

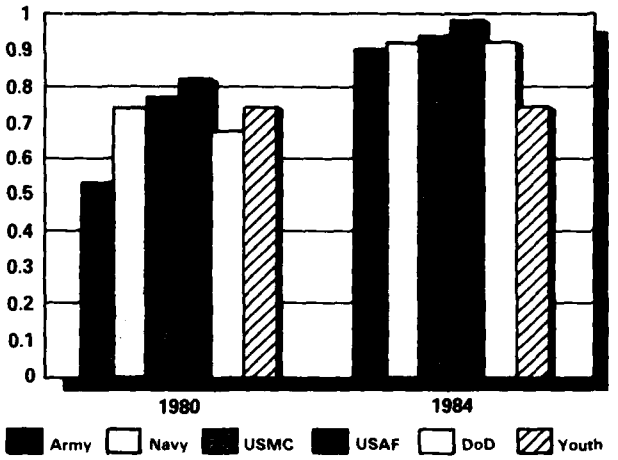
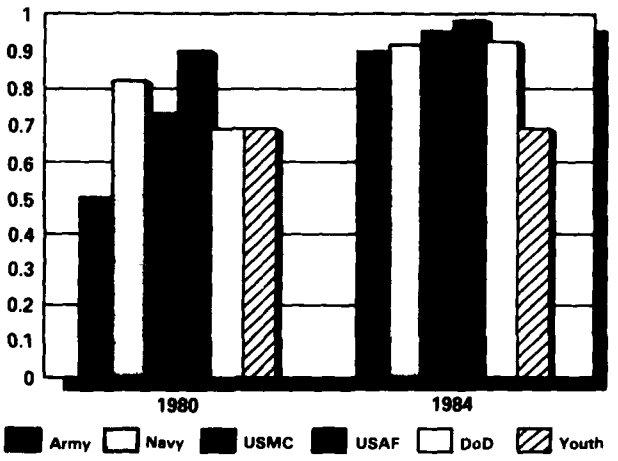


Chart II.D.4

Armed Forces Qualification Test (AFQT) Category Among Nonprior Service (NPS) Active Duty Accessions (Percentage of NPS Accessions)



(2) Experience

Experience, another key element of personnel readiness, is a costly, but necessary, dimension of the force. Experience must,

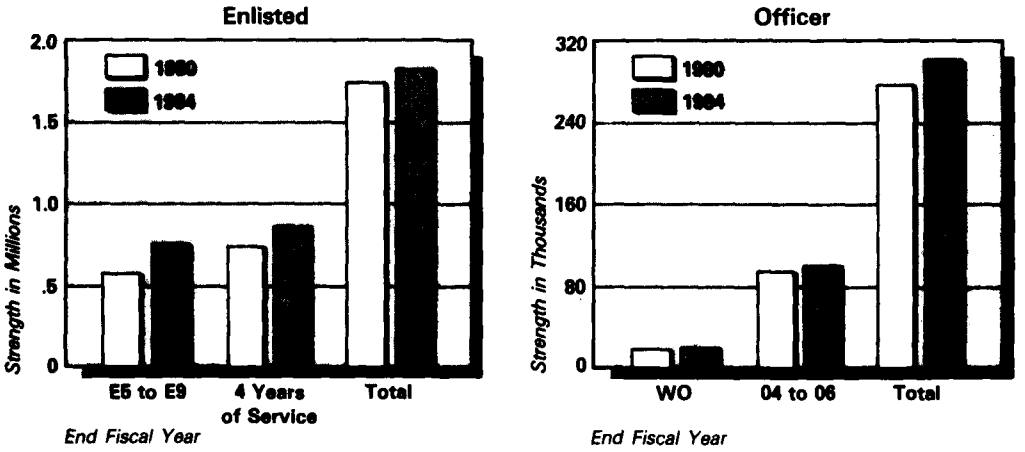
therefore, match our needs as closely as possible. Too much experience can be very costly and can result in promotion and career stagnation, while too little experience seriously detracts from our capability to accomplish our mission. We have had great success in improving experience levels throughout the force and in eliminating many of the shortfalls so common four years ago. Our goal now is to manage the force so as to maintain the proper experience levels appropriate to our needs and to the career management needs of our people.

(a) Officer

Since FY 1980, the total officer population has increased nearly 26,000, or over 9 percent, with over 15,900 of this net increase (62.3 percent) among officers with between four and nine years of service. Additionally, there has been an increase of minority and female officers during this same period. Since FY 1980, the number of minority officers has increased over 25 percent, and the number of female officers has increased over 33 percent. More junior officers are choosing to stay in the Service at their initial career decision point (generally the fourth or fifth year of service). Moreover, these junior officers today generally have more years in service and in grade, therein providing better and more experienced leadership at the unit level.

Retention of officers should remain at an acceptable level. Good retention has improved the manning in some critical skill areas; however, experience shortages will remain for some time as a result of low retention in previous years.

Chart II.D.5
Experience and Leadership



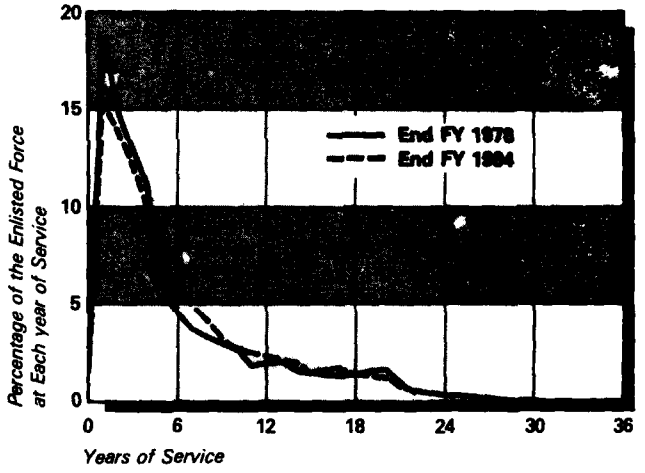
We solicit congressional support for our legislative proposal to establish a new framework for the management of flag and general officers. This legislation would provide for the necessary oversight, flexibility, and responsiveness required to administer changing flag and general officer requirements in support of national security objectives.

(b) Enlisted

Sustained retention success has permitted development of a force with the experience needed to meet the demands for skilled technicians, supervisors, and managers. The average years of service have increased from 5.55 to 5.93 years, an increase of 6.8 percent.

The long existing noncommissioned officer/petty officer shortfall has been significantly reduced as a result of our retention successes. This becomes particula y evident in the growth in average grade of the enlisted force by 4.2 percent.

Chart II.D.6
Experience of Enlisted Force



Enlisted retention is now at an acceptable level in most segments of the force, although chronic shortages persist in some skills, particularly in those career fields that are highly marketable in the private sector and those that involve arduous duties in the military. Many of the shortages remain in the middle grades and will be alleviated only when people now in the lower grades develop the skill and experience needed to move upward. Although this will not happen overnight, interim measures, such as aggressive retraining programs and better promotion opportunities for shortage skills, are being implemented.

(3) Skills

The availability of personnel in needed skills at the unit level directly affects personnel readiness. Recently, there have been some gains in skill areas where shortages have contributed to degraded readiness in the past.

(a) Officer

Although we continue to experience shortages in some critical officer skills, our manning position is improving.

-- Our most serious problem is the 18 percent shortage of nuclear trained submarine and surface officers in the grades of lieutentant commander to captain. The situation is getting worse and this may rise to 22 percent by FY 1986, unless corrective measures work.

-- Although requirements for pilots continue to grow, we have reduced the pilot shortage from over 5,000 in FY 1981 to about 950 in FY 1984. There are some indications that future retention trends may not be as favorable as those we have experienced in recent years. External economic considerations, which include factors such as airline hiring practices, influence retention patterns for highly skilled pilots.

(b) Enlisted

In addition to increased manning in critical enlisted skills, we are maintaining high quality personnel in these skills. Four factors are responsible for the growth and quality we have achieved in these enlisted skills. First, positive accession and retention trends are stabilizing the force while improving its overall quality. Second, our use of enlistment bonuses, education programs, and other monetary incentives enhances the quality of recruits entering these critical skills. Enlistment and Selective Reenlistment Bonuses remain the most cost-effective accession and retention incentives. Third, we are planning more effective training in areas of greatest need. And finally, attrition during the first six months of service has dropped from 15.0 percent in FY 1981 to 11.9 percent in FY 1984. Since people who now star. training are more likely to complete it, our training resources are used more efficiently.

(c) Training

Training imparts the necessary skills to survive and win on the battlefield. Toward that end, one of our foremost objectives is to continue the progress the Services have made in improving more effective training both for individuals and for military units. The quality of military training, both of individuals and of operational units, is generally high, but better management and support can bring further improvements. To meet this need, we have instituted two management initiatives designed primarily to capitalize on opportunities offered by new technology. First, we have established within the Office of the Secretary of Defense (OSD), with Joint Staff participation, an OSD Steering Committee on Training and Training Technology. The purpose of this group is to assure early recognition of training problems and to take prompt actions to solve them, making full use of advances in training technology. Second, DoD has established a Defense Training Data and Analysis Center (TDAC) in Orlando, Florida. TDAC provides a defense-wide capacity for gathering, organizing, and analyzing data and information on all aspects of military training.

(4) Stability

Stabilizing personnel assignments contributes to improved readiness because individuals now stay together longer in the same unit thereby improving that unit's teamwork and mutual confidence. Additionally, crew/team proficiency is increased, tactical competency is improved, the need for repetitive team training is reduced, and operational efficiency and safety are enhanced.

During FY 1980-84, unit stability (percent of servicemembers in the same unit from one year to the next) increased DoD-wide by 1.7 percent to 44.8 percent. Greater stability is a result of lower attrition, greater retention, and fewer accessions; greater management discipline; higher overall personnel quality; and greater job satisfaction among our servicemembers.

(5) Other Related Factors

Inherent factors supporting these four primary aggregate indicators of personnel readiness -- strength, experience, skills, and stability -- are DoD's quality of life and compensation programs.

(a) Quality of Life

Quality of life encompasses many individual DoD programs that contribute to sustaining personnel readiness by recognizing the importance of the people who make up the Armed Forces and acknowledging their contributions to the defense effort. We have built on efforts begun early in this Administration to improve existing programs and have also developed new programs to help compensate for the demanding aspects of military life.

Our first priority here is to improve the quality of life in overseas and remote areas, both for single service personnel and, where accompanied tours are authorized, for families. These initiatives include building and remodeling schools for dependent children, child care facilities, physical fitness centers, family service centers, chapels, and multipurpose recreational facilities. Also, we have undertaken management actions to improve the benefits provided by commissaries and exchanges.

Chart II.D.7
Quality of Life

Medical Care	Family Services
Child Care	Education Programs
Legal Assistance	Commissaries
Religious Programs	Post/Base Exchanges
Assignment Policies	Postal Services
Housing	Financial Counseling
Recreation Services	

We recognize that service people are making career decisions based on their families' considerations of their quality of life. It appears that a significant correlation exists among quality of

life programs, spouse satisfaction, and recruitment and retention of qualified people on the one hand, and the discipline, morale, and readiness of our forces on the other. In FY 1984, we created a Family Policy Coordinating Committee to bring together policymakers throughout DoD to shape and influence the direction and extent of family support efforts. In order to target DoD resources more cost-effectively, we have commissioned a DoD-wide family survey, to poll approximately 131,000 servicemembers and 75,700 spouses on demographics, satisfaction with military life, and needs for additional support. We have expanded our efforts to work with agencies outside of DoD in support of family programs. Additionally, we have made great strides in incorporating family issue awareness training into officer professional school curricula. We are operating 272 family service centers on DoD installations worldwide. To meet the growing demand for child care, the Department operates nearly 550 child care facilities on some 400 military installations worldwide. Family day-care programs are also being expanded.

In FY 1984, we recognized the contribution that military spouses make to the defense effort by observing a National Military Spouse Day on May 25, 1984.

(b) Compensation

Our ability in recent years to compete with the private sector for the manpower required to meet our national security objectives is due, in no small part, to the significant improvements that have been made in our compensation system. There is no question that a competitive compensation program is vital to our continued success.

The compensation program, both pay and benefits (non-pay), that we are proposing for FY 1986 is a comprehensive package designed to improve the overall quality of life for servicemembers. In light of government-wide efforts to reduce the federal deficit, we are requesting only a 3 percent military pay raise, which will start in FY 1985. Recognizing that this will not match the projected private sector wage growth, we are asking the Congress to reduce the impact of a smaller pay raise by approving it one quarter early, thus making it effective July 1, 1985. In addition to this, we are also requesting approval for restructuring of the permament change of station (PCS) reimbursement system. These initiatives, including a request to increase the maximum weight allowance for household goods from 13,500 pounds to 18,000 pounds and fund four days temporary lodging expenses not to exceed $110 per day, will allow for a more realistic reimbursement of the costs associated with the PCS moves that we require of our men and women. That we expect a great deal from our servicemembers is an understatement. That our men and women in uniform accept the hardships and sacrifices inherent in military service is a testimony to their willingness to do more than their share to keep our country strong. That they should have to pay to do this is patently unfair. A recent Air Force survey revealed that when making a PCS move, the average servicemember was reimbursed only one dollar for every four dollars spent out-of-pocket in connection with the move. In addition, over half of our servicemembers making a PCS move needed to borrow, including withdrawal from savings, to meet their expenses. We are committed to ensuring that the costs of a government-directed move are borne by the government, not inflicted on the individual servicemember.

We are also considering a dental care program for active duty dependents. This is desirable if the military medical program is to

continue to compete on favorable terms with private health care plans and remain an effective recruiting and retention incentive. In addition, we will be considering legislation to implement certain recommendations of the Fifth Quadrennial Review of Military Compensation (QRMC). Included in those recommendations are improvements to certain special and incentive pays, designed to enhance the recruiting and retention of members in those specialty skills that are still experiencing shortages. Increases in Servicemen's Group Life insurance and in the death gratuity, along with the initiation of a burial expense benefit, all of which were recommended by the QRMC, will be part of the compensation program being considered for FY 1986.

Finally, in the area of compensation, our members must be protected from reductions in pay resulting from changes in tax policy if fairness is to be maintained. Current tax treatment of allowances and other benefits of military service is integral to the Military Compensation System and should not be changed without corresponding corrections in the total compensation package.

(6) Summary

It is therefore imperative that continued attention be directed to recruiting, retention, compensation, and quality of life resource levels. Sufficient resource levels in each of these areas will allow us to achieve our goal of providing adequate manpower to operate, maintain, and support our equipment effectively and efficiently. Inadequate manpower can only place debilitating stress on our personnel, with further degradations in readiness and sustainability capabilities. Finally, history shows that while manpower losses can occur quite rapidly, it can take a decade to recoup such losses.

b. Reserve Military Manpower

The Reserve Components are charged with providing trained units and qualified individuals for active duty in the Armed Forces in time of war or national emergency. These units and individuals are to be available on short notice and capable of assuming major contingency roles as demanding as those in the active force.

This Administration has supported continuous improvements to the Reserve Components within the Total Force Policy. In July 1981, President Reagan strengthened the Total Force Policy first enunciated by the Secretary of Defense in 1970. In August 1982, DoD further strengthened the Total Force by implementing measures to ensure the short notice readiness capabilities of the reserve forces. These policy decisions have been followed by actions to increase manning, training, and readiness.

The Ready Reserve is comprised of reserve units, individual reservists assigned to active duty units, and individuals subject to recall to active duty to augment the active force in time of war or national emergency. Within the Ready Reserve, the Selected Reserve consists of those units and individuals designated as so essential to initial wartime missions that they have priority over all other reserves. The second category of the Ready Reserve is the Individual Ready Reserve (IRR)/Inactive National Guard (ING), and consists of those reservists who are not in the Selected Reserve but are subject to recall on an individual basis to provide initial augmentation of active or reserve units.

(1) Selected Reserve Manpower Strength

In FY 1984, the Selected Reserve attained their highest manning levels in history -- 1,045,828 men and women. The previous high of 1,006,000 was reached in FY 1959 when individuals were allowed to substitute enlistment in the Ready Reserve for two years of conscripted service in the Active Component. Since FY 1980, the Selected Reserve has grown at four times the rate of the active force and at the end of FY 1984 stands 22 percent higher than in FY 1980 (see Table II.D.2).

Increased Selected Reserve manning has resulted from our emphasis on increasing the readiness of the Reserve Components as a vital part of our national defense. Strong congressional support has provided additional full-time recruiters and unit support personnel, while improving compensation incentives and benefits.

Table II.D.2

Selected Reserve Manpower[a] (End Strength in Thousands)

	Actual		Programmed	
	FY 1980	FY 1984	FY 1985	FY 1986
Army National Guard	367	434	438	450
Army Reserve	207	275	286	301
Naval Reserve	97	121	129	142
Marine Corps Reserve	35	41	42	43
Air National Guard	96	105	108	111
Air Force Reserve	59	70	75	77
Total[b]	861	1,046	1,077	1,124

[a] Numbers include Navy Training and Administration of Reserves (TAR).

[b] Numbers may not add to totals due to rounding.

(2) Selected Reserve Recruiting

The growth of Selected Reserve manning has necessitated large increases in recruiting of both nonprior and prior military service personnel. In spite of an improved economy, the declining size of the military-age population, and reduced active force separations, the quantity of enlistees continues to improve (see Table II.D.3.).

Table II.D.3

Selected Reserve Enlistments
(Nonprior/Prior Service in Thousands)

	Actual		Programmed	
	FY 1980	FY 1984	FY 1985	FY 1986
Army National Guard	50/47	60/50	55/44	54/44
Army Reserve	26/34	33/34	37/32	39/39
Naval Reserve[a]	3/25	10/22	10/30	10/28
Marine Corps Reserve	5/4	9/5	9/6	10/6
Air National Guard	7/10	6/8	6/9	5/9
Air Force Reserve	3/10	3/9	4/11	4/11
Total[b]	**94/128**	**122/127**	**130/133**	**120/137**

[a] Reflects new Sea Air Mariner (SAM) Recruiting program in FY 1984 and after.

[b] Numbers may not add to totals due to rounding

An important measure of the quality of reserve enlistees is the proportion that are high school graduates. Another key measure is their scores on the AFQT. The percentage of high school graduates rose from 76 percent in FY 1980 to 85 percent in FY 1984 (see Table II.D.4).

Table II.D.4

Reserve Enlistments of High School Graduates

	FY 1980	FY 1984
Total Enlistments	222,100	218,400
High School Graduates[a]	168,400	185,000
Percent	75.8	84.7

[a] Includes equivalency certificate and diploma graduates and students currently in high school who are expected to graduate.

The Reserve Components attained excellent recruiting and retention results in a much improved economic environment and in spite of an accessible youth population declining in size since 1979. The sustained economic recovery and a further decline in the 18-21 year old population will provide challenges that will require continued congressional and public support. With this support, DoD will be able to continue to attract and retain the required personnel.

In support of this Administration's policy to increase the opportunities for women and minorities, the number of women and minority personnel in the Reserve Component has continued to increase. The number of women grew from 68,000 in FY 1980 (9.3 percent) to 102,000 in FY 1984 (9.8 percent). Similarly, minority personnel increased

from 170,000 in FY 1980 (20.0 percent) to 226,000 in FY 1984 (21.6 percent). Additional increases are expected in both categories in future years.

(3) Full-Time Support (FTS) Personnel

FTS personnel are a key factor in achieving the unprecedented level of readiness that now exists within the reserve forces. Total FTS strength for all components has increased from 12.5 percent of the Selected Reserve strength in FY 1980 to 14.2 percent in FY 1984. All Active Guard and Reserve and Military Technician (MT) personnel are counted as part of the Selected Reserve. Further increases are projected as shown in Table II.D.5.

Table II.D.5

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

	Actual		Programmed	
	FY 1980	FY 1984	FY 1985	FY 1986
Army National Guard	32	43	46	56
Army Reserve	17	29	31	34
Naval Reserve	20	23	24	27
Marine Corps Reserve	5	6	6	7
Air National Guard	26	30	32	33
Air Force Reserve	11	13	14	15
Total[b]	111	143	153	172
Percent of Selective Reserve	12.9	13.7	14.5	15.2

[a] Includes Active Guard and Reserve (AGR), Military Technicians (MT), Active Component (AC) personnel, and Civil Service personnel (CS).

[b] Numbers may not add to totals due to rounding.

The mix of FTS personnel has evolved within each component based on historical and mission differences. It is DoD's policy that each Service continue to establish its own mix of FTS personnel that best suits its unique needs.

Table II.D.6

Full-Time Support Personnel - By Type (FY 1984 End Strength in Thousands)

	AGR	MT	AC	CS	Total
Army National Guard	16.7	24.6	1.6	0.2	43.0
Army Reserve	8.8	7.0	6.7	6.1	28.5
Naval Reserve	13.3	–	6.9	3.1	23.3
Marine Corps Reserve	0.8	–	5.0	0.2	6.1
Air National Guard	5.8	21.1	0.7	1.9	29.5
Air Force Reserve	0.5	8.0	0.7	4.3	13.5
DoD Total[a]	45.9	60.7	21.6	15.7	143.9

[a] Numbers may not add to totals due to rounding.

(4) Individual Ready Reserve/Inactive National Guard

The Individual Ready Reserve (IRR) and Inactive National Guard (ING) consist of a pool of individual manpower within the Ready Reserve, who are not part of the Selected Reserve. They have served previously in the active forces or Selected Reserve. Many have some obligated service remaining. IRR/ING individuals would be mobilized to augment initial demands for military manpower of the active force and Army National Guard units. This manpower pool shrank from nearly 1.6 million persons in FY 1972 (swollen by draft considerations) to a low of 342,000 in June 1978, which was well below our mobilization needs. A number of legislative and policy initiatives increased the IRR/ING strength to 445,000 in FY 1984 (see Table II.D.7). The new eight-year military service obligation implemented June 1, 1984, along with IRR bonuses is expected to provide an additional 150,000 IRR members beginning in FY 1990.

Table II.D.7

Individual Ready Reserve and Inactive National Guard (End Strength in Thousands)

	Actual		Programmed	
	FY 1980	FY 1984	FY 1985	FY 1986
Army National Guard (ING)	7	9	10	11
Army Reserve	205	277	271	273
Naval Reserve	97	69	88	99
Marine Corps Reserve	57	48	48	48
Air National Guard (ING)[a]	–	–	–	–
Air Force Reserve	47	41	42	41
DoD Total[b]	**413**	**445**	**454**	**467**

[a] Fewer than 500.

[b] Numbers may not add to total due to rounding.

c. Civilian Manpower

(1) The Role of Civilians

The United States has a long established policy of using civilians to the maximum extent possible to assist in maintaining our national security. This policy has a number of advantages. It reduces to a minimum the number of men and women required on active duty. Moreover, civilians cost less in many functions than uniformed personnel. Civilians also provide stability and continuity to those functions that require rotation of uniformed personnel. Marketplace trends in the coming years may reinforce civilians' cost advantage as a declining youth population forces DoD to compete harder with the private sector for prospective recruits.

Civilians participate in all defense activities not potentially involving combat and account for one-third of all active DoD manpower. They comprise over half of DoD's personnel in research and development and base operations support and about 95 percent of all workers in depots, shipyards, and other logistics activities that

directly affect the readiness of our forces. Of particular importance, many civil servants occupy overseas positions which would be essential to military operations in wartime. The Mobilization chapter discusses how we would fill these essential positions during a crisis.

(2) Size of the Civilian Workforce

In FY 1986, DoD plans to employ about 1,107,000 civilians of whom about 1,020,000 will be hired directly by the United States. The remainder will be indirect-hires, foreign nationals paid by their own government for working at U.S. bases in accordance with Status of Forces Agreements. We reimburse the host country for the cost of these personnel.

These employment totals are almost 10 percent higher than FY 1980 levels and reflect the increased defense resources and workload. Expansion in our overall defense program over the last four years has necessitated the additional employees. The increase in civilian spaces will continue to help DoD reduce depot maintenance backlogs, manage spare parts better, handle more foreign military sales, and civilianize former military positions, thus allowing the military to return to military jobs and increase readiness. In spite of this growth, civilian manpower costs have declined sharply as a share of the total DoD budget. In FY 1980, 16 out of every 100 dollars spent by DoD went for civilian related expenses. Five years later this portion has dropped to 9 out of every 100 dollars.

As a result of congressional action, in FY 1985 we are not operating under any ceiling on the number of civilians we can hire. All DoD activities can employ as many civilians as are needed to complete funded work. We welcome this opportunity to demonstrate that we can manage all our programs more effectively without end-of-year employment restrictions. During the two preceding fiscal years, only DoD's industrially funded activities, such as depots and shipyards, were exempted by the Congress from ceilings. We benefited from this exemption in several ways. We gained through:

-- Greater ability to respond to unexpected workload changes;

-- Elimination of the need to drop workers from the rolls temporarily to avoid exceeding ceilings; and

-- Freedom to devote more emphasis to employee training as well as contract monitoring.

Just as important, the industrially funded activities did not abuse their freedom by hiring more civilians than were required to complete funded work. During FY 1985, DoD will report to the Congress the results of removal of all hiring ceilings.

(3) Characteristics of Civilian Workers

About 32 percent of DoD's full-time employees with permanent jobs, excluding indirect hires, are women and 22 percent belong to a minority group. About two-thirds of our civilians are in General Schedule (GS) or General Manager (GM) (white collar) positions and provide engineering, scientific, professional, technical, clerical, and administrative services. Our blue collar workers -- who are paid under the Federal Wage System -- repair ships, planes, tanks, and

other equipment, maintain our installations, and provide most of the manpower for other logistics and supply operations.

The average grade of our GS/GM employees is about 8.2, up less than 0.4 in ten years. Four-fifths of this growth was due to a change in the composition of our workforce, i.e., we hired proportionately fewer in occupations with lower average grades. This record was achieved during a time when defense technology became more complex and competition from the private sector for our scientists and engineers accelerated.

d. Programs to Raise Workforce Productivity

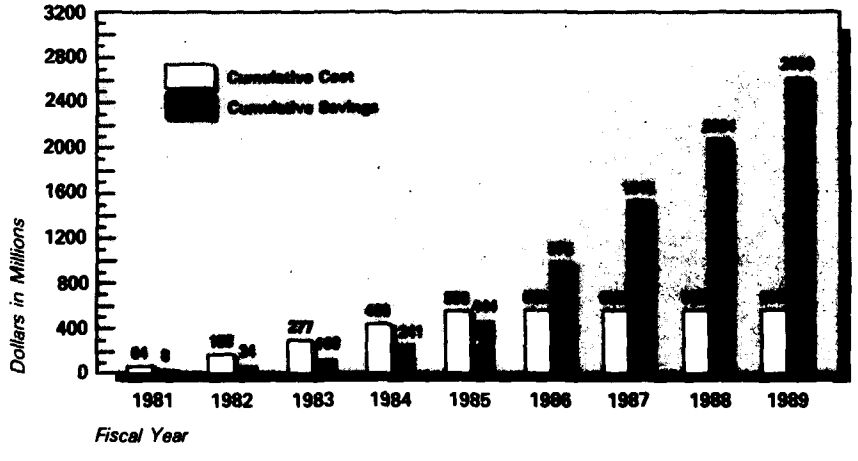
Fiscal responsibility demands that DoD use its workforce as efficiently as possible. Although the productivity of our civilian workforce has risen faster than the federal average, we are continuing to work in several ways to raise the productivity of all our employees, both military and civilian. At the same time, we are using private employees where they are less expensive than civil servants and where it is not essential to use uniformed personnel. The Installations chapter contains further information on our Commercial Activities Program.

We are applying procedures similar to those of the Commercial Activities Program to those activities exempt from competition with the private sector. Under the Efficiency Review Program, organizations develop performance work statements that describe the work to be done and the standards to be met. The organizations then determine the most efficient means of completing the work statements. The goal is to minimize the costs for a given function so that manpower and other resources can be reassigned to other jobs.

DoD has recorded very high returns from investments in labor-saving equipment. Our major capital purchases, under the Productivity Investment Fund (PIF) Program, typically pay for themselves in reduced labor costs in less than two years. For example, the LOGMARS project uses electronic bar-coding of material to cut the time required in inventory activity. In another area, computer-aided design and manufacture projects have raised the output of our engineers. In FY 1986, we plan to spend $147 million under the PIF program, which accounts for about 70 percent of DoD's labor-saving investments, other than industrial fund investments which come under the Asset Capitalization Program. Chart II.D.8 shows the cumulative costs and savings from PIF projects undertaken in FY 1981-85.

We also know that employee motivation strongly affects productivity. We have added new ways in which outstanding civilians can be recognized and rewarded. We are also experimenting with how DoD can share with workers the gains from greater than expected productivity. The Quality Circle Program is designed to give employees a chance to work with their colleagues and supervisors in improving the management of their activities. We gain not only from the suggestions of the workers but also from the better morale that results from their ability to influence how their organizations function.

Chart II.D.8
Productivity Investment Funding
FY 1981 - 1989 Investment Costs vs. Savings



E. THE INDUSTRIAL BASE

1. Introduction

During the past year, significant progress has been made in strengthening yet another vital aspect of our national defense -- America's industrial base. We have initiated programs over a broad front to include both the public base and over 30,000 private sector prime and subcontractors. The President's Economic Recovery Program establishes the foundation for these initiatives and implements programs that both meet our peacetime needs and also provide the necessary measures to expand production during a crisis or hostilities. Private industry is joining us in the areas of surge production assessment, productivity improvement, and acquisition cost reduction. The Services have aggressively revitalized their respective Industrial Preparedness Programs to help identify critical items and potential production bottlenecks for surge and mobilization. For the first time, the Congress has authorized funding to support industrial surge responsiveness. Further activity in this area ranges from the Industrial Modernization Incentives Program (IMIP) to our efforts to encourage more cost-effective contract requirements. They include increased emphasis on efficient manufacturing facilities and greater attention to manufacturing plans as part of our acquisition strategies. We are optimistic that industry understands the challenges ahead. While more remains to be accomplished, we have firmly set the stage for continued progress.

2. Current Programs

a. Industrial Base Guidance

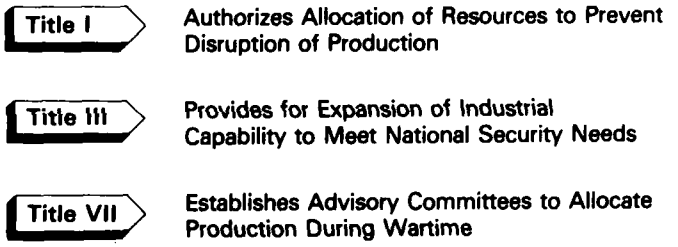
In addition to establishing the Industrial Base Program (IBP) as a DoD mission area, defense industrial base guidance has been clarified, defined, and prioritized. The four basic objectives are: peacetime production efficiencies, production surge capabilities, wartime sustainability, and effective industrial preparedness planning.

Significant milestones have been reached in achieving an industrial base capable of responding more effectively to our critical defense requirements. The first production surge investment was funded in FY 1985. It provides accelerated production of the TOW 2 missile in the event of a crisis. The Air Force has identified and programmed funding for FY 1986 to remedy shortfalls in production surge capabilities for three critical items (combined effects munitions, traveling wave tubes, and chaff). Under Title III of the Defense Production Act, the Congress has appropriated funding in the FY 1985 budget to establish or expand needed manufacturing capacity for critical materials. The Joint Chiefs of Staff have begun a program to identify and to prioritize the most essential warfighting materiel needs of the commanders in chief of unified and specified commands. This will provide a common baseline to allocate scarce resources to improve industrial responsiveness. The Services and the Defense Logistics Agency (DLA) now are staffed with qualified industrial planners to perform the essential reviews and analyses of our industrial base program. Manufacturing technology and IMIP investments have gradually increased and are reflected in measures of improved producibility and productivity. The defense industrial base guidance will include additional refinements made for the FY 1987 Defense Guidance.

b. The Defense Production Act

The Defense Production Act (DPA) of 1950 (Chart II.E.1) provides the principal authority for vital readiness programs directed toward maintaining the national defense industrial base for peacetime, surge, and national emergency requirements. Over the past 30 years, we have relied heavily on this authority in order to maintain ongoing defense contracting and preparedness programs in support of national security objectives. The B-1B bomber, cruise missile, and Blackhawk helicopter are three programs for which we have used the priority rating available under Title I of the DPA in order to maintain production schedules and reduce lead-times and costs. DoD has worked closely with the Department of Commerce in revising their regulations for implementing Title I and for maintaining the industrial readiness necessary in time of national emergency. DoD is updating its internal procedures to incorporate these new Commerce regulations.

Chart II.E.1
Defense Production Act of 1950



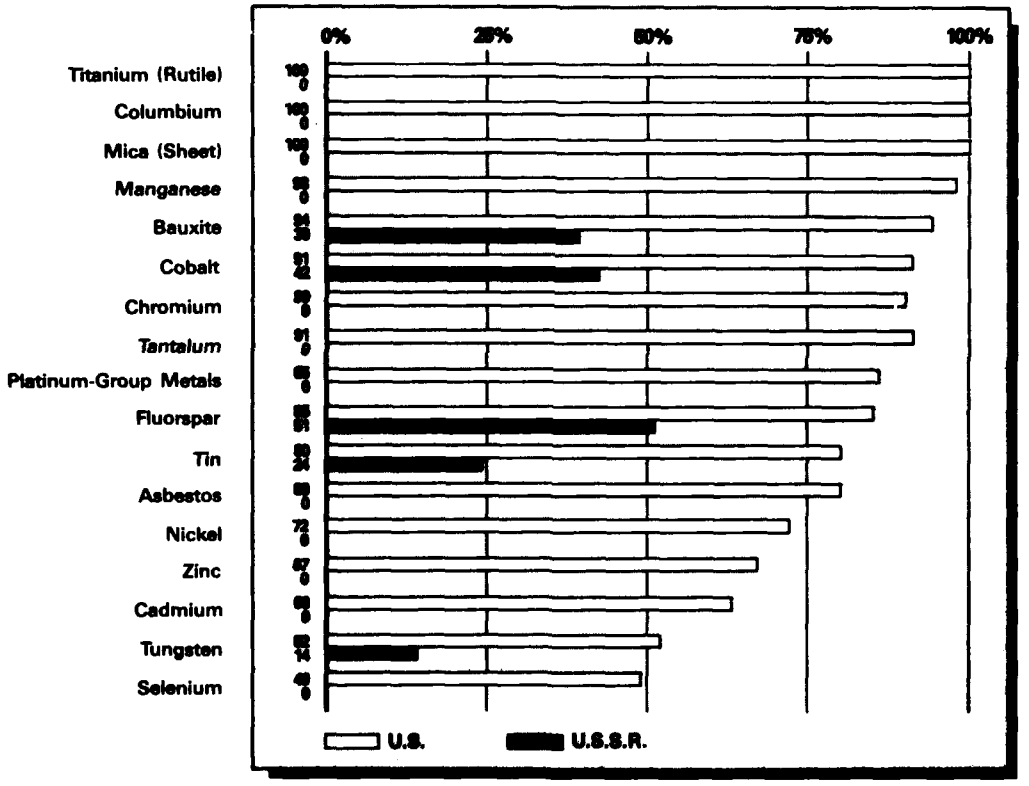
In addition to our dependence on foreign sources for many raw materials, we are also experiencing a significant decrease in our domestic capability for processing and manufacturing certain industrial products. Title III of the DPA authorizes a variety of government financial incentives encouraging private sector investment to increase industrial capacity. We are exploring this method of establishing or expanding needed domestic industrial capability, particularly in areas in which foreign dependence can be damaging to our national security.

As a necessary part of industrial readiness planning, we are assessing our capability to exercise production options in a national emergency. An illustrative example is the conversion to domestic ilmenite from imported rutile necessary for the production of titanium. We have also analyzed production options necessary to produce graphite fibers to manufacture composites used in aircraft and missiles, germanium for sensors, gallium arsenide for integrated circuits, and materials for lasers. Such analyses enable us to assess the capabilities of the domestic industrial base to respond when needed.

c. National Defense Stockpile of Strategic and Critical Materials

The fundamental purpose of the stockpile, which is managed by the Federal Emergency Management Agency (FEMA), is to ensure a supply of critical raw materials to support the military, industrial, and civilian needs of the United States during an emergency. Chart II.E.2 highlights those materials for which we have a high import dependence.

Chart II.E.2
Imports of Selected Minerals and Metals [a]



[a] Net imports as % of 1982 consumption.

Source: U.S. Bureau of Mines.

The Emergency Mobilization Preparedness Board's (EMPB) Working Group on Industrial Mobilization has undertaken a study to review the process by which the national stockpile goals are set. This includes examination of scenarios, assumptions, and econometric models used to develop stockpile goals. New goals will be calculated using the results of the study.

d. Manufacturing Technology Program

The Manufacturing Technology Program seeks to improve the productivity and responsiveness of the defense industrial base by investing in advanced technologies for the production of DoD materiel. This is an established program contributing to improved industrial productivity on a broad national basis. One recent accomplishment is a manufacturing process for producing "crimped" miniature bearings and shaft assemblies for the turbine alternators used in mortar multi-option fuzes. This process has resulted in savings of $10.3 million to date. An additional $13 million savings is projected. Another accomplishment, the Automated Propeller Optical Measurement System (APOMS), has resulted in a $3.8 million yearly savings by permitting inspection of large ship propellers in 8 hours versus 140 hours by previous methods.

e. Industrial Property Management

Initiatives in this area include

-- Completion of a technical review of Plant Equipment Packages (PEPs) that are retained to support mobilization production. The review revealed that some PEPs could not be responsive to emergency demands and suggested that PEP policy should be strengthened. A policy review is ongoing.

-- Improvement of the policies for obtaining and retaining a general reserve of plant equipment. This inventory system permits reutilization of equipment during peacetime and identifies machines that will be used to augment production in an emergency. The revised policy will ensure that only critical machines are retained.

-- Automation of the property management system used by the Defense Industrial Plant Equipment Center (DIPEC). Inventory records can now be accessed via remote terminals.

f. Emergency Preparedness Planning for Catastrophic Earthquakes

Because of the scientific concern of a catastrophic earthquake in California, recent government attention has been focused on preparations for minimizing the catastrophic effects of such an event. A review by an ad hoc committee of the National Security Council concluded that the "nation's preparations are inadequate to cope with the damage and casualties for a catastrophic earthquake, and with the disruptions in communications, social fabric, and governmental structure that may follow." Subsequently, the EMPB was established by presidential directive, with an Earthquake Working Group included as part of its composition. The National Plan of Action for emergency mobilization, developed by the EMPB, assigned responsibilities to various agencies for development of response and preparedness plans. To mitigate the potentially severe impact a catastrophic earthquake could have on our national security posture, we are developing preparedness plans to address those problems we expect could occur simultaneously with a catastrophic earthquake. Specific examples are: allocation of resources and restoration of utilities and public services essential for the operation of military installations and critical defense industrial facilities.

g. Defense Economic Impact Modeling System (DEIMS)

As part of our continuing effort to provide corporate planners information on planned defense activities that could affect investment decisions, we have provided over 4,000 small and large companies, industry associations, and individuals the projections of future defense requirements. This information is provided through the DEIMS and is based on the proposed defense budget. It projects defense spending on commodities and services over the next five years. We plan to increase the dissemination of this data during the next year.

h. Industrial Productivity

Just as productivity has become a priority within the private sector, so too has the achievement of increased productivity and manufacturing efficiencies become of paramount concern to DoD. It is a critical element in strengthening our industrial base and in reducing acquisition costs.

Through the Industrial Modernization Incentives Program (IMIP), we are continuing to develop and to refine contract incentives encouraging industry to make productivity enhancing capital investments. There has been significant activity under IMIP up to the point of actual implementation of individual contractor capital investment plans. After this phase, with some notable exceptions, experience is more limited. However, the IMIP process is an interactive one that builds on earlier efforts. Broad implementation will be a lengthy process, but long-term benefits will result. The most important lesson learned to date is that the process does work. Increased capital investment and enhanced productivity can be stimulated through efforts such as IMIP.

Another extremely important effort to improve the acquisition process deals with promoting more cost-effective definition of requirements in our weapon systems contracts. This initiative, authorized by the Deputy Secretary of Defense on January 11, 1984, is aimed at fostering more cost-effective application of specifications, standards, and data requirements. It encourages greater flexibility in how requirements are imposed -- particularly early in a program. Moreover, we are stressing progressive definition of requirements as a weapon moves into development instead of working from the start with detailed contract requirements that may turn out to be inappropriate. The Services have identified twelve major programs for initial application of this concept, including four of the Services' most important aircraft programs.

Productivity and quality are inseparable issues. Because quality has such a major impact on decisions about manufacturing processes, equipment, and supplies (and because quality has become an increasingly significant issue in defense materiel acquisition), DoD is emphasizing policies and programs directed toward improving product quality. Moreover, DoD encourages commitment from top management and promotes increased awareness and attention to quality problems during the design and manufacturing stages. In addition, DoD is reexamining its qualification and certification programs to determine whether quality is sufficiently stressed. Perhaps most important, we are trying to find new ways to include quality history into our source selection process.

Too often in the past, DoD has emphasized the performance characteristics of products it acquires rather than manufacturing efficiency. We have selected our contractors based on their design and engineering capabilities rather than their manufacturing capabilities. This is changing. We are now promoting increased attention to productivity and quality improvement plans as integral parts of our acquisition strategy. They are being given more visibility and are now increasingly important considerations during our source selection evaluations and major systems reviews.

3. Conclusion

A healthy and responsive industrial base has been and will continue to be an important element of our national security, not only to deter war but to fight a war if necessary. A revitalized economy and efforts by both industry and government have already produced measurable results. However, much more must be accomplished. We must continue to improve if we are going to get the most out of our defense dollars. This means vigilant attention to quality, productivity, and efficiency, while at the same time maintaining a sufficient reserve to meet any potential crisis. This is an ambitious agenda that places a major burden on industry. We will continue to provide every opportunity to create rewards in the acquisition process and, in response, industry must continually review manufacturing operations and aggressively move to replace outdated and inefficient capital equipment and improve productivity. We must correct deficiencies and reduce inefficiencies to ensure that our defense dollars buy the most capable forces possible. This, in turn, will enable both DoD and industry to continue the many positive contributions they are making to the strengthening of our nation's defense.

Part III
Defense Programs

A. LAND FORCES

1. Introduction

a. Force Rationale

The land forces of the United States -- the Army and Marine Corps -- occupy a central place in our conventional force planning. As our only combat forces capable of holding or retaking territory, they are key to our deterrent strength and forward-defense capabilities. In support of their deterrent role, we station Army divisions in Europe and the western Pacific, deploy Marine amphibious forces at sea, and maintain a reservoir of rapidly deployable forces -- both Army and Marine -- in the United States.

The various types of contingencies for which we must prepare require forces of varying sizes and capabilities. For our most demanding task, a NATO reinforcement, we need forces that are large enough and heavy enough to defeat the heavily armored, tactically mobile forces of the Warsaw Pact. Deployments to other regions could well require lighter forces -- ones that are agile enough to fight their way across difficult terrain, yet sustainable enough to maintain their combat strength over time.

These widely varying demands present a dilemma for defense planners: those forces capable of countering a massive ground invasion -- heavy armored and mechanized units -- are the most difficult to deploy rapidly, while lighter forces -- designed to deploy more rapidly, against increasingly sophisticated threats worldwide -- are less capable on arrival. We partially solve this dilemma by prepositioning equipment and supplies abroad, near areas where U.S. forces might be needed.

Substantial portions of the active force structure are organized and trained primarily for rapid-response and forcible-entry operations worldwide. Such forces include, in addition to the Marine divisions, the Army's four planned light infantry divisions, along with the 82nd Airborne Division, the 101st Airborne Division (Air Assault), and a ranger regiment. Once deployed, these forces need timely reinforcement and logistics support to build up their strength for prolonged combat. A further consideration, then, in designing our land forces is providing adequate combat support (e.g., artillery and combat engineers) and combat service support (e.g., medical care and maintenance) to sustain them in combat.

b. Program Goals

For our land forces to provide the capabilities we need, they must be:

-- Structured properly;

-- Able to respond quickly;

-- Capable of sustained combat; and

-- Provided with modern weaponry and equipment.

The last point is particularly important. The Army and Marine Corps were hit hard by the spending cutbacks of the 1970s. As procurement programs were scaled back, inventories of weapons and

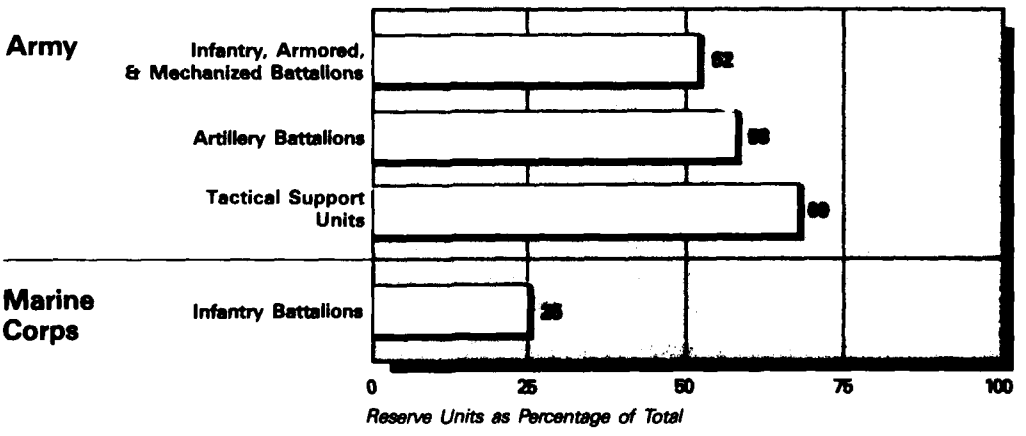
equipment shrank to unacceptably low levels. That this occurred while the Soviets were engaged in a buildup and modernization of their ground forces only compounded the problem. Our program seeks to offset those unfavorable trends and restore the deterrent strength of our land forces.

c. Force Composition

By FY 1986, the force structure will have expanded to 32 divisions. Of those, 21 divisions (18 Army and 3 Marine) will come from the active force; the remaining 11 (10 Army and 1 Marine) will be supplied by the reserves. These divisions, supplemented by separate nondivisional brigades and regiments, form the cutting edge of our land forces. They are supported by a wide variety of active and reserve units and are backed by an extensive training and support base.

In order to take advantage of the economies represented by the Reserve Components, the Army's active divisions rely on reserve forces to achieve their full combat potential. Of the 18 active Army divisions, five will be "rounded out" by at least one reserve combat brigade, while four others will use one or more reserve battalions to reach their full strength. Additionally, two of the new light infantry divisions, the 7th and 25th, will be "rounded up."[1] In this way, a total of 29 reserve battalions will be used to flesh out active divisions. In addition, the Reserve Components provide a large number of service support units for the active force, many of which would deploy within 10 days of a mobilization.

Chart III.A.1
Projected Contribution of Reserve Components (End FY 1985)



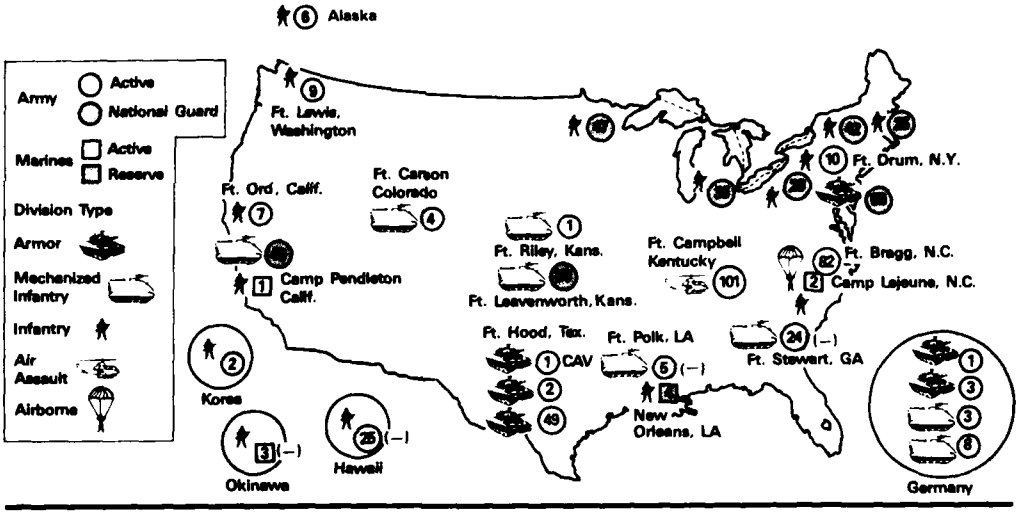
[1] A roundout unit is one that completes the structure of an active unit (supplying, for example, the third brigade of a three-brigade division). A roundup unit, on the other hand, augments an active unit's structure (furnishing, for example, a fourth brigade for a three-brigade division).

But our use of reserve forces extends well beyond "roundout/ roundup" and rapidly deployable support units. Chart III.A.1 shows just how much.

d. Force Disposition

Chart III.A.2 shows the planned location of the Army's and Marine Corps' active and reserve divisions at the end of FY 1985. In addition to the forward deployments shown, two brigades of Army divisions based in the continental United States (CONUS) are stationed in Europe, and one Marine brigade is based in Hawaii. The Army also maintains a separate brigade and two armored cavalry regiments in Europe, five active and fifteen reserve brigades and regiments in CONUS (not involved in roundout/roundup), one active brigade in Panama, an active brigade and two brigade-sized units of reserves in Alaska, and another brigade-sized reserve unit in Puerto Rico.

Chart III.A.2
Deployment of U.S. Divisions



2. FY 1986-90 Programs

a. Force Structure

In FY 1986, we will continue to reorganize and consolidate the Army's active force structure as more modern weapons systems become available. Consistent with that strategy, in FY 1985, we began reorganizing the 9th Infantry Division into a one-of-a-kind, high technology motorized division (HTMD). That division, based at Fort Lewis, Washington, is experimenting with many of the combat systems and techniques that could be used by light forces.

FY 1986 will see further advances in the light force structure, as we flesh out the new active light divisions being formed this year. The 7th Infantry Division, based at Fort Ord, California,

is being restructured as a light division of about 10,000 men. It will be used to examine ways to enhance the deployability and combat strength of light forces. The tank and mechanized battalions now with the 7th and 9th Divisions will be retained as part of a nondivisional brigade that will be available for reinforcing light divisions in high-threat areas. In FY 1986, we will be activating the initial increment of the 6th Light Infantry Division; another light infantry division, the 10th, continues the activation begun in FY 1985. Both divisions will be assigned reserve roundout brigades. The 10th will be headquartered at Fort Drum, New York, while the 6th will be based in Alaska. A fourth active light infantry division will be created by converting the 25th Division, based in Hawaii.

Table III.A.1 shows the resulting distribution of heavy and light forces by Service and unit type.

Table III.A.1

Distribution of Heavy and Light Forces (End FY 1986)

Divisions	Heavy	Light	Total
Active Army	10	8	18
Army National Guard	4	6	10
Active Marine Corps	–	3	3
Reserve Marine Corps	–	1	1
Total	**14**	**18**	**32**
Nondivisional Maneuver Brigades/Regiments[a]			
Active Army	6	4	10
Army Reserve Components	11	7	18
Total	**17**	**11**	**28**

[a] These units have not been assigned a roundout/roundup mission.

Programs for the Special Operations Forces (SOF) focus on improving their capabilities for operations at the lower end of the conflict spectrum (e.g., counterterrorist activities). We are adding a new ranger battalion in FY 1985, while continuing to fill out the SOF units activated in FY 1984.

We are also continuing to increase personnel strength in the support units activated in recent years. All in all, this will require adding about 900 support spaces in Europe and 700 in CONUS.

In the Reserve Components, the combat force structure will change slightly when we form the 29th Light Infantry Division by consolidating existing, smaller units. The heavy divisions are converting to a modified Division 86 configuration; and the 35th Mechanized Division, formed in FY 1984, will be fleshed out by consolidating three separate brigades. Two additional brigades from the current force will be designated to round out active divisions, and the tactical support structure will increase by 6,100 spaces.

The Army units available to the U.S. Central Command (USCENTCOM) will increase in FY 1986 and the years following. When the 9th Division completes its conversion in FY 1986 to its new HTMD configuration, the readiness of those forces will increase markedly. The 6,100 tactical support spaces to be added to Reserve Component units will increase the ability of our land forces to support USCENTCOM without drawing down on forces needed for Europe. The major improvements in the units available to the Command will be readiness related, a result of increased manning, additional modern equipment, and increased participation in exercises.

b. Readiness

The combat readiness of our land forces continues to climb. Their ranks are filled with first-rate people. We are giving them tougher and more realistic training, and they are getting more up-to-date equipment and more ample stocks of supplies.

The quality of enlistees in both the Army and Marine Corps is higher than ever. In FY 1984, more than 90 percent of the men and women who enlisted for the first time held high school diplomas. The readiness of Army Reserve Component units rose from FY 1983 to FY 1984 with the addition of about 12,700 full-time support personnel. These individuals assist in training, logistics, and mobilization planning, and help maintain the modern new equipment entering the inventory. The effectiveness of Army combat units is being enhanced by the continued expansion of the New Manning System, under which company-sized units undergo initial training and then remain together for a full three years. By the end of FY 1985, we plan to have formed 97 such units. Unit cohesion and esprit are further improved by linking battalions under a single regimental flag and affiliating soldiers with a single regiment throughout their careers.

The FY 1986 program builds upon our progress of the past four years in improving the scope and quality of training for both active and reserve units. Under an expanded flying-hour program, Army aviators can expect to log more than 20 hours flying time per month by FY 1990. Tank crew proficiency will continue to improve with the funding of "conduct of fire" trainers and the acquisition of training devices that make use of advanced video technology. Other Army initiatives include increased automation at the National Training Center, the continuation of 28 full battalion rotations through the Center each year, and additional training sessions for the reserves.

The Marine Corps continues to emphasize training for amphibious landings and subsequent operations ashore. Ten live-fire, combined-arms exercises are conducted annually in the high desert at the Marine Corps Air-Ground Combat Center at Twenty-Nine Palms, California. Numerous amphibious exercises and other training programs routinely conducted both at home and abroad provide additional opportunities for Marine units to practice their skills.

The readiness of our land forces is also benefitting from the more reliable, easier-to-maintain equipment entering the inventory. To keep these items in peak operating condition, the Army has substantially increased its budget for spare parts and depot repair work. Funding for peacetime spares will rise substantially from FY 1985 to FY 1986, while depot repair funding will also grow. Spending in these areas is of great importance, since it yields the most cost-effective improvements in materiel readiness.

c. Sustainability

The sustainability, or staying power, of our forces is a function of a number of factors, including the amount of materiel on hand to replace items lost or consumed in combat, the availability of trained personnel to replace wartime casualties, the size of the support forces, and the amount of host nation support available.[2] We are building up our inventories of war reserve materiel toward prudent stockage objectives. Funding for Army and Marine Corps munitions (for both war reserves and training) will rise from $6.0 billion in FY 1985 to $6.4 billion in FY 1986. We are continuing to buy and preposition major items of equipment that would be needed to replace combat losses, and we are expanding our stocks of spare parts and other secondary items needed to keep that equipment functioning on the battlefield. We intend to reach our stockage objectives for those items by FY 1990.

The sustainability of Army and Marine Corps forces also depends on the size and quality of the Reserve Components (RC) and on the surge capacity of the training base. In FY 1986, the Marine Corps Reserve will increase its combined end strength to 43,900, while enhancing its combat capability with the introduction of M198 155mm towed howitzers. The capability of the Army Reserve Components will be enhanced with the addition of about 10,000 full-time support personnel, the infusion of more modern equipment into the inventory, and the provision of more intensive training for reserve units. In FY 1985, RC units will receive more than 10,000 new pieces of equipment -- including M1 tanks and Bradley Fighting Vehicles -- costing some $1.4 billion.

We also are increasing the sustainability of our land forces by building up the support structure and by pursuing additional host nation support agreements.

d. Modernization

The FY 1986-90 program continues a major, and long-overdue, modernization of the land forces. Obsolete systems are being replaced with up-to-date equipment that will enable our forces to perform effectively against a numerically superior, and steadily improving, opponent. Existing systems are being upgraded to enhance their performance on the modern battlefield. Looking ahead to the future, emerging technologies are being applied to the development of new generations of weapons that promise even more significant gains in combat capability.

(1) Close Combat

Our land forces are well on the road to rebuilding their capability to counter a heavily armored opponent in close combat. The new weapons and equipment now entering the inventory will boost the firepower of our antiarmor forces, while providing them greater tactical mobility and better protection from enemy fire.

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2 The term "host nation support" refers to the combat support and combat service support that allied countries have agreed to provide U.S. forces who may be called upon to fight on their territory.

M1 Abrams Tank -- The M1 tank's superior agility, advanced fire control system, and modern armor will make it an effective and survivable counter to Soviet armored forces through the 1990s and beyond. The 60-ton M1 can shoot on the move, delivering highly accurate and lethal fire in day or night. Its 1,500-horsepower turbine engine and improved suspension system enable it to travel at speeds of up to 45 miles per hour, reducing its exposure to enemy fire. Since its fielding in Europe, the M1 has enabled U.S. Army units to achieve consistently high scores in NATO tank gunnery competitions. The planned production rate of 70 units per month will allow the Army to reach its goal of fielding 7,467 M1s by the early 1990s. In late FY 1985, we plan to begin fielding an improved version of the tank (designated M1A1) equipped with a 120mm gun. More than half of the M1 force will eventually carry this larger gun.

Bradley Fighting Vehicle (BFV) -- The BFV provides mechanized infantry and armored cavalry forces with tactical mobility equivalent to that afforded by the M1 tank, while greatly improving their firepower. The BFV would accompany the M1 in battle, its TOW antiarmor missiles providing the punch needed to complement the M1 in knocking out enemy armored forces. By the end of FY 1985, the Army will have contracted for nearly 3,000 of these vehicles. By FY 1987, the production rate will increase to 75 units per month, allowing the Army to achieve its acquisition objective of 6,882 BFVs by the early 1990s.

Assault Amphibian Vehicle (LVT7) -- The LVT7 is a lightly armored vehicle designed to transport Marine forces from ship to shore in amphibious assaults.[3] On the ground, it provides an essential measure of tactical mobility and protection for infantry units. By the end of FY 1986, the Corps will have 1,317 of these vehicles -- all in the improved LVT7A1 configuration. Of that number, 333 will be new vehicles and the remaining 984 rebuilt LVT7s.

Light Armored Vehicle (LAV) -- The LAV will increase the ground mobility, survivability, and firepower of Marine Corps infantry units. The vehicle will be produced in several versions, designed for use in antiarmor, direct and indirect fire, command and control, and recovery operations. The basic vehicle will carry a 25mm cannon. By the end of FY 1985, the Corps will have received 758 LAVs, satisfying its initial acquisition objective.

TOW Missile System -- The Army and Marine Corps are continuing to build their inventories of TOW 2 antitank missiles. This weapon, incorporating an improved warhead and guidance system, will give their antiarmor forces a means of defeating technologically advanced armored systems.

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3 A lightly armored vehicle protects its occupants from small-caliber weapons fire and fragments from exploding artillery projectiles, grenades, and other munitions.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
M1 Tank				
Development:				
$ Millions	58.9	52.8	3.9	12.8
Procurement:				
Quantity	840	840	840	840
$ Millions	1,827.4	1,882.0	2,285.7	2,337.1
BFV				
Development:				
$ Millions	26.5	14.3	2.2	—
Procurement:				
Quantity	600	655	716	900
$ Millions	909.0	1,109.0	1,236.2	1,398.1
LVT7				
Procurement:				
Quantity[a]	569	248	—	—
$ Millions	219.6	107.2	0.2	—
LAV				
Development:				
$ Millions	10.1	11.6	16.8	—
Procurement:				
Quantity[b]	236	292	—	
$ Millions	171.5	249.7	2.9	0.6
TOW Missile[c]				
Development:				
$ Millions	4.8	9.9	11.8	6.6
Procurement:				
Quantity	20,200	14,355	24,882	21,133
$ Millions	215.5	252.8	299.2	288.7

[a] Includes new and rebuilt vehicles.
[b] Includes the basic vehicle and variants.
[c] Includes Army and Marine Corps funding.

(2) Land Forces Aviation

(a) Helicopters

The Army and Marine Corps maintain a versatile fleet of helicopters to support their combined-arms teams. The missions of these aircraft range from detecting and engaging enemy armored formations to transporting troops and equipment within combat theaters. Many of the systems now in service are aging and in need of replacement; others must be upgraded if they are to cope successfully with an evolving threat. Over the next five years, we will be continuing a major modernization of the fleet, designed to enhance the firepower of the attack component, add lift capacity in the assault-support elements, and improve survivability forcewide.

Attack Helicopters -- The AH-64 Apache will add substantially to the antiarmor capability of Army divisions. Equipped with the Hellfire missile system, the helicopter will be able to operate during day or night and in all kinds of weather, anywhere in the world. The Army took delivery of its first eight Apaches in FY 1984.

In FY 1986, the Marine Corps will receive the first of 44 AH-1T Super Cobra helicopters it is adding to the fleet. These aircraft will help relieve a serious shortfall in the attack inventory that has resulted from the reduced pace of modernization in the the 1970s.[4] The new aircraft will be powered by improved engines and carry a mix of Hellfire air-to-surface missiles and Sidewinder air-to-air missiles. The 46 AH-1Ts operated by the Fleet Marine Force also are slated to receive the new engines; they are now being fitted with the missile systems.

Assault-Support Helicopters -- To improve the tactical mobility of its forces, the Army is fielding new UH-60 Blackhawk helicopters and modifying its existing fleet of CH-47 Chinooks. A larger, more agile, and less vulnerable aircraft than the UH-1 (Huey) it replaces, the Blackhawk is able to deliver 50 percent more cargo and troops over greater distances at higher airspeeds, providing commanders added flexibility in employing their troops. The superior versatility and survivability of this aircraft were demonstrated during the rescue operation in Grenada. When deliveries of its external stores support system begin in January 1986, the Blackhawk will be able to deploy to virtually any area of the world without having to stop to refuel. In the medium-lift category, the CH-47D modernization program will increase that helicopter's lift capacity by approximately 60 percent, while improving its overall reliability and maintainability and reducing its vulnerability to enemy fire.

The Marine Corps has two programs under way to modernize its inventory of assault-support helicopters. It is acquiring additional heavy-lift capacity by continuing procurement of the three-engine CH-53E Super Stallion, the free world's largest helicopter. That aircraft, along with the JVX (discussed in the next section), is key to the new concept the Corps is developing for launching amphibious assaults from points beyond the horizon. (A detailed explanation of that concept is provided in the Naval Forces chapter.)

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[4] Two of the Marine Corps' three active attack helicopter squadrons are a total of five aircraft short of their authorized strength. The third squadron is equipped with Vietnam-era AH-1Js, which have no antiarmor capability.

The CH-46E -- the workhorse of the medium-lift fleet -- is undergoing a major upgrade to improve its safety, reliability, and maintainability. That program will enable the fleet to remain in service into the 1990s.

Scout Helicopters -- The OH-58D AHIP will provide the Army with a more agile and survivable scout helicopter. Its primary mission will be to find and designate targets for attack helicopters and artillery units. Equipped with a mast-mounted sight containing advanced sensors and optical systems and a laser rangefinder/designator, the helicopter will be able to operate around the clock and in almost all types of weather. The first OH-58Ds will be fielded in FY 1986.

(b) Developmental Aircraft

Revolutionary advances in aviation technology are paving the way for entirely new generations of military aircraft. In one related development effort, the Navy and Air Force are designing a tilt-rotor plane that will have the lift and versatility of a helicopter but the speed, range, and survivability of a fixed-wing plane. Called the JVX (for Joint Services Advanced Vertical-Lift Aircraft), the aircraft would be used by the Marine Corps to ferry troops and equipment from ship to shore in an amphibious assault, by the Air Force for special operations, and by the Navy for search-and-rescue missions. The schedule calls for full-scale development to begin in May of this year and for the Marine Corps to take delivery of the first production model in FY 1991. The Army and Air Force intend to begin procuring their versions of the aircraft in the early 1990s.

The Army is developing a new family of light rotorcraft (LHX) to replace its aging fleets of AH-1, OH-58, and OH-6 helicopters, and to take over for the UH-1 in units not slated to receive UH-60s. The aircraft will be produced in two versions, one designed for utility missions and the other for use in the scout or attack role. Initial deliveries are expected in the early 1990s.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
AH-64				
Development:				
$ Millions	21.4	27.7	17.5	—
Procurement:				
Quantity	112	144	144	144
$ Millions	1,360.4	1,418.8	1,376.3	1,318.4
AH-1T				
Procurement:				
Quantity	—	22	22	—
$ Millions	17.8	206.6	218.5	41.6

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
Hellfire[a]				
Development:				
$ Millions	4.3	2.9	6.2	6.3
Procurement:				
Quantity	4,870	5,780	7,880	7,960
$ Millions	235.5	252.7	308.5	303.6
UH-60				
Development:				
$ Millions	15.0	—	—	—
Procurement:				
Quantity	84	86	78	78
$ Millions	431.5	476.6	486.2	394.5
CH-47D				
Procurement:				
$ Millions	357.9	482.9	396.6	328.7
CH-53E				
Procurement:				
Quantity	11	8	4	10
$ Millions[b]	187.8	168.2	101.0	171.2
JVX				
Development:				
$ Millions	86.7	187.5	608.6	493.0
OH-58D				
Procurement:				
$ Millions	199.5	231.1	260.6	307.7
LHX				
Development:				
$ Millions	1.0	72.7	146.3	399.3

[a]Includes Army and Marine Corps funding.
[b]Includes the start-up costs for a multiyear procurement contract.

(3) Air Defense

Our land forces deploy a balanced mix of systems to defend against aircraft and missile attacks. Shorter-range (or "point defense") systems, such as Stinger and Chaparral missiles and anti-aircraft guns, are designed primarily to protect troops and equipment near the front lines (e.g., forward command posts and maneuver units). Longer-range ("area defenses") systems, such as Patriot and Improved Hawk missiles, guard larger, more widely dispersed areas of the battlefield (e.g., corps command and control facilities and airfields). These weapons are supported and linked by a network of radar, command and control, and electronic warfare systems.

(a) Short-Range Systems

Stinger -- The Stinger is a shoulder-fired, infrared-guided missile that can be carried by a single soldier or marine. It is designed to defend against low-flying aircraft at relatively short ranges, and is being purchased jointly by the Army and Marine Corps to replace the aging Redeye. In FY 1984, an improved version of the missile, with increased resistance to enemy countermeasures, entered production. That system, called Stinger-Post, is scheduled for fielding in FY 1987.

Chaparral -- A short-range air defense missile deployed with most active Army divisions, the Chaparral will soon be consolidated at the corps level. To enable the missile to engage targets at night and in poor weather, we are fitting it with a forward-looking infrared radar (FLIR) sensor. For the future, we are developing an improved guidance system that will be highly resistant to infrared countermeasures. With these modifications, the Chaparral will be able to remain in service through the end of the century.

Short-Range Air Defense Command and Control (SHORAD C^2) -- To take maximum advantage of the capabilities offered by its forward-area air defense systems, the Army is developing a new automated command and control system for use at the division and corps levels. Called SHORAD C^2, the system will be able to assign priorities among multiple targets and transmit engagement instructions to Chaparral and Stinger operators. By improving coordination among air defense units, the SHORAD C^2 system will greatly increase the effectiveness of the Army's entire air defense network.

(b) Long-Range Systems

Patriot -- The Patriot is the Army's advanced all-altitude air defense missile. The system's multifunction, phased-array radar enables several missiles to be directed to their targets simultaneously, even under jamming conditions. A state-of-the-art system, the Patriot will be highly effective against any enemy aircraft likely to be encountered through the end of the century. In December 1984, we began fielding it with our Army units in Europe, where it will form the backbone of NATO's future air defense system. Several allied nations are also considering procuring Patriot missiles for their forces.

Improved Hawk (I-Hawk) -- The Army and Marine Corps are modernizing their inventories of Hawk antiaircraft missiles. The upgraded version incorporates a new motor and an improved guidance system that will enable multiple targets to be engaged simultaneously. Other features being added will enable the system to cope with the projected

electronic countermeasures threat of the 1990s, while making it easier to maintain on the battlefield.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
Stinger/ Stinger-Post				
Development:				
$ Millions	–	5.0	18.6	3.2
Procurement:				
Quantity	1,956	3,216	4,239	9,269
$ Millions	182.7	279.0	366.0	711.9
Chaparral				
Development:				
$ Millions	20.2	17.5	17.7	–
Procurement:				
Quantity	–	12	300	1,095
$ Millions	–	32.0	109.0	154.0
SHORAD C²				
Development:				
$ Millions	34.1	50.4	33.0	57.8
Patriot				
Development:				
$ Millions	78.3	61.1	53.1	38.8
Procurement:				
Quantity[a]	440/12	440/12	585/12	700/12
$ Millions	963.5	1,045.8	1,063.9	1,055.2
Improved Hawk				
Development:				
$ Millions	32.6	18.8	5.2	9.6
Procurement:				
Quantity	400	500	550	550
$ Millions	97.0	126.1	140.1	156.6

[a]Includes fire units and missiles.

(4) Artillery Fire Support

To offset the Warsaw Pact's numerical superiority and near technological parity with NATO in ground maneuver forces, we must improve the ability of our forces to detect advancing enemy formations and

mass large volumes of accurate, effective firepower against them. To that end, we are upgrading the target acquisition and fire control capabilities of our weapons systems, developing new munitions with improved laser-homing capabilities, and increasing the overall sustainability of our fire support forces on the modern battlefield.

Target Acquisition -- The Army is working on two new systems that will provide long-range targeting support for its missile and artillery batteries. The Joint Surveillance Target Attack Radar System (Joint STARS), described in more detail in the Deep Interdiction section, will be able to locate and track moving targets at extended ranges. The Remotely Piloted Vehicle (RPV), a drone aircraft, will be used to locate and designate targets for laser-guided weapons and to provide firing data for artillery units.

Fire Control -- The Advanced Field Artillery Tactical Data System (AFATDS), a new-generation automated fire control system being developed by the Army, will increase the efficiency and targeting capacity of its firing batteries. Entering procurement over the next two years will be the Army's Battery Computer System (BCS), a small computer designed to provide firing data for individual guns. The BCS includes an automated data system that will provide timely and accurate meteorological information to artillery units.

Laser Designators -- Laser designators are used to illuminate and designate targets for laser-guided bombs, artillery munitions (Copperhead), and missiles (Hellfire). They help provide the "precision" for precision-guided munitions (PGMs). The FY 1986 budget supports continued procurement of Ground Laser Locator Designators (GLLDs) for the Army. The Marine Corp will complete procurement of the Modular Universal Laser Equipment (MULE) in FY 1985.

Weapons and Support Systems -- The Multiple-Launch Rocket System (MLRS) is a high-rate-of-fire weapon being procured for general-support artillery units. It can be used to supplement cannon artillery fire or to strike targets, such as enemy artillery and air defense systems, beyond cannon range. A single launcher can fire its load of 12 rockets in less than a minute, covering an area the size of six football fields with approximately 7,700 grenade-like submunitions effective against both personnel and lightly armored targets. The Army began deploying the MLRS in FY 1983 and is using multiyear procurement authority for its continued production. At the same time, as part of a multinational program with Germany, France, and Great Britain, the Army is working on a warhead for the system that could dispense terminally guided submunitions.

Over the coming years, the Army will continue modernizing its inventory of 155mm and 8-inch howitzers. Competing budgetary priorities will, however, force it to terminate production of the M109A2 155mm howitzer with the FY 1986 order.

Later this year, the Army will take delivery of its first Field Artillery Ammunition Support Vehicles (FAASVs). These highly mobile tracked vehicles will provide armor protection for ammunition, and carry equipment to prepare and supply ammunition for howitzers. They will be assigned to self-propelled artillery units in Europe.

Ammunition -- The Army and Marine Corps are continuing to build their inventories of improved conventional munitions, 155mm howitzer-delivered scatterable mines, and 155mm laser-guided Copperhead artillery projectiles. A large number of these items have been earmarked for the war reserve stocks.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
RPV				
Development:				
$ Millions	126.2	95.7	51.1	29.4
Procurement:				
$ Millions	—	—	150.7	305.3
AFATDS				
Development:				
$ Millions	25.1	32.9	35.6	46.2
BCS				
Procurement:				
Quantity[a]	146	162	255	66
$ Millions	31.2	32.7	50.0	11.6
GLLD				
Procurement:				
Quantity	200	208	180	240
$ Millions	45.6	56.1	45.1	8.5
MULE				
Development:				
$ Millions	—	—	—	—
Procurement:				
Quantity	134	115	—	—
$ Millions	43.3	38.0	—	—
MLRS				
Development:				
$ Millions	3.5	1.9	—	0.6
Procurement:				
Quantity[b]	36,000/76	50,472/44	72,000/44	72,000/—
$ Millions	545.4	561.9	570.5	461.5
M109A2				
Procurement:				
Quantity	120	70	—	—
$ Millions	87.2	52.4	—	—
FAASV				
Procurement:				
Quantity	120	170	212	190
$ Millions	59.1	78.2	101.5	98.5

[a]Includes Army and Marine Corps funding.
[b]Includes rockets and launchers.

(5) Deep Interdiction

Emerging technologies are providing our land forces with radically new techniques for defeating armored attacks. Moving targets deep behind enemy lines will be located and tracked by long-range detection systems. Intelligence and fire control information from multiple sources will be rapidly processed by computers and distributed to tactical commanders for targeting decisions. Targets will be attacked by aircraft and missiles delivering a variety of munitions, including terminally guided submunitions. In this way, our forces will be able to carry the fight to the enemy and overcome the advantage their opponents hold in numbers of troops and equipment.

Joint Surveillance and Target Attack Radar System (Joint STARS) -- This airborne detection system, being developed jointly by the Army and the Air Force, will be able to monitor moving targets well before they reach the main battlefield. Drawing on the information it provides, our forces will be able to use their weapons systems to attack targets deep behind enemy lines.

Joint Tactical Fusion Program (JTFP) -- This automated system, under development by the Army and the Air Force, will process, analyze, and distribute intelligence reports gathered from multiple sources. The information will assist battlefield commanders in assessing the status and disposition of enemy forces and selected targets. In the future, we hope to develop a more advanced fusion system that will be able to provide direct, real-time intelligence.

Standoff Tactical Missile -- This missile will be able to dispense terminally guided submunitions against targets deep behind enemy lines. Designed to exploit the long-range vision of our new target acquisition and guidance systems, the missile will enable attacks to be directed against enemy follow-on forces, air defense systems, tactical ballistic missile launchers, and command and control facilities.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
Joint STARS[a]				
Development: $ Millions	109.0	96.7	304.0	239.3
Standoff Tactical Missile				
Development: $ Millions	50.2	76.4	154.8	207.0

[a]Includes Army and Air Force funding.

(6) Tactical Wheeled Vehicles

The Army and Marine Corps are continuing to improve the ground mobility of their forces by upgrading their overage, over-mileage fleets of tactical wheeled vehicles. As part of that effort, they will begin fielding the High Mobility Multipurpose Wheeled Vehicle

(HMMWV) in FY 1985. This versatile 5/4-ton vehicle will be used to replace a portion of the jeep inventory and other vehicles in the 1/4- to 5/4-ton range.

In the 10-ton category, the Army is placing high priority on procuring the Heavy Expanded Mobility Tactical Truck (HEMTT). The truck is being produced in five body styles for use by combat and combat support units. The Marine Corps is procuring a variant of the HEMTT, called the Logistics Vehicle System (LVS), for its combat support forces. The LVS comes with four interchangeable rear-body units. By integrating the two programs, we have been able to accelerate the introduction of the Marine Corps' trucks by more than a year. Army units began receiving their HEMTTs in FY 1982; the Marine Corps version will be fielded later this year.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
HMMWV				
Procurement:				
Quantity	8,955	14,751	18,215	15,065
$ Millions	216.1	390.1	451.5	396.6
HEMTT				
Procurement:				
Quantity	1,209	1,194	770	955
$ Millions	201.9	214.9	134.8	168.0
LVS				
Procurement:				
Quantity	148	354	360	444

(7) Tactical Command, Control, and Communications and Electronic Warfare

In equipping our land forces, we seek to provide them the responsiveness and flexibility they need to defeat a numerically superior opponent. But it is not enough merely to provide our forces with modern weapons systems; we must also be able to direct their operations efficiently in the heat of battle. To that end, we are developing a variety of command, control, communications, and intelligence (C^3I) systems that will enable tactical commanders to locate and gather information about enemy forces; assist them in analyzing that information; provide jam-resistant, secure communications links to firing units; and allow our forces, through the use of electronic warfare, to disrupt enemy communications and intelligence gathering.

Ground Mobile Forces (GMF) Satellite Communications -- The GMF will provide reliable, jam-resistant communications support for battlefield commanders. By using satellite communications to link headquarters in the field, we provide commanders with a means of transmitting orders and intelligence information over long distances. The Army and Marine Corps will procure several hundred GMF terminals with supporting equipment.

Single-Channel Ground and Airborne System VHF (SINCGARS-V) -- This program will provide secure, jam-resistant, very high frequency (VHF) radios to replace the 20-year-old equipment now in use with

combat battalions and companies. The Army will begin fielding its new radios in FY 1986, and the Marine Corps will follow in FY 1987.

Army Data Distribution System (ADDS) -- A digital communications system, the ADDS will provide secure, jam-resistant communications links for command and control, intelligence, air defense, fire support, electronic warfare, and other computer systems. The FY 1986 budget provides initial procurement funds, working toward a planned deployment date in FY 1988.

Maneuver Control System (MCS) -- This advanced command and control system will provide tactical commanders with information on the status and disposition of their forces and those of the opponent. The system will consist of a network of small computers adapted to military use. A prototype version has been fielded in Europe, where it is undergoing further development with the direct participation of the eventual users.

Mobile Subscriber Equipment (MSE) -- This system will provide an automatic, secure, mobile telephone service -- both voice and data -- for tactical users at the corps and division level. Initial deliveries will begin in FY 1987.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
GMF				
Procurement:				
$ Millions	183.7	210.8	346.9	293.9
SINCGARS-V				
Development:				
$ Millions	10.5	10.8	15.2	8.5
Procurement:				
Quantity	1,325	10,600	16,400	17,100
$ Millions	50.7	156.5	250.8	321.7
ADDS				
Development:				
$ Millions	22.9	23.0	38.1	15.7
Procurement:				
$ Millions	—	—	31.8	131.1
MCS				
Development:				
$ Millions	12.4	21.9	8.6	8.7
Procurement:				
$ Millions	26.3	27.9	72.3	72.5
MSE				
Development:				
$ Millions	0.6	—	—	—
Procurement:				
$ Millions	—	63.3	335.3	786.3

Electronic Warfare (EW) -- To increase its ability to disrupt enemy communications, the Army is procuring additional tactical jamming systems (MLQ-34 and TLQ-17A), hand-emplaced expendable jammers (EXJAM), and EH-60 Quick Fix helicopters. Tactical intelligence systems are being modernized through continued production of the Trailblazer (TSQ-114A) system, resumed production of the Teampack (MSQ-103) system, and upgrades to the Quick Look and Improved Guardrail V systems.

Communications Security (COMSEC) -- The Army is procuring several types of modern COMSEC equipment. These systems provide secure communications links over which commanders can transmit orders and intelligence information without giving the enemy an opportunity to eavesdrop.

3. Conclusion

We have made considerable progress over the past four years in revitalizing the combat strength of the Army and Marine Corps. The FY 1986-90 program will bring further gains, moving us closer to our goal of creating:

-- A credible and efficient force, equally capable of peacetime deterrence and wartime success;

-- A modern, balanced, and strategically mobile force armed with advanced weaponry and maintained at a high level of readiness; and

-- An active force capable of being rapidly expanded by the Reserve Components and prepared for sustained combat operations anywhere that conflict might threaten.

B. NAVAL FORCES

1. Introduction

a. Maritime Missions

The United States has traditionally maintained a strong Navy to preserve the freedom of the seas and to support the global commitments associated with its forward defense strategy. In peacetime, naval forces are routinely deployed overseas as a means of reassuring allies and deterring potential adversaries. In times of crisis, their inherent mobility permits them to be redeployed to world trouble spots rapidly without relying heavily on foreign bases or special transit rights. Deployed to areas of vital interest to the United States and its overseas allies, naval forces can remain on station for extended periods, ready to project power ashore should deterrence fail and the circumstances warrant American military action. If need be, they can apply power rapidly and flexibly in support of such key objectives as protecting friendly shipping from air or sea attacks, depriving enemy forces of access to strategic ocean areas, and projecting power against enemy targets ashore.

Taken together, these capabilities make our naval forces a powerful instrument for peace and stability in an often troubled world. Their importance to Western security and world peace requires that we take steps to maintain their strength in future years.

b. Composition of U.S. Maritime Forces

The instruments of our naval power are many and varied. Carrier battle groups, perhaps the most visible symbol of America's maritime capability, support our foreign policy through a series of routine overseas deployments. Should an emerging crisis require action, our modern multimission aircraft carriers, backed by a mix of surface combatants, attack submarines, and logistical support ships, can execute the full range of naval missions. They can project power against targets on land and at sea. They can establish air defense umbrellas in the skies above naval task forces. And they can undertake antisubmarine operations.

Our Iowa-class battleships, now being reactivated and armed with Tomahawk and Harpoon cruise missiles, provide a potent supplement to the carrier force. In addition to their long-range missile strike capabilities, these ships substantially increase our ability to provide naval gunfire support for amphibious assaults. The first battleship to be refurbished, the USS NEW JERSEY, rejoined the fleet in FY 1983 and has already seen extensive service in the western Pacific, Central America, and the eastern Mediterranean. The second ship, the USS IOWA, rejoined the fleet last year and has recently returned from operations off Central America.

Amphibious assault forces provide another highly visible and flexible means of supporting our national security objectives. These highly mobile forces give us a means of rapidly deploying Marine units to distant trouble spots with the equipment to fight their way across hostile territory, if necessary. In peacetime, amphibious forces are routinely deployed near regions of interest to us, providing a ready means to protect the safety and security of American citizens or to respond to other threats to our vital interests. The recent operations in Grenada and Lebanon provide clear testimony to the value of this capability.

Nuclear-powered attack submarines, though inherently a less visible component of the force structure, also contribute powerful warfighting and deterrent capabilities to the fleet. In addition to their traditional roles in operations against enemy surface ships and submarines, our attack submarines are now gaining the ability to strike land targets with highly accurate cruise missiles.

A final, but no less vital, element of the force structure is the diverse mix of support ships and mine warfare forces that serve the fleet in peacetime and in war. These units range in type from replenishment ships, which carry fuel, food, munitions, and other items that must constantly be resupplied, to repair ships and mine countermeasures ships and helicopters. These latter forces, which are designed for mine clearance operations, demonstrated their value last year, when we dispatched two detachments of mine countermeasures helicopters to the Red Sea in response to requests for assistance from the governments of Egypt and Saudi Arabia.

c. Countering the Soviet Threat

To maintain naval forces capable of fulfilling the maritime missions mandated by our forward defense strategy, we must pay close attention to the threat posed by increasingly powerful Soviet naval forces. That threat has grown alarmingly in recent years in the wake of a sustained Soviet military buildup.

Particularly worrisome have been the advances in the Soviet submarine fleet. This massive underseas combat force -- at more than 370 boats, by far the world's largest -- has improved greatly in quality over the past decade and a half. The 1970s saw the introduction of several new submarine types, including the nuclear-powered Alfa and Victor III and the diesel-electric Tango. Classes introduced during the 1980s have yielded substantial additional improvements across the full range of submarine capabilities. For example, the 13,000-ton Oscar, armed with 24 SS-N-19 long-range antiship missiles, has significantly increased the scope and magnitude of the threat to our carrier battle groups and other surface forces. Still other new classes now being delivered to the fleet, such as the 9,700-ton Mike and the 7,300-ton Sierra, can be expected to yield further improvements in Soviet submarine capabilities in future years. These include increases in size, which provide more space for weapons, and enhancements in speed and sound quieting, which make the submarines more difficult to detect and engage.

Our naval forces also face a serious threat from the air. Backfire bombers armed with long-range, supersonic AS-4 air-to-surface missiles are the greatest menace. There are now about 250 Backfires in the Soviet inventory, more than 100 of which are assigned to Soviet naval aviation and dedicated to antiship missions. With an unrefueled combat radius of about 3,000 miles, the Backfire can threaten our ships over a large portion of the world's ocean area. In addition, the Bear bomber, with a combat radius of more than 5,000 miles, is being reconfigured to carry the AS-4 missile. A new variant of that aircraft (the Bear H), configured for carrying air-launched cruise missiles (ALCM), is in production. Moreover, the Soviets are flight testing an entirely new intercontinental bomber, the Blackjack, which could be used for maritime strikes.

The Soviets are also building a new generation of surface combatants. In recent years, they have introduced the 28,000-ton Kirov nuclear-powered guided missile cruiser, the Slava guided missile

cruiser, and the Udaloy and Sovremennyy guided missile destroyers. Moreover, they are now building a nuclear-powered aircraft carrier that we believe will be large enough to operate high-performance conventional takeoff and landing aircraft. As a result, the next decade will see the Soviets gain the ability to conduct air defense and air-strike operations in regions outside the reach of their land-based tactical aircraft.

d. Program Goals for Naval Forces

The defense program for FY 1986-90 carries forward our effort to build a modern 600-ship Navy, ready for combat and able to sustain itself in battle. The program is designed to correct remaining deficiencies in the fleet and to add the forces needed to support our worldwide commitments and national interests. As a first priority, we have sought to improve the fleet's day-to-day readiness and combat sustainability. Much progress has been achieved, particularly in the recruitment and retention of the high-quality personnel needed to man a growing and increasingly sophisticated Navy. To sustain that progress, we must continue to receive the strong support of the Congress for our readiness and sustainability initiatives. Those programs are described in detail in the Readiness and Sustainability chapter.

We are also moving steadily closer to our goal of an expanded fleet of 600 deployable battle force ships, including 15 deployable carriers, 100 nuclear-powered attack submarines, a one-third increase in amphibious lift capacity, and expanded support forces. As Table III.B.1 shows, we expect the fleet to have grown to 555 ships by the end of FY 1986, up from 479 at the end of FY 1980.

Table III.B.1

Deployable Battle Forces
(End Fiscal Year)

	FY 1980	FY 1985	FY 1986
Ballistic Missile Submarines[a]	40	37	38
Strategic Support Ships	8	6	6
Aircraft Carriers (Deployable)	13	13	13
Battleships	0	2	3
Cruisers	26	30	32
Destroyers	81	69	69
Frigates	71	110	112
Nuclear Attack Submarines	74	96	95
Diesel Attack Submarines	5	4	4
Amphibious Ships	66	61	62
Patrol Combatants	3	6	6
Mine Warfare Ships	3	3	7
Mobile Logistics Ships	68	74	75
Support Ships	21	31	33
Total	479	542	555

[a] See Chapter III.E for a discussion of SSBN retirements.

Between FY 1986 and the end of the decade, the fleet will continue to grow as new ships authorized in previous years are delivered to the Navy faster than older vessels are retired from service. By 1989, we expect to reach a force level of slightly more than 600 deployable battle force ships. Contributing to that growth will be 94 ships that have been authorized through FY 1985 but not yet delivered to the fleet (see Table III.B.2).

Table III.B.2

Ships Authorized But Not Delivered

Ballistic Missile Submarines	7
Aircraft Carriers	3
Battleships	1
Cruisers	14
Destroyers	1
Frigates	10
Nuclear Attack Submarines	18
Amphibious Ships	6
Mine Warfare Ships	10
Auxiliaries	24
Total	**94**

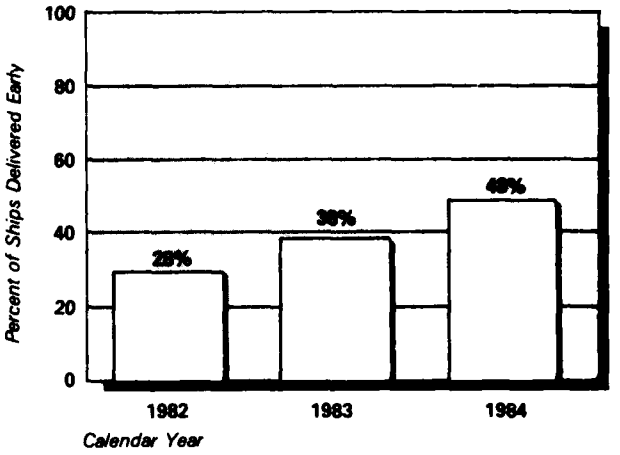
As part of the force expansion program, we are upgrading the Naval Reserve Force (NRF). By the end of FY 1986, we will have transferred 15 modern frigates of the FFG-7 and FF-1052 classes from the active fleet to the NRF, leading to an eventual total of 26 reserve frigates. The LAMPS MK I antisubmarine helicopters deployed with these ships are also being assigned to reserve squadrons. In addition, the NRF will man 8 of our 14 new MCM-1 mine countermeasures ships and all 17 MSH-1 mine-hunters.

The FY 1986-90 shipbuilding plan, summarized in Table III.B.3 at the end of this chapter, projects a steady rate of ship construction through the remainder of the decade, with about 21 ships scheduled for authorization each year. The plan is designed to sustain and modernize a 600-ship Navy as large numbers of vessels built during the 1960s reach retirement age in the 1990s. Special emphasis has been placed on the large number of guided missile destroyers and nuclear-powered attack submarines that will be needed to replace the many ships of these types scheduled to retire in the early 1990s. The shipbuilding plan also supports a selective expansion of the force in areas in which our individual goals have not been achieved, with particular emphasis on amphibious, mine warfare, and underway replenishment ships.

We are making every effort to buy these ships in an efficient and economic manner. Owing to the expanded use of competition and other improvements in contracting procedures, we have seen an improving trend in ship delivery schedules, as shown in Chart III.B.1.

Chart III.B.1

Improved Ship Delivery Trends



At the same time that we are expanding the fleet, we must upgrade its capabilities if it is to meet the challenges posed by increasingly sophisticated Soviet forces. The FY 1986-90 program therefore continues to pursue the four broad objectives we have set for modernizing and strengthening our general purpose naval forces:

-- Expanding and improving our power projection forces, including aircraft carrier battle groups, amphibious assault ships, reactivated battleships, and cruise missile forces;

-- Strengthening our ability to secure vital sea-lanes and defend naval task forces against bomber and missile attacks;

-- Retaining our crucial edge in antisubmarine warfare capabilities in the face of major improvements in the Soviet submarine force; and

-- Expanding and modernizing our support and mine warfare forces.

Over the next five years, we will also continue to modernize our force of ballistic missile submarines, adding new Trident submarines and developing the Trident II (D-5) missile. These programs are described in the Nuclear Forces chapter.

2. FY 1986-90 Programs

a. Power Projection Forces

We have placed particular emphasis on strengthening our power projection forces. These forces support our national interests around the globe in peacetime and during crises, while providing our commanders the wherewithal to take the battle to the enemy in

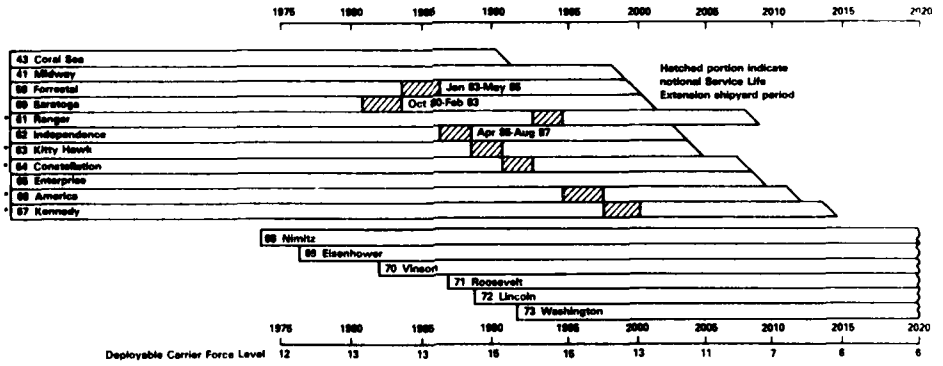
wartime. We are expanding the aircraft carrier force to 15 deployable carriers. The amphibious fleet is undergoing a major upgrade. We are refurbishing and returning to service our Iowa-class battleships. And we are upgrading the strike capabilities of our surface combatants, attack submarines, and aircraft by arming them with Harpoon antiship missiles and Tomahawk cruise missiles, many of the latter in new vertical launch systems.

(1) Aircraft Carrier Forces

Our program to expand the carrier force to 15 deployable carriers by the end of the decade remains on track. Our thirteenth deployable carrier, the USS CARL VINSON (CVN-70), joined the fleet in FY 1982. In early FY 1987, our fourteenth carrier, the USS THEODORE ROOSEVELT (CVN-71), launched in 1984, will enter service. At the end of the decade, when the USS ABRAHAM LINCOLN (CVN-72), one of the two carriers authorized in FY 1983, joins the fleet, we will reach our goal of 15 deployable carriers. In early FY 1992, when the USS GEORGE WASHINGTON (CVN-73), the other carrier authorized in FY 1983, is delivered, the Navy will restructure its force of operating and training carriers, while retaining 15 deployable units. A number of options for maintaining a carrier training capability are under review. One involves the removal of the USS CORAL SEA from the deployable force for use as a training carrier. This option is depicted in the expansion plan outlined in Chart III.B.2.

Chart III.B.2

Major Milestones of the Carrier Expansion Plan



*Tentative SLEP schedule under consideration for these ships.

Under current plans, the Navy will not need to procure any more new carriers until the early 1990s. At that time, to sustain a force of 15 deployable carriers, we should examine a program to replace the USS MIDWAY, as well as the Forrestal-class carriers now undergoing renovation.

In the meantime, we must continue to prolong the operating life of our older carriers. Under the Service Life Extension Program (SLEP), we are adding 15 years to the original 30-year service lives of eight existing large-deck carriers. While each must be removed

from the deployable force during the roughly two-year duration of its overhaul, we have found the program to be a very economical alternative to new carrier construction. Work on the first carrier was completed two years ago, and the second ship, the USS FORRESTAL, will complete its renovation this summer. Funding for the third ship, the USS INDEPENDENCE, was authorized in FY 1985. The FY 1986 budget funds long-lead items for the fourth ship, the USS KITTY HAWK, which is scheduled to begin its overhaul in FY 1987. Due to the KITTY HAWK's excellent material condition, the projected scope of its SLEP has been reduced, with a substantial decrease in cost. The Navy will continue to examine the condition of its other unrenovated carriers to see if they, too, might be candidates for shorter, less expensive SLEPs.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
Service Life Extension Program				
Modification:				
Quantity	—	1	—	1
$ Millions	116.0	742.3	156.8	521.9

(2) Amphibious Assault Forces

Our amphibious assault forces are undergoing a revitalization, reversing a long period of stagnation during the 1970s. Our goal is to achieve, by 1994, sufficient amphibious lift capacity to accommodate the assault echelons of a Marine Amphibious Force (MAF) and a Marine Amphibious Brigade (MAB). This will require a one-third increase over today's capacity. Three ship construction programs -- the LHD-1, the LSD-41, and the LSD-41 Follow-on -- support this effort.

Beyond the increase in lift capacity, our program seeks to achieve a capability for launching amphibious assaults from points over the horizon. This new assault concept is intended to reduce the vulnerability of amphibious ships and to generate greater uncertainty in the enemy's mind as to the location and timing of an assault, thereby maximizing its prospects of success. Key programs supporting this effort include the procurement of new, high-speed landing craft, air-cushion (LCAC) and CH-53E heavy-lift helicopters, along with the development of the JVX advanced vertical-lift aircraft. The latter two programs are discussed in the Land Forces chapter.

(a) LHD-1

The LHD-1 multipurpose amphibious assault ship program is the cornerstone of our plan to expand amphibious lift capacity. Similar in design to the LHA-1 amphibious assault ship, the 40,000-ton LHD-1 will provide space equivalent to that of the LHA-1 for transporting troops, vehicles, and cargo in an amphibious assault. But with a capacity to carry three LCACs and large numbers of helicopters, the ship will significantly enhance our ability to support over-the-horizon assaults. As a secondary mission, it could serve as a "convertible carrier" for V/STOL aircraft.

The lead ship in the program, the USS WASP, was authorized in FY 1984 and will join the fleet in FY 1989. The five-year shipbuilding plan provides for four more LHD-1 purchases, giving us a total of five of these ships by 1994. In FY 1986, we are requesting the second ship as part of a multiyear procurement package incorporating funding for the third and fourth units as well. This will result in a savings of some $820 million, while significantly accelerating the ships' deliveries.

Beyond the five ships needed by FY 1994 to support the MAF-plus-MAB lift goal, we ultimately plan to build a total of 10 or 11 LHD-1s. The additional ships will replace the seven LPH-class ships scheduled for retirement in the late 1990s.

(b) LSD-41

This year marks the entry into the fleet of the lead ship of the LSD-41 class, the USS WHIDBEY ISLAND. Six of these dock landing ships have been authorized through FY 1985, and the FY 1986 budget seeks funds for two more. This will give us a total of eight LSD-41s by 1994 -- enough, when combined with other ships in the amphibious program, to supply the 90 LCAC spots required by the MAF-plus-MAB objective.

(c) LSD-41 Follow-On

Following completion of the LSD-41 program, we plan to switch production to a variant design. The follow-on ship (previously designated "LPDX") will have essentially the same hull and engineering plant as the LSD-41, but it will trade two of that ship's four LCAC spots for substantially more cargo space (an area in which we face particularly severe shortfalls). The five-year shipbuilding plan includes six LSD-41 follow-on ships. We anticipate construction of additional units in future years to replace amphibious ships scheduled for retirement in the latter half of the 1990s.

(d) LPD-4 Service Life Extension

We plan to renovate our 11 1960s-vintage LPD-4 landing platform dock ships, giving them 10 to 15 additional years of service and postponing their retirement well beyond the turn of the century. This will ease a major block retirement problem facing the amphibious fleet, while supporting our goal of increasing overall lift capacity. The five-year program funds seven renovations, the first in FY 1988, a one-year delay imposed by tightened fiscal constraints.

(e) Landing Craft, Air Cushion (LCAC)

The LCAC program is the key to the new amphibious assault concept we are developing for the future. Designed to carry the combat and logistical vehicles of a Marine landing force from ship to shore at speeds in excess of 40 knots, the LCAC will enable our forces to launch assaults from many miles offshore. To support the landing requirements of a MAF and a MAB, we plan to buy at least 90 of these craft. Of the 21 authorized through FY 1985, one has already been delivered and is undergoing initial operational testing. Further tests are scheduled for this summer, after the next two craft are delivered; those tests will be conducted with the LSD-41. We are now forming an assault-craft unit to man the first six craft, which will be ready to begin operations with the fleet in the summer of

1986. The five-year program adds another 60 craft, at a steady rate of 12 per year.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
LHD-1				
Procurement:				
Quantity	1	—	1	—
$ Millions	1,365.7	39.2	1,507.2	381.7
LSD-41				
Procurement:				
Quantity	1	2	2	—
$ Millions	396.6	522.0	426.5	23.5
LSD-41 Follow-on				
Procurement:				
Quantity	—	—	—	—
$ Millions	—	—	—	23.6
LPD-4 SLEP				
Modernization:				
Quantity	—	—	—	—
$ Millions	—	15.0	—	80.5
LCAC				
Procurement:				
Quantity	6	9	12	12
$ Millions	162.0	251.1	316.2	312.5

(3) Battleship Forces

As part of our program to expand the power projection capabilities of the fleet, we are continuing the reactivation of our Iowa-class battleships. Armed with new Tomahawk and Harpoon missiles, these ships are capable of striking land or sea targets from points over the horizon. Their original 16-inch guns provide a much needed boost in naval gunfire support capability. To enhance the guns' firepower, we are developing new types of 16-inch ammunition, including submunition rounds that will be more effective against dispersed targets and extended-range rounds for covering inland targets. The first two battleships, the USS NEW JERSEY and the USS IOWA, have already rejoined the fleet, and the third, the USS MISSOURI, is undergoing its renovation. We are requesting advance funding in FY 1986 for the fourth ship, the USS WISCONSIN, whose reactivation is scheduled for FY 1987.

(4) Cruise Missile Forces

(a) Tomahawk

The Tomahawk cruise missile program represents a major effort to improve the firepower of our naval units and to distribute offensive striking power among a larger number of ships. This highly capable and versatile weapon can be launched from a variety of surface ships and submarines, and it has the range to reach enemy surface ships and shore targets beyond the horizon.

As is often the case with new weapons programs, the Tomahawk encountered various problems during initial tests. These are now being corrected, allowing us to move to higher production rates. We have therefore budgeted funds for 249 missiles in FY 1986, and for another 330 in FY 1987.

The antiship and nuclear land-attack versions of Tomahawk have already entered the fleet, and the conventionally armed land-attack version is undergoing extensive testing prior to its general introduction. At present, Tomahawks are deployed aboard battleships and a number of submarines, and are being introduced aboard DD-963 destroyers. To maximize the number of weapons that can be carried on each ship, we are installing the vertical launch system (VLS) on our new SSN-688 attack submarines, CG-47 cruisers, and DDG-51 destroyers, and are retrofitting the system on some DD-963 destroyers. The VLS is essentially a cell of launch tubes in which different types of missiles and rockets can be clustered. In addition to increasing the number of weapons that can be carried, the system improves the speed and reliability of launchings.

(b) Harpoon

We are continuing production of the highly successful Harpoon antiship missile, with funding for 395 missiles requested in FY 1986. The Harpoon system is deployed on most of our surface combatants and on many of our attack submarines as well. It can also be launched from P-3 patrol aircraft and A-6 attack aircraft, and we plan to incorporate it into the weapon suites of F/A-18 strike-fighters and S-3 antisubmarine aircraft. During the past year, ten long-range B-52G bombers were configured to fire the Harpoon, and we intend to modify 20 more by the middle of this year. This program, which enhances our capability to conduct antiship strikes worldwide, is an excellent example of how expanded cooperation among the military Services can increase our overall defense capabilities.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
Battleship Reactivations				
Quantity	1	—	—	1
$ Millions	473.3	12.6	75.2	435.6
Tomahawk Missiles				
Procurement:				
Quantity	124	180	249	330
$ Millions	341.7	578.5	780.0	929.9
DD-963 VLS Backfit				
Quantity	—	—	3	3
$ Millions	—	—	127.4	123.4
Harpoon Missiles				
Procurement:				
Quantity	315	439	395	153
$ Millions	287.9	356.8	338.6	214.1

b. Antiair Warfare (AAW) Programs

Soviet antiship missiles pose a serious and growing threat to our naval forces and sea lines of communications. These weapons are being produced in several versions, designed for launch from bombers, submarines, and surface ships. Because their high speeds and elusive flight profiles make them very difficult to intercept, the missiles can best be countered by detecting and engaging the ships or aircraft carrying them before they reach launch position. Our antisubmarine warfare programs, discussed in the next section, are designed to improve our ability to locate and destroy enemy submarines over long ranges. Likewise, our antiair warfare programs emphasize efforts to improve our capabilities to intercept enemy bombers in an "outer defense zone" -- before our forces come within range of their missiles. But because these outer defenses must cover broad ocean areas that can never be totally sealed off from a determined attacker, we must also have systems that can knock out incoming missiles themselves. Overall, we seek to maximize the effectiveness of our AAW systems by maintaining a strong, "layered" defense in which attacking forces are countered in a series of engagements by different types of defensive systems.

The air defense system employed by our carrier battle groups illustrates this layered defense approach. "Outer-zone" protection is provided by an integrated team of airborne early warning aircraft, fighter-interceptors, and electronic warfare aircraft. These forces, which are discussed in the Tactical Air Forces chapter, can detect and intercept approaching bombers before they come within missile launch range of carrier battle groups and the other ships they may be protecting. To maximize the effectiveness of these outer-zone defenses, we are developing counter-targeting tactics and systems that will force enemy bombers seeking good missile-targeting solutions to move closer to our forces in order to launch an attack, thereby increasing the opportunities for our fighter-interceptors to engage them. "Area" defenses, the second layer of protection, are provided by long-range surface-to-air missiles (SAMs) installed aboard antiair warfare ships, such as the CG-47 cruisers and DDG-51 destroyers now under construction. Area SAMs protect not only the ships on which they are installed but also the neighboring ships in a naval task force. "Point" defenses, the last layer of protection, include short-range interceptor missiles, guns, decoys, and electronic warfare systems. They are designed primarily to protect the ships that carry them.

Beyond these efforts to maximize the protection afforded to our naval task forces, we are striving to improve our ability to detect and engage enemy bombers well before they reach the vicinity of our maritime forces. The key elements of this emerging capability are wide-area surveillance systems and land-based tactical air forces used in a maritime air defense role. Where geographically feasible, we will use our new long-range monitoring systems and upgraded command and control network to improve the joint employment of land- and sea-based fighters and early warning aircraft.

(1) Wide-Area Surveillance and Command and Control

Wide-area surveillance can maximize the effectiveness of outer zone defenses by providing warning of an attack early enough to position large numbers of fighters to engage enemy bombers. With a detection range of several hundred miles, the tactical over-the-horizon (OTH) radars now being developed will substantially increase

the amount of warning time available to the force. Deployed in locations from which they can scan likely bomber approach corridors, OTH radars will greatly enhance the effectiveness of our maritime air defenses, both land- and sea-based. The system will also be "relocatable" to prepared sites, providing an emergency capability to establish surveillance coverage in areas that are not routinely monitored.

To provide overall command, control, communications, and intelligence (C^3I) support for our outer-zone air defenses and long-range antiship missile systems, we have instituted the Naval Command and Control System/System Engineering and Integration (NCCS/SE&I) program (formerly known as ITSS). Essentially a management coordination effort, this program will provide a means of integrating OTH radars and other sensor systems with surveillance and information management systems used by battle forces at sea. To facilitate these enhancements, we are upgrading the Naval Ocean Surveillance Information System (OSIS). Together, these programs will be the key elements of our future command and control and wide-area surveillance system.

(2) AAW Ships

To strengthen the fleet's area defenses, we are continuing construction of two new classes of antiair warfare ships, the CG-47 guided missile cruiser and the DDG-51 guided missile destroyer. These ships will greatly improve the long-range SAM capabilities of the fleet. Both feature the Aegis system, which incorporates the most advanced technologies available for detecting and intercepting high-speed cruise missiles at sea. The system's powerful phased-array radar can detect incoming missiles at long ranges, and its automatic fire-control equipment can track and engage many targets simultaneously, even under intense jamming conditions. These capabilities will substantially increase the air defense firepower of our battle groups against coordinated antiship missile saturation attacks.

(a) CG-47 Cruisers

Of the 16 CG-47 guided missile cruisers authorized through FY 1985, four will have entered service by the end of this year. Last year, the lead ship in the program, the USS TICONDEROGA, successfully completed an additional series of operational tests after returning from the Mediterranean Sea, where it was deployed in support of the multinational peacekeeping effort in Lebanon. The second ship, the USS YORKTOWN, joined the fleet last summer and is preparing for its first deployment later this year. The five-year shipbuilding program funds a total of 11 CG-47s, including three in FY 1986. This will complete the program at 27 ships, enough to support 15 carrier battle groups and four surface action groups centered around battleships.

(b) DDG-51 Destroyers

Last year, the Congress authorized the lead ship in the DDG-51 guided missile destroyer program. Like the CG-47, the DDG-51 will be equipped with the Aegis system, but it will be a smaller (8,300-ton), less costly ship and, therefore, affordable in larger numbers. It will carry a full complement of weapons systems for air defense, antisubmarine operations, and strikes against enemy surface ships and land targets. Although it will operate primarily with carrier

battle groups and surface action groups, the ship will also serve as the principal escort for amphibious task forces and underway replenishment groups. We plan to buy a total of 17 DDG-51s over the next five years, two in FY 1987 and five each year thereafter. The FY 1986 request seeks advance funds for the two purchases scheduled for FY 1987.

(c) Cruiser and Destroyer Modernization

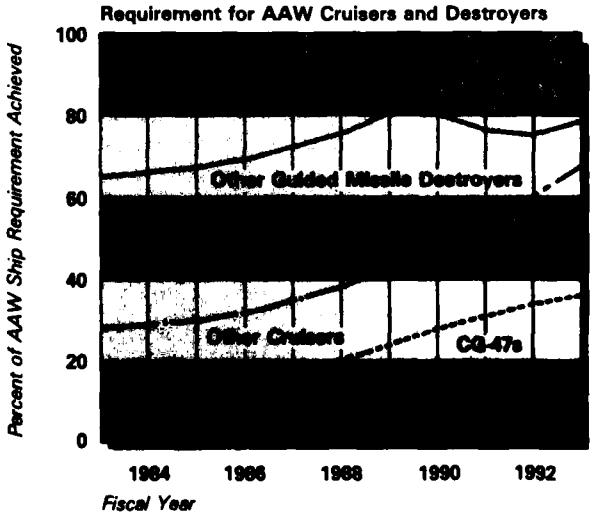
Until enough CG-47 cruisers and DDG-51 destroyers come on line, we will need to extend the service lives and upgrade the capabilities of our existing AAW ships. To that end, we are converting guided missile cruisers and some destroyers to carry the improved surface-to-air Standard Missile (SM-2). Compared with the older SM-1 missile it replaces, the SM-2 can cover wider areas and has a higher probability of intercepting incoming missiles. Second-phase improvements to shipboard radars and fire control systems are being implemented under the New Threat Upgrade (NTU) program. This package of modifications will enhance performance under jamming conditions. The NTU system has been successfully installed and tested aboard the guided missile destroyer USS MAHAN and ultimately will be extended to an additional 31 cruisers and destroyers.

(d) Force Levels

Under current planning factors, the Navy needs 100 AAW cruisers and destroyers to meet the escort requirements of its carrier battle groups, battleship surface action groups, amphibious task forces, and underway replenishment groups. It will have 69 of these ships by the end of FY 1986. As Chart III.B.3 shows, even with the 28 CG-47s and

Chart III.B.3

Shortage of AAW Ships in the 1990s



DDG-51s planned for authorization over the next five years and the ongoing modernization of existing ships under the NTU program, the Navy will continue to suffer from a shortage of AAW ships in the 1990s, when large numbers of guided missile cruisers and destroyers will have to be retired. Easing this shortfall will require continued construction of DDG-51s and follow-on AAW ships into the 1990s.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
OTH Radars				
Development:				
$ Millions	27.8	31.7	56.2	35.6
Procurement:				
$ Millions	—	—	—	8.3
CG-47 Cruisers				
Procurement:				
Quantity	3	3	3	3
$ Millions	2,971.5	3,024.5	2,834.8	2,988.9
DDG-51 Destroyers				
Development:				
$ Millions	123.2	126.5	104.8	88.8
Procurement:				
Quantity	—	1	—	2
$ Millions	79.0	1,050.0	164.3	2,246.8
Standard Missiles				
Development:				
$ Millions	31.4	40.7	47.2	54.2
Procurement:				
Quantity	1,190	1,384	1,316	1,800
$ Millions	624.8	764.3	874.1	1,047.2
Phalanx Close-In Weapon System				
Procurement:				
Quantity	40	49	39	32
$ Millions	136.5	172.4	151.6	134.1
Sea Sparrow Missiles				
Procurement:				
Quantity	321	327	380	408
$ Millions	66.4	74.1	80.8	86.6
Rolling Airframe Missile System				
Procurement:				
Quantity	—	30	117	400
$ Millions	19.0	20.4	45.1	113.8

(e) Surface-to-Air Missiles (SAMs)

To improve our area defense capabilities, we are procuring large numbers of surface-to-air Standard Missiles -- both the SM-1 and SM-2 versions -- for our AAW cruisers, destroyers, and frigates. The five-year program funds some 11,000 of these missiles, including 1,316 in FY 1986.

We are also introducing major improvements to the standard system. A "Block 2" version of the SM-2, now in production, will give our SAM batteries better intercept capabilities against sophisticated antiship missiles such as the Soviet AS-4. New warhead fuses, with improved capabilities against sea-skimming antiship missiles, are in development, and the Outer Air Battle Missile program is investigating the feasibility of intercepting enemy bombers before they can launch their weapons.

(3) Point Defense Systems

Modernization of the self-defense systems aboard surface ships will continue in FY 1986 with the procurement and installation of the Vulcan Phalanx Close-In Weapon System (CIWS), the MK-23 Target Acquisition Radar for the NATO Sea Sparrow missile system, and the AN/SLQ-32 electronic warfare system. The program also continues production of an improved version of the Sea Sparrow missile, (called the RIM-7M) and of the five-inch Rolling Airframe Missile (RAM) for retrofit in selected Sea Sparrow installations.

c. Antisubmarine Warfare (ASW) Program

Countering the Soviet submarine threat requires a layered offensive strategy that both maximizes enemy attrition and affords a high level of protection for our naval forces. The best means of neutralizing enemy submarines is to engage them in forward areas and barriers -- before they come within range of attacking our forces. For this, we rely primarily on attack submarines and long-range P-3 patrol aircraft supported by undersea surveillance systems. Enemy submarines that escape forward sweeps and penetrate our ASW barriers must contend with a layered defensive screen surrounding our naval task forces and convoys. Within this layered defense system, long-range protection is provided by land- and carrier-based patrol aircraft and by attack submarines operating in a direct-support role. At shorter ranges, protection is provided by formations of surface combatants equipped with passive and active sonar systems and by torpedo-armed antisubmarine helicopters.

(1) ASW Surveillance Systems

The ability to locate enemy submarines within broad ocean areas is essential to the task of countering the large Soviet submarine force. Fixed undersea surveillance systems have long played a key role in this respect. To improve our submarine surveillance capabilities, the FY 1986-90 program continues funding for two new systems -- one mobile and the other a rapidly deployable, air-dropped system -- designed to supplement our fixed sensors.

(a) TAGOS Surveillance Towed-Array Sensor System (SURTASS)

The Navy took delivery of its first two TAGOS SURTASS ships in FY 1984, and several others will enter service this year and next.

The long-range surveillance capabilities of these ships will be useful both for extending coverage to ocean areas not presently monitored by fixed systems and for providing backup coverage in areas that are routinely monitored, should our fixed systems be incapacitated. The Congress has appropriated funds for 14 TAGOS ships through FY 1985. We are requesting authorization of two more in FY 1986, followed by two additional units in FY 1987.

(b) Rapidly Deployable Surveillance System (RDSS)

For the future, we are investigating an entirely new deployable undersea monitoring system, the RDSS. Designed to be dropped from patrol aircraft, the RDSS would give our forces a means of rapidly establishing surveillance coverage in areas of special interest. Its ability to function for extended periods would make it particularly well suited for operations in remote areas; in an emergency, it could also be used to augment other sensors in areas we want to watch closely. Future plans for RDSS development will be determined later this year, after we have evaluated ongoing system tests and evolving strategies for detecting and combating Soviet submarines.

(2) Attack Submarines

Nuclear-powered attack submarines (SSNs) remain a key element of our ASW defense-in-depth strategy and are an integral part of our forward offensive strategy, especially for antisubmarine operations. Early in a war, our undersea forces must be capable of moving into far-forward positions, including waters where Western forces would lack control of the surface and surrounding airspace and where Soviet naval forces would be operating in strength. Areas of combat operations might also include the ice-covered Arctic. Operating under such conditions would place a premium on stealth and firepower -- areas in which the Soviets are fast encroaching on our long-held advantage. To maintain our advantage over Soviet capabilities, the FY 1986-90 program seeks continued improvement in the firepower and operating effectiveness of our attack submarine forces.

Of the 48 SSN-688s authorized through FY 1985, 29 have been delivered and are operating in the fleet today. The five-year program projects construction of 18 additional units, including four in FY 1986.

To keep pace with the advances in the Soviet submarine force, we are making several improvements in the SSN-688 design. New SSN-688s are being provided additional firepower through the installation of vertical launch systems, with the first submarine so equipped scheduled for delivery later this year. We also are making the SSN-688s quieter, and giving them a greater capability to operate under the ice -- which is essential for conducting forward patrols in northern waters. The submarines are also being given the capability to lay mines.

Further improvements to the Los Angeles-class are being made in the area of sensor and computer-processing capabilities. The Submarine Advanced Combat System (SUBACS), which will be installed on all submarines authorized in FY 1983 and subsequent years, incorporates the latest in computer technology, thereby improving reliability and helping to ensure that we maintain our technological edge in detection and targeting.

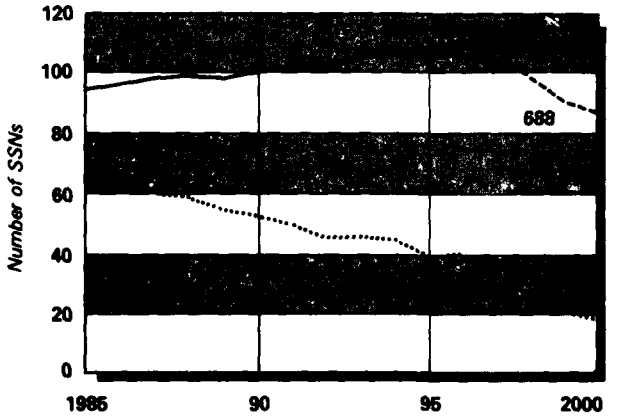
To capitalize on the flexibility of our SSN force, we are broadening the submarines' missions beyond the ASW duties they have traditionally been assigned. Last year, we began deploying Tomahawk cruise missiles on attack submarines in the Atlantic and Pacific Fleets, giving them an expanded role in antiship warfare as well as an entirely new role of projecting power ashore. These missions -- combined with the submarines' traditional ASW duties of battle group escort, barrier patrol, and forward area operations -- establish the basis for our force goal of 100 multimission SSNs.

To meet the Soviet submarine threat of the 21st century, we have started designing a new attack submarine, the SSN-21. A key objective is to make improvements in sound-quieting in order to preserve our acoustic advantage over a Soviet submarine force making major advances in quieting technology. The SSN-21 will also carry twice the number of weapons as existing classes, in addition to having more advanced sensor systems and being able to operate under the ice more effectively. These improvements, which cannot be accommodated within the SSN-688 hull, are necessary if we are to maintain our qualitative advantage over the rapidly improving Soviet submarine force and our ability to operate in forward areas. The SSN-21 will also provide the necessary flexibility to react to the inevitable changes that will occur in naval warfare over the next 40 years. A contract for the ship's design will be awarded this year, with authorization of the lead unit projected for FY 1989.

In the meantime, we must continue producing improved SSN-688 submarines at relatively high rates in order to provide replacements for the large numbers of older-model SSN-594s and SSN-637s that will have to be retired in the 1990s. Chart III.B.4 shows the changing composition of the nuclear-powered attack submarine force through the end of the century.

Chart III.B.4

Composition of Nuclear-Powered Attack Submarine Force



(3) Maritime Patrol Aircraft

P-3 maritime patrol aircraft, when provided information from broad-area surveillance systems on the general location of Soviet submarines, offer our most potent area antisubmarine capability. Fleet exercises have also demonstrated the aircraft's utility as long-range protection forces for carrier battle groups and other naval task forces. Several characteristics of the P-3 system contribute to these capabilities. The aircraft's long range and high endurance enable it to cover large ocean areas. Its large number of sonobuoys and advanced data-processing systems help pinpoint the location of enemy submarines. And its large payload of ASW torpedoes provides the capability to translate submarine detections into submarine kills.

The FY 1986-90 program continues production of the latest model in the P-3 series, the P-3C. A total of 250 of a planned force of 316 of these aircraft have been authorized through FY 1985. The five-year program adds 42 more -- all in the Update III configuration -- including nine in FY 1986. To promote program stability and to achieve cost savings, we are requesting funds to start a multiyear procurement program for the 33 aircraft scheduled for authorization during FY 1987-90. Beyond the procurement of new aircraft with improved performance features, we are retrofitting Update III avionics into earlier versions of the P-3C. For the future, we are developing an Update IV version of the P-3C with expanded processing capabilities and a new family of acoustic sensors designed to counter the quieting trend in the Soviet submarine force.

(4) Surface Ship ASW Systems

(a) Tactical Towed-Array Sonar (TACTAS)

The long-range detection capabilities of TACTAS will substantially enhance the ASW capability of our surface combatants, providing an essential counter to the increased range of weapons carried by Soviet submarines. The AN/SQR-18 towed-array sonar system is being deployed aboard all 46 of the FF-1052 frigates operated by active and reserve units, and aboard all of the Naval Reserve's FFG-7 frigates. The AN/SQR-19, a more advanced towed-array sonar system now in the final stages of development, will be installed later in the decade on DD-963, DDG-993, and DDG-51 destroyers and on CG-47 cruisers and active FFG-7 frigates. We are introducing improvements to both systems to maintain their detection capabilities against Soviet submarines.

(b) Light Airborne Multipurpose System (LAMPS)

Fleet deliveries of SH-60B LAMPS MK III antisubmarine helicopters have begun. The SH-60B, also known as the Seahawk, will allow modern surface combatants to exploit the opportunities for long-range ASW engagements offered by our new towed-array sonars. Engagements at extended ranges are essential if our forces are to destroy enemy submarines before they come close enough to launch salvos of long-range antiship missiles and torpedoes. LAMPS MK III helicopters will be deployed aboard some 100 surface combatants, including DD-963 and DDG-993 destroyers, CG-47 cruisers, and active FFG-7 frigates. A total of 90 SH-60Bs have been authorized through FY 1985, and the five-year program projects construction of 90 more.

(5) ASW Weapons

We must arm our antisubmarine forces with improved weapons as a means of countering new generations of Soviet submarines that not only are faster and quieter, but can dive deeper and are more resistant to hull penetration. To that end, we are continuing to improve both our heavy and lightweight torpedoes and our long-range ASW rockets.

(a) MK-48 Torpedoes

Following the completion of a successful test program last year, we are accelerating production of the ADCAP (advanced capability) heavyweight torpedo. The five-year program calls for production of 1,890 ADCAP units, including 123 in FY 1986. This submarine-launched weapon, an upgraded version of the MK-48, can be fired against either submarines or surface ships. It is designed to counter current and projected advances in Soviet submarine designs and tactics.

(b) Lightweight Torpedoes

The FY 1986-90 program also continues a major modernization of our inventory of lightweight ASW torpedoes. These weapons are designed for launch from surface ships, patrol aircraft, and antisubmarine helicopters. To provide the near-term improvements needed to counter new Soviet submarines, we are procuring an upgraded version of the MK-46, called NEARTIP (Near-Term Improvement Program). For the longer term, we are developing a much more advanced lightweight torpedo, the MK-50. That weapon promises significant improvements over the MK-46 in speed, diving depth, accuracy, and lethality. The system entered full-scale engineering development in FY 1984, after a highly successful series of demonstration and validation tests. It will join the fleet in the late 1980s. Further improvements in propulsion and destructiveness will be made through a preplanned product improvement (P^3I) program in the early 1990s.

(c) Long-Range ASW Weapons

We are continuing development of two new long-range ASW weapons that will be able to attack enemy submarines outside effective torpedo range. The first, the ASW Standoff Weapon (ASW SOW), is slated to replace the aging Submarine Rocket (SUBROC) deployed with the attack submarine force. The second new system, called the Vertical Launch ASROC (VLA), will replace the aging Antisubmarine Rocket (ASROC) system on surface ships equipped with the Vertical Launch System (VLS). Both of these weapons should reach the fleet within the next five or six years.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
TAGOS SURTASS Ships				
Procurement:				
Quantity	—	2	2	2
$ Millions	13.6	133.9	121.0	119.0
RDSS				
Development:				
$ Millions	16.2	10.6	15.4	20.8
SSN-688				
Procurement:				
Quantity	3	4	4	4
$ Millions	1,981.2	2,754.6	2,770.3	2,625.0
P-3C Aircraft				
Procurement:				
Quantity	5	9	9	9
$ Millions	303.9	413.1	496.5	488.3
TACTAS				
Procurement:				
Quantity	12	10	16	19
$ Millions	116.7	112.0	165.4	184.0
SH-60B Helicopters				
Procurement:				
Quantity	21	24	18	18
$ Millions	527.6	476.7	378.8	354.7

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
MK-48 Torpedoes				
Procurement:				
Quantity	144	108	—	—
$ Millions	117.5	91.7	2.4	2.5
MK-48 ADCAP Torpedoes				
Development:				
$ Millions	173.2	126.6	63.5	34.9
Procurement:				
Quantity	—	44	123	280
$ Millions	21.7	113.7	433.2	671.4
MK-46 Torpedoes				
Procurement:				
Quantity	1,200	1,565	500	500
$ Millions	215.3	231.5	132.8	106.8
MK-50 Torpedoes				
Development:				
$ Millions	143.3	146.3	168.4	169.9
Procurement:				
Quantity	—	—	—	84
$ Millions	—	—	—	124.1
ASW Standoff Weapon				
Development:				
$ Millions	27.4	51.3	75.3	113.7
Vertical Launch ASROC				
Development:				
$ Millions	30.8	26.7	37.4	38.1
Procurement:				
Quantity	—	—	—	250
$ Millions	—	—	—	71.7

d. Support and Mine Warfare Forces

The expansion of the fleet has brought with it an increased requirement for support ships. At the same time, our existing forces are aging and in need of replacement. To meet these combined demands, the FY 1986-90 program includes several programs to modernize and expand the support fleet, with particular emphasis on underway replenishment ships. It also significantly improves mine countermeasures capabilities, a mission area that has been severely neglected in the past.

(1) Multiproduct Station Ships

The battle group concept of operations requires one multiproduct station ship (an AOE or an AOR) for each carrier battle group, to keep it supplied with food, fuel, ammunition, and other provisions. As we move toward our goal of 15 deployable carrier battle groups, we will have to add four new multiproduct ships to the 11 now operated by the fleet. The five-year program funds four ships of the new AOE-6 class. Fiscal constraints have forced us to delay the first of these until FY 1987, one year later than we had anticipated last year.

(2) Fleet Oilers

To keep our multiproduct station ships supplied with fuel, fleet oilers perform shuttle service between battle groups at sea and forward bases. The TAO-187 program is designed to relieve an existing shortage of oilers, while providing replacements for the 30-year-old vessels now operated by the Military Sealift Command. The Congress has authorized seven TAO-187s through FY 1985, and we are projecting continued construction at a steady rate of two per year through the five-year program. In addition, starting in FY 1988, we will modify five existing AO-177 oilers to increase their fuel-carrying capacity.

(3) Mine Warfare Forces

The Soviet Union maintains the world's largest and most capable inventory of naval mines. These weapons have proven their effectiveness in many naval campaigns over the years. Our aging force of minesweeping ships and helicopters is only marginally effective against this threat. To improve our capabilities in this important area of naval warfare, we are procuring two new classes of mine countermeasures ships and a new type of minesweeping helicopter.

(a) Mine Countermeasures Ships

The MCM-1 mine countermeasures ship will both improve our minesweeping capabilities and provide our forces with a capability to hunt and neutralize advanced mines that cannot be countered by sweeping techniques. Nine of these ships have been authorized through FY 1985, the first of which, the USS AVENGER, will be delivered next year. The FY 1986-90 shipbuilding plan funds five additional units, completing the 14-ship program.

A second new type of mine countermeasures ship, the MSH-1 mine hunter-sweeper, will augment the MCM-1 during initial harbor clearance and breakout operations. It will be equipped with advanced combat systems similar to those on the MCM-1, but it will be smaller and less expensive. The Congress authorized the lead ship of this class in FY 1984. We are requesting funds for four additional ships in FY 1986, with a total of 16 projected over the five-year programming period.

(b) Mine Countermeasures Helicopters

The FY 1986-90 program also funds 33 additional MH-53E mine countermeasures helicopters, of which 29 will be purchased as part of a four-year MH/CH-53E multiyear procurement package. (The CH-53E helicopter is discussed in the Land Forces chapter.) The MH-53E offers significant improvements over the older RH-53D minesweeping helicopter in flight endurance and lift capability. We plan to buy

a total of 44 MH-53Es, enough to form and support an 11-aircraft combat squadron on each coast. (The additional aircraft are needed for training and to replace operating losses or units undergoing maintenance.)

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
AOE-6 Multi-product Ship				
Procurement:				
Quantity	—	—	—	1
$ Millions	—	—	—	756.6
TAO-187 Oilers				
Procurement:				
Quantity	2	3	2	2
$ Millions	325.6	524.1	330.5	374.9
MCM-1 Ships				
Procurement:				
Quantity	3	4	4	1
$ Millions	286.6	356.7	371.1	132.8
MSH-1 Ships				
Procurement:				
Quantity	1	—	4	4
$ Millions	65.0	—	187.6	206.0
MH-53E Helicopters				
Procurement:				
Quantity	—	2	10	4
$ Millions	8.2	92.6	217.1	82.6

3. Conclusion

We are now beginning to see the results of our efforts to build a strong and balanced Navy with modern warfighting capabilities. We are well on our way to a 600-ship fleet. New, more capable ships and aircraft are entering the inventory in increasing numbers. The FY 1986-90 program carries these trends forward, giving us the maritime strength needed to reduce the risk of confrontation at sea and preserve the peace in the decades ahead.

Table III.B.3
FY 1986-90
Shipbuilding Program

	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1986-90 Five-Year Total
New Construction						
TRIDENT (Ballistic Missile Submarine)	1	1	1	1	1	5
SSN-688 (Attack Submarine)	4	4	4	2	4	18
SSN-21 (Attack Submarine)	–	–	–	1	–	1
CG-47 (Guided Missile Cruiser)	3	3	3	2	–	11
DDG-51 (Guided Missile Destroyer)	–	2	5	5	5	17
LHD-1 (Amphibious Assault Ship)	1	–	1	1	1	4
LSD-41 (Landing Dock Ship)	2	–	–	–	–	2
LSD-41 Follow-on (Landing Dock Ship)	–	–	2	2	2	6
MCM-1 (Mine Countermeasures Ship)	4	1	–	–	–	5
MSH-1 (Mine Hunter-Sweeper)	4	4	4	4	–	16
AOE-6 (Multipurpose Stores Ship)	–	1	1	1	1	4
AE-36 (Ammunition Ship)	–	–	1	1	1	3
AR (Repair Ship)	–	–	–	–	1	1
TAO-187 (Oiler)	2	2	2	2	2	10
TAGOS (Surveillance Ship)	2	2	–	–	–	4
Total	***23***	***20***	***24***	***22***	***18***	***107***
Conversions/SLEPs/Reactivations						
CV (Aircraft Carrier) SLEP	–	1	–	–	1	2
BB (Battleship) Reactivation	–	1	–	–	–	1
LPD-4 (Landing Platform Dock Ship) SLEP	–	–	1	3	3	7
AO ("Jumbo" Oiler) Conversion	–	–	1	2	2	5
AG (Acoustic Research Vessel) Conversion	1	–	–	–	–	1
TAVB (Aviation Support Ship) Conversion	1	–	–	–	–	1
TACS (Crane Ship) Conversion	3	2	2	–	–	7
Total	***5***	***4***	***4***	***5***	***6***	***24***

C. TACTICAL AIR FORCES

1. Introduction

Our tactical air forces are a vital and integral part of the forward defense strategy for protecting our national interests. Rapid response to aggression on a global scale requires a well-trained and properly equipped tactical air force to project force in an area of crisis and support our ground and naval components.

a. Program Goals

We must ensure that our tactical air forces are capable of maintaining air superiority and defending and supporting our ground and naval forces. The Soviets have built an inventory of more than 5,000 fighter and attack aircraft and are continuing to produce tactical aircraft at a rate higher than our own. Although our tactical air forces have long been considered superior to the Soviets in terms of combat capabilities, thus outweighing our numerical disadvantage, we are seeing a new generation of highly capable Soviet aircraft that could seriously contest our superiority. Countering this growing threat requires continuous improvements in the combat-effectiveness of our tactical air forces. We recognized this requirement and accepted the task four years ago.

Our FY 1986-90 program continues to focus on those four broad objectives identified four years ago and outlined below:

-- Improving the combat-readiness and sustainability of our tactical air forces through better training and increased stocks of weapons, munitions, and spare parts;

-- Modernizing the Active and Reserve Components with F-14, F-15, F-16, F/A-18, and AV-8B aircraft as well as with improved air-to-air and air-to-ground weapons;

-- Enhancing electronic warfare, tactical communications, and air defense suppression capabilities; and

-- Improving target acquisition, surveillance, and warning capabilities.

b. Force Structure

Our tactical air forces consist of fighter and attack aircraft, and a variety of special-purpose aircraft that support them in combat.

Fighter aircraft, armed with air-to-air missiles and guns, maintain control of the skies above land and naval forces, protecting them from air attacks (the "air superiority" mission). Fighter and attack aircraft, armed with bombs, guns, and guided weapons, are capable of attacking targets on land or at sea. They can attack enemy formations in close proximity to friendly forces (the "close air support" mission) or strike targets well behind enemy lines (the "interdiction" mission). Table III.C.1 depicts the type of aircraft generally associated with these missions.

Support aircraft assist fighter and attack forces in carrying out their combat missions. The missions of these aircraft fall into the general categories of airborne early warning, command and

control, tactical reconnaissance, electronic warfare, in-flight refueling, defense suppression, and special operations.

Table III.C.1
Tactical Fixed Wing Aircraft

Mission	Type Aircraft (Service[a])
Air Superiority	F-15(AF), F-15E(AF), F-16(AF), F-4(AF,MC), F-14(N), F/A-18 (N,MC)
Close Air Support	F-16(AF), F-4 (AF,MC), A-10(AF), A-7(N,AF), A-4(MC), AV-8(MC), A-6(MC), F/A-18(N, MC)
Interdiction	F-111(AF), F-15E(AF), F-4(AF,MC), F-16(AF), A-7(AF,N), A-6(N,MC), F/A-18(N,MC), A-4(MC)

[a]AF = Air Force N = Navy MC = Marine Corps

(1) Air Force Aircraft

The Air Force's fighter force structure consists of 37 wing equivalents, 25 in the active force and 12 in the Air National Guard (ANG) and Air Force Reserve (AFR). Each wing typically contains three squadrons of 24 aircraft each. Combat support units, such as those composed of EF-111 electronic warfare (EW) aircraft, are generally organized into squadrons of 18 to 24 aircraft. By the end of FY 1990, we will have the equivalent of 39 tactical fighter wings, 26 active, and 13 ANG and AFR.

In support of our fighter forces, the Active and Air National Guard Components operate four electronic combat squadrons, fourteen tactical reconnaissance squadrons, one tactical air command and control division, two tactical air command and control squadrons, and nine tactical air support squadrons. By the end of the decade, we will have modernized several elements of these support forces.

The force also includes seven squadrons of B-52 aircraft that are assigned general purpose, as well as strategic nuclear delivery missions. These bombers, together with strategic reconnaissance and tanker aircraft, provide a highly responsive, long-range force designed to perform a variety of conventional missions, including naval minelaying, antiship attack, and conventional bombing.

(2) Navy and Marine Corps Aircraft

Unlike Air Force wings, which generally consist of only one type of aircraft, Navy and Marine Corps air wings include a mix of aircraft types. A typical active Navy carrier air wing consists of nine squadrons (approximately 86 aircraft): two fighter squadrons; two light attack squadrons; one medium attack squadron; plus supporting elements for airborne early warning, antisubmarine and electronic warfare, reconnaissance, and aerial refueling operations.

Table III.C.2

Typical Composition of Navy and Marine Corps Air Wings

Navy		Marine Corps	
Number	Type Aircraft	Number	Type Aircraft
24	F-14	48	F-4 (or F/A-18)
24	F/A-18 (or A-7)	20	A-6
10	A-6	60	A-4 (or AV-8)
4	KA-6	6	RF-4
4	EA-6	5	EA-6
4	E-2	12	C-130
10	S-3	60	CH-53
6	HS-3	96	CH-46
86	**Total**	24	AH-1
		24	UH-1
		15	OV-10
		370	**Total**

An active Marine Corps air wing typically consists of 23 to 25 squadrons (338 to 370 aircraft in all): four fighter/attack squadrons; two or three light attack squadrons; one or two medium attack squadrons; plus supporting elements for electronic warfare, reconnaissance, aerial refueling, transport, airborne assault, observation, and tactical air control.

When this Administration took office, the Navy had 12 active carrier air wings. Consistent with the planned expansion to a 600-ship force ultimately centered around 15 deployable carriers, we added a 13th wing in FY 1984 and will add a 14th during FY 1987. We will maintain three active Marine Corps air wings, two Navy reserve wings, and one Marine reserve wing throughout the program period.

2. FY 1986-90 Programs

The FY 1986-90 program for our tactical air forces is, with few exceptions, a continuation of our focus on improving combat readiness and sustainability; force modernization; electronic warfare; and target acquisition, surveillance, and warning. This program was formulated to address the necessity of maintaining and, where possible, expanding our superior air combat capabilities in the face of the Soviet's numerical superiority and advances in aircraft performance.

a. Combat Readiness and Sustainability

Improving combat readiness and sustainability continues to be one of our highest priorities. The following paragraphs highlight the efforts we are making to improve the combat capability of our forces. Logistics initiatives are covered in detail in the Readiness and Sustainability chapter.

(1) Combat Readiness

Combat readiness is determined by the amount and type of equipment and supplies on hand, as well as by personnel and training levels. We recognize that our forces, regardless of the technical sophistication of their equipment, offer only an illusory deterrent if perceived as unable to respond quickly and effectively. This Administration, therefore, has given top priority to improving the readiness of the forces and the equipment they operate. The FY 1986-90 program continues progress to date, building up stocks of spare parts for our aircraft and providing more realistic training for our aircrews.

(a) Equipment and Supplies

Peacetime operating spare parts are critical to the readiness of our forces. These items keep our equipment ready for training in peacetime and support increased levels of activity during the initial stages of a conflict. We have substantially increased funding for the procurement of spare parts during each of the past four years. Since FY 1982, we have added $25 billion for these items. This represents an increase of 45 percent in real terms.

(b) Personnel and Training

To realize the full potential of our significant investment in tactical aircraft, we must have highly trained aircrews. The amount of flying time we provide our crews is a good measure of their training and readiness levels. Largely because of their significant advantage in average flying time per crew member, together with superior training methods, our tactical aircrews continue to be considered superior to Warsaw Pact aviators.

In FY 1986, Air Force tactical aircraft pilots will average about 233 flying hours. This represents an increase of about 50 percent over the FY 1978 low of 156 flying hours, and is nearly double the time logged by Soviet pilots. Navy tactical aircraft pilots will average about 300 flying hours in FY 1986, up from 276 hours in FY 1984. We must sustain these increased levels of training if our aircrews are to achieve and maintain their full combat potential.

In addition to increasing flying hours, we are continuing to emphasize realism in training. Experience has shown that aircrews with high levels of realistic peacetime training have a significant advantage over less-skilled adversaries in the critical early days of a conflict. Instrumented air combat maneuvering ranges offer U.S. and allied aircrews unique and realistic training opportunities.

Joint Service exercises in which active and reserve units from the Air Force, Navy, and Marine Corps conduct integrated operations also increase the combat proficiency of our tactical aircrews. Examples of this type of training include the RED FLAG exercises held at Nellis Air Force Base, Nevada; the COPE THUNDER exercises conducted at Clark Air Force Base, the Philippines; and the combined arms, live-fire exercises held at the Marine Corps Air Station in Yuma, Arizona. The RED FLAG exercises are conducted north of Las Vegas, in an area larger than the country of Switzerland. Our aircrews are training the way they are going to have to fight.

(2) Force Sustainability

The possibility of extended conflict required accelerated improvements in our ability to sustain our forces. As a result, we increased Air Force and Navy funding for war reserve spares and munitions. These efforts have resulted in a significant increase in the number of days Air Force and Navy squadrons could conduct prolonged wartime operations.

In addition to sustainability, the five-year program gives force projection a high priority. We have provided funds to preposition aircraft support equipment, materiel-handling equipment, and support vehicles in Europe. Funds have also been provided to increase storage capacity for munitions and petroleum, oil, and lubricants (POL) in both regions. The Force Projection and Readiness and Sustainability chapters discuss these programs in more detail.

b. Force Modernization

Our modernization program for the tactical air forces is structured to meet three goals: to increase combat capability, to maintain the force at an acceptable average age, and to permit a modest force expansion.

The FY 1986-90 program calls for continued procurement of modern, high-performance aircraft as a key method of improving combat capabilities. F-14s, F-15s, F-16s, and F/A-18s equipped with the latest weapons and employed in their individual areas of designed excellence, provide us with the requisite improvements.

An average age of 10 to 11 years is considered acceptable for Air Force tactical aircraft. For Navy and Marine Corps aircraft, we prefer an average age of eight to nine years because of the high stress associated with carrier operations. By FY 1990, the aircraft operated by active and air reserve squadrons will have been in service for an average of 9 and 16 years, respectively. The aircraft in operation with active and reserve Navy/Marine Corps squadrons will have seen 9 and 14 years of service, respectively.

Over the next five years, we plan to buy 1,284 fighter and attack aircraft for the Air Force and 893 for the Navy and the Marine Corps. This procurement plan will allow us to modernize our tactical air forces and replace attrition losses, while also achieving our goals of expanding to 14 active carrier air wings by FY 1987 and 40 Air Force tactical fighter wings by FY 1991.

(1) Air Force Programs

Though our F-15 and F-16 aircraft could perform satisfactorily in air-to-air combat against Soviet aircraft today, we must pursue a vigorous modernization program if we are to retain our advantage by the end of the decade, when the Soviets will have deployed a new generation fighter aircraft with greatly improved air-to-air combat capabilities. Therefore, the FY 1986-90 program funds several development programs. We will increase the thrust levels of the engines delivered for the F-15 and F-16 fleet by FY 1990. We are developing an F-16 variant which will possess improved air-to-air capability. The Advanced Medium-Range Air-to-Air Missile (AMRAAM) will give the F-16 a night/all-weather, multiple target, radar-missile capability, and will improve the F-15's capabilities in multiple target engagements beyond visual range. For the future, we are continuing studies

of Advanced Tactical Fighter (ATF) concepts which could lead to the introduction of a new aircraft type in the mid-1990s.

Further details on major elements of the Air Force's modernization program are provided below:

F-15 (Eagle) -- The F-15 is the Air Force's primary air-superiority fighter. Equipped with beyond-visual-range radar missiles, it can engage aircraft deep in enemy airspace from standoff positions in all types of weather. We plan to complete the F-15C/D buy with 40 in FY 1986 and then transition to the dual role F-15E, procuring 236 F-15Es through 1990 and continuing the buy until FY 1993. The F-15C/Ds will free earlier model F-15A/Bs for transfer to reserve force units. The F-15E will significantly improve the interdiction and airfield attack capability of our tactical forces. When equipped with Low-Altitude Navigation and Targeting Infrared System for Night (LANTIRN), these aircraft will possess the capability to operate against ground targets at night and in adverse weather.

F-16 (Fighting Falcon) -- A multirole fighter, the F-16 is capable of performing in both the air-to-air combat and air-to-ground attack roles. It complements the F-15 as an air superiority fighter. We plan to procure 180 F-16s in both FY 1986 and 1987, then increase the production rate to 216 per year in FY 1988. Most of the F-16s will replace F-4Es in the active force, freeing those aircraft for transfer to the ANG, where they will replace early model F-4C/Ds.

We will split the procurement of F-16s in FY 1989 with the introduction of the F-16F. There are a number of promising technologies applicable to the F-16F in various stages of evaluation which may be incorporated. Certainly, the F-16XL with its fuselage extension and cranked-arrow wing for longer range and increased payload is promising as are improvements evaluated in the Advanced Fighter Technology Integration (AFTI) program.

Increased Thrust Engines -- Introduction of two new Soviet air superiority fighters during the late 1980s, coupled with improvements to the F-15 and F-16, which subsequently increased the weight of these aircraft, generated a requirement to increase their engine thrust levels. At present, we are determining the minimum thrust levels needed and will define a specific program by early next year.

MC-130H (Combat Talon II) -- A modified C-130 aircraft operated by the Special Operations Forces, the MC-130H is equipped with precision-navigation, terrain-following, and self-protection systems which enable it to penetrate enemy airspace at night and at low altitudes. Its primary mission is to deliver, resupply, and recover combat personnel and equipment behind enemy lines. By FY 1992, the inventory will include 35 modified C-130s.

HH-60A -- We plan to modernize a portion of the helicopters in our combat rescue fleet with the introduction of the HH-60A. This helicopter will improve our combat rescue capability in unfavorable weather conditions and at night.

LANTIRN -- Currently under development, LANTIRN is a pod-mounted navigation and targeting system designed to enable our F-15E, F-16, and A-10 aircraft to penetrate enemy air defenses at low altitude and to find and destroy enemy targets at night and under the weather. Soviet army doctrine stresses around-the-clock operations in all types of weather. Therefore, we must be capable of destroying enemy

concentrations whenever they present themselves, and not allow darkness or the poor weather conditions prevalent in Central Europe to become their ally.

Imaging Infrared (IIR) Maverick -- An antiarmor, air-to-surface missile, the IIR Maverick is an evolutionary follow-on to the current TV-guided system. The IIR version uses an imaging infrared seeker for guidance, expanding its capability in the night-attack role.

Advanced Medium-Range Air-to-Air Missile (AMRAAM) -- The AMRAAM is a new, all weather, air-to-air missile being developed for use by both the Air Force and the Navy. Unlike current medium range radar missiles, which are guided to their targets by the radar systems aboard the aircraft which launch them, AMRAAM will have an active radar seeker, giving it a "launch-and-leave" capability. This means that the missile will be able to guide itself to its target. An aircraft carrying several of these missiles will be able to engage multiple targets on a single intercept, thus reducing its exposure to enemy air defenses.

AIM-9M (Sidewinder) -- An infrared-guided, air-to-air missile carried by both Air Force and Navy aircraft, the AIM-9M incorporates improved background-discrimination and countermeasures capabilities relative to earlier versions. Other improvements include a reduced-smoke motor, making it more difficult for an enemy both to see the missile and to locate the launch aircraft.

Tactical Aircraft Modification -- We modify our aircraft to enhance their combat capabilities, improve their reliability and maintainability, correct safety defects, and extend their service lives. Major elements of the FY 1986-1990 program include: F-111 avionics modernization, improved radar warning receivers, and AIM-9L/M self-protection capability.

Air Base Survivability (ABS) -- In FY 1984, we began a major program to increase the survivability of the overseas air bases from which we would operate aircraft during a crisis. The program in Europe includes improvements to the 22 main operating bases (MOBs) and 5 standby bases we maintain and to the more than 70 collocated operating bases (COBs), maintained by European allies, that we would share with NATO forces during a reinforcement of in-place forces. Funding for these facilities for U.S. use is provided for both by the NATO Infrastructure budget and -- where specified in NATO agreements -- by unilateral U.S. funding. Examples of projects that we must fund unilaterally under existing agreements are rapid runway repair equipment, chemical defense measures, and camouflage. NATO Infrastructure covers basic operating facilities, such as main runways, aircraft shelters, munitions storage, etc. The ABS program also includes air forces with Pacific and SWA commitments.

High priority projects begun with U.S. funds in FY 1985 include preparation of earthworks around key U.S. facilities at MOBs and COBs, construction of revetted, dispersed aircraft parking pads pending the construction of shelters, and procurement of munitions storage containers. The revetted parking pad program will continue through the late 1980s, using concrete slabs and other equipment that can be reused later for runway repair once the more costly permanent shelters become available. Studies accomplished over the past few years show that dispersed parking and sheltering for aircraft offer significant benefits in aircraft survivability against the kinds of air attack we would expect in a major war.

Due to a significant increase in infrastructure funding for FY 1985-90, there are a substantial number of aircraft shelters planned for contruction at the COBs. We also will be exploring the possibility of cooperative, bilateral airbase improvement projects to speed the enhancement of airbase survivability, including such concepts as joint procurement of chemical protective systems at COBs.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
F-15				
Development:				
$ Millions	110.0	189.6	252.1	110.3
Procurement:				
Quantity	36	42	48	48
$ Millions	1,514.5	2,066.2	2,209.1	2,221.8
F-16				
Development:				
$ Millions	98.6	94.6	94.9	214.1
Procurement:				
Quantity	144	150	180	180
$ Millions	2,551.7	3,306.5	3,708.7	3,661.7
MC-130H				
Procurement:				
Quantity	2	2	1	2
$ Millions	73.1	95.4	83.3	120.9
HH-60A				
Procurement:				
Quantity	—	—	3	25
$ Millions	—	6.1	122.1	340.2
LANTIRN				
Development:				
$ Millions	58.1	98.3	40.8	44.7
Procurement:				
$ Millions	—	90.0	436.4	786.1
IIR Maverick				
Procurement:				
Quantity	1,980	2,600	3,695	6,119
$ Millions	303.1	381.8	517.6	755.6
AMRAAM				
Development:				
$ Millions	190.7	209.7	101.4	1.1
Procurement:				
Quantity	—	—	90	505
$ Millions	57.8	73.1	438.4	853.3
AIM-9M				
Procurement:				
Quantity	1,700	—	800	769
$ Millions	104.5	—	43.3	64.1
Tactical Aircraft Modifications				
Procurement:				
$ Millions	639.9	810.9	812.8	1,553.2

(2) Navy and Marine Corps Programs

Over the next five years, we plan to buy 1,035 Navy and Marine Corps tactical aircraft, of which 954 are fighter and attack aircraft. To facilitate force modernization, 574 F/A-18 strike-fighters are planned during the program period. Twenty-eight Navy and 12 Marine squadrons will be equipped with the F/A-18 by the early 1990s. Recognizing the significant advancements in combat-effectiveness afforded by introduction of the multimission F/A-18 and planned upgrades to other carrier-based aircraft, our carrier air wings will also be restructured with a new mix of fighter, attack, and support aircraft.

Further details on major elements of the Navy's modernization program are provided below:

F-14 (Tomcat) -- The F-14 is a high performance, all-weather, air superiority fighter designed for fleet air defense and is the only aircraft in the Navy's inventory that can carry the long-range Phoenix air-to-air missile. The F-14 is intended primarily to protect carrier battle groups against long-range Soviet bomber and cruise missile attacks. It will continue to provide our carrier task forces with an organic reconnaissance capability by carrying the Tactical Air Reconnaissance Pod System (TARPS). To ensure its effectiveness against new-generation Soviet aircraft, we are modifying both the existing airframe and engine and will begin procuring an upgraded model, the F-14D, in FY 1988. The F-14D will incorporate significant improvements in avionics and radar, as well as new and more powerful engines. Transition of two naval reserve squadrons to the F-14 commenced in FY 1985. We plan to upgrade additional early production aircraft to complete the transition of four Naval reserve squadrons from F-4s to F-14s by FY 1988.

F/A-18 (Hornet) -- The F/A-18 strike-fighter, as it replaces older F-4s and A-7s, gives Navy and Marine aviation new flexibility. Capable of employment in both the fighter and attack role, the F/A-18 will be used to modernize a major portion of our tactical air force. In the future, we anticipate using F/A-18s for tactical reconnaissance missions. The first F/A-18 aircraft will be assigned to the naval reserve in FY 1986 to support two reserve squadrons. Additional naval reserve squadrons are planned to be equipped with the F/A-18 during the program years.

A-6E (Intruder) -- The A-6E is the only carrier-based aircraft that can attack land and sea targets at night in all types of weather. Operated by active Navy and Marine Corps units, the aircraft is particularly well-suited for war-at-sea, power projection, and deep interdiction roles. A mainstay of the fleet since 1963, we will ensure its continued effectiveness in the future threat environment by modifying it with improved navigation and target recognition systems as well as procuring an upgraded model in FY 1988. This upgraded version will incorporate improved avionics, radar, engines, and survivability features. In addition, we are studying Advanced Tactical Aircraft (ATA) concepts which could lead to the introduction of a replacement aircraft in the 1990s.

AV-8B (Harrier) -- A V/STOL attack aircraft, the AV-8B incorporates significant improvements over the earlier "A" model in payload, performance, and ordnance delivery accuracy. The AV-8B will replace

older AV-8A/Cs and A-4s, freeing the A-4Ms for transfer to reserve units. This unique tactical aircraft will provide ground commanders with responsive close air support by combining the speed and firepower of a modern jet attack aircraft with exceptional basing flexibility.

CV-Helicopter -- The 1986-1990 program calls for development and initial procurement of a CV-helicopter to replace the SH-3. This gives our inner-zone ASW forces new offensive punch by introducing advanced sensors and weapon capabilities. Eventually, the CV-helicopter will be used to modernize Navy reserve forces.

AIM-7M (Sparrow) -- The AIM-7M is an all-weather, air-to-air missile designed for use with both Air Force and Navy aircraft. It relies on semi-active radar guidance to home on its target. First procured in FY 1980, the "M" model has greater electronic countermeasures resistance and look-down/shoot-down capabilities than the earlier "F" version.

Laser Maverick -- This highly accurate air-to-surface missile is designed to destroy enemy armor and heavy fortifications from standoff ranges. Its sophisticated laser guidance system makes it particularly suitable for use in the close air support role. The missile is compatible with all Navy and Marine Corps attack aircraft.

AIM-54A/C (Phoenix) -- A long-range, air-to-air missile, the AIM-54A/C is intended primarily for attacks against enemy bombers. The F-14 aircraft can carry six Phoenix missiles and is capable of near simultaneous launch against six targets in an all-weather, jamming environment. First procured in FY 1980, the "C" model has improved electronic counter-countermeasures features relative to earlier versions.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
F-14				
Development:				
$ Millions	40.6	277.1	348.1	252.5
Procurement:				
Quantity	24	24	18	18
$ Millions	976.0	964.2	812.4	910.5
F/A-18				
Development:				
$ Millions	19.8	29.9	58.3	92.6
Procurement:				
Quantity	84	84	84	102
$ Millions	2,472.3	2,588.2	2,849.6	3,310.5

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
A-6E				
Development:				
$ Millions	14.4	69.1	238.0	134.7
Procurement:				
Quantity	6	6	6	6
$ Millions	232.0	256.7	224.0	390.5
AV-8B				
Development:				
$ Millions	104.1	71.5	72.1	54.1
Procurement:				
Quantity	27	32	46	47
$ Millions	893.1	870.4	1,076.7	1,137.0
CV-Helicopter				
Development:				
$ Millions	18.4	20.1	12.7	2.8
Procurement:				
Quantity	—	—	—	7
$ Millions	—	—	30.0	283.8
AIM-7M				
Procurement:				
Quantity	374	1,344	1,492	1,502
$ Millions	86.0	223.6	293.0	290.3
Laser Maverick				
Development :				
$ Millions	6.9	2.0	—	—
Procurement:				
Quantity	185	600	1,500	1,800
$ Millions	36.2	103.0	199.1	222.1
AIM-54A/C				
Procurement:				
Quantity	265	265	265	420
$ Millions	332.8	365.7	393.5	542.8

c. Electronic Warfare (EW)/Command, Control, and Communications Countermeasures (C^3CM)

The rapidly expanding Soviet electromagnetic threat has generated significant changes in equipment and tactics within the U.S. forces. Recognizing that the proliferation of battlefield electronics is exceeding our capability to respond to each new system or modification, we are assuming an offensive posture to counter the full array of threat systems and provide for weapon system and avionics protection. Achieving an offensive posture rests heavily on a sound technology base, and timely, prudent systems acquisition.

The FY 1986-90 program funds a complementary mix of self-protection, disruptive, destructive, and support systems to improve the EW capability of strategic and tactical forces. These systems are designed to degrade hostile air defenses; deny the enemy unrestricted use of his command, control, and communications systems; and protect the security of our own communications.

We are pursuing the following major programs to improve our capabilities in these areas:

EF-111 -- The EF-111 is a standoff jamming platform designed to suppress enemy long-range detection and acquisition radars. It may also be employed in the close-in jamming and penetration/escort jamming roles.

EA-6B (Prowler) -- The carrier-based EA-6B is a sophisticated Naval tactical support aircraft designed to degrade enemy defenses by jamming their radars and communications systems. Because of the dynamic nature of electronic warfare, the program funds continued improvements to the EA-6B to counter new generations of enemy radars and weapons systems.

COMPASS CALL -- COMPASS CALL is an airborne jamming system designed to degrade an enemy's command, control, and communications capability. These EC-130 aircraft are in the field today; however, we have a number of ongoing programs to improve their capability. Additional COMPASS CALL aircraft are scheduled to be modified in the mid-1980s.

High-Speed Antiradiation Missile (HARM) -- HARM is an air-to-surface missile developed jointly by the Navy and the Air Force. It is designed to suppress or destroy land- and sea-based air defense radars. The system was fielded by the Navy in FY 1983 and by the Air Force in FY 1984.

F-4G Wild Weasel -- The upgraded Air Force defense suppression F-4G weapon system is employed to destroy surface-to-air missile (SAM) systems for all mission aircraft in the target area. F-4Gs are HARM carriers.

Precision Location Strike System (PLSS) -- PLSS is an all-weather standoff location/strike system. It will locate enemy defense emitters in near-real-time and in all weather conditions and allow attack from standoff ranges by both ground and airborne weapons systems. Currently under development by the Air Force, the system is scheduled to become operational in the late 1980s.

Airborne Self-Protection Jammer (ASPJ) -- ASPJ is a joint Navy/Air Force program which will provide many of our modern tactical aircraft with reprogrammable, electronic countermeasures designed to cope with the projected threat. The ASPJ system has been designed as an internal system which will not degrade aerodynamic performance.

d. Antijam, Secure Voice, Data and Identification Friend or Foe (IFF) Systems

Joint Tactical Information Distribution System (JTIDS) -- JTIDS is a secure, jam-resistant, digital data and voice system designed for use by all Services. The United Kingdom also plans to purchase JTIDS equipment for some of its tactical air forces. The system is now deployed on E-3A (AWACS) aircraft in Europe and will be deployed in U.S. systems later next year. The remaining portions of the system, which include terminals of various sizes and capabilities, will be fielded throughout the 1980s and into the 1990s.

The enhanced JTIDS system (EJS) will satisfy our requirement for a secure, jam-resistant voice radio for our tactical aircraft. As

a near-term response to the Soviet jamming threat, we are modifying our tactical UHF radios with the HAVE QUICK system.

The Air Force, with participation by the Army and Navy, is also developing a combat identification system for use by the Services and our NATO allies. As suggested above, we are pursuing a program to integrate voice, data, and identification systems into a common, modular design.

TRI-TAC -- The Joint Tactical Communications program will provide modernized switched voice and digital communications required by our tactical forces. The majority of TRI-TAC subsystems will be in production in FY 1986, including tropospheric scatter radios, a family of digital message and voice switches and terminals, and the Communications Nodal Control Element which performs automatic technical control functions. RDT&E efforts in FY 1986 will include design of peculiar support equipment for these systems, specifications of electromagnetic countermeasures capability for the radios, maintenance of equipment at the Joint Test Facility, and the integrating and fielding of TRI-TAC communications equipment.

Tactical Air Control System Improvements (TACSI) Program -- TACSI will provide significant modernization of our aging and obsolete tactical command and control capabilities. The Marine Corps and the Air Force are developing and acquiring the Tactical Air Operations Center (TAOC) -- Modular Control Equipment (MCE). TAOC/MCE will provide the capability to handle a significant increase in command and control workload, enhance service interoperability, and reduce life cycle support costs. The Ground Attack Control Center System will incorporate MCE hardware components with additional software programs to provide the TACS with the capability to control air attacks more rapidly against time-sensitive mobile ground targets. In addition to MCE developments, the Air Force is pursuing Ultra-Low Sidelobe Antenna and Antiradiation Missile Decoy Development programs for the AN/TPS-43E tactical radars. These will improve the radar's jam-resistance and increase its survivability against antiradiation missiles.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
EA-6B				
Development:				
$ Millions	23.4	35.8	80.2	50.3
Procurement:				
Quantity	8	6	12	12
$ Millions	488.3	398.2	501.6	518.1
HARM				
Procurement:				
Quantity	698	1,559	2,619	3,706
$ Millions	379.2	589.5	752.0	930.8
F-4G Wild Weasel				
Procurement:				
$ Millions	73.5	97.0	18.2	222.5

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
PLSS				
Development:				
$ Millions	72.9	79.1	63.1	27.4
Procurement:				
$ Millions	8.8	153.1	138.4	72.5
ASPJ				
Development:				
$ Millions	84.4	65.3	36.2	18.6
Procurement:				
$ Millions	21.0	263.1	429.0	380.9
JTIDS				
Development:				
$ Millions	176.8	249.3	288.5	265.8
TRI-TAC				
Development:				
$ Millions	110.8	75.7	47.4	24.1
Procurement:				
$ Millions	356.4	375.6	751.9	1,383.8
TACSI				
Development:				
$ Millions	16.1	29.7	23.2	21.7

e. Target Acquisition, Surveillance, and Warning

The ability to locate and identify enemy air, naval, and ground forces is critical to effective tactical air operations and, therefore, to the outcome of the battle. We are pursuing the following major programs to improve our capabilities in this area:

E-3A Airborne Warning and Control System (AWACS) -- This Air Force aircraft is equipped with a long-range, look-down radar with substantial resistance to enemy jamming. Capable of detecting both air and ground targets, and of managing multiple fighter and attack sorties, the AWACS provides surveillance, warning, and control capabilities for use in North American air defense, as well as in overseas theaters of operations. It is also a valuable supplement to our naval forces in performing maritime theater operations.

We have decided to complete our procurement of E-3A AWACS aircraft with the 34 aircraft purchased through FY 1984. While the additional aircraft previously planned would provide valuable surveillance capabilities, we believe that new wide-area sensors -- such as over-the-horizon (OTH) radars discussed in the Nuclear Forces and Naval Forces chapters -- have a higher priority and greater long-term potential. To keep pace with the evolving threat, we will continue to upgrade our existing E-3A aircraft.

E-2C (Hawkeye) -- This carrier-based aircraft provides airborne early warning and command and control support for air defense and sea control missions.

TR-1 -- A derivative of the high-altitude U-2 reconnaissance aircraft, the TR-1 is equipped with an array of sensors designed to

provide our forces with continuous, all-weather surveillance of the battle area.

Joint STARS -- The Joint Surveillance and Target Attack Radar System being developed by the Air Force and the Army, detects, tracks, and guides attacks against second echelon enemy armor to support the AirLand Battle.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
E-3A (Modification)				
Development:				
$ Millions	75.4	74.5	137.3	110.9
Procurement:				
$ Millions	166.4	78.1	33.4	67.2
E-2C				
Development:				
$ Millions	50.3	37.4	23.7	35.4
Procurement:				
Quantity	6	6	6	6
$ Millions	324.2	357.0	390.3	396.3
TR-1/U-2				
Procurement:				
Quantity	6	4	8	2
$ Millions	195.6	207.4	363.6	125.4

f. Rapid Deployment Force Program

The inherent deployment flexibility of modern aircraft makes them a key element of our rapid deployment forces. While virtually all tactical air forces are considered "rapidly deployable," the Air Force and Marine Corps have identified several units for commitment to the Central Command, oriented toward Southwest Asian operations. A mix of fighter, attack, and support aircraft have undergone special training to prepare them for this assignment. Recent Air Force and Marine Corps participation in the BRIGHT STAR '83 exercise offered an opportunity for in-theater training, as did deployment of two E-3A surveillance aircraft and eight F-15 fighters from the United States to Sudan during the Chadian crisis in the fall of 1983. That deployment revealed some limitations -- such as a lack of aircraft parking aprons, inadequate airport navigation facilities, and poor fuel storage and distribution, which complex modern aircraft could face when operating from unprepared sites. As an example, lack of sufficient parking aprons precludes dispersing the aircraft thereby increasing their vulnerability to sabotage. Our SWA construction programs are designed to overcome such limitations by upgrading key facilities to which we have access.

3. Conclusion

The program to improve our tactical air force combat capabilities through a consistent, long-term modernization effort continues in this five-year plan. Through procurement of the most modern and capable combat aircraft, munitions, and combat support systems and modification of existing aircraft, we are not only improving our combat capability and sustainability but also modernizing our force. Improvements in logistics support and training for our aircrews offer

further increases in combat effectiveness. Together, the improvement efforts outlined in the preceding sections will build a flexible and balanced force, capable of deploying rapidly to distant regions and of bringing substantial firepower to bear against hostile forces in the air, on the ground, and at sea.

D. FORCE PROJECTION

1. Introduction

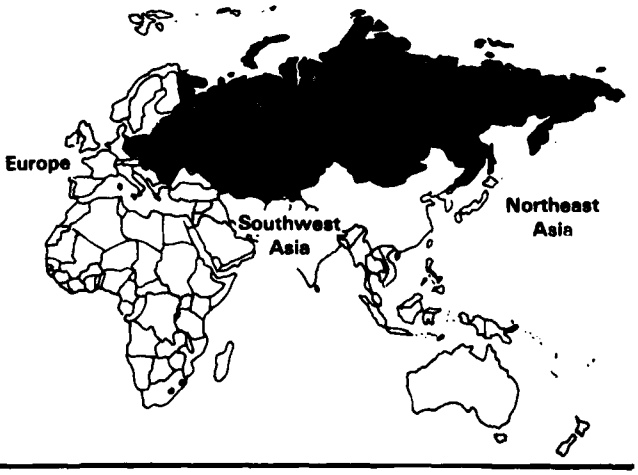
a. Strategy and Missions

Our investment in the force improvement programs described in the preceding three chapters would be worth little if we lacked the means to project military power in support of our national interests, wherever or whenever they are threatened. A combat force -- however well trained or equipped it may be -- simply cannot be effective if it must wait for lift at its home base while a conflict progresses overseas. Force projection is, therefore, vital, initially to the deterrence of aggression, but also to the conduct of a successful forward defense should deterrence fail.

These two principles of U.S. military strategy -- deterrence and forward defense -- place a premium on rapid deployability. They require that we have sufficient amounts of airlift and sealift, and of prepositioned materiel overseas, to maintain a credible deterrent while minimizing our peacetime presence in allied nations. They require that we be able to move major combat forces rapidly to endangered areas, and to support them for as long as their presence is needed. As the scope of our security interests has grown and the threat of regional conflicts has increased, so, too, has the range of demands on our projection forces.

Our most serious challenge is posed by the Soviet Union, which, in conjunction with its Warsaw Pact and North Korean allies, enjoys a significant advantage of proximity to three critical theaters -- Europe, Southwest Asia (SWA), and Northeast Asia (see Chart III.D.1). U.S. projection forces are sized to support a strong forward defense of these vital areas, concurrently if need be. The deployment demands are met by a combination of military and civilian transportation systems, augmented by overseas prepositioning and by ships and aircraft provided by allied nations.

Chart III.D.1
Soviet Geographic Advantage



b. Contributions of the Various Force Elements

(1) Airlift

Airlift, our most flexible and rapid force-projection resource, would play a vital role in virtually any deployment. In regions such as Southwest Asia, where we maintain only a very limited military presence in peacetime, airlift would deliver the initial increment of combat forces. These forces -- consisting largely of tactical air, air defense, and light ground units -- would be needed to secure a lodgment and defend ports and airfields in preparation for the arrival of much larger follow-on forces. For deployments to regions such as Western Europe, airlift is the only transportation mode that can satisfy our immediate reinforcement objectives.

Heavier forces, such as armored and mechanized units, cannot be transported rapidly by air in the numbers needed for either a European or Southwest Asian conflict. It is simply too expensive to buy that large an airlift force. Yet we must be able to move such units quickly, particularly in a NATO reinforcement, given the heavily armored forces they would face. Large armored and mechanized forces can be deployed rapidly only by combining airlift with extensive prepositioning.

(2) Prepositioning

Prepositioning, whether on land or at sea, can sharply reduce lift requirements in the important early days of a deployment. For example, by storing the heavy equipment of mechanized divisions in Europe, we can cut each division's transit time from several weeks to two or three days, thereby enabling us to meet our early NATO reinforcement objectives. Although land-based prepositioning programs do much to improve early combat capability, their contributions are limited to the theaters in which materiel has been stored. Prepositioning at sea offers greater flexibility, since ships can be moved from one region to another as regional priorities or circumstances change.

(3) Sealift

In most cases, Army and Marine Corps units for which equipment has not been prepositioned would deploy by sea. Amphibious lift forces and government-controlled ships maintained in a high state of readiness would be the first to depart. We would also use ships from the U.S.-flag fleet, and in a NATO or Korean conflict, we would draw on a pool of ships committed by allied nations. Commercial ships in or near a port could be loaded relatively quickly and take part in the initial deployment. Ships at sea, which could take some time returning to port, would carry follow-on reinforcements.

Just as we do with airlift, we combine prepositioning with sealift to shorten response times. In this case, cargo-handling equipment and other items needed to unload ships and operate ports are stored near potential conflict regions so that the first ships to arrive would have a full support capability awaiting them. Having these materials on hand would be especially important in deployments to Third World regions, where port facilities are often austere.

(4) En Route Basing Support

Access to bases en route to a conflict theater would be important in any deployment, particularly one involving a large amount of airlift. To move large forces quickly, we must maximize the amount of cargo carried aboard each aircraft. Without access to intermediate bases for refueling, we would either have to reduce cargo loads in order to take on more fuel or press an already overburdened aerial-refueling force into additional service. Although many of the facilities we have received permission to use are adequate for day-to-day operations, they must often be modified or augmented in peacetime to make them capable of supporting military operations during a crisis.

c. Segments of a Deployment

For planning purposes, deployments are often characterized as having two segments: an "intertheater" stage involving the movement of forces and materiel to or between major geographic regions or theaters; and an "intratheater" stage comprising subsequent moves within an operating theater. Some aircraft and ships are designed to operate over a single deployment segment, while others can be employed effectively over both. Examples of single-segment contributors include converted SL-7 ships, which, at more than 30 knots, are best used over long intertheater shipping routes, and the medium-range C-130 aircraft, the workhorse of the intratheater airlift fleet. Systems capable of contributing to both deployment segments include amphibious ships (discussed in detail in the Naval Forces chapter) and the new, long-range C-17 aircraft, whose ability to deliver forces and equipment directly to austere forward locations will make it a valuable complement to both the intertheater and intratheater fleets.

d. Force Projection Goals

Given the growing ability of the Soviet-bloc nations to launch simultaneous offensives in Europe, Southwest Asia, and the Pacific region, our long-term goal is to be able to deploy the forces we need to these areas concurrently. Because the European and SWA portions of any such deployment would place the heaviest demands on our projection forces, our objectives for those regions are discussed in more detail below.

(1) Europe

Rapid reinforcement is central to the U.S. commitment to NATO. Because the Warsaw Pact maintains a large military force along its borders with NATO, and the region's extensive road and rail networks would support a major, rapid enemy buildup, NATO must be prepared to initiate a large-scale reinforcement of its in-place forces immediately upon warning of an attack. We are committed to deliver six Army divisions, 60 tactical fighter squadrons, and one Marine Amphibious Brigade (MAB) -- all with initial support -- to their combat positions within 10 days. Although further reinforcements would be needed later, this should enable NATO to prevent a Pact breakthrough in the early stages of an attack. Because the forces must be in place before sealift could respond, they would have to be deployed by air and would draw on equipment that had been stocked for them in advance.

Once the initial reinforcements had been airlifted to the theater, sealift would accomplish most of the remainder of a

deployment. Because government-controlled and U.S.-flag shipping could fulfill only a portion of the requirement, we would also use ships obtained from allied civil fleets. Our dependence on allied shipping would be substantial if we had to deploy forces simultaneously to two or more theaters.

(2) Southwest Asia (SWA)

Our deployment objectives for SWA are much different from those for NATO. This is partly because a serious Soviet threat to this theater would take longer to materialize due to the limited road and rail system and the greater distances to be traveled. Even so, our forces would have to move more than 12,000 nautical miles by sea and some 8,000 nautical miles by air -- nearly double the distance to Europe. At their destination, they would be operating from ports and airfields that might lack the modern cargo-handling equipment found at European facilities. But one of our toughest challenges follows from the fact that, with no combat units forward deployed in SWA, we would have to deliver an entire fighting force, with all of its support elements -- and do so very quickly.

Our objective is to be able to deploy a major joint task force and required support within six weeks of being asked for assistance. Establishing air defenses would have a high priority in the early stages of a deployment, as would the protection of ports and airfields. Airlift, combined with prepositioning, would deliver the forces needed to accomplish these tasks. Heavy combat and support forces would follow on fast sealift, with conventional sealift completing the deployment. Although these objectives are challenging, they can be met with the planned improvements to our projection forces if we have modest support from friendly nations in the region and if we respond promptly to warning.

e. Current Force Structure

The U.S. military maintains a diverse fleet of aircraft and ships to serve the transportation needs of its forces. The inventory includes 304 C-5 and C-141 long-range cargo aircraft (designed primarily to transport materiel to or between theaters of operation) and 26 KC-10 dual-role airlift and aerial-refueling aircraft. Another 518 aircraft of shorter range (C-130s) and some 700 helicopters (CH-47s, CH-53s, and CH-54s) contribute to the movement of troops and supplies within theaters. In addition, approximately 90 dry cargo ships and 30 tankers are maintained under government control. Most of these ships could be made available for sealift operations within five to ten days of notification. Approximately 140 additional cargo ships are in long-term storage and could be readied for use within one to three months.

These forces would be augmented in a major deployment by aircraft and ships drawn from the U.S. civil fleets. The Civil Reserve Air Fleet (CRAF) could contribute 226 passenger and 63 cargo aircraft. The U.S.-flag fleet could supply approximately 202 dry cargo ships and 120 tankers. Of these, 142 cargo ships and 17 tankers could be made available by charter or government contract under the Sealift Readiness program, which operates at no direct cost to DoD.

f. Assistance from Allies

The NATO nations and the Republic of Korea (ROK) have agreed to contribute a number of ships and aircraft for a U.S. reinforcement

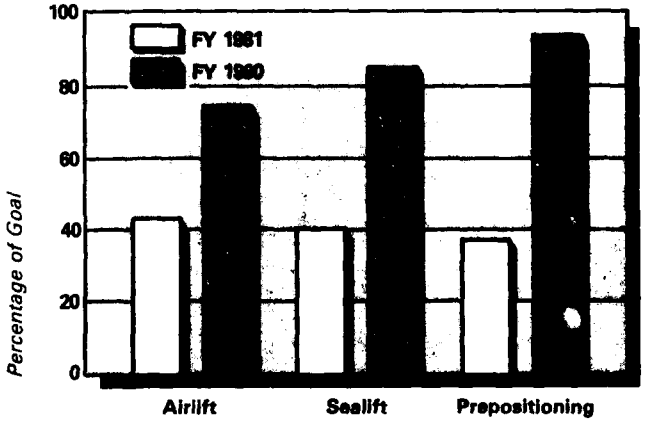
of their regions. The European allies have earmarked some 600 ships for this purpose -- the majority of the sealift capacity needed for a NATO reinforcement. To augment our airlift forces, they would provide nearly 40 long-range cargo transports and nearly 40 passenger aircraft. The ROK likewise has promised to make available a pool of ships and aircraft for a reinforcement of Northeast Asia. These commitments would speed the arrival of U.S. troops and materiel, and free some of our aircraft and ships for use elsewhere.

g. Improvements Since FY 1981

While the United States' force projection capabilities were substantial when this Administration took office, the forces on hand were insufficient to meet all of the potential deployment demands. We lacked the ability to move large forces quickly enough to deter, with reasonable confidence, Soviet aggression in distant regions. Nor could we have deployed major forces to two or more theaters simultaneously. Moreover, we lacked the ability to unload the full range of ships needed to move materiel into less-developed regions. Since FY 1981, we have made considerable progress in redressing these deficiencies, adding subtantially to our airlift and sealift capacity and prepositioning additional large quantities of materiel abroad.

In January 1982, we announced a major airlift program calling for the procurement of nearly 100 wide-bodied transport aircraft. In September 1983, we began a long-proposed program to enhance the capabilities of the CRAF by adding cargo-convertible features to wide-bodied passenger aircraft in the fleet. Combined with an increase in spare parts purchases over the past four years, these initiatives will, by FY 1985, increase our intertheater airlift capacity by roughly 35 percent and almost double our ability to move outsized equipment -- which includes major weapons systems for ground forces -- by air.

Chart III.D.2
Programmed Improvements to Force Projection Capabilities (FY 1981 - 1990)



For sealift, the FY 1983 budget began a significant expansion of the Ready Reserve Force (RRF) along with a number of readiness-related improvements. It also began a program to increase the contribution of the U.S.-flag fleet to the movement of military materiel. (The equipment being purchased under this program will enable commercial containerships to carry the full range of military cargo.) Combined with an acceleration of a major sea-based prepositioning program, these programs will have tripled our sealift capacity by the end of FY 1985.

Chart III.D.2 summarizes the force projection improvements programmed through FY 1990.

2. FY 1986-90 Program

The programs we are proposing for the next five years continue the emphasis this Administration has placed on strengthening U.S. force projection capabilities. A number of the programs are focused on improving our ability to move forces to underdeveloped regions. Completing these programs will bring us considerably closer to our goal of being able to deploy and sustain major combat forces in two or more theaters simultaneously.

The planned airlift improvements will help eliminate long-recognized shortages. The prepositioning of additional materiel abroad will enhance our rapid-response capabilities worldwide. Especially noteworthy will be the completion in FY 1986 of the Maritime Prepositioning Ship (MPS) program, which will give us the capability to deploy three heavily configured MABs very rapidly to any point near which these ships are based. The sealift-related improvements will increase the availability of government-controlled ships early in a deployment. Furthermore, they will provide fast transport for an Army division and improve our ability to unload cargo in austere ports or over the beach.

a. Airlift Programs

The FY 1986-90 program continues to give high priority to increasing airlift capacity. By the end of the decade, we will have added 50 C-5Bs and 44 KC-10s to the intertheater fleet and begun procuring a major new transport aircraft. As these programs move forward, we will continue to improve the performance of existing aircraft, increasing the cargo contribution of the civil fleet and extending the service lives of important components of the military fleet.

(1) Expansion of Airlift Capacity

The C-5B increases our ability to move outsized equipment, such as tanks, self-propelled howitzers, and helicopters. These items would have to be substantially dismantled in order to be carried by any other aircraft in military or civilian use. Upon arrival in the combat theater, the equipment would have to be reassembled -- a time-consuming process that would slow the deployment and introduce risks. This problem would be particularly severe in a NATO reinforcement, given the large amount of outsized cargo that would have to be moved within the first 10 days. Adding to our outsize capability with additional C-5Bs helps resolve this problem.

The KC-10 adds a new dimension of flexibility to the airlift force. It can operate as a transport aircraft or a tanker, or as

both simultaneously. Consequently, we can use it in whichever mode best serves the needs of a deployment. In a NATO reinforcement, it could be employed as a transport aircraft for moving bulk and oversized cargo. In deployments to other regions, where access to intermediate bases for refueling might be limited, it could be used as a tanker for refueling C-5s and C-141s, or it could operate in a mixed role, carrying fuel for fighters and a limited amount of cargo.

Under the CRAF Enhancement program, we are adding "cargo-convertible" features to 19 wide-bodied passenger aircraft that would be used for military airlift operations during a national emergency. The modifications will enable the planes to be converted to carry military cargo. This cost-effective program will increase the cargo contribution of the civil fleet by more than 30 percent while avoiding the cost of acquiring and operating additional military transports of comparable capability.

Although these programs will significantly increase our intertheater airlift capacity, they cannot meet our long-term goals. Consequently, the FY 1986 budget includes a request for funds to continue full-scale engineering development of the C-17 transport aircraft, working toward a production start in FY 1988. Though smaller than the C-5, the C-17 will be able to carry the full range of military equipment, including all armored vehicles and most other outsized cargo. Unlike most other intertheater aircraft, however, it will be able to operate on austere airfields, thereby increasing the amount of cargo that can be delivered directly to operating forces. After its intertheater mission is completed, the C-17 could be used to augment the C-130 fleet in moving troops and materiel within theaters.

(2) Improvements to Existing Aircraft

Meeting our airlift objectives requires that we improve our existing forces as well as acquire additional capacity. Over the next five years, we will complete two major upgrade programs for the intertheater and intratheater fleets, while expanding our inventories of spare parts.

(a) Intertheater Airlift

In FY 1987, we will complete a major modification program for the C-5A fleet. The work entails correcting structural deficiencies in the planes' wings. Once modified, all 77 aircraft in the fleet will be able to remain in service well into the 21st century.

We also are continuing to build up our stocks of spare parts for the C-5A and C-141 fleets. We must buy adequate amounts of these items in peacetime if the aircraft are to achieve and sustain their planned surge rates in a crisis.

(b) Intratheater Airlift

Last year we began a program to modify the wings of older-model C-130 aircraft. The project was undertaken in order to repair corrosion damage and to correct problems caused by stress. The "A" models will be modified during regularly scheduled depot maintenance periods through FY 1986; work on the remaining aircraft will be completed in FY 1989. With these refurbishments, the "A" models of the C-130 fleet will be able to remain in service into the mid-1990s, while the later C-130s will remain operational into the next century.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
C-5				
Procurement:				
Quantity	4	8	16	21
$ Millions	1,358.3	1,652.4	2,380.6	2,212.8
KC-10				
Procurement:				
Quantity	8	8	12	8
$ Millions	786.1	619.9	519.0	124.1
CRAF Enhancement				
Procurement:				
Quantity	3	4	5	—
$ Millions	95.4	128.9	164.9	—
C-17 Cargo Aircraft				
Development:				
$ Millions	25.7	123.3	453.7	624.8
Procurement:				
$ Millions	—	—	—	244.9

b. Sealift Programs

Sealift is vital for projecting and sustaining the full range of combat and support forces. In a large deployment, it would deliver most of our forces and cargo, including much of the non-prepositioned equipment of heavy divisions and support units, as well as the bulk of our ammunition and supplies.

(1) Fast Sealift

In FY 1981-82, we acquired eight SL-7 container ships. At 30 knots, these are the fastest cargo ships available. To enable them to carry the full range of military cargo, and to shorten their loading and unloading time, we are converting the ships to a self-sustaining, "roll-on/roll-off" configuration. The first four conversions were completed in 1984, and the remaining ships will be operational by the end of FY 1986. The first two ships were successfully employed in last year's GALLANT EAGLE and REFORGER exercises. One of the ships also took part in the Joint Logistics Over-the-Shore (JLOTS-II) tests conducted last summer to evaluate cargo-discharge capabilities in austere environments.

(2) Maritime Prepositioning Ships

The Maritime Prepositioning Ship (MPS) program provides for one of the most dramatic improvements in rapid force projection. We are chartering 13 ships that will be loaded with equipment and supplies for three MABs, each capable of conducting highly mobile mechanized operations. The ships will be maintained at various locations from which they would be capable of departing for trouble spots on very short notice. The troops and residual equipment would be airlifted to the theater, where they would pick up their combat gear from the ships. This will make it possible to deploy an operational force to remote regions much faster than was previously possible. Once

unloaded, the ships could be used to move equipment and supplies for other deploying units.

The first MPS task force will be on station in the Atlantic in early 1985, and the remaining two will be deployed in late FY 1985 and FY 1986. The second task force will be stationed in the SWA region, while the third will be placed in the Pacific.

(3) Ready Reserve Force

As noted earlier, we have begun a program to expand the Ready Reserve Force (RRF), a part of the National Defense Reserve Fleet. Current plans call for the force to grow to 116 ships (100 cargo ships and 16 tankers) by the early 1990s. This represents an increase of 39 ships over previously planned levels, necessitated by a continuing decline in the breakbulk component of the civil fleet.

This important force can be made available for sealift operations on five to ten days' notice without disrupting routine commerce. In a major crisis, its ships would provide some of our earliest available sealift. We also could use the ships for smaller contingencies not requiring the entire U.S.-flag fleet.

(4) Container Ship Utilization

In their operations to recapture the Falkland Islands, the British found breakbulk ships to be the most useful vessels for delivering cargo. These ships carry their own cranes and can accommodate the full range of military cargo. With the switch to containerization in the maritime industry, however, breakbulk ships have come into increasingly short supply. Though the greater use of containerships has substantially increased shipping companies' productivity, it has put into commercial service a ship with limited utility for military operations. Most of these ships require modern ports with extensive crane facilities to load and unload cargo. Also, many items of military equipment are not suitable for containerization.

The Navy has developed two techniques for giving containerships a breakbulk capability for military missions. One involves using large platforms, called "flat racks," to build a tier of decks for carrying cargo. The racks fit into the standard container guides on these ships and can support all but the heaviest items of military equipment. In essence, they function as portable decks that are loaded and unloaded with the cargo they carry. Alternatively, the ships can be fitted with large containers, called "sea sheds," to create a cargo hold accessible from the main deck. Installed in reinforced container guides, these devices can carry the full range of military cargo. Once fitted, they can remain in a ship indefinitely. We plan to buy enough flat racks and sea sheds to outfit approximately 40 containerships. A fleet of that size could provide lift for about one Army division and its supporting elements while carrying equipment to operate ports.

(5) Sealift Discharge

A deployment to SWA could well require unloading ships in austere or damaged ports, or in areas lacking port facilities. The Army and Navy are working together to improve their ability to deliver forces under these conditions. Key programs supporting that effort include the procurement of transportable barges for unloading ships unable to navigate in shallow water; mobile piers; portable facilities for

unloading petroleum, oil, and lubricants (POL) from tankers; portable ramps for removing cargo from roll-on/roll-off ships; and auxiliary crane ships (TACS) for unloading non-self-sustaining containerships. A total of 11 TACS are scheduled for procurement through FY 1989.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
SL-7				
Procurement:				
Quantity	4	—	—	—
$ Millions	227.0	—	—	—
Ready Reserve Force				
Procurement:				
Quantity	24	6	12	4
$ Millions	83.0	31.0	203.4	29.1
TACS				
Procurement:				
Quantity	—	1	3	2
$ Millions	—	36.0	84.9	68.7
Sealift Support Equipment, Flat Racks, and Sea Sheds				
Procurement:				
$ Millions	27.7	24.1	59.0	87.2

c. Prepositioning Programs

Prepositioning expedites the delivery of major combat forces in crises. By storing military equipment and supplies in or near potential conflict regions, we reduce lift requirements tremendously and maximize the rate at which forces can be deployed. Over the next five years, we will be adding to our stocks of prepositioned equipment in Europe, while completing a major sea-based program that will enhance our rapid-response capabilities worldwide.

(1) Prepositioning in Europe

Prepositioning of U.S. equipment in Europe began in the 1960s in response to U.S. and European concerns that the forces available in the theater in peacetime were inadequate to meet a mobilized Warsaw Pact threat. Since that time, the Pact has increased the size and effectiveness of its forces. As a result, the need for rapid deployment of heavy, mobile forces is at least as great today as it was when the prepositioning program was first proposed.

Under the POMCUS (Prepositioning of Materiel Configured to Unit Sets) program, the Army stores heavy items of equipment (e.g., trucks, personnel carriers, and tanks) in dehumidified warehouses in Europe. The equipment is arranged in unit sets, ready to be moved out of storage to a marshalling area. This means that only the troops themselves and any remaining equipment (such as helicopters and electronic gear) would have to be airlifted to the theater at the outbreak of a crisis. On arriving in Europe, the forces would

be trucked to the marshalling areas, where they would pick up their prepositioned equipment, assemble into units, and move forward.

We are committed to provide POMCUS equipment for a total of six U.S.-based Army divisions and supporting units. Four division sets are already in place, and work on the remaining two is under way. The host nations for the fifth and sixth sets, Belgium and the Netherlands, have provided land for the storage facilities, and the NATO Infrastructure Fund is subsidizing the construction costs. The first of the new warehouses began receiving equipment last summer, and we expect the remainder to be ready by September of this year. With continued congressional support, we plan to move equipment into the warehouses as they become available.

The Air Force is prepositioning equipment in Europe to support the tactical fighter squadrons it would commit to a NATO reinforcement. The materiel in storage ranges in type from engineering, ground support, and medical equipment to munitions, spare parts, and POL.

The Marine Corps has begun a land-based prepositioning program in Norway to support an amphibious brigade. Some equipment is in temporary storage, while other materiel will be positioned as NATO-funded permanent storage facilities are completed. The latter construction programs will begin this year.

(2) SWA Prepositioning

Our prepositioning efforts in SWA serve three main objectives: they permit forces to be deployed rapidly to the region; they provide the materiel needed to unload ships in austere ports; and they provide supplies and ammunition to cover expected consumption until sealift can meet demands. We are making extensive use of sea-based prepositioning in the region because we lack land-based sites and because it provides flexibility to meet the variety of contingencies we might encounter in SWA or elsewhere.

Our ship-based prepositioning program dates from mid-1980, when the Near-Term Prepositioning Force (NTPF) was created. That force originally comprised seven ships stationed at Diego Garcia. Five of the ships carried equipment and supplies for a MAB; the sixth and seventh carried a medical facility and fuel for the Marines and other early deploying forces. Eleven depot ships, carrying materiel for Army and Air Force units, were added to the force during FY 1981-82. By the end of CY 1985, we plan to have replaced the five ships containing Marine Corps equipment and supplies with five ships carrying equipment and supplies for the second MPS task force. We also plan to retain approximately 12 depot ships loaded with materiel for Army and Air Force units.

d. Access to Foreign Facilities

We have reached formal agreement with several nations, and are seeking permission from others, to preposition materiel and conduct routine training exercises during peacetime, and to use regional facilities during crises. In some cases, it has been necessary to improve existing facilities. These projects were initially funded in FY 1980-81, and most will be completed by the end of FY 1987.

By agreement with the United Kingdom, we have enlarged the airfield at Diego Garcia to increase its capacity to support en route

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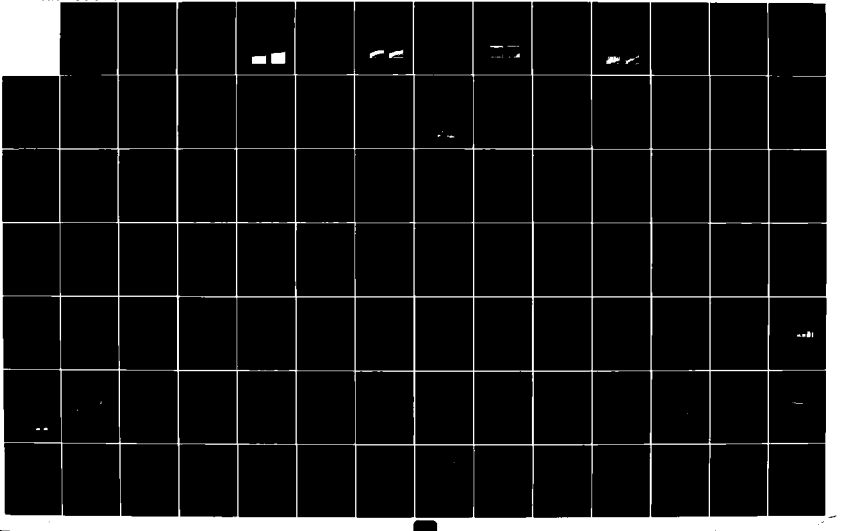

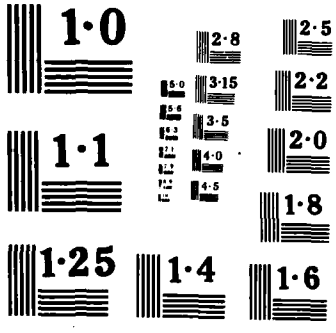
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refueling. The port facilities have also been upgraded in preparation for mooring additional MPS and ammunition ships. Facilities at Lajes Air Base in the Azores are being upgraded, and we are receiving Portugal's approval to provide for additional fuel storage at the base. These programs enhance our ability to deploy forces rapidly in a crisis as well as support routine peacetime operations.

e. Command, Control, and Communications (C^3) Support

Work continues on a number of improvements in the C^3 systems serving the airlift and sealift fleets. Commercial ships that would carry military cargo in a war are receiving more capable and secure communications equipment. The high frequency radios aboard long-range military transport aircraft are being upgraded. Automated planning and C^3 systems, including the Joint Deployment System, are in development. The latter systems will contain master data files and computer models for use in formulating contingency plans; in a crisis, they also would provide up-to-the-minute information to commanders making deployment decisions.

3. Conclusion

The proximity of the Soviets and their allies to several regions of critical importance to us poses enormous challenges for our projection forces. We have recognized the serious shortfalls in our capability to deploy forces and have begun a series of programs to correct them.

The procurement of additional C-5s and KC-10s, and of the new C-17, along with CRAF enhancement, will add significantly to the capability and flexibility of our airlift forces. Completion of the MPS program will enable us to deploy a division-sized Marine force very rapidly to distant theaters of conflict worldwide. The expansion of the Ready Reserve Force (RRF), coupled with continued purchases of equipment to unload ships in austere ports, will enhance our ability to deliver combat forces and materiel by sea.

The programs we have planned for the next five years will move us considerably closer to our goal of deploying major combat-ready forces to critical theaters simultaneously. While further improvements will be necessary, these programs will greatly enhance the rapid deployability of our forces and, consequently, both their deterrent and warfighting strength.

E. NUCLEAR FORCES

1. Introduction

Four years ago, the United States was faced with adverse trends in its nuclear force posture. The Soviet Union was engaged in a massive buildup and modernization of its strategic arsenal, adding new generations of missiles, bombers, and submarines at a rapid rate. U.S. strategic forces were aging, and there was increasing concern that command and control systems might not survive a nuclear strike to direct a retaliation. To halt these unfavorable trends and thus ensure that a credible deterrent could be maintained, the President announced a plan in October 1981 to modernize U.S. strategic nuclear forces and command, control, and communications (C^3) systems. Firmly linked to that plan was a proposal to negotiate substantial reductions in strategic nuclear forces with the Soviet Union.

The President's strategic modernization plan and the associated arms reduction proposal are complementary. The prospect of more modern and capable U.S. forces provides the Soviets with incentives to negotiate genuine reductions. Also, the deep cuts we seek in the destructive potential of strategic nuclear arsenals, particularly in ballistic missiles, should improve the survivability of our forces, thereby enhancing stability. Modernization and reductions are directly linked through the strategic nuclear weapons build-down proposed by the President in the START (Strategic Arms Reduction Talks) negotiations.

In the area of nonstrategic nuclear forces, the Soviet Union was several years into its SS-20 deployment program in 1981, an unprecedented buildup that has created for them a huge preponderance of intermediate-range nuclear missiles. To redress that situation, the Administration resolved to implement NATO's 1979 dual-track decision to deploy longer range intermediate-range nuclear force (LRINF) missiles in Europe while simultaneously seeking an arms treaty to limit, or even obviate the need for, such deployments.

2. Composition of U.S. Nuclear Forces

U.S. nuclear forces can be grouped into four broad categories: strategic offensive forces; strategic defensive forces; nonstrategic nuclear forces; and associated command, control, and communications (C^3) systems.

Strategic offensive forces include land-based intercontinental ballistic missiles (ICBMs); submarine-launched ballistic missiles (SLBMs); and long-range bombers armed with gravity bombs, short-range attack missiles (SRAMs), and air-launched cruise missiles (ALCMs). Maintaining three diverse types of forces -- collectively referred to as the "strategic nuclear triad" -- strengthens the capability and deterrent value of the force by compounding the problems of a potential enemy and by compensating for possible vulnerabilities in any one of the three components.

Strategic defensive forces include ground- and space-based surveillance systems and air defense forces. Surveillance systems warn of ballistic missile and bomber attacks, and identify and track objects in space. These systems contribute to deterrence by ensuring we would receive timely warning of an attack, thus reducing a potential aggressor's confidence that a surprise attack could be

successfully executed. Air defense forces control access to North American airspace and provide a limited defense against bombers.

Strategic C^3 systems help assess attacks; support command functions; and provide communications linking warning sensors, command centers, and forces. Effective deterrence demands that these systems be able to function both during and after an attack.

Nonstrategic nuclear forces include intermediate-range nuclear forces (INF), such as intermediate-range missiles and tactical bombers carrying nuclear weapons; short-range nuclear forces (SNF), such as artillery projectiles and surface-to-surface missiles; land-based defensive systems, such as surface-to-air missiles and atomic demolition munitions; and sea-based systems. These forces enhance deterrence by providing the capability to respond at the lower end of the nuclear spectrum, firmly linking our strategic forces to our conventional capabilities.

3. FY 1986-90 Programs for Strategic Forces

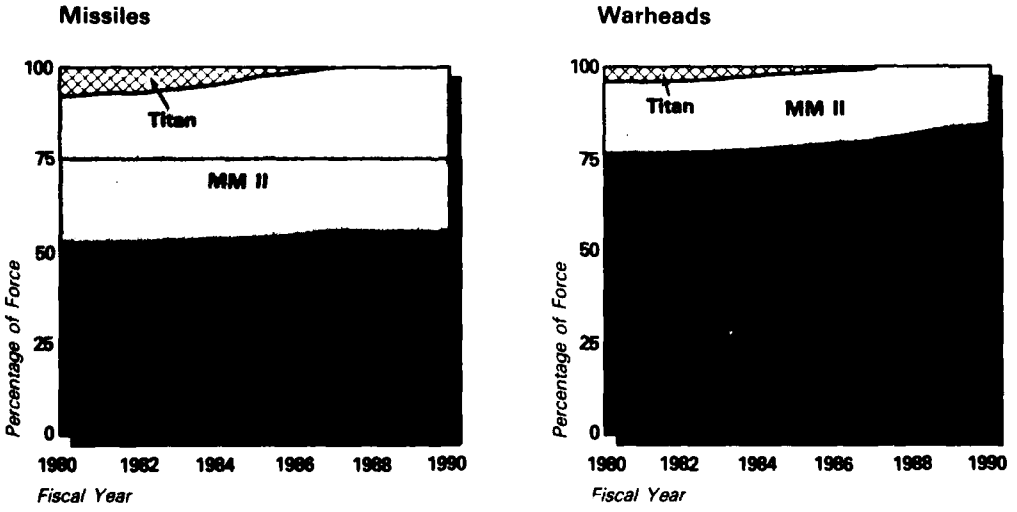
The FY 1986-90 program sustains the modernization plan directed by the President in 1981. That plan has since been expanded to include development of a small ICBM and long-term research on potential defenses against ballistic missiles.

a. Strategic Offensive Forces

(1) The Intercontinental Ballistic Missile (ICBM) Force

The inherent responsiveness of land-based missiles and their ability to put time-urgent, hardened targets at risk make them essential to effective deterrence. As part of the President's strategic modernization program, we are improving the ICBM force by building the Peacekeeper missile and developing a small ICBM. At the same time, we are maintaining and modernizing the Minuteman force and retiring the aging force of Titan IIs. Chart III.E.1 shows the projected composition of the ICBM force through FY 1990.

Chart III.E.1
ICBM Force Modernization



Peacekeeper's performance in its first six flight tests has been excellent. In line with recommendations of the Scowcroft Commission, the missile will be deployed in existing Minuteman silos beginning in late 1986. The FY 1986 budget request includes funds for continued research and development (R&D), including several flight tests, and for production of the Peacekeeper and modifications to the Minuteman silos.

Initial studies of design and basing concepts for the small ICBM are well under way. The missile will carry a single warhead and weigh less than 30,000 pounds, ensuring its compatibility with a mobile basing system. To keep missile weight down without sacrificing range or payload, we are investigating the use of new, lightweight, high-strength casing materials for the propulsion system. To achieve the desired missile accuracy, we are developing a lightweight version of the advanced inertial reference sphere, the heart of the Peacekeeper guidance system. We are also pursuing advanced-technology alternatives such as ring-laser gyroscopes and stellar inertial updates. Several mobile launcher designs are being evaluated, and initial hardness tests on subscale prototypes have yielded promising results.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
Peacekeeper Missile and Basing				
Development:				
$ Millions	1,962.6	1,699.7	804.1	360.6
Construction:[a]				
$ Millions	31.2	95.7	55.8	60.5
Procurement:				
Quantity	21	21[b]	48	48
$ Millions	2,153.6	1,000.0[b]	3,180.2	2,798.3
Small ICBM and Mobile Launcher				
Development:				
$ Millions	328.3	461.5	624.5	TBD
Follow-on Basing Technology				
Development:				
$ Millions	139.0	179.6	152.2	TBD
Minuteman Modernization				
Development:				
$ Millions	4.9	4.7	31.2	95.0
Procurement:				
$ Millions	97.2	118.6	101.7	160.8

[a]*Excludes planning and design, and family housing.*
[b]In March 1985, Congress will vote on the provision of an additional $1.5 billion to procure the 21 missiles.

We are also continuing work on super-hardened silos. Recent subscale tests suggest that silos can be made many times harder than was formerly believed possible.

The small ICBM and mobile launcher will enter full-scale development in FY 1987. The FY 1986 budget request includes R&D funds for the missile, a hardened mobile launcher, and hard-silo technologies.

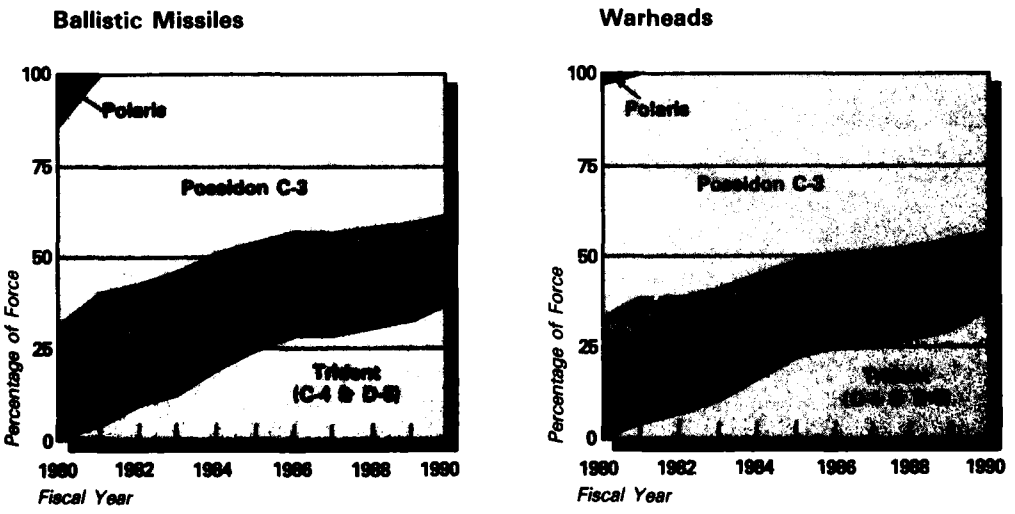
The FY 1986 program continues refurbishment of aging Minuteman components and test equipment. The program also continues to retire the obsolete Titan II force. The last of these missiles will be deactivated and dismantled in FY 1987.

(2) Sea-Based Strategic Nuclear Forces

Sea-based strategic nuclear forces consist of submarine-launched ballistic missiles (SLBMs) and the submarines that carry them (SSBNs). When at sea, they are the most survivable element of the strategic triad. Our program calls for building one new Trident SSBN per year to replace the aging Poseidon fleet, and developing and deploying the Trident II (D-5) missile. Also as part of the strategic modernization program, we are deploying Tomahawk Sea-Launched Cruise Missiles (SLCMs) on selected attack submarines and surface ships.

Sea-based forces now consist largely of Poseidon (C-3) and Trident I (C-4) missiles deployed on Poseidon submarines (see Chart III.E.2). These submarines were constructed during the 1960s. Although regularly scheduled overhauls have kept them in good condition, they will reach the end of their service lives in the mid- to late 1990s.

Chart III.E.2
Sea-Based Force Modernization



The new Trident submarine is more capable and more survivable than the Poseidon. It is faster, quieter, harder to detect, and able to spend a greater portion of its time at sea. It carries 24 missiles instead of 16, and because its missile tubes are larger

than the Poseidon's, it will be able to accommodate the more effective Trident II (D-5) missile. Twelve Trident submarines have been authorized through FY 1985, and we are requesting authorization of a thirteenth in FY 1986. The first five Tridents have been delivered to the Navy, and four are now on patrol. Their performance at sea has met or exceeded design specifications, particularly in speed and quietness. The last four submarines were delivered four to seven weeks early, and follow-on ships are on schedule.

The first eight Tridents will be equipped initially with Trident I missiles. Trident IIs will be deployed on the ninth Trident submarine and all succeeding ships and will be retrofitted into the first eight. The Trident II will be able to carry a larger payload and will be more accurate than the Trident I, thus providing the SSBN force with the capability to put hard targets at risk. The missile is now in full-scale development, with initial deployment scheduled for late 1989. The FY 1985 budget included the first increment of production funding for the missile; the FY 1986 request again includes both development and production funds.

The FY 1986 request continues the SSBN Security Program, under which the Navy is examining potential threats to U.S. ballistic missile submarines and developing countermeasures, if necessary. This comprehensive research effort is reviewing all current antisubmarine warfare techniques, as well as possible technological breakthroughs for the future. The program is designed to ensure that our sea-based nuclear forces remain highly survivable.

In FY 1984, we began deploying Tomahawk nuclear SLCMs on a variety of attack submarines and surface ships. These weapons, which are effective against a wide range of land targets, give us a cost-effective means of increasing hard-target capability at sea in the near term. Because they are distributed among a large number of ships, nuclear SLCMs complicate a potential attacker's planning and improve the overall survivability of the force.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
Trident Submarine				
Development:				
$ Millions	71.2	32.5	47.2	59.2
Procurement:				
Quantity	1	1	1	1
$ Millions	2,080.3	1,627.2	1,546.4	1,695.7
Trident I Missile				
Procurement:				
Quantity	52	—	—	—
$ Millions	529.0	141.1	66.2	46.8
Trident II Missile				
Development:				
$ Millions	1,473.2	2,049.0	2,165.6	1,719.8
Procurement:				
Quantity	—	—	—	27
$ Millions	—	162.9	582.0	1,865.5

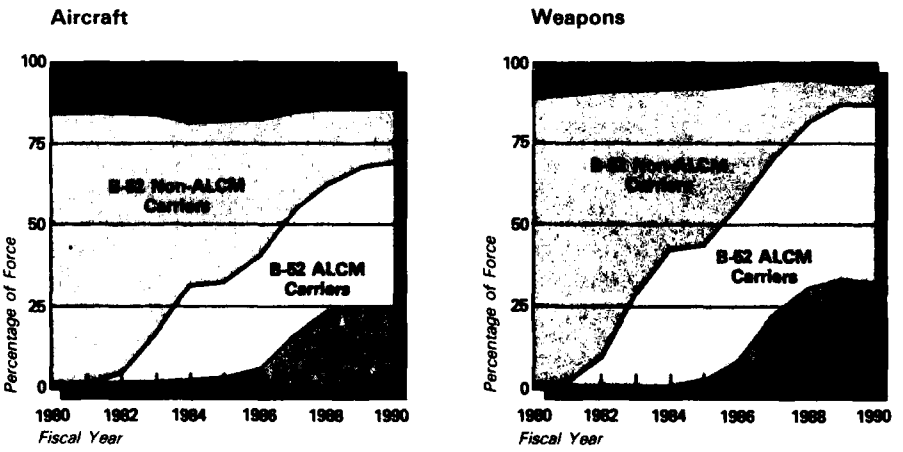
(3) The Strategic Bomber Force

Bombers are the most versatile element of the triad. They can be launched on warning of an attack for survivability but, once en route to their targets, can still be recalled or redirected. Additionally, penetrating bombers can assess target damage and retain weapons for subsequent use if a target has already been destroyed. Furthermore, they can be reloaded and used for more than one attack. In addition to their strategic nuclear capabilities, bombers can perform conventional missions. Conventionally armed bombers can attack a wide variety of targets virtually anywhere in the world. In some remote areas, they can be employed well before other conventional forces could arrive. In maritime roles, they can perform surveillance missions, attack ships, and lay mines.

At present, the bomber force consists of B-52s and FB-111s. By the end of the decade, an improving Soviet air defense system will have seriously limited the B-52's ability to penetrate Soviet airspace. The ongoing bomber modernization program is designed to ease that limitation and to maintain the deterrent capabilities of the force in the 1990s and beyond.

The program has three main elements: the installation of air-launched cruise missiles (ALCMs) on B-52s, the production of B-1B bombers, and the development of the Advanced Technology Bomber (ATB). A number of B-52s not equipped with ALCMs will be assigned conventional missions. In the 1990s, as the ATB is deployed, we plan to use FB-111s as tactical aircraft rather than as strategic bombers. Chart III.E.3 shows the proportion of bombers and bomber weapons of each type in the force from FY 1980 to FY 1990.

Chart III.E.3
Bomber Force Modernization



(a) Bomber Modernization

We have deployed ALCMs on 90 B-52Gs and will begin modifying B-52Hs for cruise missile carriage this year. ALCMs are very

effective against hard targets, and they compound enemy air defense problems. Their introduction has prolonged the useful life of B-52s by allowing these older bombers to launch attacks without penetrating enemy air defenses.

A follow-on cruise missile, now in development, promises further gains in capability. This weapon, called the Advanced Cruise Missile (ACM), will have a longer range than the ALCM and will incorporate low-observable technology. The advantages of increased range are twofold: B-52s will be able to stand off farther from Soviet defenses and still put distant targets at risk, and the missile itself will be able to circumnavigate some air defenses. The low-observable design will enhance the missile's ability to penetrate highly defended areas. By anticipating evolving Soviet defenses, the ACM provides a logical and timely update to the bomber force.

Our future strategic bomber force will be composed of B-52 cruise missile carriers and modern penetrating bombers. We believe that a mixed force of this type is the best way to counter Soviet air defenses and to ensure that both fixed and movable targets can be attacked effectively.

The B-1B will be our primary penetrating bomber in the late 1980s and well into the decade of the 1990s. The program is making excellent progress. The first of 100 production aircraft came off the assembly line five months early, and the first B-1B flight test was conducted five months ahead of schedule as well. The FY 1986 request includes funds to procure the last 48 aircraft and continue flight testing.

As Soviet defenses become more formidable, we will deploy the ATB to carry out the most challenging penetrating bomber missions and transfer cruise missiles from B-52s to B-1Bs. The B-1B will continue to have a strong strategic penetrating role. Development of the ATB is proceeding at a vigorous pace toward a planned initial deployment date in the early 1990s. We expect that the aircraft, which incorporates low-observable technology, will be capable of penetrating all existing and projected Soviet air defenses into the next century.

(b) Aerial Tankers

The KC-135 tanker is essential to the effectiveness of the bomber force. Changes in mission profiles and the added weight and drag caused by carrying cruise missiles externally have increased the bombers' in-flight refueling requirements. At the same time, more aerial refueling capacity is needed for the general purpose forces, both to support fighter missions and to sustain long-range airlift operations.

Modernizing KC-135s with current-technology CFM-56 engines and other system updates -- the KC-135R program -- will increase the fleet's refueling capability by approximately 50 percent, while reducing operating and maintenance costs. With this upgrade, the fleet will be able to remain in service well into the next century. The FY 1986 request includes funds for support equipment and engines to modify 43 aircraft.

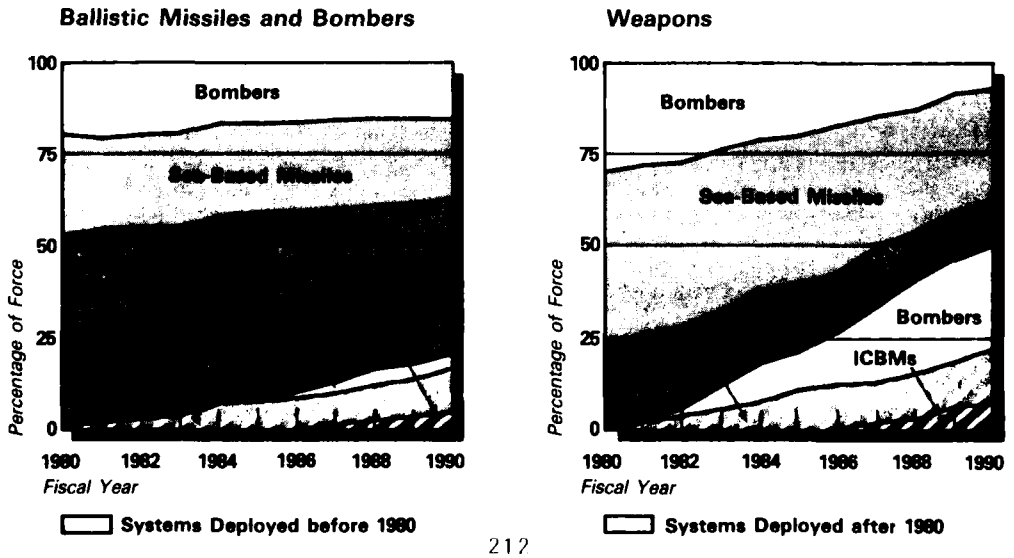
Since the KC-10 tanker is being purchased primarily to enhance conventional capabilities, it is discussed in the Force Projection chapter.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
B-52 Bomber				
Development:				
$ Millions	68.7	22.2	16.0	10.0
Procurement:				
$ Millions	460.7	466.5	463.6	795.7
B-1 Bomber				
Development:				
$ Millions	737.2	465.0	367.4	136.3
Procurement:				
Quantity	10	24	48	–
$ Millions	6,124.5	7,130.7	5,624.0	–
Air-Launched Cruise Missile				
Development:				
$ Millions	35.9	25.0	14.2	15.1
Procurement:				
Quantity	240	–	–	–
$ Millions	421.3	79.4	34.4	21.9
KC-135 Mod				
Procurement:				
$ Millions	548.2	715.1	727.4	1,039.2

(4) Force Structure Modernization

Chart III.E.4 shows the changing composition of the strategic forces during the 1980s. By FY 1990, modernized systems will constitute almost 25 percent of our operational ballistic missiles and bombers and about 50 percent of our weapons.

Chart III.E.4
Strategic Forces Modernization



b. Strategic Defensive Forces

Our program reverses the trend of declining capabilities in strategic defensive forces and C^3 systems. It calls for major improvements in air defense radars and interceptor forces. It strengthens space surveillance capabilities and pursues an operational antisatellite system. Finally, it supports a major research program for advanced defenses against ballistic missiles.

(1) Strategic Defense Initiative (SDI)

In March 1983, President Reagan took the first important step toward a new and better way to deter war, strengthen stability, and ensure peace by moving away from exclusive dependence on nuclear retaliation toward greater reliance on defensive systems. To that end, he directed the establishment of a comprehensive and intensive research program, the Strategic Defense Initiative (SDI), to find a practical means of effective defense against nuclear-armed ballistic missiles. Aimed at destroying all incoming ballistic missiles that may be used at shorter ranges as well as intercontinental distances, the program's objective is to develop a thoroughly reliable nonnuclear defense that would be able to protect our allies as well as the United States.

SDI is a major departure from ballistic missile defense programs of the past, which relied on nuclear-tipped missiles to intercept incoming warheads during their high-speed terminal plunge toward their targets. SDI is examining advanced-technology concepts that could lead to a means of intercepting ballistic missiles during their boost phase and warheads at all points along their trajectories. Warheads could be destroyed by nonnuclear means at great distances from their intended targets.

In the spring of 1984, we established the Strategic Defense Initiative Organization (SDIO) to manage this program. The SDIO provides central planning for the entire effort and uses centers of technical and management excellence within the Services, DoD, and non-DoD agencies for decentralized execution of research efforts. The program employs simplified management and is developing innovative contracting approaches to accelerate schedules and reduce costs.

Building on the FY 1985 program, the FY 1986 agenda carries forward research in five key technology areas: directed energy weapons; kinetic energy weapons; surveillance, acquisition, tracking, and kill assessment systems; battle management and command, control, and communications systems; and survivability, lethality, and support technologies. Many of these ongoing activities are already showing substantial progress. For example, last June, the Army Homing Overlay Experiment demonstrated the capability of a nonnuclear missile to intercept and destroy an incoming warhead outside the earth's atmosphere. Directed energy research devices are already operating at several laboratories. These include a neutral particle beam device at Los Alamos, and free electron and chemical laser devices at Los Alamos, Livermore, and contractor facilities. A low-cost approach to a ground-based "eximer" laser is also under study. Additionally, progress is exceeding expectations in many areas, including railgun technologies as well as sensors and cryogenic refrigeration devices.

Defensive technologies are currently at different stages of maturity. The FY 1986 request continues research on rapidly maturing

technologies and also emphasizes less developed technologies that hold great promise for more effective systems. The request also supports smaller, additional research efforts involving innovative concepts that may offer the potential for very large gains in cost-effectiveness and an inherent ability to overcome potential Soviet countermeasures. Each SDI budget request will support research on technologies at various levels of maturity so as to provide the basis for a continually improving ballistic missile defense potential.

The SDI demonstrates to our friends and to any potential adversaries that America is firmly committed to the President's goal of a thoroughly reliable defense for the United States and its allies. Demonstration of our resolve will be as vital as technical progress on the SDI program to ensure that the Soviet Union realizes that the best choice for it as well as for us is to move to the enhanced security and more optimistic future of a deterrent in which defenses play a central role. As nuclear ballistic missiles increasingly lose their military value and their capability to destroy our respective societies, we can move together to eliminate these weapons.

The Strategic Defense Initiative offers the world more hope than any concept developed since the nuclear era began. We owe it to ourselves and to the world to pursue it until it is achieved in full.

(2) Air Defense

For many years, ballistic missiles have been the mainstay of the Soviet strategic arsenal. As a consequence, relatively low priority was attached to improving our air defense systems. Today, however, the Soviets are developing a new bomber and are beginning to deploy long-range cruise missiles. In light of this increased threat, and to correct deficiencies in our bomber warning systems, we are deploying new ground-based surveillance radars and modern interceptors.

(a) Surveillance Systems

To improve atmospheric surveillance of the eastern, western, and southern approaches to the continental United States, we are deploying a network of Over-the-Horizon Backscatter (OTH-B) radars. These radars will be able to identify incoming bombers hundreds of miles away at any altitude. Funds for the last 60° sector of the east coast segment of the network were authorized in FY 1985. The FY 1986 request seeks funds for the first two of the three sectors to be installed on the west coast.

For surveillance of the northern approaches to the continent, we plan to install modern microwave radars across northern Alaska and Canada. The new radars, known as the North Warning System, will fill gaps in existing coverage, enable us to detect low-flying aircraft, and be cheaper to maintain than the present system. Procurement of 13 long-range radars for this system will be completed in FY 1985. Funds requested in FY 1986 will continue development of a short-range radar, 39 of which will ultimately be deployed between the long-range radars.

(b) Interceptor Forces

Fifteen interceptor squadrons maintain a ground alert at sites around the periphery of the 48 contiguous states. The primary mission of these aircraft is to intercept and identify unknown intruders into North American airspace. The aircraft also could provide a limited defense against bomber attacks.

By FY 1986, four active interceptor squadrons will have been modernized with F-15 aircraft. Pending congressional approval, the remaining active squadron, at K.I. Sawyer Air Force Base in Michigan, will be deactivated. Its air defense responsibilities will be assumed by the Air National Guard squadron at Duluth, Minnesota. This will result in an air defense force composed of four active and eleven Air National Guard squadrons.

(3) Space Defense

The antisatellite (ASAT) program is central to our efforts to improve defensive capabilities in space. Our vigorous pursuit of this capability is motivated by the desire both to deter the Soviets from using their ASAT weapons, which are already operational, and to deny them the unrestricted use of space to support operations against U.S. forces in wartime.

The current U.S. ASAT program consists of a missile launched by specially equipped F-15 tactical aircraft. The missile, referred to as the air-launched miniature vehicle (ALMV), would be targeted against low-altitude satellites.

Our first test of the ALMV successfully demonstrated the capability to guide the missile to a point in space. We have recently tested the missile's sensor and will conduct subsequent tests consistent with congressional direction. The test and evaluation phase of the ASAT program is scheduled for completion in FY 1987. We are requesting funds in FY 1986 to continue production of the missile and to complete work on support facilities at Langley Air Force Base, Virginia. We must caution that congressionally imposed restrictions or prohibitions against further tests would adversely affect the prompt development of this needed capability.

To help defend U.S. space-based systems and to monitor hostile space weapons and satellites, we are deploying a worldwide network of five ground-based electro-optical surveillance sensors. These sensors, which complement existing radars, are designed to detect, track, and identify objects in deep space. Three of the sensors are already operational, and a fourth will be completed in FY 1987. The schedule calls for construction of the remaining site to begin in FY 1986 and for the entire system to be operational in FY 1988.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
Stategic Defense Initiative				
Development:				
$ Millions	50.0	1,397.3	3,722.2	4,908.3
Air Defense				
Development:				
$ Millions	123.7	106.9	108.4	51.0
Procurement:				
$ Millions	173.8	164.8	245.9	256.9
Space Defense				
Development:				
$ Millions	202.7	133.0	149.9	80.4
Procurement:				
$ Millions	19.3	74.0	97.9	148.9

c. Strategic Command, Control, and Communications (C^3)

Strategic C^3 systems must be capable of supporting an initial U.S. retaliation against a nuclear attack; they also are essential to the effective management of nuclear reserve forces. The FY 1986-90 program will correct most of the deficiencies in strategic C^3 capabilities that were identified at the outset of this Administration. The program will upgrade and augment existing capabilities, increase the survivability of C^3 systems, protect them against nuclear effects, and provide redundant communications and control.

(1) Missile Warning and Attack Assessment Sensors

We maintain satellites and ground-based radars to warn of ballistic missile attacks. The satellite would provide the first indication that an attack was under way, and radars would confirm the satellite warning data. This information must be both prompt and accurate. Early warning is essential to the survivability of bombers and C^3 systems on ground alert, and to give the President time to consider retaliatory options. Accurate information on the size and scope of an attack would be needed in order to select an appropriate response and to control escalation. Ongoing programs to modernize and augment the warning systems now in service will enhance their ability to provide timely information about an impending attack.

(a) Satellite Early Warning System

Early warning satellites detect ICBM and SLBM launches. The satellites now in operation will soon be replaced by new models with improved survivability and performance features.

(b) PAVE PAWS

The PAVE PAWS radar system would confirm satellite warning of an SLBM attack. Two of these phased-array radars are now operating on our eastern and western coasts, where they monitor regular Soviet SSBN operating areas. In 1981, we decided to deploy two additional

PAVE PAWS radars in Georgia and Texas to expand coverage to the southeast and southwest of our borders. We are requesting funds in FY 1986 to continue construction of these two sites, both of which are scheduled to be activated by FY 1987. The aging FPS-85 and FSS-7 radars in Florida will remain in service until all four PAVE PAWS radars are operational. The Perimeter Acquisition Radar Characterization System (PARCS), a phased-array radar in North Dakota, completes our network of SLBM warning radars and complements the system used to confirm ICBM attacks.

(c) Ballistic Missile Early Warning System (BMEWS)

BMEWS radars at sites in Greenland, Alaska, and England would confirm satellite warning of an ICBM attack. To improve BMEWS' coverage and performance, we are replacing obsolete radars at two sites with new phased-array systems similar to PAVE PAWS. In FY 1986, we will complete the installation of a new radar at Thule, Greenland, and begin a major upgrade of the Fylingdales, England, site. The radars now in operation at these locations are expensive to maintain and are inadequate against an evolving threat (e.g., they would have difficulty distinguishing large numbers of targets with small radar cross sections). In addition to its ICBM-related duties, the new Fylingdales radar will improve warning of missile attacks against NATO territory and of SLBM attacks against the United States, while enhancing surveillance of objects in space.

(d) Nuclear Detonation Detection System (NDS)

The NDS, also known as the Integrated Operational Nuclear Detonation System (IONDS), will enhance our ability to detect and pinpoint the location of nuclear detonations worldwide. The system is being installed on the satellites of the Navstar Global Positioning System (GPS). In a nuclear war, it would help determine which targets had been destroyed; in peacetime, it will contribute to nuclear test ban monitoring. The FY 1986 program continues the installation of the sensors into the host satellites. The entire system will be operational in the late 1980s.

(2) *Command Centers*

Should deterrence fail, survivable command centers are needed to ensure that our retaliatory forces could be employed effectively and remain responsive to national authority both during and after a nuclear attack. To ensure that we could take full advantage of our most capable command posts during the early stages of an attack, we are upgrading the National Military Command Center (NMCC) and the Alternate NMCC. The modifications include protecting electronic equipment against electromagnetic pulse (EMP) effects,[1] and installing uninterruptible power systems and more advanced data-processing equipment. We expect to complete these improvements in FY 1986.

Airborne command centers, which are more likely to survive a nuclear attack, will benefit from similar improvements. By FY 1986, all four EMP-hardened E-4B aircraft serving as National Emergency

[1] The surges of current caused by the EMP effects of a nuclear detonation could damage many types of electronic equipment that had not been adequately hardened.

Airborne Command Posts will be operational, with improved data-processing equipment aboard. We are also installing additional communications equipment on the aircraft to provide redundant, jam-resistant links to forces and surveillance systems.

The EC-135 fleet, which serves the Commander in Chief of the Strategic Air Command and other nuclear force commanders, also is being fitted with improved communications gear. Obsolete UHF radios are being replaced with modern EMP-hardened equipment. The first of the new radios will be installed in FY 1986, and we plan for the entire program to be completed in FY 1990.

(3) Communications

Communications systems connect warning sensors to command centers, enable information to be exchanged among command centers, and link commanders with their forces. Although ensuring that the forces would receive initial retaliatory orders remains our first priority, we are also working to provide them with two-way communications channels.

(a) Satellite Communications Systems

The Air Force Satellite Communications (AFSATCOM) system, which became fully operational in FY 1984, provides low-data-rate communications links to our strategic nuclear forces worldwide. AFSATCOM terminals are widely distributed among the forces and command centers, and AFSATCOM transponders are deployed on several satellites, including those of the Defense Satellite Communication System (DSCS).

The new DSCS III satellites provide high-data-rate communications, serving strategic forces as well as many other government users. Missile warning data, for example, would be transmitted from sensors to command centers via DSCS III. Also, E-4B command posts will be able to use the system to transmit messages to nuclear forces. DSCS III satellites are better protected against nuclear effects than the DSCS II satellites they replace, and they are more jam-resistant. The second DSCS III satellite is scheduled to be launched in the near future, and the full system will be operational a few years later.

The Milstar satellite communications system would ensure effective, continuous control of strategic forces both during and after a nuclear attack. These satellites will use extremely high frequency communications, which are even less susceptible to the effects of nuclear detonations and jamming than are the frequencies used by DSCS III. To e sure their continued availability, Milstar satellites will also incorporate a variety of survivability features. Milstar terminals will allow two-way communications between commanders and their forces, thereby increasing force effectiveness. We are requesting funds in FY 1986 to start construction of the third satellite and to continue development of the terminals.

(b) Ground Wave Emergency Network (GWEN)

The GWEN system will consist of a network of EMP-hardened radio relay stations distributed across the country. The program is proceeding in two phases. The first phase is designed to increase our confidence that bombers would receive timely warning of a nuclear attack. Initial operational testing and evaluation for this phase will be completed in FY 1986. During the second phase, we will be

adding substantially more transmitters and receivers, thereby increasing the system's survivability and giving us an alternate link to the ICBM force. Funds to begin that portion of the program are requested in FY 1986. We expect to have the entire system in place by the end of the decade.

(c) Miniature Receiver Terminal (MRT)

Equipping strategic bombers with miniature terminals for receiving very low frequency (VLF) communications will improve our ability to communicate with them in flight during the early stages of a nuclear attack. Though slower than transmissions in the higher frequency bands, VLF communications can be transmitted over much greater distances than can line-of-sight communications, and they are much less susceptible to nuclear effects than are existing satellite communications to bombers. We plan to continue development of the MRT system with funds requested in FY 1986 and to begin producing the terminals in FY 1987.

(d) TACAMO E-6A Aircraft

To communicate with its deployed ballistic missile submarines, the Navy keeps TACAMO radio-relay aircraft continuously airborne over the Atlantic and the Pacific. In a nuclear war, these aircraft would ensure that commanders could send messages to SSBNs, even if ground-based transmitters were destroyed. Over the next several years, we plan to replace the EC-130s (modified C-130 transports) currently flying the TACAMO mission with a new aircraft, the E-6A (a derivative of the Boeing 707). A faster and longer-range plane than the EC-130, the E-6A will be able to operate over vast expanses of the ocean, thus ensuring that SSBNs deployed in remote ocean areas will receive messages in a timely fashion. In FY 1986, we expect to complete work on a prototype version of the aircraft. Plans call for building a fleet of 15 E-6As at a rate sufficient to deploy a Pacific squadron by FY 1990 and an Atlantic squadron by FY 1992. The aircraft will be outfitted initially with communications equipment transferred from EC-130s. To provide greater protection against electronic jamming and nuclear effects, we plan to replace this equipment with a modern communications suite early in the next decade. The FY 1986 request supports continued development of the upgraded TACAMO communications gear.

(e) Extremely Low Frequency (ELF) Communications

To upgrade peacetime communications to deployed submarines and to support the transition to wartime operations, we are constructing a dual-site, extremely low frequency (ELF) communications system. Submerged submarines must now deploy an antenna at or close to the ocean's surface to receive messages, thus potentially increasing their susceptibility to detection. This constraint will be alleviated by the use of ELF communications, which can penetrate sea water to much greater depths. The two transmitter sites, in Wisconsin and northern Michigan, will operate in electrical synchronism, thereby providing a highly reliable means of maintaining continuous contact with the submarine force. To achieve an initial operational capability in FY 1986, we are requesting funds to complete construction of both sites and to begin installing receivers in submarines.

	FY 1984 Actual Funding	FY 1985 Planned Funding	FY 1986 Proposed Funding	FY 1987 Proposed for Authorization
Stategic Surveillance and Warning				
Development:				
$ Millions	139.8	137.9	147.2	156.8
Procurement:				
$ Millions	617.6	382.4	515.1	874.5
Stategic Command Centers				
Development:				
$ Millions	130.7	294.0	282.7	279.0
Procurement:				
$ Millions	8.4	59.8	69.3	155.5
Strategic Communications				
Development:				
$ Millions	801.1	914.0	953.5	1,058.7
Procurement:				
$ Millions	249.1	54.7	539.3	740.3

4. FY 1986-90 Programs for Nonstrategic Nuclear Forces

Our highest priority for the nonstrategic nuclear forces continues to be the implementation of NATO's 1979 dual-track decision on longer range INF missiles. This step alone, however, will not provide the diverse set of modern nuclear forces needed to maintain effective deterrence in Europe and worldwide. Accordingly, we are also continuing to modernize our inventories of tactical nuclear bombs, nuclear artillery, and sea-based missiles. Concurrently, we are enhancing the safety, security, and survivability of our nuclear weapons systems. Finally, as with the strategic forces, we are improving the C^3 systems that support our nonstrategic nuclear forces.

a. Longer Range INF Missiles

In accordance with NATO's 1979 decision, we began deliveries of Pershing II ballistic missiles to the Federal Republic of Germany, and of ground-launched cruise missiles (GLCMs) to the United Kingdom and Italy, at the end of 1983. Follow-on deployments to those countries, and GLCM deployments to Belgium, Germany, and the Netherlands, are planned over the next several years. All 464 GLCMs and 108 Pershing IIs are scheduled to be deployed in Europe by the end of 1988. The FY 1986 request includes funds to complete Pershing II procurement and to produce additional GLCMs. GLCM procurement will be completed in FY 1987.

As we proceed with these deployments, we remain committed to the arms control track of the 1979 decision. All of the deployments are subject to modification, cancellation, or reversal if an agreement with the Soviet Union is achieved. We have repeatedly expressed our readiness to resume immediately the negotiations broken off by the Soviets in November 1983. We are pleased that the Soviet Union has now agreed to begin new talks on these weapons in the near future.

b. Short-Range Nuclear Forces

Effective short-range battlefield nuclear systems serve multiple purposes. Not only do they deter Soviet first use of comparable systems, they enhance the effectiveness of our conventional defenses. The latter effect results primarily because the threat of these weapons would force the Warsaw Pact to disperse its forces and develop multiple lines of communications, thus blunting the full potential of their conventional offensive capability.

To ensure that our battlefield nuclear systems remain effective, we are replacing our aging stocks of artillery-fired atomic projectiles (AFAPs). A new eight-inch round, the W79, is being produced as a replacement for the W33. Similarly, a new 155mm AFAP, the W82, is planned to replace the W48. Each new round offers significant improvements in range, accuracy, safety, and security. Deployment of both takes full advantage of NATO's artillery force structure, thereby increasing the survivability and flexibility of its short-range nuclear forces. Due to the greater effectiveness of the new rounds, the older ones can be replaced on less than a one-for-one basis.

All DoD funds required for the W79 program have already been appropriated. Consistent with congressional direction, rounds produced from FY 1985 on will not have an enhanced radiation capability. The FY 1986 request includes funds for continued development of the W82.

c. INF Aircraft

For nuclear air attack missions, NATO relies on a variety of dual-capable aircraft. The inventory is currently being modernized with F-16 and Tornado fighter-bombers. As part of that effort, we are deploying new tactical bombs with improved capabilities and enhanced safety and security features.

d. Sea-Based Systems

The five-year program sustains a general modernization of our nonstrategic nuclear forces at sea. Central to that effort is the development of a nuclear warhead for the SM-2 surface-to-air missile. We anticipate requesting long-lead procurement funds in FY 1987 to support an initial deployment date in the early to mid-1990s. We also are developing a nuclear capability for the new submarine-launched Antisubmarine Warfare Standoff Weapon and are considering a nuclear warhead for both the surface ship-launched Vertical Launch Antisubmarine Rocket and a new air-delivered depth bomb.

e. C^3 Systems

Two new communications networks are being installed for our nonstrategic nuclear forces in Europe. The networks will provide critically needed improvements in security, reliability, and performance. The first, a UHF satellite communications system, will link the headquarters of the European Command with its deployed forces. The teletype communications terminals are now being fielded, and we expect the system to be completed in FY 1987. The second new network will be a high frequency (HF) system. It is designed to provide reliable and secure communications channels that are highly resistant to electronic jamming and that could withstand the EMP effects of a nuclear

blast. We will be testing the terminals for this system in FY 1985, and plan to begin full-scale production in FY 1986. The entire network will be deployed by the end of FY 1989. A similar HF system is planned to support nonstrategic nuclear forces assigned to the Pacific Command.

5. Conclusion

As President Reagan's strategic modernization plan and NATO's intermediate-range nuclear force modernization plans begin to reach fruition, we are restoring the capability necessary to maintain a credible and stable deterrent. Our continuing efforts to implement these plans remain firmly linked to our goal of genuine and verifiable arms reductions. Together, modernization and arms reductions will ensure a safer and saner world for us and for future generations.

F. COALITION STRATEGY — REGIONAL SECURITY

1. Introduction

Upon taking office in January 1981, this Administration faced three trends with urgent implications for international peace and security:

-- A general, decade-long decline in Western strength that had gradually eroded the U.S. margin of military safety and that of our allies.

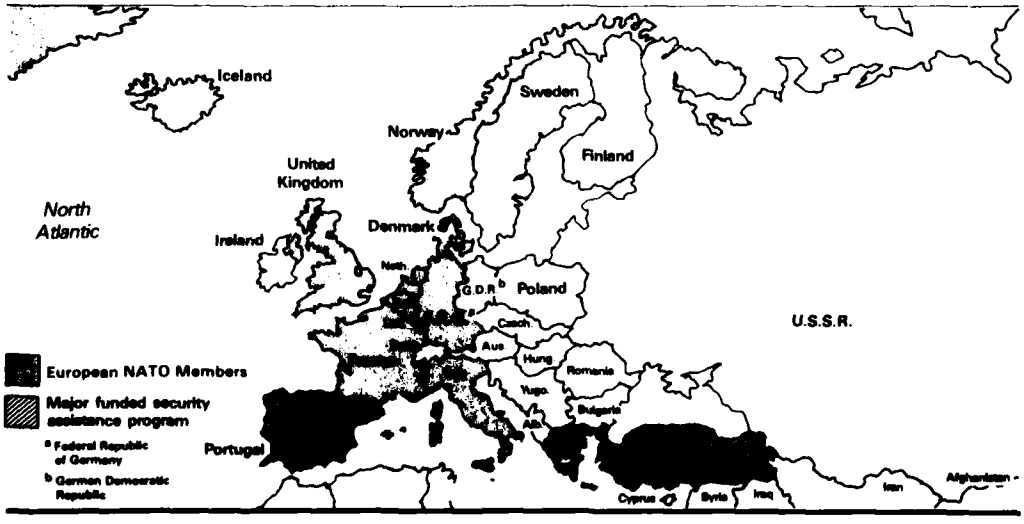
-- The increasing interdependence of the West and the developing countries, many of which, because of their fragile economic conditions, had become targets for Soviet-sponsored destabilization.

-- The emergence of the Soviet Union as a global military power, increasingly willing to use its might to promote violence in areas of strategic significance to the West.

Our response to these challenges recognizes that the United States cannot itself provide all of the manpower and weapons necessary to deter aggression worldwide. Hence, we have adopted a coalition strategy linking improvements in the U.S. defense posture with an expanded program of economic and military assistance and renewed attention to the vitality of America's alliances and security relationships with other friendly nations. This chapter describes the U.S. forces, commands, and defense programs contributing to this coalition strategy.

2. Western Europe/North Atlantic Treaty Organization (NATO)

Chart III.F.1
Western Europe



NATO continues to provide an indispensable framework for maintaining the peace in this critical geostrategic region. Its cooperative security arrangements have served us and our allies very well. The strength and resilience of the Alliance have most recently been demonstrated in its emplacement of intermediate-range nuclear weapons, after having attempted to reach an arms control agreement with the Soviets that would have rendered such deployments unnecessary.

NATO's strategy is one of deterrence based on a capability for defense at all possible levels of conflict. That strategy, adopted in 1967, calls for forward defense and for flexibility in response. While NATO is maintaining and improving its nuclear capabilities under approved programs, it is widely agreed that the Alliance needs to strengthen its conventional defenses. This will help achieve an effective mix of conventional and nuclear capabilities, which would neither force NATO to early nuclear use from conventional weakness nor preclude such use should the Alliance so choose.

a. U.S. Forces for NATO

Under existing arrangements, most forces in Europe -- including those of the United States -- remain under national command in peacetime. In an emergency or war, the forces would be integrated into the NATO command.

U.S. forces stationed in Europe include four Army divisions, two brigades of U.S.-based divisions, and two armored cavalry regiments, along with 28 Air Force tactical air squadrons.[1] Those forces would be heavily augmented in a crisis. Our goal is to be able to field a total of 10 Army divisions, 88 Air Force squadrons, and one Marine Amphibious Brigade within 10 days of a decision to mobilize. To achieve that capability, additional improvements are needed in U.S. materiel prepositioning and lift programs, as well as in European reception and support facilities. Further reinforcements, both ground and air, would follow as readiness and transport availability permit.

U.S. naval forces for NATO include the Second Fleet in the Atlantic and the Sixth Fleet in the Mediterranean. These, too, would be reinforced in an emergency to the extent permitted by commitments elsewhere.

This Administration opposes any ceiling on, or reduction in, U.S. troop strength in Europe. We believe that such limitations unduly restrict operational commanders' flexibility and may produce an effect precisely opposite to that which is desired. They could also tempt our allies to make similar reductions in their force levels. Furthermore, by delaying needed modernization programs, cutbacks in U.S. manpower levels in Europe might send a signal of a weakening of the United States' commitment to NATO, unraveling the Alliance-wide consensus on conventional force improvements. Therefore, it is with great reluctance that, at the insistence of the Congress, we have reduced our planned FY 1986 increase in European end strength by about 3,500 spaces so as to remain within the congressionally imposed limit of 326,414 troops.

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[1] In addition, the United States maintains a separate brigade in Berlin that is not committed to NATO.

b. NATO Nuclear Planning

NATO's Nuclear Planning Group (NPG) is responsible for coordinating matters involving NATO's nuclear forces. At present, all members of the Alliance except Iceland and France are represented on the NPG and one of its subsidiaries for special projects, the High Level Group (HLG).

The HLG prepared the analyses and recommendations that led to NATO's December 1979 decision to deploy Pershing II missiles and ground-launched cruise missiles (GLCMs). A separate group, the Special Consultative Group (SCG), set up under the North Atlantic Council, laid the groundwork for the other half of the two-part December 1979 decision -- the commitment to seek, through negotiations with the Soviet Union, limitations on those missiles. The HLG also conducted the study of the Alliance's nuclear needs that led to the October 1983 decision by NATO defense ministers to withdraw 1,400 nuclear weapons from Europe. That study also identified a number of areas in which improvements in the Alliance's nuclear posture would help maintain the future deterrent capabilities of its nuclear forces. (U.S. initiatives and programs in support of NATO's modernization and arms control goals are discussed in Part I and in the Nuclear Forces chapter of this report.)

c. Improving NATO's Conventional Defense Capability

The continued growth of Soviet and Warsaw Pact nuclear and conventional capabilities has increased NATO's requirements for flexible and measured responses to aggression, thus placing a heavy burden on its conventional forces. There is an Alliance-wide consensus that NATO's conventional defenses need to be upgraded, and a number of programs have been directed toward that end. Improved facilities for conventional forces are being planned by the NATO Infrastructure Committee, operating under its newly adopted six-year financial ceiling. The Conference of National Armaments Directors (CNAD) is working to improve cooperation in the acquisition of weapons, particularly those involving emerging technologies. The Senior National Logisticians Conference (SNLC) is examining ways to strengthen cooperation in the area of logistics, with special emphasis on war reserve munitions stocks, wartime host nation support, and other logistical aspects of rapid reinforcement. The NATO Air Defense Committee (NADC) is developing plans and priorities for improving air defense systems and procedures, while the Senior Civil Emergency Planning Committee is looking at ways to improve transportation services and reception facilities for reinforcements. The NATO Joint Communications-Electronics Committee (NJCEC) is working to improve the performance and interoperability of communications networks and command and control systems. Under the auspices of the Military Committee (MC), the Major NATO Commanders (MNCs) are working closely with national authorities to refine the Alliance's conventional force doctrines and tactics. The MNCs test these procedures during regularly scheduled exercises.

In order to encourage adequate national funding for these improvement efforts, NATO is developing a "conceptual military framework" against which questions of priority can be addressed. It is also drawing up a defense resources strategy to guide national efforts in the mid- and longer term.

d. NATO Cost-Shared Infrastructure

Under the NATO Infrastructure program, Alliance members share the costs of constructing facilities for the use of their forces in a war. Thirteen NATO nations contribute to the full Infrastructure program. France joins the common funding for air defense warning installations, bringing the contributors in this area to fourteen. (Iceland has no military forces and thus is not involved; Spain does not participate in the Infrastructure program at this time.) This burdensharing effort contributes enormously to the effectiveness of NATO's conventional forces. Over the years, however, the Infrastructure program has fallen far short of satisfying the burgeoning needs for modern facilities to support the Alliance's forces and command network.

That situation should soon begin to change, owing to the sharply increased six-year ceiling of nearly $8 billion adopted last December. The additional funding will hasten the deployment of new units and weapon systems and the provision of facilities needed to support ground and air reinforcements. These latter programs in particular will go a long way toward overcoming the shortfalls at the collocated operating bases from which our reinforcement aircraft would operate. Over 70 percent of the required airfield improvements will be undertaken during the next six years, including construction of 60 percent of the shelters needed to protect our combat aircraft.

The NATO countries benefit economically from the Infrastructure program in several ways: general economic benefits accrue to host countries from peacetime maintenance and operations, as well as from the construction of new installations; all member countries compete for commercial contracts for construction and related goods and services; and the user nations benefit from allied contributions to facilities that their forces will use. While the United States contributes 27.8 percent of total Infrastructure funding, a full 35 to 40 percent of the projects programmed annually are in direct support of U.S. forces.

The Infrastructure program funds only those facilities needed for wartime operations. Personnel support facilities and other projects serving predominantly peacetime needs are funded by each country, according to its own standards. Were such construction to fall under common funding, the United States' share of all such projects would far exceed the amount of U.S. military construction (MILCON) funds needed just for our European programs. Therefore, we do not favor such a broadening of NATO Infrastructure coverage.

e. Wartime Host Nation Support (WHNS)

The European allies would provide a substantial amount of logistical support for U.S. ground and air units in a NATO reinforcement, particularly during the early stages. These services, furnished under what are known as "wartime host nation support" agreements, range from the provision of rail and highway transportation, materiel handling, and equipment transshipment to the evacuation of casualties and protection of critical installations and facilities. Civilian resources would be used to the maximum extent possible in carrying out these functions. Comprehensive joint logistics plans have been prepared with the Benelux countries and the United Kingdom, and are in progress with Norway, Italy, and Turkey. To facilitate the implementation of these plans, U.S. logistics coordination cells have been assigned to the military staffs of several countries.

The WHNS agreement signed with the Federal Republic of Germany in April 1982 deserves special mention. Besides providing for the use of various civilian resources by U.S. forces during a crisis or war, it calls for the activation of a 93,000-man German reserve force charged solely with supporting U.S. forces. The initial combat support and combat service support units have already been formed, and the entire force will be activated by the end of 1989.

f. Prepositioning of Materiel Configured to Unit Sets (POMCUS)

The storage of U.S. equipment at POMCUS sites in Europe is critical to our ability to reinforce NATO promptly in a crisis. This is the least expensive and, indeed, the only practical way to ensure a ten-division U.S. force at D-Day. The POMCUS program also provides a concrete example of allied burdensharing, since most of the facilities are commonly funded under the Infrastructure program.

The Belgians and the Dutch have expended considerable political capital and materiel resources to provide the land and certain supporting facilities for the POMCUS sites in their countries, which will house equipment for Division Sets 5 and 6. One of the sites in the Netherlands was completed in the spring of 1984 and is now being stocked. Two additional sites in the Netherlands were completed in the fall of 1984, while the remaining sites there and in Belgium will be ready for occupancy by mid-1985.

Mindful of congressional restrictions against stocking equipment for which the active Army has less than 70 percent of its authorized levels, or the Reserve Components less than 50 percent of their requirements, U.S. planners are working to ensure that the POMCUS facilities are filled as soon as inventory levels permit. As the program reaches completion, intertheater airlift requirements (for residual equipment) will be significantly reduced, thus increasing our ability to deploy combat-ready reinforcements.

g. NATO Arms Cooperation

DoD has taken steps to foster allied cooperation in the development, production, and procurement of armaments. The Deputy Secretary of Defense has organized a senior group to oversee efforts to achieve increased cooperation and to protect NATO technology against illegal or unauthorized release. The work of this group on programs involving emerging technologies is especially important.

The NATO Conference of National Armaments Directors is also taking a direct interest in the progress of the emerging technologies program. DoD is supporting that effort by continuing to seek multilateral and bilateral agreements with allied nations on such projects. Increased cooperation in armaments programs has the potential of permitting more efficient use of national resources if we can eliminate the obstacles that stand in the way.

h. Security Assistance

Security assistance and arms sales programs with the NATO nations continue to be essential in bringing the full availability of otherwise restricted national resources to Western defense. U.S. security assistance takes four forms: Foreign Military Sales (FMS) credits,

grants under the Military Assistance Program (MAP) and the International Military Education and Training (IMET) program, and economic aid provided via Economic Support Funds (the ESF program).

The FY 1986 request is summarized in Table III.F.1. Again this year, the major European recipients of U.S. security assistance will be Turkey, Greece, Spain, and Portugal. The program also continues the mutually beneficial arrangements under which our other NATO allies acquire U.S. defense articles and services on a cash basis through the FMS program or commercial channels.

Table III.F.1

Major Funded Programs, FY 1986
(Dollars in Millions)

Country	FMS Credits	Map Grants	International Military Education and Training Program	Economic Support Funds
Greece	500	–	1.75	–
Portugal	65	70	3.00	80
Spain	400	–	3.00	12
Turkey	555	230	4.00	150

i. Burdensharing

Alliance defense policy and military strategy posit a fair sharing among the member nations of both the risks and burdens of deterrence and defense. The success of the Alliance in preserving peace and freedom for its members over the past 35 years testifies to the sense of common purpose and interdependence that link the nations of Western Europe to each other and to North America. Recognizing that this sense of mutual commitment is by far the most critical ingredient of security, NATO governments have made a determined effort to preserve the momentum of their defense programs even in the face of adverse and discouraging developments. This is not to minimize the troubling fact that real increases in allied defense spending have run well below ours for the past few years. But account must be taken of political and economic imperatives in Europe as well as in this country.

Nevertheless, we believe the record shows that our European allies are doing more for the common defense, broadly defined, than they are often given credit for. Last year, the average real growth in defense spending for the non-U.S. NATO allies combined was approximately 3 percent. And in December 1984, the allies agreed to strive to continue to make the necessary resources available and to optimize the use of resources to improve NATO's conventional defense capability.

We will continue to urge our allies to accept a greater share of the common defense burden. In doing so, it is essential that the

United States continue to make a full contribution to NATO's collective defense effort.

3. Southwest Asia and the Middle East

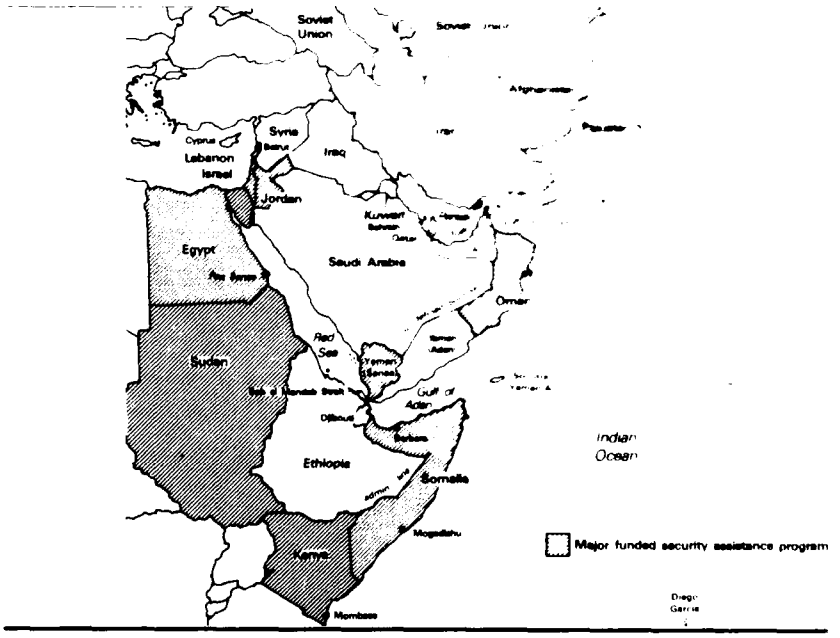
Political and military instabilities in Southwest Asia (SWA) and the Middle East continue to pose complex and dynamic challenges for U.S. defense planning. In response, President Reagan has steadfastly reaffirmed our commitment to protect U.S. and free world interests in the region, especially the pursuit of a lasting Arab-Israeli peace and continued access to Persian Gulf oil.

Over the past several years, we have improved our military capabilities for the region, primarily by enhancing the readiness and mobility of existing forces. Our plans, programs, and command structure for SWA and the Middle East have now begun to mature and provide us with a broad range of capabilities in those areas. Furthermore, they continue to be the mainstay of a larger effort to revitalize our worldwide rapid-response capabilities.

a. The Region and Potential Conflicts

Chart III.F.2 depicts the general areas we refer to as Southwest Asia and the Middle East.

Chart III.F.2
Southwest Asia and the Middle East



(1) Southwest Asia

It is our policy to support the independence and territorial integrity of friendly countries in this politically unstable region and to prevent a further spread or deepening of Soviet influence. In addition, the free world relies on SWA for one-third of its oil supply, making the area vital to the economic interests of the United States and, especially, its allies.

Although SWA is the focus of our rapid deployment planning, we currently have no agreements to station combat forces permanently ashore in the area and maintain only a limited sea-based presence there. Furthermore, political conditions and agreements with friends and allies near the region, in Europe, and elsewhere along vital lines of communications influence the availability of transit facilities needed to support our rapid deployment strategy. As a result, many of our programs emphasize mobility and access to countries en route to or near SWA.

Some of these programs have been completed, and many more are beginning to take effect. They have been very timely, and we have been able to use our new capabilities to support requests for assistance from several regional nations. For example, during the past several years, we have deployed AWACS aircraft to Saudi Arabia, supported the Sudan in response to threats emanating from Libya, and assisted Egypt to prepare against potential aggression, again from Libya. More recently, in response to regional concerns about the escalation of the Iran-Iraq war, we expanded our security cooperation with the governments of several Persian Gulf states. Most recently, in response to a request from the Egyptian government, we participated in multinational efforts to clear mines from international shipping lanes in the Red Sea.

Our programs for the region must offer capabilities across a wide spectrum of potential conflict. In most cases, we would provide only economic, technical, or security assistance (including military training and materiel). An overt Soviet invasion or direct military threat to our vital interests would, of course, pose a more demanding requirement for a military response that might involve the use of U.S. forces, together with any available forces of friends and allies.

(2) The Middle East

Our policy for the Middle East is based upon our goal of achieving a lasting Arab-Israeli peace. Accordingly, we support the security and territorial integrity of Israel and other nations in the Middle East region. As is the case with our SWA programs, which are focused on improving U.S. rapid deployment capabilities, our efforts in the Middle East are oriented toward deterring Soviet aggression by providing security assistance and economic support. This is especially true for Egypt and Israel, whose military forces are more than sufficient to provide for their territorial defense.

It is also necessary for the United States to provide direct military assistance to other countries in the Middle East. During the recent crisis in Lebanon, for example, and while we still had hopes that the warring parties would agree to withdraw their troops, we deployed Marine Corps units as part of the multinational peacekeeping effort. Further, in order to protect our Marine positions ashore, the U.S. Navy provided gunfire and tactical air support.

When the warring countries did not agree to withdaw their troops, the Multinational Peacekeeping Force was withdrawn.

U.S. troops also participate in peacekeeping operations in the Sinai as part of another Multinational Force and Observers (MFO) program.

b. Command Structure and Forces

In January 1983, we created the United States Central Command (USCENTCOM) with headquarters at MacDill Air Force Base, Florida. This is our first new geographic unified command in more than 35 years. Its establishment highlights the importance we place on being able to deter or oppose Soviet aggression in the SWA region.

The Commander in Chief, USCENTCOM (USCINCCENT) is charged with achieving U.S. national security policy objectives in SWA, including the Persian Gulf and Horn of Africa. His primary responsibilities are to ensure continued Western access to Persian Gulf oil; to deter Soviet aggression and preserve regional stability; and to halt, and if possible reverse, the spread of Soviet influence.

While, in principle, most of our general purpose forces could be used for rapid-response missions, we have identified a certain number of units that could readily be allocated to USCENTCOM for this purpose (see Table III.F.2).

Table III.F.2
Combat Forces Initially Available to USCENTCOM

Army	**Air Force**
1 Airborne Division	7 Tactical Fighter Wings[b]
1 Airmobile/Air Assault Division	2 Strategic Bomber Squadrons[c]
1 Mechanized Infantry Division	
1 Light Infantry Division	**Navy**
1 Air Cavalry Brigade	3 Carrier Battle Groups
	1 Surface Action Group
Marine Corps	5 Maritime Patrol Air Squadrons
1-1/3 Marine Amphibious Forces[a]	

[a] A Marine Amphibious Force typically consists of a reinforced Marine division and a Marine aircraft wing (containing roughly twice as many tactical fighter/attack aircraft as an Air Force tactical fighter wing, as well as a helicopter unit).

[b] Includes support forces. Does not include 3-1/2 tactical fighter wings available as attrition fillers.

[c] These bombers would be accompanied by reconnaissance, command and control, and tanker aircraft.

Later in the five-year planning period, as we improve our ability to move forces rapidly and provide adequate support, USCENTCOM's ground allocations will be gradually expanded. During peacetime, many of these units are assigned to the U.S. Readiness Command for

training purposes. Since they represent some of our most mobile and ready forces, they are available on a priority basis to USCINCCENT for his SWA mission. They are also available for rapid deployment missions in other regions.

CINCCENT recently established a small Forward Headquarters Element (FHE) afloat with our naval forces in the Persian Gulf. As local countries increase their interaction with the Command, we would expect to transfer more functions to the FHE.

c. Southwest Asia Regional Requirements

No matter where outside Europe we might send our rapidly deployable forces, the problems they would face are likely to be quite different from those posed by a NATO/Warsaw Pact conflict. The forces might have to operate in distant theaters characterized by an inadequate infrastructure (e.g., limited transportation and communications networks) and a harsh climate or difficult terrain, and where the United States maintains only a limited peacetime presence. Requirements for SWA illustrate the considerations we must incorporate into programs supporting our rapid deployment strategy.

Today, our peacetime presence in SWA is restricted primarily to sea-based forces in or near the Persian Gulf. To defend free world interests there, we must be able to project substantial ground and land-based tactical air power very rapidly to this distant region and sustain that power over time. Meeting these objectives will require:

-- Responding promptly to warning signals;

-- Developing the capability to deploy forces rapidly over extended air and sea lines of communications and to sustain the forces in combat;

-- Gaining approval for, and developing, land-based prepositioning sites;

-- Obtaining both overflight rights and en route access from several additional countries;

-- Securing lengthy air and sea lines of communications for considerable periods of time;

-- Obtaining access to and improving selected airfields and seaports in the theater;

-- Obtaining additional host nation support from countries en route to and in SWA;

-- Improving our cargo-handling capabilities to compensate for the lack of local infrastructure and trained personnel; and

-- Tailoring support (e.g., water, medical, communications, and transportation) for unique and austere combat operations.

All of these goals require improved relationships with moderate, friendly nations of the region.

d. Key FY 1986-90 Programs

We have made an impressive start toward responding to each of these challenges. The FY 1986-90 program builds largely on existing efforts; only a few of the programs are new.

(1) Command, Control, Communications, and Intelligence (C^3I)

A secure, survivable C^3I network is essential for conducting military operations in any theater, and it is one of our highest priorities in SWA. Communications facilities in the region -- unlike those in other, more developed theaters -- are practically nonexistent, except in a few urban areas. We therefore must acquire communications equipment that is capable of operating over long distances, is resistant to jamming, and is easily transportable -- a formidable and costly task. We are requesting $280 million over the next five years to procure mobile C^3I equipment that will initially be based in the United States, ready for rapid deployment to the region if needed.

Over FY 1986-90, our plans call for establishing three major communications nodes at appropriate locations. In the interim, we will rely on our Joint Communications Support Element (JCSE), which also must support other unified commands, and on the C^3 capability provided by a Deployable Field Headquarters (DFH) that will be operational in the next several years.

(2) Access and Improvements to Regional Facilities

We have reached formal agreements with several nations, and are pursuing negotiations with others, for permission to preposition materiel and conduct routine training exercises during peacetime, and to use regional facilities during crises. In some cases, it has been necessary to improve the existing facilities and infrastructure. These projects were initially funded in FY 1980-81, and most will be completed by the end of FY 1987. We will continue to seek opportunities for further improvements as our access to facilities in the region increases.

Table III.F.3 shows our funding requirements for military construction projects in countries where we have, or expect to gain,

Table III.F.3

Military Construction Funding for SWA-Related Facilities[a] (Dollars in Millions)

Location	FY 1981-85 Appropriated	FY 1986-90 Programmed
Kenya	57.9	–
Oman	255.0	–
Somalia	54.0	–
Other	96.0	128.0
Total	**462.9**	**128.0**

[a] Does not include planning and design costs.

access. It is important to emphasize that we are not creating U.S. bases, per se, in SWA. Rather, we are improving existing facilities that U.S. forces might use and are arranging for prompt access when needed and when invited by the host government.

Egypt has offered temporary access to its facilities, including the strategically located installation at Ras Banas on the Red Sea, in the event the United States is invited to come to the defense of a friendly Arab country. The facility at Ras Banas would require improvement in order to be suitable for use by U.S. forces. Because of domestic legal and political considerations, however, the Egyptian government has declined a U.S. proposal to upgrade the base. The Egyptians plan to improve the base themselves, but this could be a protracted undertaking. In the meantime, the Egyptian government has reaffirmed its willingness to allow us to use other facilities in an emergency. If such a contingency should arise, we would, with Egyptian approval, be able to deploy forces near a potential conflict area in the region sooner than if we had to wait until we could move directly to the affected country.

Under the provisions of the U.S./Oman Facilities Access Agreement, and with the approval of the Omani government, we are improving selected facilities in that country for use by the United States during peacetime or in crises. Many of these improvements are nearly complete. They include upgraded runways, taxiways, and aprons; support facilities for personnel and maintenance; and storage facilities. Omani facilities are important for extending sea control, basing tactical aircraft, and staging ground forces during regional contingencies, as well as for supporting U.S. naval forces.

We also have completed some relatively small but important construction projects in Kenya and Somalia. Kenya has allowed us to use its facilities at Mombasa, where we have dredged the harbor and upgraded the airfield with improved navigation aids, utilities, and maintenance facilities. This port is useful for maintaining and refueling our ships, including aircraft carriers, and offers one of the few locations in the region for crew rest and liberty. Somalia has allowed us access to its seaport and airfield at Mogadishu, where we have improved the airfield's pavement and support facilities, and at Berbera, where we have made similar airfield modifications and have added POL storage and distribution facilities along with other improvements to the seaport.

(3) Exercises and Training

Our ability to conduct military operations in SWA or elsewhere is enhanced through combat exercises in and outside the theater, as well as through communications and logistics exercises and wargaming. Because we believe they are essential for operational readiness, as well as to demonstrate U.S. resolve in SWA, we plan to continue a wide range of exercises in the region. These programs have been well received by many SWA nations and, as a result, should enjoy greater participation in the future.

Our most recent major exercise in SWA was BRIGHT STAR 83, conducted in the fall of 1982. The exercise lasted about 30 days and involved some 5,500 U.S. troops operating in four countries. In Egypt, Army and Air Force units conducted field training and air defense maneuvers with Egyptian forces. In the Sudan, we airdropped Army Rangers for combined operations with the Sudanese army, and our

Marines practiced amphibious operations. We plan to hold another BRIGHT STAR exercise in SWA later this year.

Instead of exercising in SWA in FY 1984, we held exercise GALLANT EAGLE in California and Nevada, where some 50,000 personnel from all four Services participated in a simulated SWA conflict. Notably, GALLANT EAGLE marked the first use of our SL-7 fast sealift ships.

(4) Intertheater Mobility

The intertheater lift programs planned for FY 1986-90 will significantly improve our ability to deploy forces to distant theaters, particularly Southwest Asia. Airlift enhancements will almost double our ability to move forces, primarily air defense and light Army units, rapidly to this area. The Maritime Prepositioning Ship (MPS) program will provide our first rapid-response capability for a division-sized Marine force augmented with armor. An increase in government-controlled shipping will enable us to move a two-division corps by sea, one of them on fast sealift. (The Force Projection chapter provides further details on these and other intertheater mobility enhancements.)

e. Security Assistance

More than one-half of the $5.65 billion we are requesting for FMS credits in FY 1986 will go to countries in the SWA/Middle East region, and all of the guaranteed FMS loan credits extended to Israel ($1.8 billion) and Egypt ($1.3 billion) will be forgiven. More than half of the U.S.-provided Economic Support Funds (ESF) will be applied to enhance our economic and foreign policy objectives in the region. Table III.F.4 summarizes the major security assistance programs by country and type of assistance.

Table III.F.4

Major Funded Programs, FY 1986
($ in Millions)

Country	FMS Credits	Map Grants	International Military Education and Training Program	Economic Support Funds
Egypt	1,300	–	2.00	815
Israel	1,800	–	–	–[a]
Jordan	95	–	2.00	20
Kenya	–	25	1.80	35
Lebanon	10	–	0.80	10
Morocco	5	45	1.85	22.5
Oman	58.3	–	0.15	20
Pakistan	325	–	1.20	250
Somalia	–	40	1.50	35
Sudan	–	58.5	1.75	120
Tunisia	53	16	1.70	22.5
Yemen Arab Republic	–	6	1.55	–

[a] Not yet determined.

The program for Israel will help that country defend itself and ease the burden of its enormous defense effort. The program for Egypt continues our support for that nation's long-term military modernization plan, which includes a transition away from obsolescent Soviet equipment.

The program for Jordan will remedy major deficiencies the Jordanian armed forces face in countering the growing, Soviet-supported Syrian military buildup. The programs for Oman, Somalia, and Kenya complement our agreements for access to facilities in those countries and will help their governments cope with threats from neighboring states. Our substantial program with Pakistan represents the continuation of a multiyear modernization plan necessitated by the Soviet invasion of Afghanistan. The program for Morocco supports U.S. efforts to help that country modernize its armed forces, and the program for Tunisia will help it resist Libyan-supported threats to its internal security. These programs are provided on both a repayable-loan and grant basis.

We also anticipate continuing requests from other countries, such as Saudi Arabia and the United Arab Emirates, for help in modernizing their armed forces through direct cash purchases of military equipment and services, including construction.

f. Host Nation Support and Prepositioning

To the extent that host nation support can be provided by regional nations during a contingency, and that we can preposition materiel in peacetime, our limited intertheater lift assets could deliver more combat forces and equipment during the critical early days of a deployment to SWA. Our negotiations and plans for obtaining such support must consider the differing strategic priorities and perceptions of nations in the region; the absence of an indigenous integrated command structure and common operational concepts; and the long lines of communications, major geographic barriers, political instabilities, economic uncertainties, and strong religious and cultural biases that are prevalent. No nation in SWA is a formal ally of the United States, and all are wary of perceived superpower insensitivity to their sovereignty.

These problems, while formidable, are not insurmountable. We have approached several SWA countries with requests for host nation and contingency support and for permission to preposition U.S. materiel. We have achieved some successes in these areas, and we will continue discussions in the future.

g. Extraregional Allied Support and Cooperation

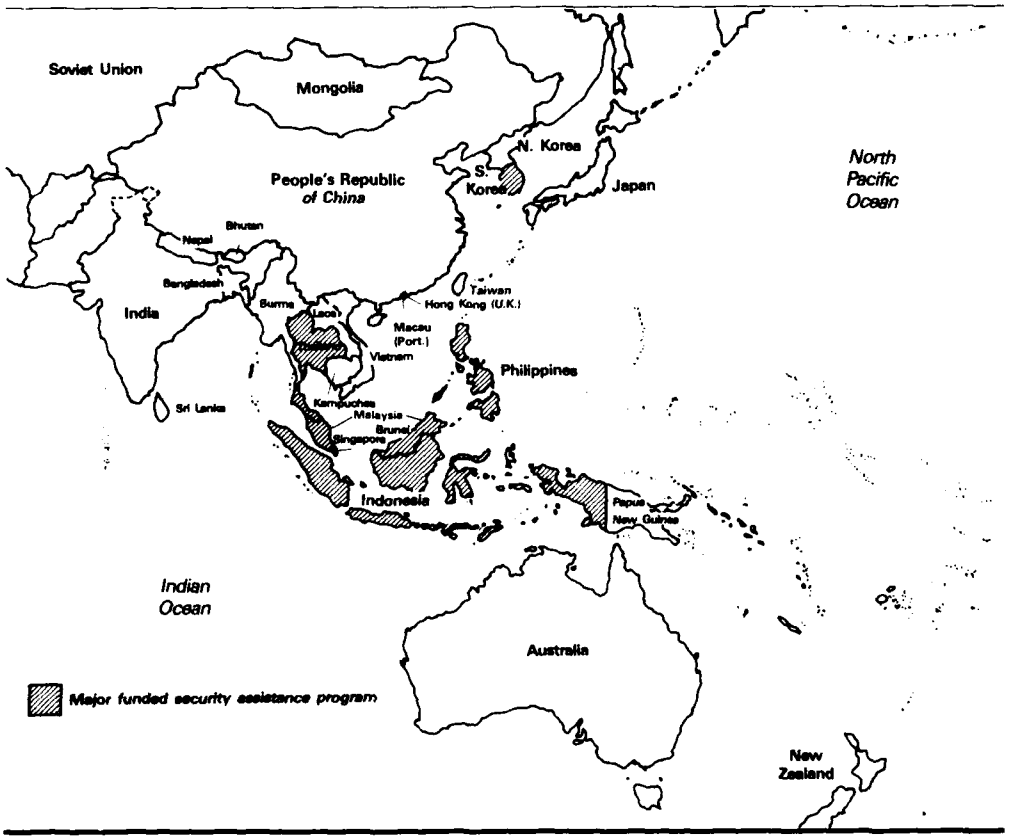
Many of our friends and allies have long experience -- and, in some cases, still maintain a presence -- in SWA. France, for example, has naval and tactical air facilities in Djibouti that could help keep the Bab el Mandeb Strait open in a conflict. Similarly, the United Kingdom has provided military personnel to assist the Sultan of Oman's armed forces and has made arrangements for our using and improving its facilities at Diego Garcia. France, Italy, the United Kingdom, the Netherlands, and Norway have all participated in multinational peacekeeping forces in the Middle East. A number of the European allies have provided en route support to U.S. forces deploying to SWA for exercises or other missions. Furthermore, the United Kingdom and France routinely deploy forces to the region. Depending on the situation, external allied support and cooperation could be very helpful

to us in a crisis. We and our NATO allies are studying ways for them to compensate in Europe for any diversion of NATO-oriented U.S. forces to SWA in the event of simultaneous conflicts in the two regions.

4. East Asia and the Pacific

East Asia and the Pacific (depicted in Chart III.F.3) have important economic and security ties to the United States. More than 30 percent of U.S. trade is conducted with the nations of this region, and five of our eight mutual security treaties link us with East Asian or Pacific nations. The commitments derived from these economic and security relationships require a strong and visible U.S. presence to deter the Soviet Union, North Korea, and Vietnam from interfering with the independence and stability of our friends and allies.

Chart III.F.3
East Asia and the Pacific



a. Command Structure and Forces

The U.S. Commander in Chief, Pacific (USCINCPAC), with headquarters in Hawaii and forces spread across the western Pacific and

Indian Ocean, has geographic responsibility for over 50 percent of the earth's surface. Major units available to USCINCPAC are shown in Table III.F.5.

Table III.F.5
Forces Available to USCINCPAC

Army	Air Force
1 Infantry Division (Korea)	1 Strategic Bomber Squadron
1 Infantry Division (Hawaii)	10 Tactical Fighter Squadrons
	5 Tactical Support Squadrons
Marine Corps	**Navy**
Portions of 1 Marine Division (Okinawa)	6 Carriers with Air Wings
1 Marine Brigade (Hawaii)	89 Surface Combatants
1 Marine Division (California)	32 Amphibious Ships
	40 Attack Submarines
	12 Maritime Patrol Aircraft Squadrons

b. Security Relationships

The size of the East Asia and Pacific region and the limited availability of our own forces require strong cooperation with our friends and allies in meeting threats posed by potential adversaries.

(1) Japan

Our defense partnership with Japan, based on the Treaty of Mutual Cooperation and Security, remains the cornerstone of our defense policy in East Asia. Long-standing Japanese national policy calls for that country to acquire and maintain forces adequate for the defense of its land area and surrounding airspace and sea-lanes, out to a distance of 1,000 miles. These goals are supported by a strong U.S. presence in the Pacific and Indian Oceans.

(2) Republic of Korea (ROK)

U.S. and ROK forces face a growing military threat from North Korea. North Korea could today launch a massive attack with very little warning. Together with the ROK and our United Nations partners, we must continue to strengthen U.S. and ROK capabilities. With U.S. assistance, ROK ground and air forces are modernizing and improving their ability to conduct joint operations. We are also helping Korea improve its C^3I systems, upgrade its petroleum storage facilities and contingency airfields, and enhance the overall sustainability of its forces. At the same time, we are continuing efforts to reduce tension and maintain peace on the Korean peninsula.

(3) The Philippines

The Mutual Defense Treaty of 1951 and the Military Base Agreement of 1947 are the foundations of our security relationship

with the Philippines. U.S. military facilities there permit a continuous air and naval presence in East and Southeast Asia and support U.S. forces operating in the western Pacific and Indian Oceans. The proximity of these facilities to the international sea-lanes connecting the Persian Gulf, Southeast Asia, and Northeast Asia makes them vital to the security of the region. Persistent problems in the Philippines have spawned a communist-led insurgency to which the Philippine government has responded with political and economic, as well as military, measures. U.S. military assistance and training programs will aid in dealing with the security-related aspects of the insurgency.

(4) Thailand

Maintaining the independence and territorial integrity of Thailand is critical to the stability of Southeast Asia. The presence of 150,000 to 170,000 Vietnamese troops in Kampuchea poses a direct threat to Thai security. We will continue to provide Thailand with military assistance and training to bolster its self-defense capability, under the auspices of the Southeast Asia Collective Defense Treaty (Manila Pact).

(5) Australia and New Zealand

The ANZUS Treaty links us with two of our oldest allies, Australia and New Zealand, in defense efforts supporting our mutual interests throughout the South Pacific.

c. Security Assistance

Again this year, more than half of the proposed FMS credits for the East Asia and Pacific region support the ROK Force Improvement Plan ($228 million). Most of the remaining FMS credits will be divided among the Philippines ($50 million), to help it stem the growing communist-led insurgency; Thailand ($97.5 million), whose borders are threatened by the substantial Vietnamese force in Kampuchea; and Indonesia ($34.7 million), which sits astride vital sea lines of communications.

Table III.F.6

Major Funded Programs, FY 1986
(Dollars in Millions)

Country	FMS Credits	Map Grants	International Military Education and Training Program	Economic Support Funds
Indonesia	34.7	–	2.80	–
Korea	228.0	–	2.20	–
Malaysia	5.0	–	1.15	–
Philippines	50.0	50	2.25	95
Thailand	97.5	5	2.50	5

d. Regional Exercises

U.S. forces conduct major live-fire exercises with the ROK each year, including TEAM SPIRIT, the largest combined field-training

exercise in the world. We also participate in annual bilateral and multinational exercises on a lesser scale with Japan, Thailand, the Philippines, Australia, and New Zealand.

5. Western Hemisphere

U.S. security commitments to Latin America are based on our adherence to the Rio Treaty. (The countries of this region are shown in Chart III.F.4.) Our policy seeks to defend the continental United States, and to minimize U.S. military presence and tailor security assistance to the specific needs of the armed forces of our friends there.

Chart III.F.4
Western Hemisphere

Despite a recognition of the need to broaden U.S. security assistance to help our allies meet the growing Soviet, Cuban, and Nicaraguan threat, we have been unable to obtain the funding necessary for more than a superficial improvement. In the face of growing military buildups in Cuba and Nicaragua, neighboring countries have been able to do very little because of deteriorating economic conditions.

a. Command Structure and Forces

The Commander in Chief, U.S. Southern Command (USCINCSOUTH), with headquarters in Panama, has responsibility for Central and South America. The Commander in Chief, U.S. Atlantic Command (USCINCLANT), headquartered in Norfolk, Virginia, has responsibility for the Caribbean and the ocean areas surrounding Central and South America.

The United States maintains an Army brigade as well as small Air Force and Navy contingents in Panama. We also maintain bases in Puerto Rico and at Guantanamo Bay, Cuba. Although we have no bases in Honduras, an annex to our 1954 agreement with that country provides for U.S. access to Honduran airfields.

The U.S. Army School of the Americas in Panama, which had trained Latin American officers for 38 years, unfortunately closed its doors on September 30, 1984, pursuant to provisions of the Panama Canal Treaty. Because of its major contributions to our security as well as to the security of our neighbors, the school is continuing to operate from temporary quarters at Fort Benning, Georgia, until a suitable permanent facility can be found, probably in this country.

b. Programs

U.S. programs for the Western Hemisphere stress mutual coordination in responding to regional security needs. For example, the Memorandum of Understanding on Industrial/Military Cooperation signed in 1984 with Brazil should advance military cooperation on arms production and sales. Intelligence sharing allows our friends to take advantage of U.S. information-gathering assets. Annual conferences of the Service Chiefs of the Americas have also proven very beneficial over the years.

c. Security Assistance

A more intense exercise program is another way in which the United States has been able to demonstrate its commitment to regional allies and to give our forces an opportunity to train together. U.S. security assistance programs are focused on the training and materiel support required to enhance the performance of Latin American armed forces. These programs are designed to respond to critical military needs, not to promote arms purchases that would increase already-burdened regional defense budgets.

The U.S. security assistance effort has been focused primarily on the immediate defense needs of El Salvador and Honduras. The Regional Military Training Center in Honduras has been a convenient and cost-effective way of training the Salvadoran and Honduran armed forces to defend their homelands and resist communist-led insurgencies. U.S. instructors trained more than 6,000 personnel at the Center last year. Mobile training teams in El Salvador and Honduras are attempting to redress other deficiencies, such as

medical care and command and control support. Equipment acquisitions have improved mobility and medical evacuation capabilities, while enhancing communications security.

Table III.F.7

Major Funded Programs, FY 1986
(Dollars in Millions)

Country	FMS Credits	Map Grants	International Military Education and Training Program	Economic Support Funds
Bolivia		6.0	0.30	10
Colombia	20	-	0.95	-
Costa Rica		2.5	0.225	150
Dominican Republic	4	6.0	0.80	50
Eastern Caribbean		10.0	0.40	35
El Salvador		131.0	1.60	210
Guatemala	10	-	0.30	25
Honduras	-	87.0	1.25	80
Jamaica	-	8.0	0.275	70
Panama	4	14.4	0.65	40
Peru	10	18.35	0.85	45

We will continue to support the security forces of the member states of the Eastern Caribbean Regional Security System, as well as Jamaica and the Dominican Republic. To the extent possible, we will coordinate our efforts with those of allied nations active in the region, particularly the United Kingdom.

The increasing guerrilla actions in the Andean countries demand that U.S. security assistance efforts not be overly restricted to Central America. Reductions in political violence and improvements in civil-military relations may make resumption of security assistance possible in Guatemala.

d. Regional Exercises

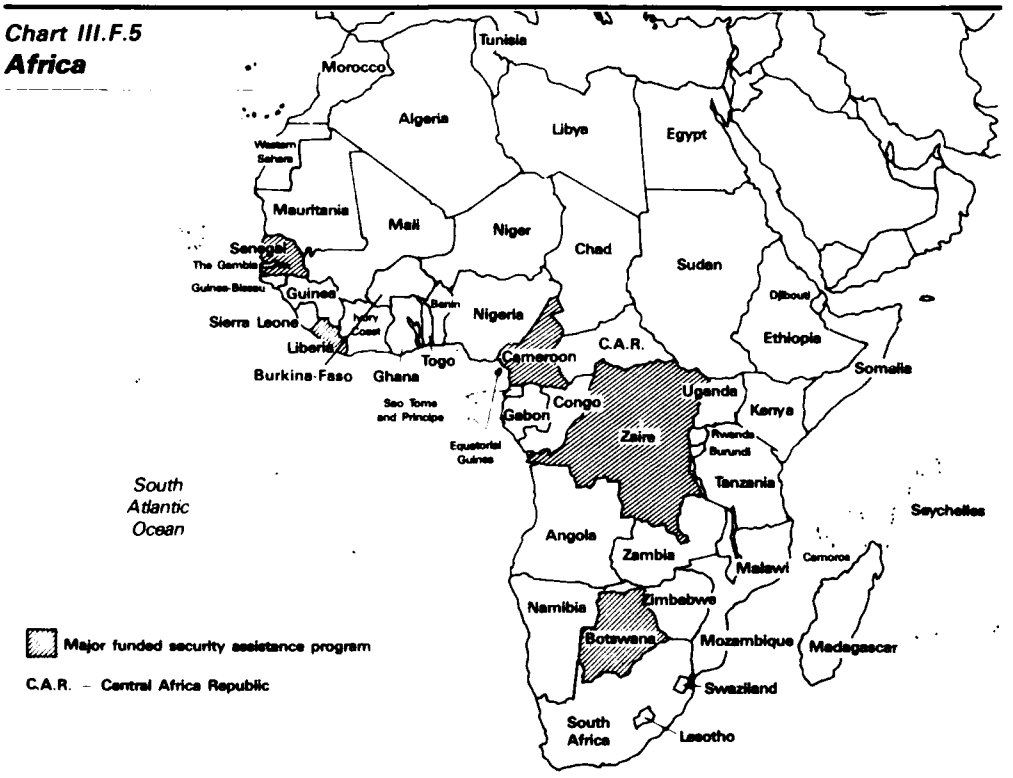
The United States and eight South American countries participated in last year's UNITAS exercise, which involved a circumnavigation of South America. This exercise program, which has been conducted for 25 years, fosters solidarity, goodwill, and military professionalism among participating navies.

In 1984, the United States participated in combined exercises such as AHUAS TARA II and GRENADERO I in Central America and adjacent waters. In MINUTEMAN I, an engineer training exercise conducted in Panama, active Army and Army National Guard units joined with Panama Defense Force personnel in constructing and improving roads on the western coast of Panama. Such exercises improve our ability to respond to crises in the region, provide an opportunity to train with local forces, and -- perhaps most important -- demonstrate the United States' commitment to allies there.

6. Africa

In Africa, (see Chart III.F.5) we seek an environment in which nations can achieve political stability, territorial security, and economic well-being. These goals are threatened by the continued expansion of Soviet and Soviet-surrogate influence and adventurism in the region. The Soviets, in concert with Cuba and Eastern bloc states, supply large amounts of equipment, materiel, advisory assistance, and training to Libya and the nations of Sub-Saharan Africa. About 2,500 Cuban military personnel -- many of them combat troops -- are stationed in Ethiopia. Some 30,000 more Cuban soldiers are fighting to preserve the Marxist government in Angola from a growing resistance movement, in part to help ensure continued Soviet access to military facilities and the continued use of Angola as a base for supporting Marxist-dominated "liberation movements" in southern Africa. These circumstances, combined with Libya's continued aggression against Chad in the past year, have been of major concern.

Chart III.F.5
Africa



a. Command Responsibilities

Three unified commanders have responsibility for Africa. The U.S. Commander in Chief, Europe (USCINCEUR), has responsibility for most of the continent. Egypt, the Sudan, Ethiopia, Djibouti, Somalia, and Kenya are the responsibility of the Commander in Chief, U.S. Central Command (USCINCCENT); and the four African island states in

the Indian Ocean are the responsibility of the Commander in Chief, U.S. Pacific Command (USCINCPAC).

b. Security Assistance

The security assistance request for Africa supports ongoing programs through the provision of training, logistical support, and spare parts. Most of the assistance will be extended through MAP grants and economic support funds; few transfers of major weapons systems are anticipated. The bulk of our FY 1986 funds will be directed to programs benefiting Liberia, Botswana, Zaire, and Chad. The assistance to Chad is especially important as that country attempts to cope with Libyan subversion and aggression. We are continuing the regional Civic Action Program, under which we help African armies undertake activities (such as road building) beneficial to their countries' military and civil sectors, and aid African navies and coast guards in improving their ability to patrol territorial waters and enforce fishing regulations.

Table III.F.8

Major Funded Programs, FY 1986
(Dollars in Millions)

Country	FMS Credits	Map Grants	International Military Education and Training Program	Economic Support Funds
Botswana	6	4	0.40	8
Cameroon	7	–	0.225	–
Chad	–	6	0.15	10
Gabon	5	–	0.15	–
Guinea	–	5	0.15	–
Liberia	–	13	1.30	45
Niger	–	5	0.275	7
Senegal	–	4	0.50	15
Zaire	–	10.4	1.40	15
Civic Action Program	–	7	–	–

G. MOBILIZATION

1. Introduction

Mobilization is the process by which the Armed Forces are brought to a state of readiness for war or other national emergency, including activating all or part of the Reserve Components. The capability of the United States to mobilize its vast economic, industrial, and human resources to augment the active force in times of national emergency is an essential factor in deterring potential enemies and reassuring our allies. The complexity and magnitude of the entire process makes peacetime planning essential for the success of mobilization. This chapter addresses the Reagan Administration's emphasis on mobilization planning and the resultant enhanced military preparedness.

The President has repeatedly emphasized his personal commitment to mobilization planning and preparedness. In National Security Decision Directive (NSDD) 47, he established a clear policy to develop programs to provide sufficient manpower and materiel to mobilize. This guarantee of the nation's ability to mobilize is a significant factor in deterring potential enemies and in assuring our allies of our continued support.

2. Interagency Mobilization Initiatives

a. The Emergency Mobilization Preparedness Board (EMPB)

In 1981, the President established the EMPB to develop a means for managing America's mobilization potential. The Board is chaired by his Assistant for National Security Affairs and includes deputy cabinet-level representatives from all major Federal Departments and Agencies having mobilization preparedness responsibilities. The Board establishes national policy in the mobilization area, develops and monitors progress on the National Plan for Emergency Preparedness, and resolves issues that arise in the mobilization planning process.

b. Military Mobilization Working Group (MMWG)

The MMWG is a chartered working group of the EMPB that focuses on improving and enhancing the interagency coordination of plans and procedures for military mobilization and for military support to civil agencies in emergencies. Among its major accomplishments, the MMWG has:

-- Identified and described a range of scenarios for national mobilization planning;

-- Determined DoD's initial resources required to support mobilization;

-- Established, with the Federal Emergency Management Agency (FEMA), a Federal Resource Assessment System for the annual appraisal of mobilization resource availability;

-- Prepared standby legislation to draft health professionals into the military, should the number of volunteers to deal with the crisis be inadequate; and

-- Evaluated the ability of current systems to support civil defense, to provide military assistance to civil authorities as required, and to recommend changes in these systems.

In the coming year, the MMWG will continue to promote interagency mobilization planning. In that regard, it is now developing an unclassified mobilization scenario for the use of those Federal Agencies which need to conduct mobilization support planning but are unprepared to deal with the classified materials found in the current plans. Working groups within the MMWG will refine the estimates of DoD's mobilization resource requirements through use of the Federal Resource Assessment System. Work will also begin on defining the resource requirements of the nation and its ability to fulfill them. Consideration will be given to defining our defense requirements for critical skills other than health professionals and for determining if there is a need for standby draft legislation covering such skills. The MMWG will also develop interagency plans and resource requirements to support deployment of forces. Finally, we plan to develop a system which will integrate military support into all non-mobilization crisis planning.

c. Emergency Communications Working Group (ECWG)

Executive Order 12472, Assignment of National Security and Emergency Preparedness Telecommunications Functions, consolidates the responsibility for telecommunications functions that support national security and emergency preparedness (NSEP). The Executive Order also established the National Communications System (NCS) and the NCS Committee of Principals. This major achievement in sorting out emergency communications roles and responsibilities significantly reduces duplicative government actions. Twenty-two federal organizations are now members of the NCS and serve on the Committee of Principals. Most taskings in the National Plan have been accomplished. The NCS has also begun a comprehensive review of those taskings to ensure that they respond to NSEP telecommunications needs within the framework of E.O. 12472.

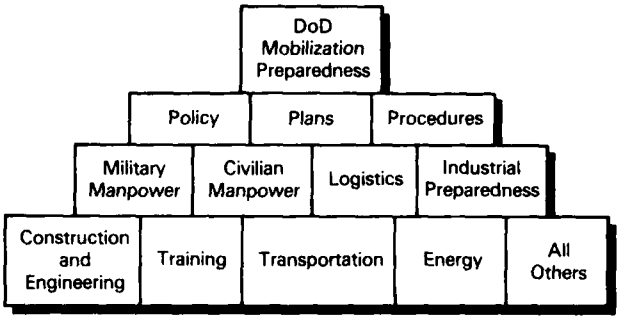
3. DoD Mobilization Initiatives

a. Planning and Policy

Our capability to mobilize is based on the accuracy of our plans and the availability of potential resources. In peacetime, we design contingency plans to respond to the various crises that may occur. This includes planning to ensure that the resources needed will, in fact, be available. Policy guidance forms the basis for our plans which are, in turn, evaluated through a series of recurring exercises. As illustrated in Chart III.G.1, mobilization preparedness is based on the building blocks of policy, plans, and procedures which in turn derive their support from a number of specific functional areas. The remainder of this chapter will discuss mobilization policy and plans, identifying those areas where notable progress has been made.

In recent years, policy guidance has been based on the likelihood of a multi theater war. This clear recognition of the international situation amplifies previous guidance based on a single theater, NATO-only conflict. In turn, it has led to an expansion and complication of mobilization plans and procedures. However, as we learn from our expanded planning and procedures, we are likewise enhancing our mobilization preparedness.

Chart III.G.1
DoD Mobilization Preparedness Building Blocks



Mobilization planning took a step forward in June 1982 with the publication of the DoD Master Mobilization Plan (MMP). The MMP is the keystone of our mobilization planning efforts. While the MMP is intended to provide broad, department-level policy guidance, it also establishes specific responsibilities and tasks for DoD components. An annex was added to identify those critical decisions which must be made upon mobilization.

Recent exercises identified a need to update the MMP. During fall 1984, we distributed a revised MMP that includes new roles and responsibilities corresponding to the DoD reorganization. Also, we incorporated the findings of a DoD task force to upgrade and define in more detail responsibilities in the logistics area. In the spring, we expect to publish a new section to clarify OSD's role in mobilization exercises. This will help train both leadership and staff support to deal with real crisis problems.

A DoD Crisis Management System (CMS) has been developed to enhance the ability of the DoD staff to perform its essential functions more rapidly and effectively in times of major crisis. This system permits action on a large number of critical issues to:

-- Support the Secretary of Defense and other DoD principals with the information necessary to permit timely decision-making;

-- Facilitate resolution of problems at the lowest practical levels;

-- Focus the major issues for senior decisionmakers; and

-- Provide a single information source for all DoD activities in responding to the crisis at hand.

The CMS has been tested, evaluated, and refined in each of the last five major JCS-sponsored command post exercises. In July 1984, the Secretary of Defense approved the establishment of a small, permanent facility to be the core of DoD's crisis management activities.

DoD has been increasingly active in planning and participating in mobilization exercises. We have also instituted a remedial projects

program to identify lessons learned, to assign reponsibilities for correcting them, and to ensure actions are completed. DoD's increased role in exercises has improved the staff's ability to carry out its emergency functions.

b. Manpower Sustainability

Combat sustainability, the staying power of our combat force, depends on the continued availability of weapons, equipment, secondary items, fuel, and munitions to replace those consumed or destroyed during combat operations, and on the availability of trained personnel to replace combat casualties. Materiel sustainability is discussed in the Readiness and Sustainability chapter. Manpower sustainability is achieved through a combination of active military forces, mobilized Reserve Components, pretrained military manpower called to duty, newly trained military manpower, and the civilian manpower required to operate the support base.

Wartime manpower sustainability is measured by comparing demand with supply in the Wartime Manpower Planning System (WARMAPS). The WARMAPS military manpower subsystem is slowly expanding to address such military occupational areas as combat and medical, where we anticipate replacement problems may occur. We have also established a WARMAPS civilian manpower subsystem to identify our need for additional civilian personnel after mobilization. With each update of the civilian manpower data, we have improved our estimates of our wartime civilian manning requirements.

c. Military Manpower Initiatives

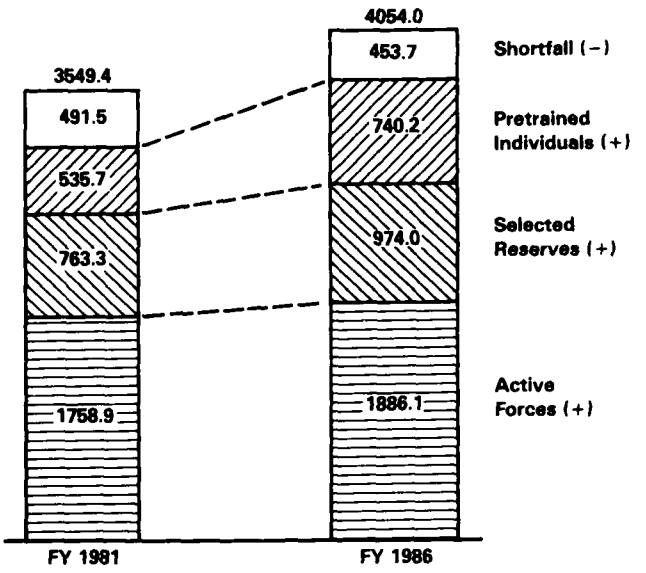
As depicted in Chart III.G.3, WARMAPS data shows a significant increase in military manpower requirements between FY 1981 and FY 1986. The increased requirement for military manpower is largely caused by a change in the projected scenario from a single theater (NATO) conflict in FY 1981 to a multitheater worldwide conflict in FY 1986. However, when requirements are compared with supply of active forces, Selected Reserve, and pretrained individuals, the size of the shortfall decreases between these years. While the size of the shortfall in total manpower has decreased, we expect certain critical skill shortages to exacerbate our shortfalls. However, these shortfalls generally occur later in a projected scenario than do equipment and ammunition shortfalls.

We have instituted programs to increase military manpower sustainability now. The results of a variety of initiatives are beginning to affect both the quantity and quality of the Individual Ready Reserve (IRR). The IRR has grown steadily from a low of 342,000 in June 1978 to over 445,000 in FY 1984, and is projected to be more than 467,000 by FY 1986. The Army has initiated refresher training programs to ensure that the IRR will be an immediately usable wartime asset. All Services are also intensively managing the IRR pool to identify those individuals who could occupy critical mobilization positions and to screen out those individuals who will not be available for wartime service.

Extension of the military service obligation (MSO) from six to eight years, along with IRR enlistment and reenlistment bonuses, are designed to alleviate the manpower sustainability problem. We expect these bonuses to reduce specific shortages in combat and combat support skills in the IRR, thereby increasing our near-term manpower sustainability. Implementation of the eight-year MSO on June 1, 1984

Chart III.G.2

Wartime Military Manpower Requirements



will begin to eliminate aggregate manpower shortfalls beginning in FY 1990. These mobilization manpower initiatives are discussed in greater detail in the Reserve Military Manpower section of the Manpower chapter.

We are also making progress in establishing plans to assess both the quantity and quality of manpower required to meet our global requirements. Specific subjects under study include allocation and use of conscientious objectors, quality distribution of military manpower among the Services, industrial deferments, and testing of the entire DoD mobilization manpower acquisition process.

The Army is aware of a potentially significant problem in its training base surge capacity and is conducting an in-depth evaluation of the issue. The Army is sizing its training base to provide enough surge capacity to accept and adequately train nonprior service personnel as well as retrain prior service personnel into shortage skills.

In FY 1981, the Navy lacked the medical capability to support a global conflict. During a global conflict, it would have had to evacuate the majority of Navy and Marine Corps combat casualties to the United States with a resultant increase in morbidity and mortality rates. The Navy has initiated several large-scale programs to improve its operational medical readiness. These programs include the design, procurement, and staffing of 19 fleet hospitals and two hospital ships, significantly improving the Navy's capability for treating both Navy and Marine Corps in-theater combat casualties.

d. Civilian Manpower Initiatives

The requirement for wartime civilian manpower has grown from 1,120,000 in 1981 to 1,187,000 in FY 1984 -- an increase of 67,000.

This is a result of the addition of the mobilization requirements of all Defense Agencies to our data base as well as better planning, better definition, and a more detailed look at our wartime civilian manpower needs. In the face of this larger and more defined requirement, our estimated supply of civilian manpower at the start of mobilization has also increased significantly -- from 682,000 to 863,000. This has reduced the overall number of new people we would need to hire in a mobilization from 438,000 to 324,000. However, there is still great difficulty in hiring this many people in the right occupations and grades and at the right locations.

Recognizing the importance of civilian employees in a national emergency, we have concentrated our efforts on improving our ability to hire additional civilians quickly. We will soon provide each DoD installation information on civilian DoD retirees living within commuting distance. During a crisis, our civil service retirees could provide a ready source of trained manpower.

We have improved our ability to work with the local offices of the United States Employment Service (USES) upon which we would depend for much of our mobilization recruiting. With the aid of the Office of Personnel Management, we now can present recruitment requests listed with the same occupational code used by the USES offices. A recent mobilization exercise showed that our past inability to do this would have greatly limited USES' assistance.

We have also introduced a new policy to preclude the loss of key civilians in essential overseas positions during a crisis. Although our civilian employees have an excellent historical record of serving in hazardous areas during past wars, DoD agreed with the Congress that we should do everything possible to retain key civilian employees during emergencies. We plan to issue a similar directive on contractor personnel in the coming year.

e. Logistics Initiatives

In the past, a major emphasis of many DoD policies has been the promotion of peacetime economies and efficiencies. This emphasis could impact negatively on our ability to meet the anticipated surge in throughput capacity required during mobilization. As a result, we have begun to identify those DoD logistics policies and procedures that would be modified during mobilization. Our objective is to develop a set of standby actions that can be rapidly and selectively implemented during mobilization in order to maximize the ability of available staff and Automatic Data Processing (ADP) resources to provide wholesale-level logistics support to deployed or deploying forces.

Exercises PROUD SABER and WINTEX/CIMEX 83 demonstrated that DoD responsibilities for materiel management during mobilization were not clearly delineated. Thus, we created the Mobilization Materiel Management Task Force (MMMTF) in April 1983 to address deficiencies in the MMP and CMS. The MMMTF has completed its review, and the MMP and CMS have been revised. As a result of these efforts, materiel management and organizational roles in the event of mobilization are now clear and integrated.

f. Industrial Preparedness Initiatives

To improve industrial responsiveness to mobilization requirements and plans, we have taken steps to focus on our highest

priority mobilization requirements in accordance with peacetime affordability concerns. Our priorities for industrial base investment seek to:

-- Achieve peacetime production efficiencies, while retaining a warm production base for critical items;

-- Achieve production surge capability for high priority consumables and critical components identified by the Joint Chiefs of Staff and the Services;

-- Meet wartime sustainability objectives, whenever feasible, for critical munitions and combat equipment; and

-- Maintain a viable industrial preparedness planning program to reduce post M-day industrial base response times for mobilization requirements.

For the first time, funds have been authorized by the Congress to begin developing in FY 1985 a production surge capability for the TOW-2 missile. Also for FY 1985 and FY 1986, a total of $100 million has been authorized to establish or expand domestic capacity and supplies of critical industrial materials. A joint industrial base study on precision guided munitions (PGM) has commenced and seeks to permit a more realistic assessment of industrial base capability to satisfy the combined requirements of all the Services for the PGM category of materiel. The D-to-P (time between initiation on D-Day and full production sustainability) concept has been reemphasized to determine the optimum investment balance between industrial responsiveness in wartime and war reserve stocks in peacetime. Other mobilization preparedness enhancements of industrial planning are covered in the Industrial Base chapter.

g. Construction and Engineering Initiatives

We continue to make significant progress in planning for the timely acquisition of facilities required during mobilization. The construction agents have developed concept designs for common facilities that must be constructed. Detailed designs are now under way. The Services have identified commercial facilities that could be used to support mobilization. FEMA is coordinating with other federal and local agencies to ensure that they have not identified the same facilities for mobilization use. This will provide positive assurance that our facilities acquisition plans are credible.

h. Training Initiatives

We have recently taken two initiatives to enhance the effectiveness of Active and Reserve Component mobilization training. Reserve training is being integrated with Active Component training and training technology. Additionally, we have formed the Defense Training Data and Analysis Center (TDAC), an organization whose tasks will include analysis and evaluation of cost-effective training improvements for Active and Reserve Components.

i. Transportation Initiatives

DoD transportation initiatives in the mobilization area have resulted in improved planning and interagency coordination mechanisms and agreements. The Contingency Response (CORE) Program established an on-call interagency team of senior officials, augmented by members

of the commercial transportation industry, to be activated in a contingency. This team will implement procedures which significantly reduce the reaction time required to muster civil rail, motor, and air assets to meet DoD mobilization transportation needs.

Our mobilization and deployment plans call for activation and operation of DoD terminals at commercial water and air ports by reserve transportation units. Important initiatives to improve the reaction time and operational performance of these units include:

-- Completion of a series of mobilization workshops and on-sight briefings for supported and supporting units;

-- Training of reserve units at their actual mobilization site on a regular basis; and

-- Preparation of detailed battle books providing a guide to local authorities, contractors, and facilities (to include maps and photographs) at various ports.

Port readiness is a major planning concern. The complex and seemingly overlapping roles and missions of federal, state, and local authorities, compounded by the presence of private business elements in U.S. ports, have long been a confusing issue. A DoD-initiated joint interagency memorandum of understanding has just been completed. For the first time, a single document sets forth jurisdictional responsibilities, provides for timely exchange of information, and details procedures for the optimum use of personnel and resources through cooperative effort.

Significant progress is being made in automating logistical functions to support mobilization and deployment of U.S. forces:

-- Logistic Applications of Automated Marking and Reading Symbols (LOGMARS), a system to mark equipment and capture data in unit movements, was tested successfully in REFORGER 84. This system accelerates the processing of units through ports of embarkation, while reducing errors and the need for hard copy documentation.

-- The Crisis Action Management System (CAMS) is being developed to provide detailed transportation feasibility analysis for operational alternatives during crisis situations.

-- The Transportation Coordination Automated Command and Control Information System (TC ACCIS) is a joint prototype development project that will eventually result in automation of unit deployment planning and execution from unit level, through the Installation Transportation Office, to the Transportation Operation Agency.

-- The Automated Airload Planning System (AALPS) is a functional prototype which provides gross airload planning and type-load capability for units in a significantly reduced time frame.

-- Finally, a new Computerized Deployment Execution System (CODES) is in the initial stages of development and will automate the preparation of vessel stow plans, now a slow manual process.

These initiatives will enhance our transportation capability to meet the compressed reaction times anticipated during mobilization and deployment conditions.

j. Energy Initatives

During FY 1984, DoD also experienced progress toward its goals of improved energy preparedness and efficiency.

-- On the preparedness side, the Congress approved a legislative initiative to provide DoD with emergency authority to waive procurement regulations during petroleum emergencies. Had this authority been available earlier, it could have made a major difference in DoD's ability to obtain adequate fuel supplies in FY 1979 and FY 1980.

-- On the efficiency side, DoD continues its management and investment programs to improve energy efficiency in both facilities and operations. On both fronts, DoD has made significant achievements in energy conservation, in spite of increased costs. We expect this progress to continue in the years to come.

DoD's energy efficiency initiatives contribute to preparedness by reducing the potential impact on DoD operations of energy supply disruptions. Our future challenges focus on improving preparedness and efficiency. We will be examining a number of complex preparedness issues, including the need for long-range strategic energy supplies. We plan to underscore the importance of energy-efficient design in facilities, equipment, and weapon systems. We will also continue to work with our allies toward mutual energy security objectives.

k. Other Initiatives

Mobilization planning and preparedness is an integral part of efforts in many areas discussed separately in this report. The progress discussed in the chapters on Readiness and Sustainability, Manpower, and Health Affairs, in particular, reflect our enhanced mobilization preparedness. The progress we've made in host nation support initiatives, as discussed in the Coalition Strategy - Regional Security chapter, will also contribute to better preparedness. Mobilization planning and preparedness is pervasive throughout all defense programs since our ultimate mission is to be prepared to mobilize and defend the nation in time of crisis.

4. Conclusion

Much has been accomplished in the last four years to enhance mobilization planning and preparedness. This chapter has addressed some of our key accomplishments. As is apparent from this brief review, we still have much to do. We will use this firm foundation as the basis from which to build a complete mobilization management system and to develop the resource data needed to support such a system.

H. INSTALLATIONS

1. Introduction

Installations construction, maintenance, and management consume almost ten percent of the DoD budget. A program of this magnitude demands leadership dedicated to innovative management and a concerted effort at all levels to ensure that we build and maintain the appropriate facilities to support our personnel. Specific programs supporting this objective include replacement and modernization of obsolete facilities; maintenance and repair of existing facilities; construction of new facilities; improvements to operating efficiency; host nation programs; management initiatives; and compliance with environmental, safety, and occupational health standards.

2. Better Working and Living Conditions for Our People — A Key to Improved Readiness

During the past three years we have made major improvements in the working and living conditions for our servicemembers, especially overseas where many of our men and women had been living in pre-World War II facilities. The key to this progress has been a significant increase in facilities investment as depicted in Table III.H.1.

Table III.H.1

Facility Investment Improvements
(Constant FY 1986 Dollars in Billions)

	FY 1977-80	FY 1981-84	Increase (Percent)	FY 1985	FY 1986
Repair and Maintenance	12.8	17.0	33	4.5	4.4
New Construction					
United States	12.7	15.1	19	4.7	5.8
Overseas	2.5	6.7	168	1.6	2.0
Worldwide	15.2	21.8	43	6.3	7.8

Our investment is paying off. Commanders around the world are reporting marked improvements in working and living conditions. Following a recent visit to Germany, the Secretary of the Army reported, "This Administration's facility improvement program has had a great impact on morale, efficiency, and readiness." It is, therefore, imperative that the facilities we put in place not only support our sustainability initiatives but also provide the flexibility required by our forces to respond to local, theater, or worldwide challenges. Continued emphasis on facility improvement for the next few years will result in decades of strengthened national defense.

Included in our facility investment program are more and better barracks for enlisted personnel. A new barracks design, developed this past year, provides more privacy and more living space for servicemembers -- particularly those in the middle enlisted grades.

While considerable progress has been made in improving troop barracks, much remains to be done. For instance, we still need over 330,000 barracks spaces at a cost of more than $7 billion. Our construction backlog in maintenance and supply facilities is over $13 billion.

Moreover, in many areas, our military families still do not have adequate housing. In response, two new initiatives were approved by the Congress in FY 1983 and have been instrumental in providing new housing in considerably less time than had previously been the case.

First, the Congress authorized DoD to encourage private developers to build housing on or near our bases with the incentive of long-term leasing or guaranteed occupancy. This authority was granted for a limited time at only a few locations. Included in our plans are testing long-term leasing at Eielson Air Force Base and Fort Wainwright, Alaska; San Diego, California; Fort Polk, Louisiana; Hanscom Air Force Base, Massachusetts; Fort Drum, New York; Fort Hood, Texas; and Norfolk, Virginia. Plans for testing the rental guarantee program include the following sites: Fort Rucker, Alabama; Naval Station, Long Beach; Norton Air Force Base, California; Fort Campbell, Kentucky; Naval Weapons Station, Earle, New Jersey; and Goodfellow Air Force Base, Texas.

The second initiative provides for the use of American-manufactured construction material for nearly all new overseas construction. This program has been stagnant for years, blocked by uncertainty over the duration of our stay and the relative merits of leasing versus building. Recently, however, we have been successful in obtaining host country permission to use family housing units that were manufactured in the United States for our MILCON projects. Two contracts have been awarded for overseas housing construction: one in Germany and the other in the Philippines. For FY 1986, we are requesting over $200 million for overseas family housing construction.

Moreover, our MILCON budget will continue to focus on those personnel support facilities -- barracks, gymnasiums, child care centers, and clinics -- deemed essential to improving the quality of life for our troops and their families. Quality of life benefits not only reaffirm the depth of the nation's commitment to its service-members and their families, they also vitalize the Armed Forces.

3. Host Nation Support (HNS)

Continued stationing of U.S. forces overseas has warranted increased emphasis on obtaining host nation support in providing more facilities and more support without straining country-to-country relations. In this regard, the Japanese government provides facilities for personnel support to include dormitories, hospitals, and family housing. Our construction needs are being met much earlier due to a steady growth in Japan's annual contribution to U.S. military construction -- $285 million in FY 1984, with an equal amount expected for FY 1985. Over the last five years, the Republic of Korea has funded $426 million for operational requirements such as airfield facilities. In Europe our NATO allies provide real estate, utilities, and services for our forces and their families. Additionally, we are continuing to formalize a number of wartime HNS agreements with NATO countries.

The commonly funded NATO Infrastructure Program provides many of our wartime required facilities. All of the NATO allies agreed to a significant increase in Infrastructure Program funding for the remainder of the decade. This will allow the construction of more facilities directly supporting U.S. forces stationed in Europe. These include facilities for the Patriot missile, storage of prepositioned war reserve materiel including fuel and munitions, and reception and beddown of our NATO-assigned land and air reinforcements.

We are continuing to press for recoupment of funds used to prefinance NATO construction. During FY 1984, we were able to collect $24 million. This was twice our original estimate. In FY 1985, we expect to recoup an additional $15 million, which is the full amount programmed within the current NATO Infrastructure funding cycle. We are working closely with the NATO military commanders to program the maximum amount of recoupment during the next six-year NATO funding period.

4. Improving Installation Management

As the President said in his State of the Union Address, "Without . . . competition, there can be no champions, no records broken, no excellence." With this in mind, DoD's goal this year is to improve installation management through competition. Specific examples include peer competition and the Defense-wide competition for a Commander in Chief's Award for Installation Excellence. Moreover, we are particularly proud of our improved management of manpower and money in compliance with OMB Circular A-76 requiring competition between our in-house workforce and the private sector for base support services. From FY 1979 to FY 1983, over 900 competitions were conducted. These competitions involved a workforce of over 32,000 employees. In-house organizations won half of these competitions. Annual savings have reached $350 million. Although we are still analyzing the FY 1984 results, we know we have generated considerable savings by competing at least 10,000 positions. Additionally, during FY 1985 and FY 1986, we plan to compete another 10,000 positions annually.

5. Model Installation Program

I am convinced that, given the opportunity, base-level managers and workers can and will find more innovative ways to become more efficient. This fundamental belief led to the Model Installation Program, one of this year's most important initiatives. The concept is simple: let the commanders run their bases. Their job is to strive for excellence and try new methods. In return, model bases are able to use any savings from their new ideas to improve facilities and services for their people. This grass roots approach is identifying better ways to operate and is leading to better working and living conditions for our people while increasing morale and readiness. For example, readiness improved at the Whiteman Minuteman Base upon obtaining a waiver of the regulation requiring electronic equipment to be repaired off base. Since the waiver, which permitted base personnel to repair electronic equipment was approved, there hasn't been a single missile out of commission for more than a day. The participating commanders have expressed great enthusiasm for this initiative and its potential for getting more Defense for each dollar.

6. Environmental Leadership

DoD's environmental challenges have never been greater. We anticipated and overcame many of the problems we faced over the years. Last year, we assumed a leadership role in this key area. We cemented cooperative relations with the Environmental Protection Agency (EPA), established the Defense Environmental Leadership Project with a team of experts to overhaul our environmental management system, and secured the Environmental Restoration Account with $150 million appropriated in FY 1984 and $314 million in FY 1985. In FY 1986, we will continue this commitment by budgeting $342 million for environmental restoration. This unprecedented surge in management initiatives and resources has finally brought environmental programs into the mainstream of installation management where they belong, and demonstrates DoD's leadership role in achieving our national environmental goals.

We spent about $20 million in FY 1984 for environmental activities at facilities formerly owned by DoD. We plan to spend $43.5 million for this effort in FY 1985. Seventy percent of our installations are in compliance with hazardous waste management regulations. We are striving to achieve full compliance, with an interim goal of 90 percent in FY 1985. All of our major air pollution sources are presently in full regulatory compliance or on an approved schedule to achieve it. We are reviewing the design, construction, and operation of our waste treatment facilities to bring them into full compliance.

In FY 1984, DoD and EPA signed the Chesapeake Bay Initiative thus joining with state and local governments in a formal agreement to protect a significant natural resource. We have followed through on this program by spending $17 million in FY 1984 on pollution abatement projects in the Chesapeake Bay region.

7. Homes for the Homeless

In response to a Presidential request the Services are working in partnership with local elected officials and religious and charitable organizations to provide emergency shelters for the homeless on military installations. Space has been offered to hundreds of local governments for these community-operated shelters. Within two months of the President's request in 1983, shelters were opened at the Naval Air Station in Corpus Christi, Texas, and at Kirtland Air Force Base, Albuquerque, New Mexico. Currently, DoD is working with Alameda County, California, to open a shelter at Camp Parks Army Base. DoD was also successful in assisting Philadelphia establish a shelter in an Army Reserve Component building. A shelter run by Montgomery County, Maryland, has opened at the Forest Glen Annex of the Walter Reed Army Medical Center. Still another shelter has been established at the Naval Reserve Center in Lawrence, Massachusetts. DoD will continue to work in partnership with elected officials and religious and charitable organizations to assist them in opening shelters whenever agreements can be reached.

8. Conclusion

We have made significant progress in our installations efforts, but there are always opportunities for improvement. By continuing to refine our efforts, there are still several ways we can save even more money and meet the needs of our servicemembers more efficiently.

I. SPECIAL INTEREST PROGRAMS

1. Command, Control, Communications, and Intelligence (C^3I)

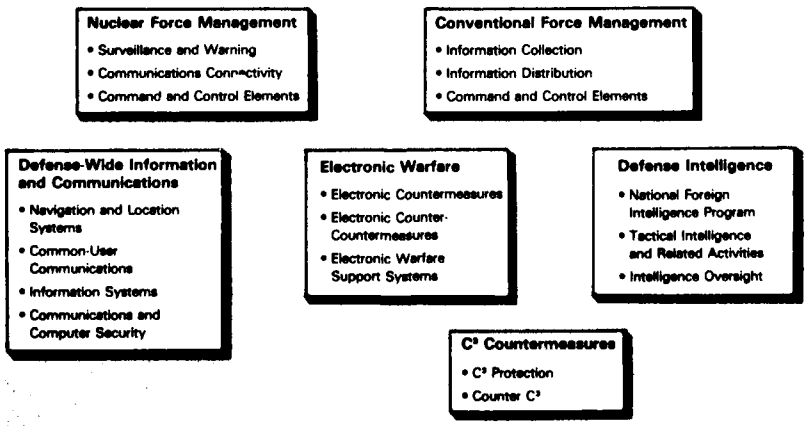
a. Introduction

Our command authorities, both military and civilian, require timely, accurate, and unambiguous information to plan military operations and to select alternative courses of action. All commanders and their staffs must then be assured that the decisions and direction emanating from this information can be clearly and accurately communicated to the forces and weapons systems under their control. We refer to this process as command and control and to the systems that provide this capability as C^3I. Typically these systems consist of an array of sensors, communications links, command and control support facilities, and information processing and display equipment. Collectively, these systems constitute a significant combat multiplier.

Our primary goal is to provide C^3I systems that maximize the performance of our weapons systems and the operability of our forces in terms of survivability, endurability, interoperability, and effectiveness. To accomplish this, we provide management and oversight through a mission area structure illustrated in Chart III.I.1. Details on the progress of C^3I programs solely supporting the nuclear forces or the conventional forces, depicted in the upper two boxes, are provided in the sections of this report that deal with these topics. This is in keeping with our insistence that resources necessary to provide adequate force management be considered whenever weapons and force structure improvements are implemented.

The C^3I programs and management initiatives described below emphasize those capabilities needed to support several, or all, warfare areas and those of special importance to combined, joint, and coalition warfare tasks. These mission areas are shown on the lower portion of Chart III.I.1.

Chart III.I.1
C^3I Mission Area Structure



b. Defense-Wide Communications and Information Systems

Defense-wide systems support nuclear as well as conventional force management. During FY 1984, we emphasized improvements to defense-wide systems that would enhance their survivability and endurance during periods of conflict. The five-year program pursues improvements in four broad areas: navigation, communications, information systems, and computer and communications security.

(1) Navigation and Location

Accurate navigation and position location information is essential to the timely deployment and management of forces and equipment both in peacetime and during conflict. Our efforts to improve our navigational capabilities center around the acquisition of the Navigation Satellite Timing and Ranging (NAVSTAR) Global Positioning System (GPS). This space-based system will provide our forces with highly accurate position, velocity, and timing information on a continuous basis. In FY 1984, we launched two research and development (R&D) satellites that support tests of the navigation equipment used in a wide variety of operational platforms, including ships, aircraft, and vehicles. The project remains on schedule for completion in 1988, when the full 18 satellite network will be completed, thereby providing a worldwide three-dimensional capability.

(2) Common User Communications

The Defense Communications System (DCS), consisting of both government and commercial facilities, provides global telecommunications service to DoD. Our goal is to improve the operability of DCS during wartime, while reducing peacetime operating costs. Major accomplishments in pursuit of that goal are discussed below.

(a) Defense Satellite Communications System (DSCS)

In order to improve the jam-resistance of this major satellite system, additional antijam modems were installed during FY 1984 at selected key locations. An antijam network among these and additional locations will be operational in early FY 1985.

(b) Inter-Service/Agency Automated Message Processing Exchange (I-S/A AMPE)

This program will field approximately 90 I-S/A AMPE systems to replace a wide variety of the current Service/Agency exchanges and automatic voice network (AUTOVON) switching centers. Existing systems do not provide the requisite security to support full DoD operational requirements. I-S/A AMPE will improve the survivability of the record message network by increasing the number and dispersal of switching sites. Proposals for production of this system were received in FY 1984 with contract awards expected in early FY 1985.

(c) Defense Switched Network (DSN)

The existing AUTOVON and other telephone systems will gradually be converted into a new system called the Defense Switched Network (DSN). Our goal is to replace obsolete, manpower intensive telephone systems with more modern, survivable networks. The contract for the Defense Commercial Telecommunications network for CONUS connectivity was awarded in FY 1984. Installation of new switches in Europe as part of the European Telephone System upgrade also began

in FY 1984. In addition, a request for proposal for the upgrade of the Oahu Telephone System has been issued, and we expect to begin this upgrade of voice communications among DoD installations in Hawaii in FY 1985.

(d) Defense Data Network (DDN)

Expansion of the DDN was accomplished in FY 1984 and will continue over the next five years. End-to-end encryption devices are expected to become available during 1985. This will permit integration of the several classified segments operating at various security classification levels into a single classified segment, thus providing increased capability and responsiveness to information exchange.

(e) Secure Voice System (SVS)

The number of secure voice users will be increased significantly with the implementation of the Secure Voice Improvement Program (SVIP). This program shares equipment and facilities with the Federal Secure Telephone System and will be interoperable with other DoD and civilian networks. Under the Secure Conferencing Project (SCP), survivable secure voice and a graphics conferencing capability will be provided to command centers worldwide.

(3) Worldwide Military Command and Control System (WWMCCS) Information System

National Command Authorities (NCA) and subordinate command echelons require data processing and display systems, which are an element of the WWMCCS, to give them information on the status and location of their forces and on the availability of support materiel and facilities. The WWMCCS Information System (WIS) program includes near-term enhancements for WWMCCS Automatic Data Processing (ADP) computers and related facilities. An extensive and evolutionary modernization of the total system is programmed in two major contracts that were awarded during FY 1984. The NORAD - Cheyenne Mountain Complex ADP equipment is also being modernized to satisfy C^3I requirements unique to operations in space.

(4) Computer and Communications Security

Computer and communications security programs are designed to ensure that these assets cannot be disrupted or used by anyone not properly authorized. The Computer Security Evaluation Center is currently examining ways to prevent unauthorized use of DoD computer assets. During FY 1984, we published technical specifications and criteria to assist our computer users in the evaluation of the security aspects of their systems. Additionally, we examined ways to reduce the cost and long lead-time associated with the acquisition of communications security (COMSEC) equipment. Streamlined procedures for managing and acquiring COMSEC equipment were also introduced this year.

c. Electronic Warfare (EW)

EW includes the use of electromagnetic energy to limit hostile use of the electromagnetic spectrum, while retaining friendly use of this resource. We are continuing to emphasize EW by maintaining a technological advantage in the face of a threat that is growing in both the quantity of weapons systems available and in the technical

sophistication of these systems. Acquisition and investment strategies have been developed by the Services and serve as the basis for meeting the readiness objectives of our commands.

(1) Threat Warning and Self-Protection

Programs in this area provide protection for our combat vehicles, primarily aircraft and ships, through the use of threat warning and electronic countermeasures systems. Threat warning systems provide the information needed to select an appropriate response option such as avoiding, suppressing, jamming, or destroying the enemy threat. Two major joint Navy/Air Force programs in this area are the Airborne Self-Protection Jammer (ASPJ) for our frontline fighter/attack aircraft, such as the F/A-18 and the F-16, and the Integrated Electronic Warfare System (INEWS), which will protect our new design aircraft into the next century.

(2) Electronic Countermeasures (ECM)

Standoff escort jamming complements our self-protection systems by degrading enemy early warning and ground control intercept sensors. By denying the enemy use of his sensors, his weapons fire becomes less effective. The two main support aircraft used for this purpose are the EA-6B (Navy and Marine Corps) and the EF-111A (Air Force). Both systems are operational and, with improvements, will maintain their effectiveness through the 1990s.

d. Command, Control, and Communications Countermeasures (C^3CM)

C^3CM is a strategy that integrates four fundamental approaches: destruction, disruption, deception, and denial of information to our adversaries' C^3 systems, while protecting friendly C^3 systems from the enemy's C^3CM systems. The Services are developing capabilities such as the Air Force's Compass Call communications jamming aircraft and the AN/ALQ-149 for the Navy's EA-6B aircraft to support implementation of C^3CM strategies.

e. Intelligence Programs

DoD intelligence programs obtain military information about foreign activities and furnish it to national, departmental, and tactical users. Signals intelligence, imagery, and other technical collection capabilities allow decisionmakers to respond to near-term military, diplomatic, and economic developments in foreign countries. On the operational side, these intelligence capabilities enable weapons planners and operators to improve warfighting equipment and adjust battle plans. Our intelligence activities are accounted for in either the National Foreign Intelligence Program (NFIP) or Tactical Intelligence and Related Activities (TIARA). While the Director of Central Intelligence, under Presidential direction, provides guidance and develops the overall NFIP, the TIARA program is developed and managed by the Services and Agencies in response to operational commanders' intelligence requirements. All TIARA programs are administered under the cognizance of the Deputy Assistant Secretary of Defense (Intelligence).

DoD is pursuing an aggressive policy incorporating interoperable and survivable intelligence support systems capable of meeting the needs of the unified and specified commands for joint and combined operations. This unified and specified command planning perspective

is being developed by the Defense-Wide Intelligence Plan, which includes the Intelligence Communications Architecture (INCA) and the Imagery Acquisition and Management Plan (IAMP). During FY 1984, we awarded the contract for INCA development and completed Phase I of IAMP. We also continued to procure TR-1 aircraft for a variety of sensor needs.

The Assistant to the Secretary of Defense (Intelligence Oversight) is responsible for the independent monitoring of all DoD intelligence and counterintelligence activities to ensure their legality and propriety. He inspects DoD intelligence elements worldwide and monitors inspections of such units by the Inspectors General (IGs) of the Services and the Defense Agencies. This past year he conducted 79 inspections of DoD intelligence elements and monitored 55 IG inspections of NSA, DIA, and Service intelligence activities. He reviewed several inquiries into allegations of questionable activities to assure that all aspects of the matter had been investigated and that appropriate corrective measures had been taken. He serves as the DoD point of contact with the President's Intelligence Oversight Board and, together with the DoD General Counsel, submits a quarterly report to the Board that describes DoD intelligence oversight activities.

f. Conclusion

We have made substantial progress over the past several years in modernizing our C^3I systems into a more reliable, survivable, and flexible capability. We have also improved total mission effectiveness in the C^3I area through several management initiatives, including the establishment of the Joint Tactical C^3 Agency in July 1984, and extensive use of our consolidated C^3 management procedures. While evolutionary development, acquisition of nondevelopmental items, and restructuring of long-term programs all contribute to overcoming C^3I shortfalls, only a firm commitment to keep our force management capability on par with our weapons and force structure will achieve the desired goals.

2. Research and Development (R&D)

An essential element of our defense is our R&D effort. This investment ensures that the most militarily effective equipment is placed in the hands of our soldiers, sailors, airmen, and marines in the field. This equipment must be reliable and producible at an affordable cost.

In the decade 1972 to 1981, our principal adversary, the Soviet Union, more than doubled its defense-related R&D spending. In contrast, U.S. defense-related R&D expenditures remained level or declined until 1981. Even with recent increases, U.S. investment in this area is only half of the estimated Soviet investment. R&D investment is, by its nature, long-term, representing future military capability. Because of this long-standing disparity in Soviet and U.S. defense investment, it is essential that we continue to increase our R&D investments to ensure our ability to deal with any future threat successfully. Our goal is to ensure that we maintain the technological edge in deployed military equipment and to exploit technology so that our forces maintain both a credible deterrent and warfighting capability.

The strategic, tactical, chemical, test and evaluation, C^3I, and Strategic Defense Initiative (SDI) objectives and status are discussed in detail elsewhere in this report. Therefore, we will describe here only the cross-cutting mission areas of science and technology, advanced research projects, and nuclear weapons development.

a. Science and Technology (S&T) Program

The Science and Technology (S&T) Program is dedicated to the preparation of tomorrow's forces to deter and, if necessary, engage and defeat tomorrow's threats. It is imperative that we provide now for the technological innovations required by future developers to design and test effective weapons systems for use by our forces in the field. This investment in the future is necessary if we are to maintain a strong and effective national security posture and if we are to deter aggression.

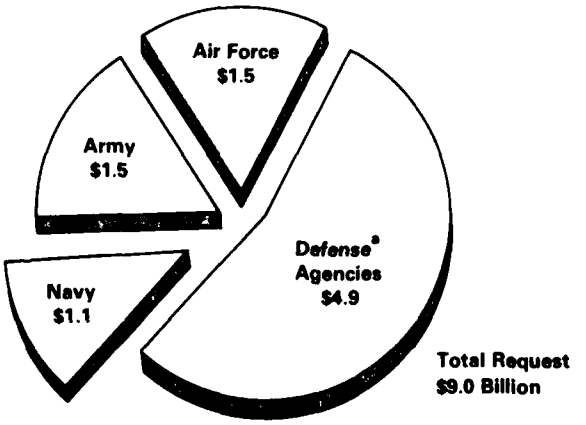
(1) Objectives

Elsewhere in this report, we have described the enormous arms buildup by the Soviets during the 1970s, while U.S. defense spending declined. During the past four years, however, we have made considerable progress toward both restoring the readiness of our Armed Forces and investing to modernize aging military equipment. A substantial part of this investment has been allocated to long-term, high-quality, technological improvements that will be required in the late 1980s and early 1990s. The qualitative advantage that we currently enjoy will remain a key factor in maintaining a technological edge over our principal adversary, whose numerical advantage presents a formidable threat.

(2) Programs

The S&T program encompasses a wide array of projects ranging from basic research to technology demonstrations in an operational environment. The Services manage about 46 percent of the program with the Defense Agencies administering the remainder (Chart III.I.2).

Chart III.I.2
FY 1985 Science and Technology Program
(Dollars in Billions)



* Includes Strategic Defense Initiative funding.

The following paragraphs present highlights of Service-specific S&T programs. Defense Agency programs are discussed in appropriate sections of this report.

(a) Very-High-Speed Integrated Circuits (VHSIC)

We have made significant progress toward our goal of increasing the U.S. lead in integrated circuit technology deployed in weapons systems by minimizing the time delay between technology development and deployment. All of the VHSIC 1.25 micrometer contractors have produced fully functional VHSIC devices, and the first insertion of VHSIC into an operational system will occur this year. Thirty-seven weapons systems have been scheduled for VHSIC technology insertion. In addition, we have begun the development of second generation VHSIC chips, which will provide another hundred-fold improvement in processing power. These new chips will greatly increase the warfighting capability of our weapons systems in the 1990s.

(b) Computers and Software

Many of our military systems are dependent upon computers and software for their effective operation. Over the past two years, we have initiated two very important Tri-Service programs to improve our ability to produce and support operational software for mission-critical systems. The first of these, the Software Technology for Adaptable, Reliable Systems (STARS) Program will create a system of computer-aided techniques and methods for the development and support of mission-critical software. The objective of this program is to provide a ten-fold reduction in the cost of software development and evolution and in the number of latent defects in software systems. The second program involves the creation of a Software Engineering Institute, the purpose of which is to overcome the traditional fielding lag in maturing new technologies and to accelerate the application of new software technology to military systems. The Institute will combine advanced methods emerging from the private research community with an integrated computer-aided software development system and technology produced by STARS to demonstrate their application in weapon systems programs.

(c) Medical and Life Science Program

The Medical and Life Science Program has as its objective to maximize human operator efficiency in any anticipated operational environment. For example, combat capability can be enhanced by the development of techniques or equipment that would allow pilots to fly new, highly maneuverable aircraft while minimizing the effects of G-forces that might otherwise prevent exploiting the full performance envelope of the aircraft. Combat effectiveness is also improved by the development of vaccines to prevent diseases that in the past have removed many troops from combat. Further, equipment and methods to treat combat casualties by reducing disability or promoting rapid return to combat permit more efficient utilization of personnel. These and other aspects of the program contribute significantly to keeping our forces on the job and performing as intended.

(d) Training Programs

Training unskilled military personnel to meet the operational and maintenance requirements of combat equipment is the primary goal of our education and training technology program. During the coming

year, DoD will emphasize the development of advanced portable maintenance training equipment to provide both information and training to personnel. These information and training systems are capable of rapid adaptation through microprocessors to meet changing user and operational system needs. A training package adaptable to the M1 tank system, for example, is expected to reduce classroom training time by 30 percent. We will continue to emphasize state-of-the-art training systems both to expedite and facilitate the training process while reducing overall training costs.

(e) Chemical Defense Program

The development of an effective chemical defense capability is an important aspect of our technology program. Recent developments have improved our chemical protective posture. Using fundamental biotechnology principles, a toxin detection and identification dipstick has been developed. Also, monoclonal antibodies with greatly enhanced affinity for the nerve agent soman have been demonstrated. Production will continue on a portable contamination monitor, which will provide U.S. troops with an effective hand-held agent detection device. These and other developments in detection and decontamination have improved the overall readiness of our forces by enhancing their protection and survivability in a contaminated environment.

(f) Basic Research

University research is an important component of the S&T program. It is a source of new ideas, new techniques, and new knowledge, all of which are vital in maintaining the technology leverage we currently enjoy. Over the past four years, the involvement of the university community in the DoD research program has increased substantially. University research activity in defense-related technology areas will provide a sound base for the development of long-range technology options required to solve future national security problems. We remain committed to improving the research capability of the nation's universities. Toward that end, we are emphasizing increased basic research funding and continued efforts to improve the instrumentation used in university research.

In addition, we are increasing the interaction between the university research community and industry through the Independent Research and Development (IR&D) and the Small Business Innovative Research (SBIR) programs. These programs, selected and managed by private industry, stimulate competition by increasing the capabilities as well as the number of companies with expertise in defense-related areas. A stronger industry/university interaction will foster a more rapid transition from concept, to research, to product. Also, under the SBIR program, small businesses supported by DoD are identifying innovative high-technology concepts for DoD needs. Funds for SBIR will total one percent of our contractual R&D budget in FY 1986.

(g) Joint Technology Demonstrator Engine (JTDE)

The JTDE program, a joint Air Force/Navy effort, has recently demonstrated significant performance improvements in experimental large fighter engine configurations. These advanced technology configurations provide a foundation for the new Joint Advanced Fighter Engine (JAFE) for the next generation air superiority fighter. A major JTDE effort in the next two years will be the completion of engine life assessment tests to ascertain whether the JAFE can avoid

the durability problems and performance tradeoffs plaguing previous fighter engine developments.

(h) Materials and Structures

The Advanced Materials Technology Base continues to provide significant contributions to the effectiveness, reliability, and maintainability of both fielded equipment and weapons systems in development, while concurrently establishing high-payoff technological options for new systems. We currently lead the world in composite materials technology. This contributes substantially to the attainment of superior performance capabilities of U.S. military equipment. In FY 1986, enhanced survivability of aircraft, missiles, and spacecraft, as well as appropriate components of SDI will be emphasized through the continued development of metal-matrix composites.

b. The Defense Advanced Research Projects Agency

The Defense Advanced Research Projects Agency (DARPA) continues to provide corporate research support for DoD. Its research projects are carefully selected to maintain the U.S. technological lead and avoid potential adversarial technological surprises. While the Agency's projects are high-risk, they have high potential payoff in military utility and are frequently applicable to multi-Service use. Maturing technology is often taken into the field for feasibility demonstration with the Services, which are then in a position to advance the technology through the development process.

The FY 1986 DARPA budget request reflects a rebuilding of the technology base and a reconstitution of the technology demonstration initiatives since the major FY 1985 redirection, which resulted in the transfer of directed-energy, surveillance, kinetic energy weapons technology, and support programs to the Strategic Defense Initiative Organization (SDIO).

DARPA's research programs cover a broad spectrum of technologies; some of its major efforts are discussed below.

(1) Strategic Computing

The Strategic Computing program is developing a class of super-intelligent computers for application to advanced defense systems by the end of the decade. These new machines will be capable of "vision" for autonomous vehicle navigation, "understanding natural language" (English), and "speech recognition" for use in a fighter cockpit and command center. In addition, advanced expert systems will be developed that can store and manipulate knowledge in any of these fields to allow machine-reasoning and inferencing. Small-scale feasibility demonstrations of these concepts have been carried out in the laboratory, but they need to be engineered for application to practical defense systems. High performance computers will be needed to carry out these functions to meet the real-time demands of field operations. A new family of computers, 1,000 times faster than existing equipment, is being pursued using multiprocessor computer architectures and state-of-the-art VLSI (very large scale integration) components.

(2) Advanced Cruise Missile Technology

Development of carbon-carbon composite jet engine turbine components has advanced through high-speed spin tests where structural integrity was validated. Over the next few years, full-scale carbon-carbon components will be fabricated and installed in high performance testbed engines for proof of concept testing. These turbines will be capable of operating at inlet temperatures up to 3,500°F. This is over twice the capability of current cruise missile engines and will significantly extend future cruise missile performance.

(3) Submarine Laser Communications (SLC)

Submarine Laser Communications (SLC) will provide real-time communications, using blue-green lasers, to submarines at depths that increase security for strategic missile submarines while maintaining survivable communications and constant connectivity.

By the end of FY 1987, the DARPA SLC program will have resolved the remaining technical issues needed for an informed decision to institute a satellite program. A brassboard transmitter and submarine-qualified atomic resonance receiver will have been produced and tested.

c. Nuclear Weapons Program

(1) Modernization Program

DoD and DoE share statutory responsibilities, under the provisions of the Atomic Energy Act of 1954, for managing the U.S. nuclear weapons program. DoE is structured to support approved DoD programs to modernize our nuclear forces. The goal of our program is to improve military effectiveness, safety, security, survivability, and endurance in all environments.

The deployment of GLCM and Pershing II nuclear weapon systems during the past year demonstrates the progress of our nuclear weapons modernization program. In the near- and mid-term, we will continue the development and production of previously authorized weapons. We are emphasizing incorporation of the modern safety and command and control technology in these weapons.

It is essential that modernization be a continuous process. With this in mind, we initiated an effort with the military Services, DoE, and the National Weapons Laboratories to clarify and stimulate our thinking and understanding of nuclear weapons requirements in the 1990s and beyond. Working groups have been established to address specific topics and potential future needs. We intend to continue this type of interchange to ensure a rational, long-term weapons development program.

While much progress has been made, we must continue to strive to meet our objective of fielding adequate quantities of effective systems. Achieving our goals depends on continued congressional support. We intend to work closely with DoE and the appropriate congressional committees and their staffs to explain and justify our nuclear modernization program.

(2) Defense Nuclear Agency (DNA) Programs

DNA conducts DoD's nuclear weapons effects research program. DNA's most recent activities include responding to the President's Commission on Strategic Forces, which recommended that this Agency lead the effort in resolving those uncertainties regarding attainable hardness levels of strategic missile silos, shelters, and mobile systems. In addition, DNA has been given the responsibility for assuring that nuclear survivability be considered in all new weapons systems required to operate in a nuclear environment. New technology and procedures are being developed to assure continued survivability for strategic and tactical nuclear forces in light of more accurate and larger-yield Soviet missiles.

DNA will conduct a joint demonstration of the capabilities that can be achieved by a Strategic Air Command (SAC) command post using the Defense Communications Agency (DCA) module building block concept of shelters, computers, and communications systems. By the application of modern technology, DNA will be able to simulate multiple attack scenarios at all levels of command in both fixed and mobile centers.

Construction of the major underground nuclear effects tests, MIDDLE NOTE and MISSION CYBER, will be completed. Both tests will directly support advanced systems development, as well as some specific missile system and satellite components.

DNA also provides significant support to the SDI program, with major projects conducted in the fields of weapons lethality, system survivability, and infrared backgrounds and measurements in a nuclear environment. These projects build on fundamental technologies developed in past DNA programs, which will rapidly produce the data required by the SDIO through a program of careful test, analysis, and experimentation.

3. Test and Evaluation (T&E)

The T&E organization within DoD has undergone considerable review and restructuring within the past year. The Office of the Director, Operational Test and Evaluation was established to be independent of all research and development activities and to oversee all operational testing in DoD. At the same time, the Office of the Director, Defense Test and Evaluation has continued to implement developmental-related initiatives to enhance and modernize our test capabilities, continue vital joint Service test efforts, and improve testing capabilities and productivity through international arrangements and cooperative activities.

a. New Emphasis on Operational Test and Evaluation

In response to Public Law 98-94, we have established and staffed a new office of the Director, Operational Test and Evaluation, which reports directly to the Secretary of Defense on the conduct and adequacy of operational testing of all major weapons systems in the Department. Establishment of this office has resulted in more stringent oversight and emphasis on thorough planning, adequate funding, proper conduct, and independent evaluation of all test activities within the Department. The office submitted its first annual report to the Congress on operational testing and subsequently augmented it with a supplemental report. Other activities currently under way include a review of operational test policy, review of

test plan adequacy for eight major acquisition programs prior to the initiation of operational testing, and assessment of programs now being considered for procurement at rates above low-rate initial production. In addition to oversight of major weapons systems, the office has assumed management responsibility for two joint operational tests that will provide valuable insight into the effectiveness of Joint Service tactics and operational procedures involving chemical warfare doctrine and joint logistics operations over unprepared beaches.

b. Enhancing Our Test Capabilities

The Tri-Service development program established last year by the Director, Defense Test and Evaluation to develop threat radar simulators is now developing a data base for use in simulating state-of-the-art threat air defense systems. An integrated program will consolidate scientific and technical intelligence, surrogate testing, and simulator development. This same program will catalog the requirement for threat simulators.

A supersonic low-altitude aerial target to replicate the high-speed, low-altitude dash threat of antiship missiles is being developed for deployment by late FY 1989. Also by FY 1989, a new subscale, subsonic target will replace older, costlier systems and provide testing for counterair systems. A new Army helicopter aerial target needed to test battlefield air defense systems is scheduled to be fielded by FY 1987.

Modernization of our test facilities and resources is continuing with such programs as the Army's High Energy Laser Systems Test Facility (HELSTF) and the Air Force's Radar Target Scattering Advanced Measurement System (RAMS), both of which will reach operational capability in FY 1985.

c. Joint Test and Evaluation (JT&E) Programs

In FY 1986, five ongoing tests managed by the Director, Defense Test and Evaluation will examine the capability of developmental and deployed systems to perform their intended mission in a joint environment. These tests include evaluation of command, control, and communications countermeasures; identification of friend, foe, or neutral systems; forward-area air defense capabilities; electro-optical guided weapon countermeasures and counter-countermeasures; and live munitions effects on foreign and domestic armor and aircraft.

d. International Test and Evaluation Initiatives

Under the provisions of an international agreement with Canada, the Air Force successfully completed captive carry flights of the air-launched cruise missile in March 1984, and the Navy conducted combined operational tests of the AV-8B and F/A-18 in October 1984 along with testing of the Air Force's Low-Altitude Navigation and Targeting Infrared System (LANTIRN). Operational test flights of the F/A-18 will be conducted in the spring and summer of this year. The Canadian-U.S. agreement is affording DoD an inexpensive opportunity to test weapons systems in realistic battlefield conditions and geophysical environments replicating those in Europe and Eurasia. New cooperative agreements are also being formulated with France, the United Kingdom, and the People's Republic of China to assist them in the long-term improvement and modernization of their testing capabilities.

In the past year, the Foreign Weapons Evaluation program has selected five more foreign systems for use by the Services. Since its inception in FY 1980, the program has resulted in 18 items of equipment being selected for the U.S. inventory with a procurement value of nearly one billion dollars. By capitalizing on the research and development efforts of our allies, we have been able to obtain $20 of procurement value for every test dollar invested compared to a return of $3.20 in procurement value for every RDT&E dollar invested in domestic programs. With its added features of increased interoperability and standardization with our allies, this successful program has established visible milestones along the two-way street of international cooperation.

4. Security Assistance

a. Introduction

Security assistance programs contribute directly to the national security of the United States by helping friendly and allied countries defend themselves. Through the sale of equipment and services, some of which are supported by financial assistance, our programs enable recipient countries to make better use of their own resources, assist in fostering greater military self-reliance, and advance the shared goal of collective security and regional stability around the world.

At the same time, these programs promote closer military working relationships between U.S. forces and the armed forces of other countries, help strengthen our alliance relationships, and improve our power projection and forward defense capabilities through access to overseas facilities and retention of base rights abroad. They also enhance our ability to interact with other friendly forces through improved commonality of equipment and training, thus adding a force multiplier to U.S. capabilities. In each instance, security assistance has been an essential foreign policy tool for obtaining or retaining these defense benefits.

The national security value of the security assistance program, including the economic portions, clearly exceeds the face value of its costs. Without the direct and indirect benefits we gain, the projected demands of the defense budget would be far greater.

b. Programs

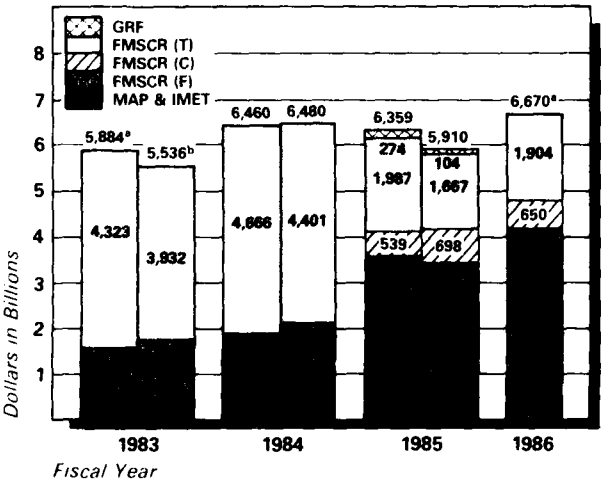
By statute, the Secretary of State has responsibility for determining the direction and extent of security assistance programs. DoD has primary responsibility for such areas as releasability of technology and the procurement and supervision of military end-items. Both Departments work together to develop the annual State Department sponsored budget request and to ensure that the overall program operates to maximize our collective security interests. DoD administers the Foreign Military Sales (FMS) cash sales program, which is the largest program, the Foreign Military Sales Credit (FMSCR) financing program, the grant Military Assistance Program (MAP), and the International Military Education and Training (IMET) grant program.

All but the FMS cash program are financed by the U.S. government, and the FMSCR program itself is composed of loans offered at the current cost of borrowing by the U.S. Treasury, concessional credits (as low as 5 percent interest), and foreign credits (i.e., payments waived) for Israel and Egypt. In addition, Economic Support Funds

(ESF) are programmed by the State Department for countries with which we have a security assistance relationship and are generally regarded as part of security assistance. Administered by the Agency for International Development (AID), ESF is a form of economic assistance and may not be used to purchase military goods and services. Chart III.I.3 summarizes the program levels over the past four years and the proposed FY 1986 levels.

Chart III.I.3

Military Assistance: FY 1983 - 1986



[a] Request ($ in Millions)

[b] Actual Funding ($ in Millions)

c. Recent Record

Over the past few years, our security assistance programs have contributed greatly to the resolution or containment of conflicts around the world and in the improvement of our relations with a large number of countries.

We have expanded existing programs with Egypt and Turkey and made a substantial effort in Central America. Our program with Pakistan was revived during this time, and we have begun military sales discussions with the People's Republic of China (PRC), while preserving our relationship with Taiwan.

These programs also played a key role in the containment or lessening of conflicts around the world. Our assistance helped prevent the outbreak or escalation of conflicts in Morocco, Chad, Somalia, Yemen, the Persian Gulf, on the Pakistan-Afghanistan border, and in Thailand and Korea. We are making progress in Central America.

We concluded critical base rights renegotiations in Turkey, Spain, Portugal, Greece, and the Philippines, where the promise of security assistance funding greatly facilitated successful agreements. Without these agreements we would be severely constrained

in any potential conflict scenarios involving NATO, the Middle East, or the Far East.

Additionally, we have responded quickly to assist countries facing crises without any significant reduction of our readiness or major diversions of U.S. military equipment.

Of course, not all conflicts have been resolved or contained, and not all relations with other countries are as satisfactory as we would prefer. Funding and legal limitations lessen the flexibility we would want, but, on balance, we have established the United States as a reliable partner with more countries than ever before.

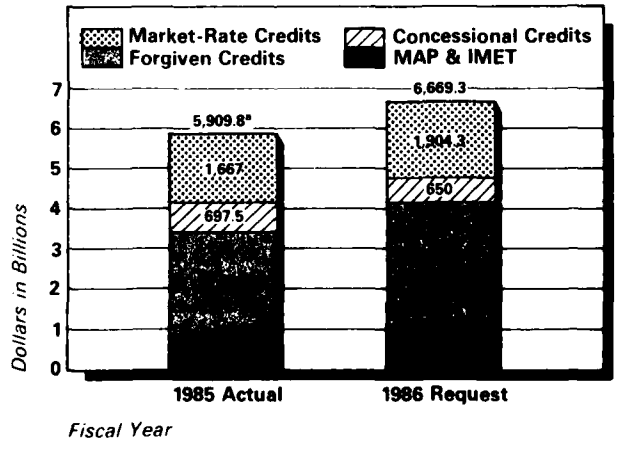
d. The FY 1986 Request

In FY 1985, the Administration launched, and the Congress approved, a major new initiative to place the entire security assistance program on-budget, thereby converting the guaranteed loan program to all direct loans. As a result, we are now able to provide a portion of our loans at reduced interest charges to countries that meet certain economic criteria. We have also obtained increased grant levels from the Congress. A key objective behind this proposal was to avoid adding to the debt-servicing burden of many Third World countries. We are again recommending concessional credits for qualifying countries and additional grant levels for those countries with greater economic needs. However, a significant portion of FMS credits will still be extended at prevailing near market interest rates. The MAP request would increase the grant program by $144.25 million. Many of these funds would go to African and Latin American countries, which are of increasing strategic importance.

Overall, the security assistance request for FY 1986 totals $6.67 billion in FMS credits, MAP grants and IMET, a 13 percent increase over FY 1985 (see Chart III.I.4). Our request continues

Chart III.I.4

FY 1985 - 1986 Military Assistance



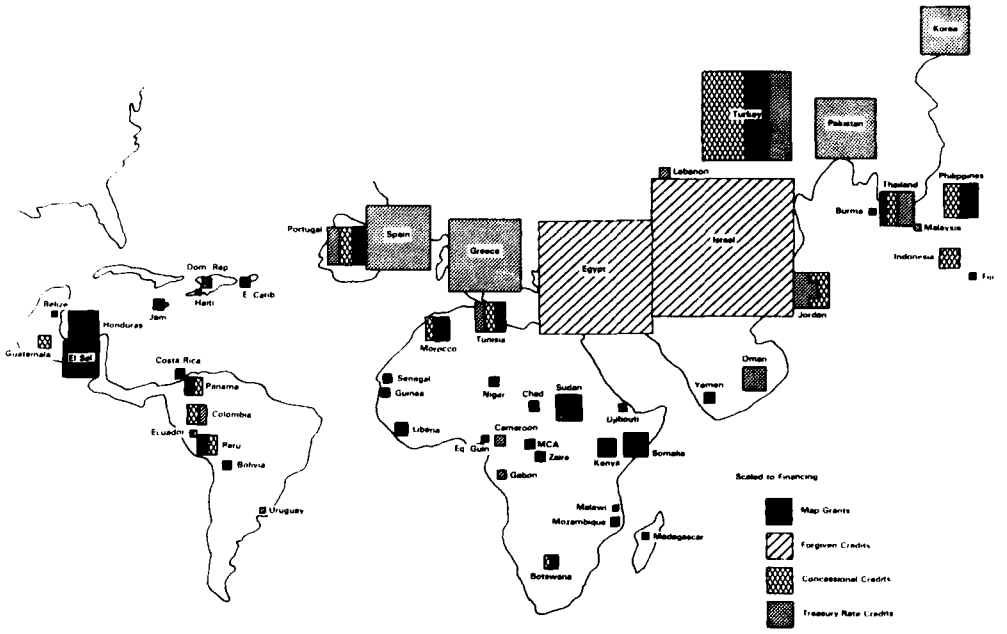
* Includes $109 M Guaranty Reserve Fund

most country programs at their current levels or provides for modest increases over last year. The major increase over FY 1985 funding is primarily for Israeli and Egyptian forgiven credits and a smaller amount of MAP funds for economically hard-pressed countries.

The accompanying security assistance map of the world (see Chart III.I.5) depicts countries proportionally according to the size of the proposed FMS/MAP programs for FY 1986. Twenty-seven countries would receive FMS loans. Of the 27 countries, 2 (Israel and Egypt) would receive forgiven loans; 15 would receive concessional credits only; 10 would be offered market rate loans only; and 6 countries would be considered for both concessional and market rate loans. We are proposing MAP funds for 35 countries, some of which would also receive FMS credit funds.

Chart III.I.5

FY 1986 FMS/MAP Financing Request



Our foreign military training fosters stronger military-to-military linkages and enables recipient countries to utilize the defense articles acquired from the United States more effectively. Most training in the United States involves foreign military and civilian personnel enrolled in formal courses and orientation tours where they gain valuable on-the-job experience and are exposed to U.S. culture and society. The temporary move of the U.S. Army School of the Americas from Panama to Fort Benning, Georgia, will mean that most foreign military training for Western Hemispheric nations will be conducted in the United States, at least for the present time.

The grant IMET program has been the mainstay of our training program, and we are requesting $65.65 million for FY 1986, which is about 1 percent of the total security assistance request. The increased IMET funds and the reduced training costs for FMS authorized in FY 1985 should help provide training to foreign students at numbers approaching those of the mid-1970s. The number of countries participating in IMET has grown too -- some 90 countries were offered IMET funds last year, an increase of almost 30 countries over the past four years.

The Administration is also requesting authorization to increase the value of the war reserve stocks in Korea (WRSA-Korea) by $360 million and to increase appropriations for the Special Defense Acquisition Fund (SDAF). We are also requesting an increase of the capitalization ceiling to $1.5 billion, adding $325 million in obligational authority, and seeking greater flexibility in managing the SDAF in FY 1986. The SDAF enables the United States to make advance procurements in anticipation of foreign sales, thereby minimizing drawdowns from U.S. forces while protecting U.S. force readiness. These SDAF funds would come from past foreign military sales receipts, not from the U.S. taxpayers.

5. International Armaments Cooperation

The goal of our international coordination and technology transfer programs is to develop, field, and support -- through equitable burdensharing -- the most effective and interoperable conventional military equipment for our forces and those of our allies and friends. Our armaments cooperation activities focus on NATO cooperation first but also involve many other allied and friendly countries with whom we share security interests.

Last June, DoD transmitted to the Congress a statement defining recommended improvements to NATO's conventional capabilities. The continued vitality of the Alliance stems both from its military capabilities and from the cohesion and determination of its members. The military capabilities comprise a balanced triad of conventional, nonstrategic nuclear, and strategic nuclear forces, the first objective of which is to deter an attack by persuading a potential aggressor that his military objectives cannot be attained at an acceptable risk or cost. This defense policy and military strategy require a sharing among the allies of both the risks and the burdens of deterrence and defense.

Armaments cooperation remains a primary element in increasing the conventional capabilities of the Alliance. The Alliance can only achieve its stated objectives if all members recognize that collective security depends upon military, economic, and industrial cooperation. We must capitalize on each opportunity to support rationalization, standardization, and interoperability (RSI) to make the most efficient use of limited resources and increase combined combat capabilities. This requires joint effort and the exchange of military technologies and goods when in our national interests, and it requires the denial of militarily critical technologies and goods to our potential adversaries in order to preserve our own technical advances.

We are also cooperating with Japan, Israel, the Republic of Korea, and other allied and friendly nations in fulfilling these same goals, but in a bilateral, not multilateral, manner. Our focus

is upon defined forces and missions that meet both our objectives and theirs.

a. Objectives

Our primary objectives are to develop and maintain a credible, collective nonnuclear forces capability in areas of potential coalition operations, as well as an environment that fosters maximum use of combined technologi cal and industrial capabilities.

b. Current Programs and Initiatives within NATO

Armaments cooperation is improving both within the NATO Conference of National Armaments Directors (CNAD) and its main groups, as well as through a series of bilateral and multilateral agreements for specific development and production programs.

The broad infrastructure for cooperation continues to expand as more industry-to-industry relationships are developed. The Multiple-Launch Rocket System (MLRS) is an example of a U.S. system with early European involvement. The AV-8B Harrier, on the other hand, is a European system with U.S. industrial teaming arrangements for co-production. The three-nation Rolling Airframe Missile (RAM) pro-program and the four-nation terminal guidance warhead for the MLRS program are cooperative developments involving technology sharing across national lines.

With congressional support and approval, significant improvements have been made in NATO's air defense coverage. Innovative agreements have been signed with Germany and the Netherlands authorizing their acquisition of the Patriot air defense system. A similar agreement with Belgium is now being pursued. This will result in enhanced effectiveness and interoperability of NATO's air defense capabilities.

The NATO initiative to exploit emerging technologies to improve conventional defense will help focus Alliance resources on improving conventional capabilities within this decade, e.g., forward defense, attack of follow-on forces, counterair, C^3I, and C^3CM. A small number of programs have been identified for priority action, with more proposed by both the United States and the Independent European Program Group (IEPG) nations.

c. Cooperation with Non-NATO Allies and Other Friendly Nations

The United States also shares strategic and security concerns with our non-NATO allies, as well as other friendly nations with whom we have no alliance agreements. Our objectives with these nations are to enhance mutual security interests, primarily by assisting them in developing a self-sufficient defense capability.

We will continue our armaments cooperation activities with friendly Middle East nations. Cooperation with Israel has provided the Services with valuable battlefield information from the 1982 Israeli conflict in Lebanon. This exchange of information, as well as efforts to co-develop new systems, is expected to continue. Elsewhere in the Middle East, we have signed a defense industrial cooperation agreement with Pakistan that constitutes a significant addition to our security assistance to that country.

Our cooperation with the Republic of Korea constitutes an important element in securing that nation's independence and freedom. Armaments cooperation programs, most notably in tanks, communications equipment, and missiles, are helping to strengthen their defense capabilities.

We have achieved considerable progress in establishing balanced armaments cooperation with Japan with the signing of notes authorizing the transfer of Japanese military technology to the United States. We are moving rapidly to create a mutually beneficial exchange environment with Japan. The Defense Science Board (DSB) has conducted an assessment of the potential and means for enhancing industry-to-industry armaments cooperation. Concurrently, DoD conducted an intensive assessment of two critical technological areas to determine where increased U.S./Japanese cooperation in these selected areas would be in our mutual interest. The Defense Policy Advisory Committee on Trade (DPACT) has prepared an assessment of increased armaments cooperation from the perspectives of both trade and defense. These efforts are focused with DoD to ensure that our overall program of armaments cooperation is balanced and in our national interest.

In the Pacific region, progress continues in assisting the People's Republic of China to modernize in a manner that does not threaten our own national security or that of our allies and other friends throughout the region. Additional cooperative programs with Australia have been negotiated. We are increasing our cooperation with countries of Southeast Asia. We are also seeking projects of mutual interest with Indonesia and Singapore.

Cooperation with friendly countries in Latin America continues to improve commensurate with the needs and capabilities of the individual countries. A Memorandum of Understanding (MOU) on military industrial cooperation, as well as an Air Force Scientist and Engineer Exchange Program, have been concluded with Brazil. We are also assisting USCINCSOUTH to develop a regional cooperative program for the indigenous production of low technology materiel, and we are arranging for exploratory discussions with Mexico on establishing long-term cooperative programs in military technology.

Our efforts with non-NATO allies and other friendly nations continue to emphasize enhancing mutual national security interests. Toward that end, we have approved the sale of defense equipment, with appropriate safeguards concerning technology transfer, to those nations whose policies are in consonance with the United States and NATO.

6. Space Systems Operations

United States military systems in space provide vital communications links, weather information, surveillance and warning, and navigation support to forces of all Services worldwide. To ensure that space systems meet the operational wartime requirements of our forces, a unified command for space will be formed on October 1, 1985. The U.S. Space Command will provide operational command of space systems to support national security objectives by integrating space systems into the overall warfighting structure.

Our objectives in space include: implementing a strategy that provides for a launch system complementary to the space shuttle; pursuing research concepts that have a high military payoff in terms of providing a hedge against a potential breakthrough in space

weapons by any adversary; achieving an antisatellite capability; and defining and developing the needed surveillance resources to support our national leadership during military operations.

During the past year, we corrected the Inertial Upper Stage (IUS) problems that almost caused the loss of the first Tracking and Data Relay Satellite (TDRS) launched in 1983. An extensive test and recertification program has given us confidence that these problems have been corrected. The recently approved National Space Strategy specified that DoD develop an alternative launch capability to complement the shuttle and guarantee access to space. The Complementary Expendable Launch Vehicle (CELV) Program will give us that capability by 1988.

Construction of the Vandenberg Shuttle Complex is on schedule. Reported welding and electrical problems were documented by the Air Force and contractors prior to their public disclosure. Corrective measures are well under way. Flight hardware compatability testing began last November to support the October 1985 launch. However, NASA's recent problems with the space shuttle's insulating tiles and development delays related to new lightweight casings for the shuttle's solid rocket boosters will delay the first launch to not earlier than late January 1986. We have also begun work on the Consolidated Space Operations Center (CSOC) to conduct DoD's planning and operations for the shuttle program and to augment existing satellite command and control capabilities as the volume of assets in space increases significantly in the late 1980s. We expect to conduct initial satellite control operations at this facility in FY 1987 and to conduct initial shuttle planning and operations during the early 1990s.

We are continuing to expand space-related T&E within DoD to ensure that we are not technologically surprised by an adversary, to advance our own capabilities in space, and to improve the survivability of future space programs.

7. Conventional Initiatives

New technologies are now available to provide our AirLand forces with radically new techniques for defeating the enemy's follow-on forces. These technologies include near-real-time airborne acquisition sensors now being fielded, as well as microprocessing components and communications equipment to bring the acquired intelligence to the executing element on the battlefield. Additionally, we have made progress in lethal submunitions, guidance systems, and delivery systems that enable us to take an enemy force under fire well beyond the range of conventional artillery and close air support. We are developing systems that will be able to locate and track moving targets deep behind enemy lines. Intelligence and fire-control information from multiple sources will be processed by automated systems and distributed to tactical commanders for targeting decisions. Targets will be attacked by aircraft and missiles delivering a variety of munitions, including terminally guided submunitions. Major programs emphasizing extended-range target acquisition and deep attack capabilities include: Joint STARS, Joint Tactical Fusion Program, and the Standoff Tactical Missile (for description see the Land Forces chapter).

8. Technology Transfer and Export Control

a. Objectives

The transfer and control of technology is inseparably related to international cooperative R&D efforts. Of particular concern to DoD are those technologies essential to the development and production of superior quality weapons systems. In fact, NATO's military strength has been, and will continue to be, based upon such technologies. In sheer quantities of military resources, the Warsaw Pact has NATO outnumbered and outgunned. We must, therefore, balance this numerical threat in large measure by relying upon qualitatively superior weapons systems to maintain our collective military strength. Toward that end, we cooperate with our NATO allies in the exchange of technology through cooperative research, development, and acquisition of weapons systems. It is our objective that the Alliance attain, through equitable burdensharing, the necessary military strength in terms of superior weapons, readiness, sustainability, and interoperability in order to achieve and maintain a credible military deterrent and thus preserve peace.

It is clear that, properly managed, the sharing of our modern weapons technology with our allies is in our own national interest, but the loss by transfer to the Soviets is cause for grave concern. Only now can we fully understand the consequences of the technology transfer that had been occurring during the latter half of the 1970s.

b. Technology "Half-Life"

Although military technology has a significant value, it also has a limited life span. While we must provide reasonable precautions against the transfer of our technology to the Soviet bloc, we must also resist the temptation to lock away new discoveries for fear of loss to our adversaries. If we do not apply new discoveries to our weapons systems in a timely manner, we may find either that the technology has become obsolete or, worse, it has found its way into Soviet weapons systems before being incorporated into allied weapons systems.

c. Initiatives and Achievements

This Administration takes a two-step approach toward the technology transfer issue. First, we promote sharing of military technology with our friends and allies. Second, we try to control the loss of that technology to the Soviet Union and other Warsaw Pact nations. As part of our effort to raise the visibility and sharpen the focus of the technology transfer security program within DoD, a number of initiatives have been undertaken.

The Militarily Critical Technologies List (MCTL) is a basic building block of our technology program. We have continued to refine and improve this list to increase its clarity and specificity, to remove outdated elements of technology and, for the first time, to provide an unclassified version. Industry has been a major contributor to the MCTL's evolution, both as members of the Technical Working Groups (TWGs) and in the review of the MCTL by the Multi-Association Policy Advisory Group (MAPAG).

The MCTL is used to prepare Coordinating Committee (COCOM) proposals and to assist DoD in reviewing technical data provisions for incorporation in the Export Administration Regulation by the Department of Commerce. The list is also used as supplementary information

in the processing of export license requests for those items that are under Commodity Control List or Munitions List Control. The MCTL is used as a reference document in disclosure questions pertaining to scientific symposia, visitors from Warsaw Pact countries, and various international agreements involving exchange of technical data.

The COCOM -- comprising representatives from Japan and the NATO countries, except Iceland and Spain -- has developed a list of restricted items to control the transfer of products and technology to Warsaw Pact nations. DoD has been a major contributor to this effort, preparing well over a hundred technical proposals to be used in the COCOM list review. We have also provided a major portion of the technical support at the negotiating table. Our efforts in this area have been very successful in as much as COCOM has accepted our recommendations to provide new coverage in many areas that were previously uncontrolled and also has agreed to decontrol products of lesser strategic significance.

Among the most significant of these are several revisions to the International List (IL) in the area of computers. These have eliminated many obsolete controls while concentrating on areas that have a high military value.

In order to improve the control of critical technology identified in the MCTL, DoD has long recognized the need to rewrite the Technical Data Regulations administered by the Department of Commerce. While the regulations control direct technology transfers to potential adversaries, there is considerable potential for diversion through third countries. While existing regulations are clearly inadequate to protect our critical technology, we recognize that more stringent controls would impose an additional burden on U.S. exporters. We have continued to work closely with the Department of Commerce to tighten certain technical data transfers to all destinations, while reducing controls on products. When implemented, these initiatives will lead to tighter controls in critical technology exports to all destinations but decrease controls in the export of noncritical technology.

In addition to interacting with industry on specific export cases, we are also working to improve industry's understanding of critical technology issues. In this regard, the Defense Policy Advisory Committee on Trade (DPACT), the Defense Science Board (DSB), the American Defense Preparedness Association (ADPA), and the DoD University Forum provide useful forums for discussing transfer issues.

d. Conclusion

The DoD export control and technology transfer program has enhanced our operating policies and procedures so that export license applications are now being processed more consistently and expeditiously. While we are aware of the rapidly increasing worldwide importance of trade in technology, we are also keenly aware of the crucial need to maintain our technological lead. By maintaining that lead, we can offset the sigificantly superior numbers of weapons and troops available to our potential adversaries.

9. Deterrence of Chemical Warfare

a. Introduction

The Soviet Union maintains a massive chemical and expanding biological and toxin capability and has repeatedly used or sponsored the use of such weapons in violation of their treaty obligations. In addition, chemical weapons have proliferated throughout the world with potentially grave consequences for us and our allies. In spite of major improvements in chemical protection, the U.S. and allied capability to counter the expanding threat continues to decline due to our failure to reestablish a credible chemical retaliatory capability.

Although we no longer believe the Soviets intend to use chemical weapons on a massive scale, the selective use against special targets cannot be ruled out. Responding to this threat of chemical warfare has been a particularly difficult issue for our nation to face. The question we must address is how to ensure these weapons are not used against either civilians or the men and women of our Armed Forces. The Congress must face this issue and resolve it.

In accordance with our international treaty obligations, the United States does not and will not possess biological or toxin weapons. Moreover, our goal is to eliminate the threat of chemical warfare by obtaining a global, comprehensive, verifiable ban on the development, production, stockpiling, and transfer of chemical weapons. Negotiations to achieve this goal are currently under way at the Conference on Disarmament in Geneva. In 1984, at the Geneva Conference, the Vice President presented a draft proposal for the total prohibition of chemical weapons. The treaty is a bold U.S. initiative forging new ground in the critical areas of verification and compliance. In essence, to establish confidence in the treaty, the United States is offering to open its military, government-owned, and government-controlled facilities to unrestricted inspection in the event of a suspected violation, and we are asking other nations to do the same. We realize that such a verification measure is unprecedented, but the risks of the status quo or of an unverifiable treaty are so severe that they far outweigh the risks of allowing international inspection teams into our sensitive facilities. A ban remains elusive, however, despite many years of effort and more than fifteen years of unilateral U.S. restraint in chemical weapons production. The continuing decline in U.S. chemical retaliatory capability does not give the Soviets any incentive to negotiate.

Chemical weapons could exert their greatest impact on the course of battle when there is an imbalance in chemical capabilities between the two sides. The Soviet Union possesses a considerable advantage in chemical warfare capabilities, which could be a decisive factor in conflict.[1] Working or fighting in protective gear -- the mask, hood, special suit, gloves, and boots -- can be so debilitating that the protective measures themselves can be damaging to military operations. The problems faced by an individual -- heat, stress, restricted movement, impaired vision, and limited communications -- are compounded when people must work or fight as a unit. Tasks that are demanding under normal battlefield circumstances -- repairing runways and

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[1] For more information on the Soviet threat, see Soviet Military Power, 1984 and Continuing Development of Chemical Weapons Capabilities in the USSR, October 1983.

other facilities, rescuing and treating casualties, flying aircraft, and defending against armored attacks -- become much more difficult in a chemically contaminated environment. We estimate the overall loss of combat capability to be 30-60 percent.

The United States and its allies are investing billions of dollars in conventional forces to deter or, if necessary, to turn back a Soviet conventional attack. The lack of an effective retaliatory chemical capability, however, could provide the Soviets with a powerful incentive to use their chemical weapons to negate U.S. conventional force improvements. Whether they would do so under the threat of nuclear retaliation is open to conjecture, but, if we do not restore a credible chemical retaliatory capability, nuclear weapons might be our only option to deny the Soviets victory. We must decrease rather than increase our reliance on nuclear weapons to deter conventional conflicts.

The recent proliferation of chemical weapons, as shown by the Iran-Iraq war, has added a new dimension to the chemical threat. Today, more than 15 nations are believed to possess chemical weapons, and many more are capable of acquiring them. Chemical warfare poses a threat in many areas of the world where the United States has vital interests and where the threat of nuclear retaliation to chemical attack is not credible.

Until we can achieve an effective chemical weapons ban, we must have the capability to deter others from using chemical weapons against us or our allies. The United States will never initiate chemical warfare but, since World War I, has possessed both protective equipment and a stockpile of chemical weapons as a deterrent; indeed, the existence of such stocks of weapons is generally credited with having deterred the use of chemical weapons in World War II. However, our current aging stocks of chemical weapons, produced in the 1950s and 1960s, no longer constitute an adequate deterrent. Our field commanders have identified their minimum chemical munitions requirements, and the current U.S. stockpile of militarily useful munitions falls far short of the requirement in types of munitions and the quantity of agent fill. We do not have the number of artillery projectiles of the appropriate caliber and chemical agent required for the modern battlefield. Worse, we lack any effective capability to deliver persistent agents against those critical targets beyond artillery range. We must modernize to reestablish and maintain an adequate chemical deterrent. Our proposed program is designed to do this and no more.

For an effective deterrent, we need not match the size and scope of either the Soviet chemical weapons or protection capabilities. In fact, our proposed modernization program would result in a stockpile significantly smaller, but safer and more effective, than the one we now possess. We do, however, require an adequate chemical defense and a modest, but effective, chemical retaliatory capability. Most of the funds allocated to this program are devoted to improving protective capabilities -- suits, detectors, shelters, decontamination equipment, and antidotes. However, all foreseeable effective chemical protective equipment and procedures will continue to hamper individual and unit effectiveness severely. Therefore, improving our protective posture will not, by itself, provide an adequate deterrent, since the Soviets and others would enjoy a significant and perhaps decisive military advantage if they could force us to operate in protective equipment, while their troops remained relatively unencumbered. To possess an effective deterrent, we must reestablish

a retaliatory capability sufficient to assure that the Soviets, too, would have to operate in a protective posture.

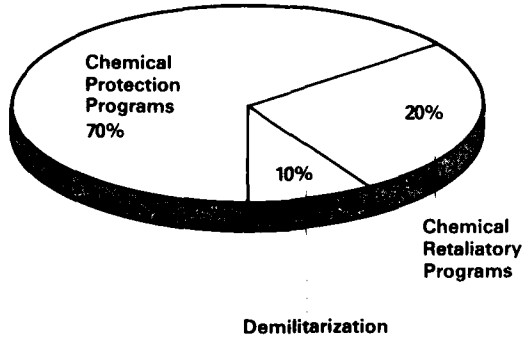
In addition to pursuing a chemical arms ban and reestablishing a chemical deterrent, our program includes plans for the disposal of obsolete and unusable stocks of chemical agents and munitions.

b. FY 1986-90 Programs

(1) Chemical Warfare Protection

Our chemical protective program, comprising more than 70 percent of the FY 1986-90 chemical funding, Chart III.I.6, will continue to improve the capability of our forces to operate in a chemical warfare environment and reduce the degradation in effectiveness imposed by chemical protective equipment and procedures. Our major emphasis will be to develop and field improved protective equipment and supplies, including medical items. Training, exercises, and doctrine will remain key components of the chemical protective program.

Chart III.I.6
FY 1986-90 Funding for Chemical Programs



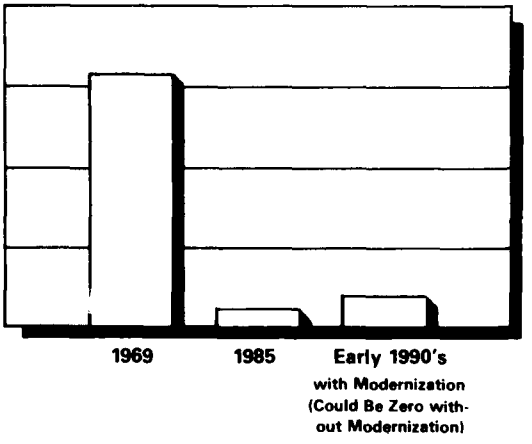
Considerable progress has been made in chemical protection. We have increased the instructional time devoted to chemical defense, the number of trained specialists, the amount of time spent by operational units in protective gear, and the frequency and extent of chemical operations in major field exercises. In addition, we have fielded stocks of protective equipment for our forces. Over the next five years, we will be acquiring collective protective equipment for fixed installations and mobile units, more and better decontamination equipment, significantly improved detection and warning devices, and improved individual protective equipment. We are also acquiring medical systems to prevent and treat chemical and conventional casualties in a combat environment, which might include chemical contamination.

(2) Chemical Retaliatory Capability

A chemical retaliatory capability, along with a strong protective posture, would deny the Soviets any incentive to use their chemical weapons against us or our allies. Toward that end, our field commanders require adequate quantities of nonpersistent artillery projectiles and deep attack persistent agent weapons to establish a credible deterrent. However, our current stockpile of useful munitions contains no deep attack persistent agent capability, and most of the short-range artillery shells contain inappropriate persistent agent. Although the stockpile may have been adequate in 1969 when the United States last produced chemical weapons, we have now reached a point at which the U.S. stockpile of militarily useful chemical weapons contains only about half the agent required to support our field commanders' needs. Additionally, the stockpile lacks the capability to engage targets beyond artillery range.

Chart III.I.7

Chemical Weapons Stockpiles



Our proposed program will continue maintenance efforts to preserve the serviceability of the militarily useful chemical munitions stockpile. However, maintenance cannot halt or reverse internal deterioration of the chemical agent fill, nor can it provide an effective deep target capability in the absence of appropriate weapons, nor ease the logistical burdens associated with the current, highly toxic chemical munitions. Therefore, modernization of the stockpile is urgently required; it represents about 20 percent of our FY 1986-90 program.

(3) Demilitarization

About 10 percent of our chemical program funds will be used to dispose of chemical munitions. Most of these funds will be used for

the disposal of those chemical munitions that could pose safety problems. At the same time, we are proceeding with technology development and planning for the disposal of other obsolete or unusable munitions and, if negotiations are successful, to dispose of the entire chemical stockpile. Construction of a facility to dispose of the highly flammable agent BZ at Pine Bluff Arsenal, Arkansas, was approved for FY 1984, and a facility at Johnston Island to dispose of chemical rockets was approved for FY 1985. The planning and approval process for facilities to dispose of obsolete chemical rockets stored at other locations is under way.

c. Conclusion

Chemical weapons pose a worldwide threat, and improving our chemical deterrent capability is vital if we are to eliminate adversarial incentive to use chemical weapons against the men and women who serve in our Armed Forces. Modernization would provide the necessary inducement for these nations to join in a comprehensive, verifiable chemical weapons ban. Both the protective and retaliatory components of the proposed program are essential. The current imbalance invites the Soviets to use chemical weapons and could give them a decisive edge in conventional conflict. Our comparative weakness in this area also invites other nations to acquire chemical weapons as a cheap alternative to increasing conventional military power. Failure to modernize both program components will undermine international efforts to achieve what we and most of the world desire -- a total, verifiable ban on the development, production, and stockpiling of chemical weapons. The Congress must face its responsibilities squarely and authorize the modernization program we have requested.

10. Special Operations Forces

Revitalizing our Special Operations Forces (SOF) remains a high priority of this Administration. Over the last four years, we have made significant progress toward achieving that goal. The high priority we have assigned to SOF revitalization reflects our recognition that low-level conflict, for which SOF are uniquely suited, poses the threat we are most likely to encounter through the end of this century. We must have strong SOF if we are to meet this and other challenges across the broad spectrum of conflict.

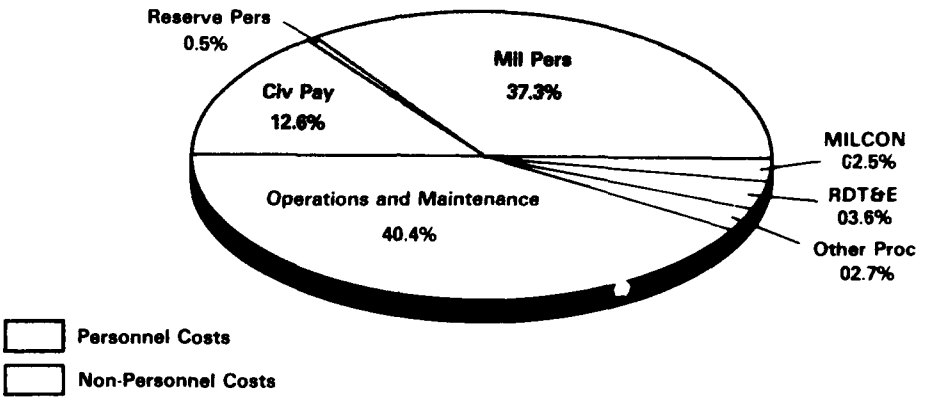
With this in mind, we have activated a new Special Forces (SF) group and a new SEAL team, which will expand our SOF structure when fully manned in FY 1988. To reach projected force level requirements, activation of another SF group and SEAL team is scheduled by FY 1990. By fielding 21 new MC-130 Combat Talons by FY 1992, we are addressing the shortage of long-range SOF aviation capabilities. New naval special warfare craft are programmed to modernize and expand the naval special warfare capability. Readiness is being improved with better training and modern equipment, and we are revising and updating doctrine and strategy for the employment of SOF. We have also undertaken a number of management initiatives to ensure that the revitalization process proceeds in an orderly manner and that we develop a truly effective joint force. These include improvements in command and control mechanisms, creation of the Joint Special Operations Agency within the Organization of the Joint Chiefs of Staff, and enhancements to Service, Commander in Chief, and DoD staffs. Major exercises now contain SOF participation to raise staff expertise and operational planning for integrated SOF operations.

When completed, the SOF revitalization program will provide us a force fully capable of supporting U.S. national security interests worldwide.

11. Military Health Care

Chart III.I.8

DoD Medical Appropriations - FY 1986



a. Introduction

The military health care system is dedicated to two purposes: providing medical support to U.S. combat forces during war, and providing quality health benefits to active duty and retired members of the Armed Forces, their dependents, and survivors. To accomplish this, the FY 1986 budget request for military medical programs is nearly $10 billion. This includes approximately $3.2 billion for the Army, $2.5 billion for the Navy, and $2.6 billion for the Air Force. The CHAMPUS budget is $1.5 billion. About half of the total health budget is for health care costs, and over 40 percent is for medical operations and maintenance. The remainder is for military hospital and clinic construction, medical research and development, and procurement of equipment and supplies.

b. Medical Readiness

Being "medically ready" means the ability to treat casualties and return them to duty as soon as possible; to provide life-saving care, including surgery, to U.S. casualties in the event of war or terrorist attack, within the first few hours of injury; and to evacuate casualties requiring more definitive medical care. Modern, up-to-date medical equipment and supplies that can be deployed with our troops, or that can be stored throughout the world so that they are readily available to our troops wherever they might be stationed or engaged are essential to medical readiness. Also needed are specially trained medical forces, a comprehensive medical evacuation

system, and agreements with other government and civilian hospitals -- both at home and abroad -- to take care of U.S. casualties in an emergency, if needed.

From a medical standpoint, our go-to-war capability today and for the future has improved. This year, the Defense Resources Board (DRB) directed the accelerated procurement of deployable medical systems which will, over the next several years, dramatically increase our ability to provide medical support in war. Moreover, we have improved the efficiency of these systems by requiring the procurement of standardized medical units across all three Services.

Another major initiative in medical readiness is our continuing progress in deploying two hospital ships. These San Clemente-class tankers will be converted into floating general hospitals with 1,000 beds and 12 operating rooms each. The USNS MERCY is now in a San Diego shipyard, and the USNS COMFORT is scheduled to arrive in the next few months for final conversion.

In FY 1984, an extensive review of the Department's overall medical capabilities, both in Europe and in the Pacific, was directed. These reviews, the most extensive analyses done so far, have already led to improvements in our medical command, control, and communication structures. New agreements have also been concluded with key friendly nations for emergency medical support for U.S. troops. Efforts to expand these agreements will be a high priority for improving medical readiness in the year ahead.

The success of the Civilian-Military Contingency Hospital System continues with over 61,000 beds from over 770 civilian hospitals in 48 metropolitan areas committed to DoD in the event of a mobilization. Great strides have also been made in cooperative medical planning between the Veterans' Administration (VA) and DoD for the treatment of active duty personnel in VA hospitals during wartime. This assures greater efficiency of both systems in time of war.

Another area of progress, and great need, is in the medical readiness of our reserve forces. Reserve forces are expected to provide over 60 percent of the health care personnel to meet medical support requirements in war. Special training programs designed by the Office of Health Affairs and joint efforts between Health and Reserve Affairs will place major emphasis on improving the training and recruitment of needed Reserve medical personnel in the year ahead. These efforts are already showing results. Since last year, about 1,000 additional physicians have been added to the reserve forces, bringing us within 2,000 of our overall physician goal. A critical shortage still exists in a number of specialties and among some nurse specialties. These will receive emphasis in the year ahead.

c. Management of the Health Care System

DoD is committed to providing high-quality health care to over eight million eligible beneficiaries through the direct care system and the CHAMPUS program. Significant progress has been made in the past four years, and, in the year ahead, we will continue to provide high-quality health care easily accessible to our beneficiaries. We will not retreat from our commitment to continue efforts to control costs within our medical system.

DoD is taking advantage of every opportunity to keep medical costs down. The Services have already made progress in avoiding additional costs under CHAMPUS by increasing workloads in military treatment facilities. This year, we have also been working to limit the costs of CHAMPUS by incorporating the prospective payment system now in use under Medicare into the CHAMPUS program. Several projects are being planned to test the feasibility of alternative financing mechanisms -- Health Maintenance Organizations (HMOs) and Preferred Providers Organizations (PPOs) -- to the military health care system. One major step forward this year will be to test the feasibility of creating an even more efficient management system through enrollment of our beneficiaries in programs similar to HMOs operated by the military treatment facility commanders.

Finally, we are developing a legislative proposal to bring about cost savings by allowing our military treatment facilities to seek reimbursement from private insurers when a beneficiary is covered by another health insurance plan.

d. Quality Assurance

In terms of assuring quality health care, DoD is currently putting in place reporting and monitoring mechanisms to safeguard against medical misconduct or malpractice. DoD directives have been issued in a number of critical areas, including supervision of non-physician health care providers; review of provider credentials; and reporting of misconduct, morbidity, and mortality. DoD is now in the forefront of national efforts to improve confidence in the quality of the health care system.

A recent audit of six military facilities by DoD's Inspector General (IG) revealed a number of cases in which DoD directives and hospital accreditation standards were not being followed. In response, we are taking steps to improve compliance with these regulations. The same IG report also pointed out some apparent deficiencies in emergency room supervision and documentation. To correct this, DoD sponsored a national conference on emergency medical care to determine how to improve emergency room operations in military hospitals.

A DoD directive is now being developed to require licensing of all military health care providers in a number of health professions, and we are developing a legislative proposal to guarantee confidentiality to those who identify and report medical misconduct.

e. Alcohol and Drug Abuse Control

In the last four years, we have seen an encouraging and sustained downturn in drug abuse among our active duty personnel. Much of this success can be attributed to the Services' aggressive use of urinalysis to identify drug abuse. We now have a drug screening and confirmation system in place, which the scientific community agrees is valid and credible. This program will continue to receive strong support from DoD in the future, as it is a critical component not only of military readiness, but also for the personal health and welfare of our military personnel.

Our goal is to reduce drug abuse by military personnel to zero, and we have made a commitment to achieve that goal. We must also take further steps to curb alcohol abuse. Alcohol-related accidents are still the greatest cause of death among active duty military

personnel. Our efforts to improve identification and treatment of alcohol abuse and alcoholism in all ranks of military and civilian personnel will be intensified in FY 1985.

In this vein, we have recently launched a new health promotion and preventive medicine effort based on scientific evidence of the health hazards of smoking, overeating, and excessive use of alcohol. All of the Services have implemented programs in these areas. We will work to identify the most effective of these programs and continue to develop and refine strategies that encourage service-members to adopt healthful living habits.

f. Fraud and Abuse

Unfortunately, fraud and abuse have been a problem in the health care system. To eliminate the fraudulent use of military health care facilities by those who are not eligible for this service, DoD initiated the Defense Enrollment Eligibility System (DEERS). All CHAMPUS claims are now checked with the DEERS system before payment is made, and all individuals seeking routine medical care at military treatment facilities have to be enrolled in DEERS. By preventing the fraudulent use of the military health care system, our efforts have already saved millions of taxpayer dollars, enabling more efficient use of our health care resources for those eligibile to receive care.

g. Conclusion

In the past year, we have seen improvements in several critical dimensions of medical readiness and our peacetime health care system. However, there is much that remains to be done. Our goal is to assure our ability to provide medical support in the event of war and, at the same time, to provide a high level of health care to our active duty, retired, and dependent personnel. In the past, this was viewed as an impossible task. Improving medical readiness, it was said, could only be done by ignoring the peacetime system. And, in order to maintain the peacetime system, readiness had to suffer. We reject this premise and feel the accomplishments of the past few years in both peacetime and wartime capabilities bear us out. We can strike a better balance without diminishing the level of care provided to our military families.

Appendix A

Table 1

Department of Defense — B/A by Appropriation (Dollars in Millions)

	FY 1976	FY 1980	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986
Current Dollars							
Military Personnel	25,430	31,014	42,875	45,688	64,866[a]	68,901[a]	73,425[a]
Retired Pay	7,326	11,965	14,986	16,155			
Operation & Maintenance	28,731	46,365	62,466	66,540	70,950	78,219	82,450
Procurement	20,991	35,283	64,462	80,355	86,161	96,807	106,813
Research, Development, Test & Evaluation	9,451	13,561	20,060	22,798	26,867	31,464	39,280
Special Foreign Currency Program	3	7	3	4	3	9	2
Military Construction	2,360	2,293	4,916	4,512	4,510	5,517	7,057
Family Housing & Homeowners Assistance Program	1,229	1,526	2,203	2,712	2,669	2,894	3,283
Revolving & Management Funds	135	1,336	2,494	1,075	2,774	1,554	1,860
Trust Funds, Receipts, & Deductions	-146	-727	-714	-365	-650	-636	-659
Proposed Legislation							189
Total - Direct Program (B/A)	**95,508**	**142,621**	**213,751**	**239,474**	**258,150**	**284,730**	**313,700**
Constant FY 1986 Dollars							
Military Personnel	50,727	48,045	50,567	51,803	70,701[a]	72,519[a]	73,425[a]
Retired Pay	13,645	16,127	17,044	17,368			
Operation & Maintenance	53,005	57,962	68,595	70,927	74,554	79,513	82,450
Procurement	44,402	50,643	79,061	93,211	95,070	101,611	106,813
Research, Development, Test & Evaluation	17,409	18,203	23,356	25,567	29,056	32,717	39,280
Special Foreign Currency Program	5	9	4	4	3	9	2
Military Construction	4,326	2,969	5,756	5,076	4,872	5,724	7,057
Family Housing & Homeowners Assistance Program	2,283	2,067	2,489	3,023	2,879	3,010	3,283
Revolving & Management Funds	261	1,876	2,945	1,234	3,045	1,649	1,860
Trust Funds, Receipts, & Deductions	-272	-979	-807	-397	-680	-641	-659
Proposed Legislation							189
Total - Direct Program (B/A)	**185,791**	**196,922**	**249,009**	**267,817**	**279,501**	**296,111**	**313,700**

(Note: Totals may not add due to rounding)

[a] Includes Retired Pay Accrual.

Table 2

Department of Defense — B/A by Component
(Dollars in Millions)

	FY 1976	FY 1980	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986
Current Dollars							
Department of the Army	23,644	34,380	52,254	57,529	68,644[a]	74,366[a]	81,695[a]
Department of the Navy	31,302	47,225	69,569	81,854	87,365[a]	96,461[a]	104,813[a]
Department of the Air Force	28,444	41,720	64,821	74,074	90,851[a]	99,912[a]	110,099[a]
Defense Agencies/OSD/JCS	3,486	5,643	9,222	9,256	10,746	13,022	16,551
Defense-wide	8,632	13,653	17,885	16,761	524	969	542
Total - Direct Program (B/A)	**95,508**	**142,621**	**213,751**	**239,474**	**268,150**	**284,730**	**313,700**
Constant FY 1986 Dollars							
Department of the Army	45,250	48,370	61,195	64,632	74,314[a]	77,285[a]	81,695[a]
Department of the Navy	61,557	65,002	81,450	92,077	94,651[a]	100,320[a]	104,813[a]
Department of the Air Force	56,505	57,642	75,307	82,789	98,462[a]	104,098[a]	110,099[a]
Defense Agencies/OSD/JCS	6,400	7,488	10,649	10,252	11,497	13,380	16,551
Defense-wide	16,079	18,421	20,408	18,069	576	1,028	542
Total - Direct Program (B/A)	**186,791**	**196,922**	**249,009**	**267,817**	**279,501**	**296,111**	**313,700**

(Note: Totals may not add due to rounding.)

[a] Includes Retired Pay Accrual

Table 3
Federal Budget Trends

Fiscal Year	Federal Outlays as % of GNP	DoD Outlays as a % of Federal Outlays	DoD Outlays as % of GNP	Non-DoD Outlays as % of Federal Outlays	Non-DoD Outlays as % of GNP	DoD Outlays as % of Net Public Spending[1]
1950	16.1	27.4	4.4	72.6	11.7	18.5
1955	18.0	51.3	9.2	48.7	8.8	35.5
1960	18.5	45.0	8.3	55.0	10.2	30.3
1965	18.0	38.7	7.0	61.3	11.0	25.2
1970	20.2	39.4	8.0	60.6	12.2	25.4
1971	20.4	35.4	7.2	64.6	13.2	22.4
1972	20.4	32.6	6.7	67.4	13.8	20.7
1973	19.6	29.8	5.8	70.2	13.8	19.0
1974	19.5	28.8	5.6	71.2	13.9	18.3
1975	22.5	25.5	5.7	74.5	16.7	16.5
1976	22.7	23.6	5.4	76.4	17.4	15.4
1977	22.0	23.4	5.1	76.6	16.8	15.5
1978	21.9	22.5	4.9	77.5	17.0	15.2
1979	21.4	22.8	4.9	77.2	16.5	15.4
1980	23.0	22.5	5.2	77.5	17.8	15.3
1981	23.5	23.0	5.4	77.0	18.1	15.8
1982	24.5	24.5	6.0	75.5	18.5	16.7
1983	25.1	25.4	6.4	74.6	18.7	17.4
1984	23.8	25.9	6.2	74.1	17.6	17.6
1985	24.8	25.7	6.4	74.3	18.4	17.5

[1]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.

Table 4
Defense Shares of Economic Aggregates

	DoD as a Percentage of Public Employment		DoD as a Percentage of National Labor Force		National Income Accounts Percentage of Total Purchase		
Fiscal Year	Federal	Federal State & Local	Direct Hire (DoD)	Including Industry	National Defense[a]	Total Federal	State & Local
1965	71.3	29.3	5.0	7.8	7.3	9.8	10.3
1966	73.0	30.6	5.6	9.0	7.5	10.0	10.4
1967	74.1	31.5	6.0	10.0	8.6	11.1	10.9
1968	74.0	31.3	6.1	10.0	9.0	11.4	11.4
1969	73.2	30.1	5.9	9.4	8.4	10.8	11.7
1970	72.3	27.7	5.3	8.1	7.8	10.0	12.1
1971	68.3	24.4	4.6	7.0	7.0	9.2	12.6
1972	66.0	21.9	4.0	6.2	6.4	8.9	12.8
1973	65.0	20.7	3.7	5.8	5.8	8.1	12.8
1974	63.8	19.7	3.5	5.5	5.3	7.6	13.0
1975	62.9	18.7	3.4	5.3	5.4	8.0	13.8
1976	62.5	18.1	3.3	5.0	5.2	7.6	13.9
1977	62.5	17.6	3.2	5.0	4.9	7.5	13.1
1978	61.9	17.3	3.1	4.8	4.7	7.2	13.0
1979	61.1	16.8	2.9	4.8	4.6	7.0	12.7
1980	61.3	16.7	2.8	4.7	4.9	7.4	12.9
1981	62.4	17.0	2.8	4.8	5.1	7.6	12.5
1982	63.3	17.5	2.8	4.9	5.7	8.2	12.6
1983	63.5	17.9	2.9	5.2	6.1	8.5	12.7
1984	63.9	17.9	2.8	5.5	6.0	7.9	12.3
1985	64.3	18.0	2.7	5.6	6.2	8.2	12.5

[a] 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.

Appendix B

Table 1
Department of Defense
General and Flag Officer Strengths

Actual	General and Flag Officer Strengths	General and Flag Officers Per 10,000 Total Military
1961	1,254	5.0
1962	1,303	4.6
1963	1,292	4.8
1964	1,294	4.8
1965	1,287	4.8
1966	1,320	4.3
1967	1,334	4.0
1968	1,352	3.8
1969	1,336	3.9
1970	1,339	4.4
1971	1,330	4.9
1972	1,324	5.7
1973	1,291	5.7
1974	1,249	5.8
1975	1,199	5.6
1976	1,184	5.7
1TQ	1,174	5.7
1977	1,159	5.6
1978	1,119	5.4
1979	1,119	5.5
1980	1,118	5.4
1981	1,073	5.2
1982	1,073	5.1
1983	1,073	5.1
1984	1,073	5.0
Programmed		
1985	1,073	5.0
1986	1,073	4.9

Table 2
Department of Defense
Officer Strength — In Thousands

Actual	Officer Strengths[a]	Enlisted to Officer Ratio
1961	315	6.9
1962	343	7.2
1963	334	7.1
1964	337	7.0
1965	339	6.8
1966	349	7.9
1967	384	7.8
1968	416	7.5
1969	419	7.3
1970	402	6.3
1971	371	6.3
1972	336	5.9
1973	321	6.0
1974	302	6.2
1975	292	6.3
1976	281	6.4
1TQ	279	6.5
1977	275	6.5
1978	273	6.5
1979	273	6.4
1980	276	6.3
1981	283	6.3
1982	290	6.2
1983	299	6.1
1984	303	6.0
Programmed		
1985	308	5.9
1986	312	5.9

[a] Includes all active forces officers on extended active duty.

Table 3
Military and Civilian Personnel Strength[a]
(End Fiscal Years — In Thousands)

	Actuals								Programmed	
	FY 1968	FY 1972	FY 1976	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986
Active Military										
Army	1,570	811	779	777	781	780	780	780	781	781
Navy[b]	765	588	525	517	529	542	558	565	571	586
Marine Corps	307	198	192	188	191	192	194	196	198	200
Air Force	905	726	585	558	570	583	592	597	602	612
Total	***3,547***	***2,322***	***2,081***	***2,040***	***2,071***	***2,108***	***2,123***	***2,138***	***2,152***	***2,178***
Reserve Components (Selected Reserve)										
Army National Guard	389	388	362	367	389	408	417	434	438	450
Army Reserve	244	235	195	206	225	257	266	275	286	301
Naval Reserve[b]	124	124	97	97	98	105	109	121	129	142
Marine Corps Reserve	47	41	30	35	37	40	43	41	42	43
Air National Guard	75	89	91	96	98	101	102	105	108	111
Air Force Reserve	43	48	48	59	62	64	67	70	75	77
Total	***922***	***925***	***823***	***861***	***909***	***974***	***1,005***	***1,096***	***1,077***	***1,124***
Direct Hire Civilian										
Army[c]	462	367	329	312	318	322	332	344	342*	346*
Navy	419	342	311	298	310	308	328	332	328*	330*
Air Force[c]	331	280	248	231	233	233	238	240	243*	252*
Defense Agencies	75	61	72	75	79	84	82	85	89*	91*
Total	***1,287***	***1,050***	***980***	***916***	***940***	***947***	***980***	***1,000***	***1,002****	***1,020****

[a] Numbers may not add to totals due to rounding.

[b] *Navy Training and Administration of Reserves (TARs) personnel are counted in the Selected Reserve from FY 1980 on. Prior to FY 1980, TAR pesonnel are included in the Active Military.*

[c] These totals include Army and Air National Guard technicians, who were converted from State to Federal employees in FY 1979. The FY 1968 total has been adjusted to include approximately 3,900 technicians.

*Estimated.

Table 4
U.S. Military Personnel in Foreign Areas[a]
(End-Year — In Thousands)

	FY 1968	FY 1972	FY 1976	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984
Germany	225	210	213	239	244	248	256	254	254
Other Europe	66	62	61	61	65	64	67	70	73
Europe, Afloat	23	26	41	25	22	25	33	18	25
South Korea	67	41	39	39	39	38	39	39	41
Japan	79	64	45	46	46	46	51	49	46
Other Pacific	37	25	27	15	15	15	15	15	16
Pacific Afloat (Including Southeast Asia)	94	51	24	22	15	25	33	34	18
Miscellaneous Foreign	27	22	8	11	42	39	34	41	38
Total	***1,200***	***885***	***460***	***458***	***489***	***502***	***528***	***520***	***511***

[a] Numbers may not add to totals due to rounding.

Appendix C

Table 1

Department of Defense Strategic Forces Highlights

Strategic Offense	FY 1976	FY 1980	FY 1984	FY 1985	FY 1986
Land-Based ICBMs					
Titan	54	52	31	23	9
Minuteman	1,000	1,000	1,000	1,000	997
Peacekeeper	–	–	–	–	3
Strategic Bombers (PAA)[a]					
B-52D	145	75	–	–	–
B-52G/H	241	241	241	241	241
FB-111	66	60	56	56	56
B-1B	–	–	–	1	18
Fleet Ballistic Launchers (SLBMs)					
Polaris	240	80	–	–	–
Poseidon (C-3 and C-4)	416	496	496	496	496
Trident	–	–	120	144	192
Strategic Defense Interceptors (PAA/Squadrons)[a]					
Active	141/6	127/7	90/5	90/5	72/4
Air National Guard	262/15	165/10	162/10	198/11	198/11

[a] PAA - Primary Aircraft Authorized

Table 2

Department of Defense
General Purpose Forces Highlights

Land Forces	FY 1976	FY 1980	FY 1984	FY 1985	FY 1986
Army Divisions:					
Active	16	16	16	17	18
Reserve	8	8	9	9	10
Marine Corps Divisions:					
Active	3	3	3	3	3
Reserve	1	1	1	1	1
Tactical Air Forces (PAA/Squadrons)[a]					
Air Force Attack/Fighter					
Active	1608/74	1680/79	1734/77	1758/78	1786/79
Reserve	758/36	792/39	852/43	864/43	876/43
Navy Attack/Fighter					
Active	976/65	894/60	947/63	956/63	990/65
Reserve	120/10	120/10	108/9	92/9	108/9
Marine Corps Attack/Fighter					
Active	422/25	422/25	409/24	417/25	430/25
Reserve	96/8	84/7	88/8	88/8	94/8
Naval Forces					
Strategic Forces Ships	50	48	41	43	44
Battle Forces Ships	367	384	425	433	439
Support Forces Ships	63	41	45	52	54
Reserve Forces Ships	4	6	12	14	18
Total Deployable Battle Forces	**484**	**479**	**523**	**542**	**555**
Reserve Forces Ships	57	44	24	20	21
Auxiliaries and Sealift Forces[b]	14	15	32	43	45
Total Other Forces	**71**	**59**	**56**	**63**	**66**

[a] PAA - Primary Aircraft Authorized

[b] Does not include RRF ships

Table 3

Department of Defense Airlift and Sealift Forces Highlights

	FY 1976	FY 1980	FY 1984	FY 1985	FY 1986
Intertheater Airlift (PAA)[a]					
C-5A	70	70	70	70	70
C-5B	–	–	–	–	5
C-141	234	234	234	234	234
KC-10A	–	–	25	35	46
Intratheater Airlift (PAA)[a]					
Air Force Active					
C-130	234	218	218	216	216
Air Force Reserve and National Guard					
C-130	262	264	302	302	302
C-123	64	64	–	–	–
C-7A	51	48	–	–	–
Active Navy and Marine Corps					
Tactical Support	40	45	47	38	38
Reserve Navy and Marine Corps					
Tactical Support	33	34	33	34	34
Sealift					
Ships, Active					
Tankers	12	21	21	26	26
Cargo	19	14	14	14	14
Controlled Fleet Charters:					
Tankers	14	14	12	12	12
Cargo	21	23	30	40	43
National Defense Reserve Fleet[b]	**144**	**164**	**202**	**214**	**220**

[a] PAA - Primary Aircraft Authorized

[b] Includes commercial dry cargo ships and the Ready Reserve Force

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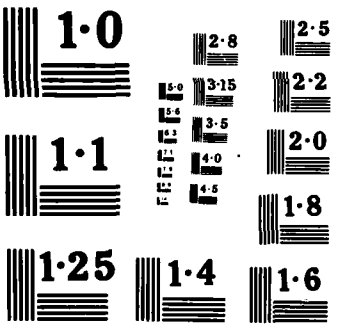
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Appendix D

ACRONYMS

AALP:	Automated Airload Planning System
AAW:	Antiair Warfare
ABM:	Antiballistic Missile
ABS:	Air Base Survivability
AC:	Active Component
ACM:	Advanced Cruise Missile
ADCAP:	Advanced Capability (torpedo)
ADDS:	Army Data Distribution System
ADP:	Automatic Data Processing
ADPA:	American Defense Preparedness Association
AFAP:	Artillery-Fired Atomic Projectile
AFATDS:	Advanced Field Artillery Tactical Data System
AFQT:	Armed Forces Qualification Test
AFR:	Air Force Reserve
AFSATCOM:	Air Force Satellite Communications
AFTI:	Advanced Fighter Techonology Integration
AGR:	Active Guard and Reserve
AHIP:	Army Helicopter Improvement Program
AID:	Agency for International Development
AIM:	Air Intercept Missile
ALCM:	Air-Launched Cruise Missile
ALMV:	Air-Launched Miniature Vehicle
AMRAAM:	Advanced Medium-Range Air-to-Air Missile
ANG:	Air National Guard
ANZUS:	Australia-New Zealand-U.S. (treaty)
AOE:	Multipurpose Stores Ship
APOMS	Automated Propeller Optical Measurement System
ASAT:	Antisatellite
ASPJ:	Airborne Self-Protection Jammer
ASROC:	Antisubmarine Rocket
ASW:	Antisubmarine Warfare
ASW/SOW:	ASW Standoff Weapon
ATA:	Advanced Tactical Aircraft
ATB:	Advanced Technology Bomber
ATF:	Advanced Tactical Fighter
ATM:	Antitactical Missile
AUTOVON:	Automatic Voice Network
AWACS:	Airborne Warning and Control System
BA:	Budget Authority
BCS:	Battery Computer System
BEA:	Bureau of Economic Analysis
BFV:	Bradley Fighting Vehicle
BMEWS:	Ballistic Missile Early Warning System
C^3:	Command, Control, and Communications
C^3CM:	Command, Control, and Communications Countermeasures
C^3I:	Command, Control, Communications, and Intelligence
CAMS:	Crisis Action Management System
CDE:	Conference on Disarmament in Europe
CELV:	Complementary Expendable Launch Vehicle
CH:	Cargo Helicopter

CHAMPUS:	Civilian Health and Medical Program of the Uniformed Services
CINC:	Commander in Chief
CIWS:	Close-In Weapon System
CMS:	Crisis Management System
CNAD:	Conference of National Armaments Directors
COB:	Collocated Operating Base
COCOM:	Coordinating Committee for Multilateral Export Controls
CODES:	Computerized Deployment Execution System
COMSEC:	Communications Security
CONUS:	Continental United States
COR:	Command Operationally Ready
CORE:	Contingency Response Program
CRAF:	Civil Reserve Air Fleet
CS:	Civil Service
CSOC:	Consolidated Space Operations Center
CY:	Calendar Year or Current Year
DAIP:	Defense Acquisition Improvement Program
DARPA:	Defense Advanced Research Projects Agency
DCA:	Dual-Capable Aircraft, Defense Communications Agency
DCAA:	Defense Contract Audit Agency
DCS:	Defense Communications System
DDG:	Guided Missile Destroyer
DDN:	Defense Data Network
DEERS:	Defense Enrollment Eligibility System
DEIMS:	Defense Economic Impact Modeling System
DFH:	Deployable Field Headquarters
DIA:	Defense Intelligence Agency
DIPEC:	Defense Industrial Plant Equipment Center
DLA:	Defense Logistics Agency
DLC:	Direct Communications Link
DNA:	Defense Nuclear Agency
DoD:	Department of Defense
DoE:	Department of Energy
DPA:	Defense Production Act
DPACT:	Defense Policy Advisory Committee on Trade
DRB:	Defense Resources Board
DSB:	Defense Science Board
DSCS:	Defense Satellite Communication System
DSN:	Defense Switched Network
ECM:	Electronic Countermeasures
ECWG:	Emergency Communications Working Group
EJS:	Enhanced JTIDS System
ELF:	Extremely Low Frequency
EMP:	Electromagnetic Pulse
EMPB:	Emergency Mobilization Preparedness Board
EPA:	Environmental Protection Agency
ESF:	Economic Support Fund
EW:	Electronic Warfare
EXJAM:	Expendable Jammer

FAASV:	Field Artillery Ammunition Support Vehicle
FEMA:	Federal Emergency Management Agency
FFG:	Guided Missile Frigate
FHE:	Forward Headquarters Element
FLIR:	Forward-Looking Infrared Radar
FMC:	Fully Mission Capable
FMS:	Foreign Military Sales
FMSCR:	Foreign Military Sales Credit (Financing)
FTS:	Full-Time Support
FY:	Fiscal Year
GAO:	Government Accounting Office
GLCM:	Ground-Launched Cruise Missile
GLLD:	Ground Laser Locator Designator
GM:	General Manager
GMF:	Ground Mobile Forces
GNP:	Gross National Product
GPS:	Global Positioning System
GRF:	Guaranty Reserve Fund
GS:	General Schedule
GWEN:	Ground Wave Emergency Network
HARM:	High-Speed Antiradiation Missile
HELSTF:	High Energy Laser Systems Test Facility
HEMTT:	Heavy Expanded Mobility Tactical Truck
HF:	High Frequency
HLG:	High-Level Group
HMMWV:	High Mobility Multipurpose Wheeled Vehicle
HMO:	Health Maintenance Organization
HNS:	Host Nation Support
HSDG:	High School Diploma Graduates
HTMD:	High Technology Motorized Division
I-S/A AMPE:	Inter-Service Agency Automated Message Processing Exchange
IAMP:	Imagery Acquisition and Management Plan
IBP:	Industrial Base Program
ICBM:	Intercontinental Ballistic Missile
IEPG:	Independent European Program Group
IG:	Inspector General
IL:	International List
IMET:	International Military Education and Training
IMIP:	Industrial Modernization Incentives Program
INCA:	Intelligence Communications Architecture
INEWS:	Integrated Electronic Warfare System
INF:	Intermediate-Range Nuclear Forces
ING:	Inactive National Guard
IONDS:	Integrated Operational Nuclear Detonation System
IR&D:	Independent Research and Development
IRR:	Individual Ready Reserve
IUS:	Inertial Upper Stage

JAFE:	Joint Advanced Fighter Engine
JCS:	Joint Chiefs of Staff
JCSE:	Joint Communications Support Element
JLOTS II:	Joint Logistics Over-the-Shore II
Joint STARS:	Joint Surveillance and Target Attack Radar System
JTDE:	Joint Technology Demonstrator Engine
JT&E:	Joint Test and Evaluation
JTFP:	Joint Tactical Fusion Program
JTIDS:	Joint Tactical Information Distribution System
JVX:	Joint Services Advanced Vertical Lift Aircraft
LAMPS:	Light Airborne Multipurpose System
LANTIRN:	Low-Altitude Navigation and Targeting Infrared System for Night
LAV:	Light Armored Vehicle
LCAC:	Landing Craft, Air Cushion
LF:	Low Frequency
LHX:	Light Helicopter Experimental
LOGMARS:	Logistic Applications of Automated Marking and Reading Symbols
LRINF	Longer Range Intermediate-Range Nuclear Forces
LVS:	Logistics Vehicle System
LVT:	Assault Amphibian Vehicle
MAB:	Marine Amphibious Brigade
MAF:	Marine Amphibious Force
MAP:	Military Assistance Program
MAPAG:	Multi-Association Policy Advisory Group
MBFR:	Mutual and Balanced Force Reductions
MC:	Mission Capable, Military Committee
MCE:	Modular Control Equipment
MCS:	Maneuver Control System
MCTL:	Military Critical Technology List
MFO:	Multinational Forces and Observers
MiG:	Mikoyan-Gurevich (aircraft)
MILCON:	Military Construction
Milstar:	Military Strategic and Tactical Relay System
MIRV:	Multiple Independently-Targetable Reentry Vehicle
MLRS:	Multiple-Launch Rocket System
MMMTF:	Mobilization Materiel Management Task Force
MMP:	Master Mobilization Plan
MMWG:	Military Mobilization Working Group
MNC:	Major NATO Commander
MOA:	Memorandum of Agreement
MOB:	Main Operating Base
MOU:	Memorandum of Understanding
MPS:	Maritime Prepositioning Ship
MRT:	Miniature Receiver Terminal
MSE:	Mobile Subscriber Equipment
MSO:	Military Service Obligation
MT:	Military Technician
MTT:	Mobile Training Team
MULE:	Modular Universal Laser Equipment

NADC:	NATO Air Defense Committee
NATO:	North Atlantic Treaty Organization
Navstar:	Navigation Satellite Timing and Ranging
NCA:	National Command Authorities
NCS:	National Communications System
NCCS:	Naval Command and Control System
NDS:	Nuclear Detonation Detection System
NEARTIP:	Near-Term Improvement Program (for MK-46 torpedo)
NFIP:	National Foreign Intelligence Program
NJCEC:	NATO Joint Communications-Electronic Committee
NMCC:	National Military Command Center
NORAD:	North American Aerospace Defense Command
NPG:	Nuclear Planning Group
NPS:	Nonprior Service
NRF:	Naval Reserve Fleet, Naval Reserve Force
NSA:	National Security Agency
NSDD:	National Security Decision Directive
NSEP:	National Security and Emergency Preparedness
NTPF:	Near-Term Prepositioning Forces
NTU:	New Threat Upgrade
O&M:	Operation and Maintenance
OJCS:	Organization of the Joint Chiefs of Staff
OMB:	Office of Management and Budget
OSD:	Office of the Secretary of Defense
OSIS:	Ocean Surveillance Information System
OTH:	Over-the-Horizon
OTH-B:	Over-the-Horizon Backscatter (radar)
P^3I:	Preplanned Product Improvement
PARCS:	Perimeter Acquisition Radar Attack Characterization System
PAVE PAWS:	Phased-Array Radars
PCS:	Permanent Change of Station
PEP:	Productivity Engineering and Planning, Plant Equipment Package
PGM:	Precision Guided Munitions
PIF:	Productivity Investment Fund
PLSS:	Precision Location Strike System
POL:	Petroleum, Oil, and Lubricants
POMCUS:	Prepositioning of Materiel Configured to Unit Sets
PPO:	Preferred Providers Organization
PRC:	People's Republic of China
QRMC:	Quadrennial Review of Military Compensation
R&D:	Research and Development
RAM:	Rolling Airframe Missile
RAMS:	Radar Target Scattering Advanced Measurement System
RC:	Reserve Component
RDSS:	Rapidly Deployable Surveillance System

RDT&E:	Research, Development, Test, and Evaluation
ROK:	Republic of Korea
RPV:	Remotely Piloted Vehicle
RRF:	Ready Reserve Force
RSI:	Rationalization, Standardization and Interoperability
S&T:	Science and Technology
SAC:	Strategic Air Command
SALT:	Strategic Arms Limitation Treaty
SAM:	Surface-to-Air Missile, Sea Air Mariner
SBIR:	Small Business Innovative Research
SCG:	Special Consultative Group
SCP:	Secure Conferencing Project
SDAF:	Special Defense Acquisition Fund
SDI:	Strategic Defense Initiative
SDIO:	Strategic Defense Initiative Organization
SEAL:	Sea-Air-Land
SE&I:	Systems Engineering and Integration
SF:	Special Forces
SHORAD C^2:	Short-Range Air Defense Command and Control
SINCGARS-V:	Single-Channel Ground and Airborne System, VHF
SLBM:	Submarine-Launched Ballistic Missile
SLC:	Submarine Laser Communications
SLCM:	Sea-Launched Cruise Missile
SLEP:	Service Life Extension Program
SM:	Standard Missile
SNF:	Short-Range Nuclear Forces
SNLC:	Senior National Logisticians Conference
SOF:	Special Operations Forces
SRAM:	Short-Range Attack Missile
SSBN:	Ballistic Missile Submarine, Nuclear-powered
SSGN:	Cruise Missile Submarine, Nuclear-powered
SSN:	Submarine, Nuclear-powered
STARS:	Software Technology for Adaptable Reliable Systems
START:	Strategic Arms Reduction Talks
Su:	Sukhoy (aircraft)
SUBACS:	Submarine Advanced Combat System
SUBROC:	Submarine Rocket
SURTASS:	Surveillance Towed-Array Sonar System
SVIP:	Secure Voice Improvement Program
SVS:	Secure Voice System
SWA:	Southwest Asia
T&E:	Test and Evaluation
TACAMO:	Airborne Strategic Communications System
TACS:	Auxiliary Crane Ship
TACSI:	Tactical Air Control System Improvements
TACTAS:	Tactical Towed-Array Sonar
TAOC:	Tactical Air Operations Center
TARPS:	Tactical Air Reconnaissance Pod System
TC ACCIS:	Transportation Coordination Automated Command and Control Information System
TDAC:	Training Data and Analysis Center

TDRS:	Tracking and Data Relay Satellite
TFW:	Tactical Fighter Wing
TGSM:	Terminally-guided Submunition
TIARA:	Tactical Intelligence and Related Activities
TOA:	Total Obligational Authority
TOW:	Tube-Launched Optically-Tracked Wire-Guided (antitank missile)
TRI-TAC:	Joint Tactical Communications Program
TWG:	Technical Working Group
UHF:	Ultrahigh Frequency
UNITREP:	Unit Status and Identify Report
USCENTCOM:	United States Central Command
USCINCCENT:	Commander in Chief, United States Central Command
USCINCEUR:	United States Commander in Chief, European Command
USCINCLANT:	Commander in Chief, United States Atlantic Command
USCINCPAC:	Commander in Chief, United States Pacific Command
USCINCSOUTH:	United States Commander in Chief, Southern Command
USES:	United States Employment Service
USSR:	Union of Soviet Socialist Republics
VA:	Veterans' Administration
VHF:	Very High Frequency
VHSIC:	Very High Speed Integrated Circuit
VLA:	Vertical Launch ASROC
VLF:	Very Low Frequency
VLS:	Vertical Launch System
VLSI:	Very Large Scale Integration
V/STOL:	Vertical/Short Take-off and Landing
WARMAPS:	Wartime Manpower Planning System
WHNS:	Wartime Host Nation Support
WIS:	WWMCCS Information Systems
WWMCCS:	Worldwide Military Command and Control System

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