Annual Report to the Congress

Caspar W. Weinberger
Secretary of Defense

FISCAL YEAR 1985

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on the

FY 1985 Budget, FY 1986 Authorization Request

and

FY 1985-89 Defense Programs

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TO THE CONGRESS OF THE UNITED STATES

Three years ago a newly inaugurated President Ronald Reagan stood at the West Front of the Capitol and promised that "when action is required to preserve our national security, we will act." Recognizing that the preservation of peace required more than just rhetoric or good intentions, he committed his Administration to take the steps necessary to deter aggression and promote stability and freedom in a complex and changing world.

For a President taking office in January 1981, this was not a pledge to be given lightly. By the beginning of this decade, a majority of Americans were expressing their concern, indeed their fear, that the world had become a more dangerous place. They recognized that we faced a crisis of leadership, as the impression grew both at home and abroad that the United States was a superpower on the decline, unable to protect its citizens or its interests against a growing threat.

The 1980 election sent a clear signal that the American people wanted to reverse this dangerous slide and to restore America's position in the world. They recognized that we must regain the strength of our armed forces and restore the military balance so essential for preserving deterrence. They recognized that we must begin again the quest for genuine arms reductions, not settling for negotiations that resulted in merely codifying the growth in nuclear arsenals. We seek agreements that will reduce armaments of all kinds to lower, equal, and verifiable levels. Finally, they recognized that the United States, while it could not and should not be the world's policeman, nevertheless needed to reassume a leadership role recognized by our allies and friends, and our foes and potential enemies.

The American people entrusted responsibility for fulfilling this mandate to Ronald Reagan, and he and his Administration accepted that responsibility. Today, we have firm leadership to keep us steady on our course -- leadership that combines a realistic understanding of the dangers and complexities of our world with a firm commitment to do what is necessary to preserve peace.

In this year's Annual Report to the Congress, we present our defense program for preserving peace in a dangerous world. We also assess this Administration's three-year stewardship of our nation's defenses, and the progress we have made toward fulfilling the mandate entrusted by the American people to Ronald Reagan in 1980.

A Realistic Approach to Peace

"A safer world," President Reagan told the American Legion last August, "will not be realized simply through honorable intentions and good will . . . No, the pursuit of the fundamental goals our nation seeks in world affairs -- peace, human rights, economic progress, national independence, and international stability -- requires a dedicated effort to support our friends and defend our interests. Our commitment as peacemaker is focused on those goals."

In making this statement, President Reagan confronted the paradox of peace -- that to preserve it, the peacemaker must be prepared to use force and use it successfully. Only if we can convince any potential adversary that the cost of aggression would be far greater than any possible benefit, can we be certain that aggression will be deterred and peace preserved.

We had to begin with a hard look at the challenges facing this nation as it entered a new decade. Our alliances were being subjected to new strains, as expanding Soviet military power required greater defense efforts by all members to restore the military balance. In the Third World, we saw the reach and intensity of conflict fueled by increased Soviet support for terrorism, insurgency, and aggression. Above all, at the beginning of this decade we were confronted by a Soviet Union increasingly capable of upsetting the stability of nuclear deterrence, of projecting power well beyond its borders, and of conducting offensive operations with larger, technologically sophisticated, and increasingly flexible forces.

This renewed sense of realism about the challenges we faced only strengthened our resolve to work for peace. Indeed, by directly facing the dangers posed by the erosion in the military balance with the Soviet Union, and by demonstrating in Grenada and Lebanon that the United States would not be held hostage to terrorism, President Reagan's leadership enhanced deterrence by strengthening the confidence of our friends and allies and complicating the calculations of potential aggressors.

Similarly, a realistic appraisal of Soviet negotiating behavior -- an appraisal that does not rely on assumptions of Soviet good will -- has improved the prospects for arms reductions. We recognized that the Soviets would accept genuine, significant, verifiable arms reductions only if they became convinced that the alternative was not Soviet superiority, but an American determination to maintain the strategic balance. By demonstrating the capability and the will to restore that balance, we are offering the Soviets a strong incentive to join us in reaching a negotiated "build-down" of the most dangerous arsenal ever to threaten mankind.

Restoring America's Defenses

In facing up to the realities of a dangerous world, we also had to confront the serious deterioration of our own military posture. Any one of the problems we faced -- low levels of readiness and sustainability, difficulty recruiting and retaining qualified personnel, shortfalls and obsolescence of military hardware, and higher costs from inefficient management of defense resources -- would have required immediate attention. This Administration had little choice but to address them simultaneously if we were to fulfill President Reagan's pledge and, indeed, the American people's mandate to act to preserve our national security. And so, with the bipartisan support of the Congress, we started a major effort to restore the strength of our defenses.

Readiness and Sustainability. By the beginning of this decade, the readiness of our forces to meet a crisis and sustain operations had seriously eroded. In a speech from the Oval Office last March, President Reagan recalled from the early days of his Administration that "I was appalled by what I found: American planes that could not fly and American ships that could not sail for lack of spare parts and trained personnel, and insufficient fuel and ammunition for essential training." Depleted stores of vital military supplies were inadequate for combat operations, encouraging potential aggressors to calculate they could outlast us in a conventional conflict.

We acted immediately to improve the readiness and sustainability of our forces. Today, three years later, 39% more of our major military units are categorized as fully or substantially ready for combat. At the same time, our capability to sustain our forces in the field will have increased by almost 50% when the munitions and secondary items procured by the FY 1985 budget are delivered.

Personnel. When this Administration took office, morale in the armed forces was dangerously low, the result of a failure to give our men and women in uniform the compensation, the tools, or the respect they needed and deserved. The quality of new recruits declined, while experienced personnel left the military in droves. Fewer than ten years after its establishment, many were claiming that the All-Volunteer Armed Forces was a failed experiment, and calling for a return to conscription.

Today, people are our biggest success story. Retention and recruiting are up dramatically. The Navy and Air Force attained record high reenlistment rates last year, and all the Services are meeting their recruiting quotas. Moreover, 91% of the new recruits are high school graduates, up from 68% in 1980. And these retention and recruiting successes are coming at a time when the economy is improving, a time when skeptics said young Americans would turn their backs on the military.

Conventional Modernization. This Administration also had to confront a major shortfall in weapons and equipment. Much of what we did have, moreover, was aging and increasingly obsolete compared with new Soviet hardware. The 1960s-era tanks, artillery, and armored vehicles in our ground forces were threatened with block obsolescence; the number of ships in our Navy had fallen by more than half; and our aircraft needed upgrading to counter dramatic improvements in Soviet aircraft and air defenses. Although the previous Administration had announced a new commitment to defend our access to resources in Southwest Asia, we lacked the airlift, sealift, and amphibious capabilities

to move our forces quickly in time of crisis, or to support them if they became involved in combat.

It would be a heavy responsibility for any President or Secretary of Defense to have to order American troops into battle facing Soviet equipment that was known to be superior to ours. That is a responsibility the previous Administration would have had to face. We had to change that situation. Now, we can be confident that should war break out, our men will have equipment that is at least equal to, and in many cases superior to, that of the Soviets. For that very reason, it is increasingly unlikely we will have to test any of it in combat.

The FY 1982 budget and associated five-year plan of the previous Administration were not only inadequate for the rebuilding task we confronted; they were also gravely underfunded and could not have been carried out as planned. During the past three years, we have restored funding for several vitally needed programs, and are now successfully embarked on a long-term program to modernize our forces for the future.

Our ground forces are now receiving the modern weapons they need to deter quantitatively superior and increasingly sophisticated Soviet forces. The M-1 tank recently proved its tremendous capability in NATO's annual tank competition, performing better than any other U.S. tank in history. The Army's new Bradley fighting vehicle gives the infantry the mobility and firepower to fight alongside the tanks. And giving support and protection to those ground forces is the new multiple-launched rocket system (MLRS), which provides long-range artillery fire.

The Navy fleet now stands at 516 ships, as 23 modern, more capable ships were delivered in 1983. The saga of one of these ships -- the battleship New Jersey -- since she was recommissioned by President Reagan in December 1982 points out the timeliness of our naval expansion. Having left San Diego last summer on a shakedown cruise to Asia and the South Pacific, the New Jersey was then called back to Central America to support U.S. forces training there. She was next sent to the Eastern Mediterranean, where she remains on station supporting the multinational peacekeeping force. In her first year, the New Jersey put 30,000 miles under her keel.

The Marine Corps, with longer-range 155m howitzers, CH-53E helicopters, and F/A-18 fighter and attack aircraft, will have even greater mobility and greater firepower to accomplish the wide range of missions it must be prepared to undertake. We are also revitalizing our amphibious assault capability with the construction of new amphibious ships and air cushion landing craft.

Over the past ten years, the Soviets have significantly increased both the quantity and quality of their aircraft. To maintain our qualitative edge in airpower, we are now producing advanced versions of the F-15 and F-16 tactical fighters, two of the finest aircraft in the world. We have also begun a large-scale acquisition program that will increase our intertheater airlift capability by 75% by the end of the decade.

Strategic Modernization. Dangerous obsolescence threatened all three legs of our strategic triad in 1980, challenging the stability of deterrence. When President Reagan took office, our newest long-range bomber was 19 years old. Our newest strategic submarine was 15 years old, and did not have missiles capable of destroying hardened Soviet targets. Our land-based missiles were increasingly threatened

by huge, new, accurate Soviet ICBMs, while our own lacked the accuracy and destructive force we needed for continued deterrence.

Our strategic modernization program is now strengthening all three legs of the strategic triad, as well as our strategic command, control, and communications (C^3) systems. Three successful tests of the Peacekeeper missile have now been completed. Our first new strategic bomber in more than thirty years is in production; and TRIDENT II missiles now under development will provide our submarine force the increased payload and improved accuracy needed to assure effective retaliation against hardened targets. Finally, our C^3 systems are being modernized and upgraded.

At President Reagan's behest, we are also embarking on a bold new effort to develop a reliable defense against ballistic missiles. This will require many years, during which we will assess different technological options and secure the means to adopt the best. I believe it is the most significant step we can and will take to preserve peace with freedom and to pass on to our children the legacy of a safer world. It is a program that offers the hope of rendering nuclear missiles impotent. Removing this horror from the future is one of our highest priorities.

Management Reform. Upon taking office, we also discovered that the outdated defense procurement system contained few incentives to reduce costs or improve efficiency and failed to take full advantage of competition. Likewise, as investments in ammunition, spare parts, and new weapons and equipment were canceled, postponed, or stretched out, cost-efficient production became impossible. Many businesses decided to leave defense contracting altogether, further reducing competition and limiting our ability to mobilize resources in an emergency.

This Administration undertook a wide-ranging management reform program that included a thorough and forthright audit program to identify the sources of waste and inefficiency and a comprehensive acquisition improvement program to instill sound business practices in defense procurement. The extensive procurement reforms begun in 1981 are now paying dividends.

We are aggressively combating fraud and inefficiency. In the past fiscal year alone, 657 convictions and $14 million in fines, restitutions, and recoveries resulted from DoD and Justice Department cooperation. Our auditors, likewise, identified $1.6 billion in potential savings associated with greater efficiency.

We have taken firm steps to end the spare parts pricing abuses that we uncovered and reported. These reforms include tightening contracts, challenging high prices, obtaining refunds, continuing audits, and enhancing competition. Besides taking very firm and strict measures against irresponsible contractors and negligent employees, we are also rewarding those employees who come up with ways to save the taxpayers money.

To obtain lower costs and better quality, we are stressing greater competition in defense procurement; and advocates of competition are now working in all buying commands to challenge noncompetitive purchases. Already we are seeing results; for example, competition to supply aircraft spare parts has tripled. To assure continued competition, new contracts include provisions designed to provide the data necessary to seek second sources of supply in purchasing parts.

To maintain control over costs, the Defense Department is enforcing realistic budget estimates in order to halt the past practice of over-optimistic estimates that made a weapon system appear affordable, but left a legacy of cost overruns. The Department is also making the tough decisions necessary to eliminate marginal programs and maintain high-priority programs at stable and efficient rates.

Meeting the Challenges of the Future

In 1984, we will continue our long-term defense program, all the wiser for the lessons we have learned in the past three years, and confident that we are on the right course. But let us have no illusions: the next few years will be as crucial for America's defense program as they will be difficult.

In weighing the investments we must make, we cannot forget that the costs of maintaining a strong defense are easily measured. But the benefits are not. When we spend our savings on a new car, or a new home, we have acquired a tangible good. When we spend tax dollars on food stamps or federal highways, we have created a tangible result for all to see. But although we can count our missiles, or our tanks, or our men in arms, we can never really measure how much aggression we have deterred, or how much peace we have preserved. These are intangibles -- until they are lost.

Indeed, it is a paradox of deterrence that the longer it succeeds, the less necessary it appears. As time passes, the maintenance of peace is attributed not to a strong defense, but to a host of more facile assumptions: some imagined new-found "peaceful intent" of the opponent, or the spirit of detente, or growing economic interdependency.

As the bills that we as a nation put off too long continue to come due, it will be tempting to search for excuses to avoid the reckoning once more. We must not yield to that temptation. Already the Congress has cut back on our operations and maintenance budgets, threatening our improvements in readiness, and slowed down several programs, increasing the cost of what all agree we will need -- and courting the dangers inherent in taking too long to secure an effective deterrent. Already critics of the defense budget are discovering a new enthusiasm for weapons that are -- conveniently -- still on the drawing boards, even as they oppose procurement of hardware available now to strengthen our forces.

Unfortunately, we cannot make up for a decade of neglect in only three years of higher defense budgets. Restoring -- and then maintaining -- the military balance requires a determined and sustained effort. If we stop in midcourse, we will only endanger the progress we have made in recent years, and invite speculation by friends and adversaries alike that the United States can sustain neither its will nor its leadership.

By the same token, if we are allowed to continue on the path we have set, we can look forward to a time, only two fiscal years from now, when defense increases can begin to slow dramatically.

The Fiscal Year 1985 Annual Report to the Congress presents a prudent and responsible defense budget, and provides a thorough rationale for that budget. It shows that we arrived at this budget not by picking a budget number arbitrarily, but by weighing the threats and challenges to our interests, by refining our strategy for

meeting those threats, and by identifying the capabilities we need to fulfill that strategy. The report also analyzes the resources available for acquiring those capabilities, and describes in detail the specific programs for which we are requesting funds.

Most importantly, the report is a document to help members of Congress in this coming year as they confront important -- and difficult -- budgetary decisions that will shape America's security through the end of this century. Over the past three years, the Congress and this Administration have worked together to rebuild America's defenses and restore our leadership in the world. We have made great progress. This year, let us again work together to preserve our gains and move closer to our goal of a stronger and more secure America, which is the best guarantee of a lasting peace.

Caspar W. Weinberger

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Part I
Peace with Freedom

A. THE CHALLENGES WE FACE: PROTECTING U.S. INTERESTS IN A CHANGING WORLD

"A safer world will not be realized simply through honorable intentions and good will . . . No, the pursuit of the fundamental goals our nation seeks in world affairs – peace, human rights, economic progress, national independence and international stability – requires a dedicated effort to support our friends and defend our interests. Our commitment as peacemaker is focused on those goals."

– Ronald Reagan

For the United States, military strength will never be an end in itself; nor will military strength alone give us the means to achieve our ends. The freedom and prosperity we seek for ourselves, our allies, and our friends cannot be created or imposed by force. Just as American military strength could not itself produce economic recovery or restore democracy in postwar Europe, so American military strength alone cannot create national unity in Lebanon or raise living standards in the Caribbean Basin. But it is well to remember that without military strength, Europe would have been enslaved. Military strength gave Western Europe and Japan the necessary freedom to emerge, aided by American economic strength, as strong and free allies of the United States.

What force cannot create, it can destroy. If we lacked sufficient strength to deter or counter the hostile use of force, then we would have little chance of preserving the peaceful environment necessary for the freedom and prosperity we seek.

By the end of the past decade, serious doubts had arisen about both the will and the capability of the United States to maintain its "commitment as peacemaker" and exercise leadership in a changing world. Tensions within our alliances, rising levels of conflict in the Third World, and, most significantly, an ominous military buildup by the Soviet Union all posed serious new challenges to American defense policy. In our increasingly complex world, President Reagan's defense program is designed to meet these challenges, and to preserve peace with freedom.

1. Challenges Within Our Alliances

Twice in this century, the United States sought, and failed, to stand aloof from conflicts across the seas. From this experience we learned that maintaining a system of defensive alliances is necessary both to deter attack -- by demonstrating to any potential aggressors that they would face a united front of opposition -- and to share the burden of defending freedom.

Our commitment to collective defense has not diminished. However, as the Soviets expanded the capabilities and global reach of their military forces, the need for greater defense efforts by all members of our alliances subjected these alliances to new strains. The very success of deterrence through collective defense also opened it to question from some of those who have known nearly 40 years of peace between the great powers: was it really military strength that had prevented war, or was it some other factor, such as economic interdependence, peaceful intentions on the part of the Soviet Union, or the spirit of detente? Finally, the same freedom that these nations had united to preserve also produced an inevitable -- and public -- diversity of opinion, which some interpreted as disarray.

The events of the past year have demonstrated the underlying strength of our alliances. Reinvigorated U.S. leadership, including a strong commitment to rebuilding our defenses, forms the basis for more effective cooperation in deterring threats to our mutual security.

Despite pressure from an increasingly active disarmament movement, NATO has stood by its 1979 decision to deploy Pershing II and ground-launched cruise missiles in Europe in the absence of a negotiated solution to the threat posed by the Soviet monopoly of longer-range intermediate-range nuclear forces. We are working with our NATO allies in a special effort to improve our conventional defenses, and with our allies and neutral countries to control the loss of militarily applicable technology to the Soviet bloc. In Asia, Prime Minister Nakasone of Japan has reaffirmed his nation's intention to defend its territory, surrounding seas and skies, and sea-lanes out to 1,000 miles, and last summer, we and the Philippines successfully completed a review of the Military Bases Agreement, which provides us with unhampered use of major facilities in that important region of the Pacific.

Outside the formal alliance structure, we have also improved relations with our friends and those nations that support our mutual interests. For example, we have continued to expand our security relationships with Middle Eastern and Southwest Asian states. Our security was strengthened by restored good relations with Grenada and closer ties to other neighbors, and our Caribbean Basin Initiative is under way, holding out new promise in a vital region. We have developed a more substantive relationship with the People's Republic of China, and laid the foundation for closer and stronger ties with that powerful nation with its enormous potential.

2. Challenges in the Third World

Both an expansion of U.S interests in the Third World and an increase in Third World conflicts have forced us to focus more attention there.

About 30% of U.S. exports now go to the Third World, an increase of 20% since 1976 alone. In addition, we depend heavily on some of these nations for strategic minerals and energy resources. Our economy and the economies of our allies are, therefore, especially susceptible to disruption from conflicts far from our own borders. Vital ocean routes lie near or astride such turmoil-plagued areas as Southern Africa, the Persian Gulf, and the Caribbean. In 1982, for example, oil worth $106 billion traveled Pacific and Indian Ocean sea-lanes from the Persian Gulf, and almost half of all our overseas foreign trade tonnage passed through the Panama Canal and the Caribbean.

Causes of instability and conflict in these areas are many: ethnic and religious cleavages, irredentism and territorial disputes, rivalries for regional power and domination, and economic fluctuations and grievances. Although many of these problems are rooted deep in the past, the reach and intensity of Third World conflict in recent years have been exacerbated by the proliferation of technologically advanced weapon systems and, above all, by increased Soviet support -- both direct and through proxies -- for terrorism, insurgency, and aggression.

Chart I.A.1
Arms Proliferation in the Third World

	Number of Third World Countries with Advanced Weapon Systems	
	1960	1983
Armored Vehicles	38	104
Supersonic Aircraft	1	64
Missiles	6	74
Modern Warships	26	74

Recent events have highlighted how Soviet activity in these areas can threaten U.S. interests. The caches of Soviet-made weapons and equipment captured by U.S. and Eastern Caribbean forces on Grenada, as well as documents outlining Soviet-Grenadian cooperation, graphically demonstrated the danger of heightened Soviet involvement in our own hemisphere. Likewise, in Lebanon the U.S. component of the multinational peacekeeping force has faced challenges from Syrian-backed forces armed with Soviet weapons and equipment, including howitzers, surface-to-air missiles, and antiaircraft guns. In Afghanistan, Angola, Ethiopia, and Kampuchea, Soviet troops or Soviet-maintained proxy forces remain at the root of continuing conflict.

Fear that the Soviets may directly or indirectly exploit the vulnerabilities of developing nations has made many regimes in the Third World sensitive to the costs of opposing Soviet interests -- or of supporting ours. This increases the importance of our own security assistance and military training programs, which help these nations meet threats to their own security. It also points up the need for a credible U.S. capability to defend our citizens and vital interests in these areas.

3. Challenges from the Soviet Union

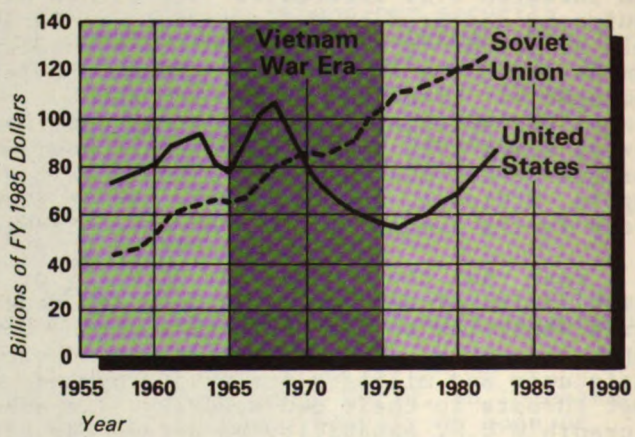
By the time President Reagan took office in January 1981, the expansion of Soviet military power and increasing evidence of the Soviets' willingness to use that power had forced the United States to begin reevaluating its defense posture. Earlier hopes that the Soviets would imitate our example of restraint, or that detente would

discourage aggression, had all but disappeared. A majority of the American people and a bipartisan majority in the Congress advocated decisive action to rebuild U.S. military capabilities in order to reinforce the credibility of our deterrent strength, and to offer the Soviets a strong incentive to reduce tensions and armaments.

In last year's annual report, and in the 1981 and 1983 editions of Soviet Military Power, we described Soviet military efforts and the current structure of their forces. We also compared military investment and weapon production figures of the Soviet-bloc nations to those of the United States and its allies. These data portrayed a major Soviet military buildup over the past 25 years. A simple comparison of military investment (the procurement, military construction, and RDT&E programs that create a long-lasting stock of military assets) shows how the U.S. advantage of the 1950s and 1960s was reversed by the 1970s (Chart I.A.2). There are some signs that Soviet military investment may have grown less rapidly over the last few years than it had earlier; but their high level of military investment over a long period has enabled the Soviets to accumulate a stock of military assets much larger than our own. Soviet military research and development continues to grow rapidly, and a number of advanced new weapon systems appear to be nearing deployment. Heavy Soviet investment in military research and development, coupled with the purchase and theft of Western high technology, is most disturbing because it has eroded the qualitative advantage that the West needs in order to maintain the military balance.

Chart I.A.2
Military Investment[a]

[a] *(US outlays for military investment (procurement, military construction, RDT&E) compared to estimated cost of reproducing Soviet military investment activities in the US)*



What implications do these trends have for the security of the United States and the rest of the free world? To answer that question, we need to look at three major developments in Soviet military

capabilities -- developments that pose new challenges to our defense policy:

-- The Soviet military buildup, both quantitative and qualitative, has produced a major shift in the nuclear and conventional balance.

-- The Soviet military posture has become increasingly offensive in orientation.

-- The Soviets have significantly expanded the global reach of their military forces, enhancing their ability to project influence and power, especially in the Third World.

a. The Shift in the Military Balance

Twenty years ago, the United States was the preeminent military power in the world. Since that time, the steady Soviet military buildup -- together with the limits placed on our own defense spending, which actually declined by more than 20% in real terms during the decade of the 1970s -- caused this superiority to disappear.

Had the overall trends in the military balance been permitted to continue, the ability of the United States and its allies to maintain a credible deterrent posture in the years ahead would have been questionable. This, in turn, would have cast a shadow over the strategic calculations of other states threatened by Soviet power or tempted by Soviet overtures.

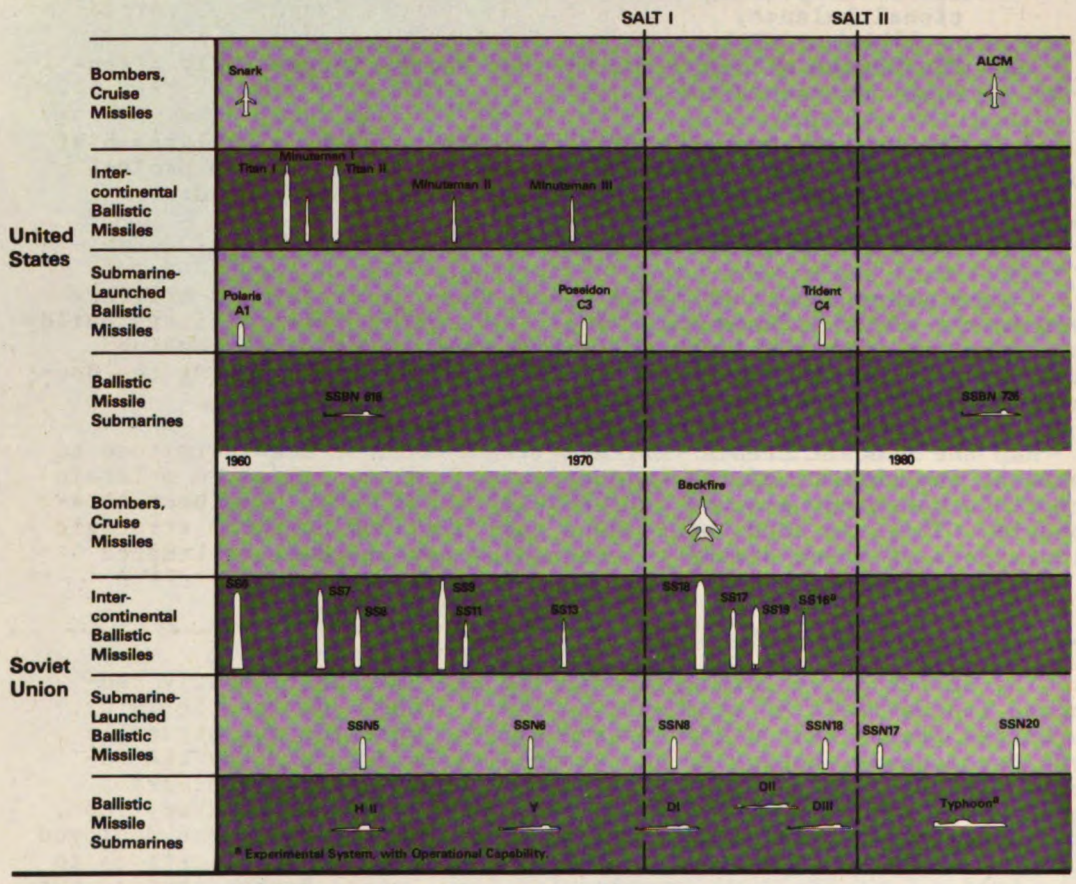
(1) Nuclear Forces

The Soviet drive toward superiority has been particularly pronounced in the realm of strategic nuclear forces. During the 1970s, the United States made a conscious choice to restrict its strategic force development, hoping to encourage similar restraint by the Soviets. Instead, they actually stepped up their strategic program. For example, the United States deployed its latest (and MIRVed) ICBM, the Minuteman III, in 1970. Since then, the Soviet Union has deployed four new classes of ICBMs and introduced seven major modifications to these systems. During that same period, the United States carried out only one significant ICBM upgrade (involving only about one-half of the Minuteman III force) and deployed no new types of ICBMs. More important, the newest Soviet ICBMs are accurate and powerful enough, and are deployed in sufficient numbers, to destroy most of our ICBM force in its underground silos.

The Soviets have also significantly improved their strategic sea-based forces. Between 1967 and 1980, the Soviets built and deployed some 70 new ballistic missile submarines (SSBNs) carrying more than 900 new missiles. In the same period, the United States also deployed new missiles, but on 1960s-vintage Poseidon submarines. By 1982, when we launched the modern Trident submarine, the Soviets had already introduced their new Typhoon SSBN.

This buildup of Soviet strategic nuclear forces shows no signs of slowing. Two new land-based ICBMs, two sea-launched ballistic missiles, a new strategic bomber, and new ground-, air-, and sea-launched cruise missiles are in advanced stages of development. The Soviets are also building new versions of the Bear bomber to carry air-launch cruise missiles, while continuing to add Backfire bombers to their inventory at the rate of about 30 per year.

Chart I.A.3
Introduction of Strategic Systems



In addition to building up their inventory of advanced weapon systems, the Soviets have improved their strategic defense systems. They are now upgrading their antiballistic missile (ABM) system around Moscow. (In contrast, we dismantled our ABM system at Grand Forks, North Dakota, in 1976.) They are also continuing an intensive research and development effort to develop defenses against ballistic and cruise missiles, and have improved their existing air defense systems, which are already the world's largest and most sophisticated.

The dangerous trend in Soviet strategic nuclear forces is compounded by similar trends in nonstrategic nuclear forces. The Soviets have already deployed 378 mobile and highly accurate SS-20 missiles, each of which has three warheads. (Refire missiles are also available for the SS-20.) The Soviets are also developing and beginning to deploy a new generation of short-range tactical ballistic missiles -- the SS-21, SS-22, and SS-X-23 -- that pose an increasing threat to NATO's rear areas and, therefore, to the survivability of NATO's air bases and seaports; command, control, and communications posts; and key nuclear and conventional forces, all of which are critical to the Alliance's ability to mount a coherent defense. The Soviets are also

expanding the deployment of nuclear-capable artillery with their maneuver forces, and have begun forward-deploying their most advanced nuclear-capable tactical bomber to their air bases in Eastern Europe.

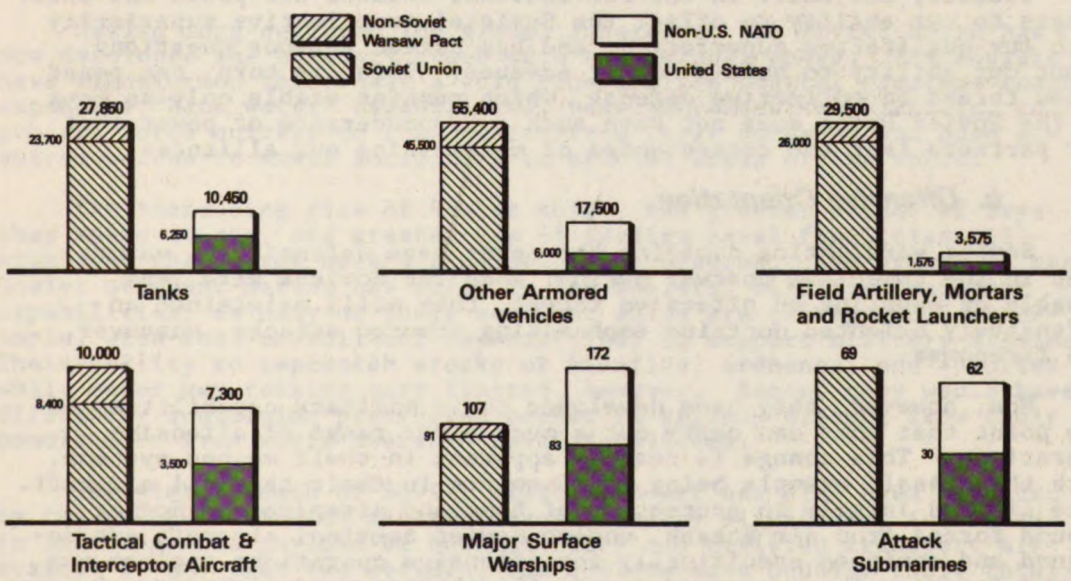
The buildup in Soviet strategic nuclear forces and the improvement in Soviet strategic defense systems threatened the credibility of our deterrent posture, which rests on the assumption that our ability to retaliate will cause the Soviets to perceive that the costs of aggression would be far higher than any possible benefit. Likewise, the growing imbalance in nonstrategic nuclear capabilities could potentially have led the Soviets to conclude that we would be deterred from fulfilling our commitment to defend NATO against attack.

It is against this background, which it is imperative for the American people to understand, that we must form and negotiate our arms reduction proposals. This is why we must secure agreement on reductions to equal levels that are fully verifiable. This is also why it is so misleading and dangerous to urge that we must have an agreement no matter what it provides, or to argue that the United States is being stubborn in insisting on equality.

(2) Conventional Forces

Since World War II, the Soviets have held an overall quantitative advantage in most conventional forces, and, as was noted in last year's annual report, in recent years they have widened this advantage in almost all categories by producing major weapons at rates exceeding those of the United States and its NATO allies combined.

Chart I.A.4
Production of Selected Weapons for NATO and Warsaw Pact Forces, 1974-83



Perhaps even more important, the quality of Soviet weaponry and equipment has improved significantly -- often through the purchase or theft of Western technology. The newest Soviet ground systems, for

example, are comparable to many Western systems. Moreover, the Soviets have already fielded large numbers of their most advanced ground force systems, while equivalent U.S. systems are still being developed or just entering production. Measures of total combat potential, which take into account both numbers and quality of weapons, show that Warsaw Pact forces in the Central Region of Europe have improved by more than 90% from 1965 to the present, while NATO forces advanced by less than 40%. Simultaneously, the Soviets have engaged in a massive buildup -- in both numbers and combat potential -- of their ground forces opposite China; yet this buildup in Asia has in no way slowed the pace of their modernization in Europe.

Our reliance on tactical air superiority has been compromised by deployment of more sophisticated Pact aircraft that pose a threat to our ground and air forces and to our air bases. In addition, Warsaw Pact divisions are themselves protected by a complex and sophisticated air defense system. While we still have important advantages in the quality of our aircraft, and particularly in the quality of our pilots and support personnel, we can no longer expect to neutralize Warsaw Pact superiority on the ground by dominating the skies.

Recent years have also witnessed a dramatic expansion in Soviet naval capability, which poses an increasing challenge to the freedom of our sea lines of communication. Over the past decade, the Soviets have introduced seven new classes of major surface combatants, including a nuclear-powered cruiser, and five new classes of attack submarines with advanced missile systems capable of extremely long-range attacks. We believe the Soviets are also now building a mid-sized nuclear-powered aircraft carrier that will operate conventional take-off and landing tactical aircraft. When operational in the early 1990s, this ship will extend the reach of Soviet tactical aircraft beyond the limits presently imposed by their reliance on land bases.

Overall, the shift in the conventional balance has posed new challenges to our ability to offset the Soviets' quantitative superiority with our qualitative superiority, and has raised serious questions about our ability to halt a Soviet advance. This, in turn, has posed a new threat to collective defense, which remains viable only so long as the Soviet Union does not have such a preponderance of power that our partners fear the consequences of maintaining our alliances.

b. Offensive Orientation

Soviet warfighting doctrine has never been defensive in nature. Even in the immediate postwar period, when the Soviets were less capable of mounting an offensive threat, they still maintained an offensively oriented doctrine emphasizing armored attacks, maneuver, and firepower.

Now, however, they have developed their military capabilities to the point that they can carry out a much wider range of offensive operations. This change is readily apparent in their weapon systems, with the classic example being improvements in their tactical aircraft. Once limited largely to protection of homeland airspace and Soviet ground forces from air attack, modern Soviet tactical aircraft are designed and equipped specifically for offensive operations against our ground forces. The increased speed, flexibility, and firepower of Soviet armored forces, and the deployment of heavy-lift vehicles that can rapidly move tanks and other heavy equipment to the front, also support a conventional "blitzkrieg" strategy. While the mission of Soviet naval forces remains to deny us control of the seas, they can

now carry out these operations at a greater range and on a larger scale.

The threat posed by offensive chemical and biological weapons has also increased in the past several years. Soviet and surrogate forces are already using chemical and toxin agents in Afghanistan and Southeast Asia, while testing of new agents, experiments with means of delivering multiple agents, and development of a tactical chemical warfare doctrine continue. The Soviets also routinely use live chemical agents in training exercises.

Changes in tactics and training, while less visible than equipment modernization, also enhance the Soviets' offensive capabilities. For example, the Soviets are making significant changes in their air combat tactics and training programs by stressing pilot independence and initiative. It should be kept in mind, however, that while Soviet military writings have long emphasized the need to encourage these qualities in their military officers, in practice these reform efforts have been stymied by the rigidity of a society that discourages initiative from an early age.

Finally, two recent organizational changes highlight the Soviets' growing emphasis on offensive operations. They have established Operational Maneuver Groups (OMGs) -- flexible and highly mobile formations of up to corps size that would be used to penetrate and disrupt NATO's rear areas by taking advantage of surprise and moving forward rapidly. Likewise, a reorganization of Soviet air forces has produced reserve/strategic air armies. These self-contained "strike packages" are tailored for long-range conventional attacks against high-priority targets in Western Europe and the Far East; they can also be redeployed from one theater of operations to another as the strategic situation dictates.

c. The Global Reach of Soviet Military Power

Having long declared its global interests, the Soviet Union has now developed the military reach of a true global power. The Soviets have transformed their navy's role from limited coastal missions toward expansive "blue water" capabilities, have increased their ability to project force quickly to regions far from their borders, and have acquired access to naval facilities in crucial areas of the world.

The increasing size of Soviet ships, the greater number of days they spend at sea, and greater use of foreign naval facilities all highlight the Soviet navy's growing global mission. The growth in the Soviet merchant marine has added to the Soviets' military transport capabilities, as many of their merchant ships are configured (for example, with roll-on/roll-off capabilities) to support military missions. Their ability to replenish stocks of missiles, ordnance, and supplies while under way remains very limited, however. Hence, they would have difficulty sustaining protracted combat in regions distant from their homeland or from their overseas naval facilities.

The global reach of Soviet military power has also been extended by the growth in Soviet airlift forces, and by significant increases in the range and payload of both military and civilian transport aircraft. In the past two decades, the Soviets have doubled their total airlift capability, although they continue to face restrictions from their limited aerial refueling capability. (This has increased their dependence on overseas airfields; the loss of Grenada's airfield is potentially a significant blow in this regard). What is more, they

have used this expanded capability during the 1973 Middle East War, and during the conflict between Somalia and Ethiopia. In Angola and Afghanistan, Soviet military airlift also played an important role. The Soviets have greatly improved their air assault capabilities, as was vividly demonstrated in the surgical assaults used to capture crucial sites in Kabul during the 1979 invasion of Afghanistan.

In some key areas, most notably the oil-rich Persian Gulf region, Soviet power projection would not require wide-ranging airlift or naval operations. Soviet ground and tactical air forces are directly available for cross-border operations. Although the rugged terrain in the area and logistical challenges would impose constraints on military operations, the Soviets have enhanced their ability to project power into the region with the recent modernization of their ground and air forces in the military districts opposite Turkey and Iran. Finally, with their growing presence in Afghanistan, Syria, Libya, South Yemen, and Ethiopia, the Soviets have, in effect, nearly encircled the Persian Gulf region -- the location of three-fifths of the world's proven oil reserves. That is why we and our allies must have the capability to deter any Soviet attempt to seize the oil fields, or to deny us access to and from them, and why we must acquire the capability to project our defenses to this vital area quickly and effectively.

The Soviets also pursue indirect military means to extend their global presence and apply pressure to local regimes. They use extensive military grants and sales, military advisors, internal security personnel, and even combat forces provided by proxies such as Cuba to increase their access to distant air and naval facilities. These airfields, ports of call, and logistic and maintenance facilities, in turn, permit Soviet aircraft and ships to extend their overseas presence, and can be used to support the delivery of military equipment or direct military intervention by the Soviet Union or its proxies.

We cannot know for certain why the Soviet Union emphasizes offensive planning, or why it has undertaken such an ambitious expansion and modernization of the types of forces considered unlikely to be used (e.g., nuclear), and in regions where war has been considered unlikely (e.g., Europe). The Soviets may not seek war, but their belief that conflict is a continuing possibility leads them to build forces designed to prevail in any war. Apart from hedging against the possibility of war, they undoubtedly also believe that establishing a position of military dominance will give them the leverage in peacetime that will permit them to achieve their aims without war. Whatever the reasons, the Soviets believe that their colossal military effort is worthwhile, notwithstanding the price it imposes on the Soviet society and its troubled economy.

We would ignore that effort at our peril. Indeed, the very purpose of the Soviet military buildup may be to discourage us from making a sufficient response to protect our deterrent, thereby subjecting ourselves and our allies to a defeat just as catastrophic as a military loss. It is this challenge that our defense programs must meet.

B. MEETING THE CHALLENGE: DEFENSE POLICY

While the world we face is complex and rapidly changing, the ultimate goal of American defense policy remains constant: the preservation of peace with freedom. The growing threat to our interests, the changing global environment, and the evolution of military technology dictate modifications in our military posture and capabilities. But the three underlying principles of our national security policy remain unchanged -- our commitment to deterrence, our defensive orientation, and our determination, should deterrence fail, to fight to restore peace on favorable terms.

1. Strengthening Deterrence While Working for Arms Reductions

Deterrence remains the cornerstone of our defense policy. We continue to seek nuclear and conventional capabilities sufficient to convince any potential aggressor that the costs of aggression would exceed any potential gains that he might achieve.

In determining the characteristics of a credible deterrent, however, we need to understand that deterrence is itself a dynamic condition. As the President's bipartisan Commission on Strategic Forces (the Scowcroft Commission) stated this past year:

"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."

Unfortunately, we face an adversary whose leaders have, through their writings, force deployments, and exercises, given clear indications they believe that, under certain circumstances, war with the United States -- even nuclear war -- may be fought and won. As a result, we must make sure that, in calculating the risks of aggression, Soviet leaders recognize that our retaliatory capability offers them no opportunity to benefit from aggression. If the Soviets recognize that our forces can and will deny them their objectives at whatever level of conflict they contemplate, then deterrence remains effective and the risk of war is diminished.

During the late 1940s and early 1950s, America's virtual monopoly of intercontinental nuclear systems meant that the Soviet leadership

understood that we might respond to a Soviet conventional attack on our allies with an atomic attack on the Soviet Union. As the 1950s ended, however, the Soviet Union began developing and acquiring long-range nuclear capabilities. As the Soviet capacity for nuclear and conventional attack continued to grow, the U.S. threat to respond to a conventional, or even a limited nuclear, attack with massive nuclear retaliation became less and less credible; hence, it was no longer a reliable deterrent. Accordingly, in the 1960s, the United States and its NATO allies adopted the concept of "flexible response," which sought to provide for an effective broad-based defense, including a strong conventional defense.

The Reagan Administration has emphasized the need for a stronger conventional deterrent in response to two incontrovertible facts. First, despite the improvements in conventional force posture undertaken in the context of the flexible response doctrine, NATO has continued to rely heavily on the nuclear deterrent. Second, the Warsaw Pact has strengthened its nonnuclear as well as its nuclear forces to a far greater extent than has NATO.

a. Conventional Deterrence

The United States cannot counter this Soviet threat by itself. To maintain a strong conventional deterrent, therefore, we participate in a collective defense that incorporates the strength of our allies in the defense of our mutual interests. To buttress our collective security, we maintain forward-based forces in Western Europe, Japan, the Philippines, Korea, and in waters adjoining those areas and Southwest Asia. We also provide for rapid reinforcement of our forward-deployed units by U.S.-based forces, and for timely response to contingencies in any region where we must defend our interests.

The United States has entered into several defense treaties over the years. The North Atlantic Treaty joins our fortunes to those of our 15 NATO allies. The Rio Pact and the Panama Canal Treaty recognize

Chart I.B.1
U.S. Defense Treaties

Note: Cuba and Nicaragua are formally members of the Rio Pact.

our common defense interests with most of the American republics. And the remaining defense agreements to which we are a party reflect our security interests in East Asia and the Pacific region: bilateral treaties with Japan, Korea, and the Philippines; the Manila Pact, which adds Thailand to our treaty partners; and the ANZUS treaty with Australia and New Zealand. The worldwide nature and growing magnitude of the threats to world peace make each of these agreements as important today as the day it was signed.

There are also many nations that, while not formally allies, share security interests with the United States. Increasingly, nations in all the regions of the world recognize the threat posed to their security by Soviet and surrogate expansionism. They are encouraged by the efforts we and our allies have taken to strengthen free-world defenses, and a growing number of them see a defense relationship with the United States as important for their own self-defense.

We are urging all of our friends and allies to do more in the common defense, recognizing that for many countries a strengthened ability to defend themselves is the most significant contribution they can make. U.S. security assistance helps to underwrite the efforts of those who cannot, by themselves, ensure their peace and security.

In addition, our security assistance programs complement and support U.S. forward deployments by contributing to the standardization and interoperability of equipment and to a collective understanding of tactics and operating procedures. Joint planning and joint training exercises with our allies further improve our capabilities for wartime cooperation.

b. Nuclear Deterrence

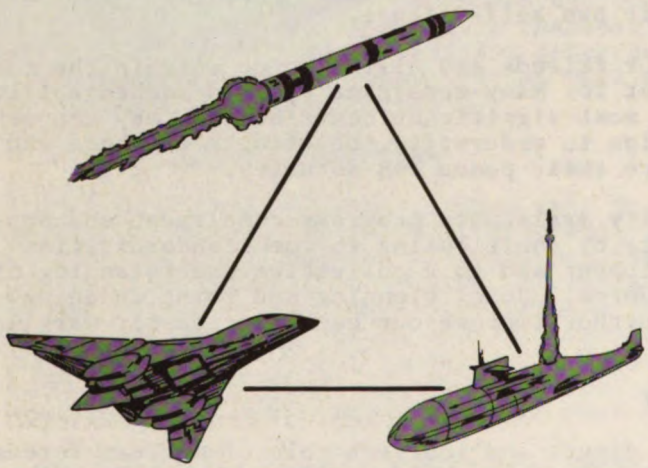
Even if we ignored the direct and indirect role of nuclear forces in deterring conventional attack, in a world where the knowledge of nuclear weapons cannot be banished, the United States would still have to maintain nuclear forces to deter nuclear attack on its allies and on itself. That does not mean we are under any illusions about the dangers of a nuclear war between the major powers; we believe that neither side could win such a war. This recognition on our part, however, is not sufficient to prevent the outbreak of nuclear war; it is essential that the Soviet leadership understand this as well.

But while we work to preserve deterrence, we must also think about and plan against possible failures of deterrence. If deterrence should fail, we cannot predict the nature of a Soviet nuclear strike nor ensure with any certainty that what might begin as a limited Soviet attack would remain confined to that level. We must plan for flexibility in our forces and in our options for response, so that we might terminate the conflict on terms favorable to the forces of freedom, and reestablish deterrence at the lowest possible level of violence, thus avoiding further destruction. Of course, this concept of seeking to enhance deterrence and to limit the level of destruction by having flexible and enduring forces is not new. It has been squarely in the mainstream of American strategic thinking for over two decades.

Maintaining a stable strategic deterrent requires a multiplicity of retaliatory strategic forces -- a triad of land-based ICBMs, manned bombers, and submarine-launched ballistic missiles. The unique characteristics of the independent and separate components that make up the triad bolster deterrence by acting in concert to complicate Soviet attack planning, making it more difficult for the Soviet Union to plan

and execute a successful attack on all these components while at the same time defending against their combined and complementary retaliatory effects. The triad also acts as a hedge against a possible Soviet technological breakthrough that could threaten any single strategic system. In addition to a strong triad, stability of deterrence in a crisis and the effective and responsible use of our nuclear forces depend on a responsive and survivable command, control, and communications system.

Chart I.B.2
U.S. Strategic Triad



Deterrence Through Diversity

- Prevents Concentration of Soviet Resources
- Complicates Soviet Attack Planning
- Hedges Against System Failure
- Compensates for Soviet Technology Breakthrough
- Mutually Reinforcing

Finally, not content to rely on deterrence alone, we have through the President's leadership begun in earnest to search for a reliable and thoroughly effective defense against Soviet missiles -- a search that we believe can lead to a means of destroying Soviet missiles in flight, before they can destroy large parts of our world. Our plans to address this most promising hope for the security of the United States and our allies are set forth in greater detail on pages 57-59.

While America's strategic nuclear systems are NATO's ultimate deterrent force, we also have nonstrategic nuclear forces in Europe to help deter a Soviet nuclear or major conventional attack on our NATO allies. This deterrence is founded on NATO's ability to retaliate against the Soviet Union and its Warsaw Pact allies in Europe, and on a clear Soviet recognition that the use of nuclear weapons risks engagement of the strategic nuclear systems of the United States. All of our nuclear forces are governed by a single, coherent policy that links our conventional, nonstrategic nuclear, and strategic nuclear forces.

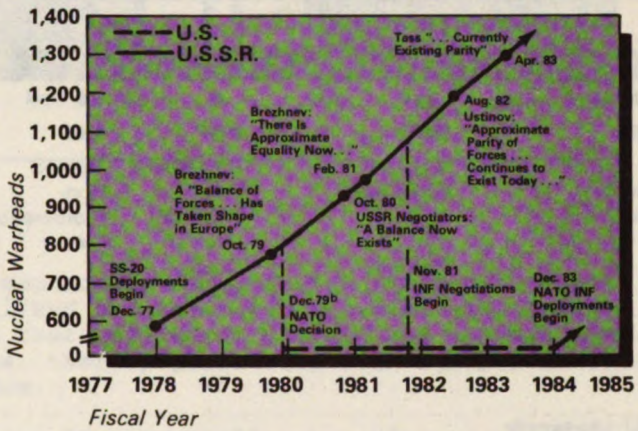
Soviet deployments of SS-20 longer-range intermediate-range missiles over the past six years, however, have eroded the credibility of NATO's deterrent posture. The SS-20 missile force, along with other Soviet intermediate-range nuclear forces, can reach Europe but not the United States. Unless countered by allied systems, these Soviet forces could tempt the Soviet Union to coerce Europe in peace or in a

crisis in the hope that the United States would not respond. NATO's historic 1979 dual-track decision -- to deploy 572 cruise and Pershing II ballistic missiles but to seek cancellation or reduction of that deployment through an equal, verifiable arms reduction agreement -- was a studied and measured response to the rapid growth since 1977 of Soviet intermediate-range nuclear capabilities. At the time of the NATO decision, the Soviets already had 140 SS-20 missiles; over the past four years, they have added more than 230 and are continuing to construct new sites, all the while maintaining that this growth has not altered the military balance in Europe.

Chart I.B.3
Longer Range INF Weapons[a]

[a] *Includes Soviet SS-20, SS-4, and SS-5 Weapons*

[b] *This Decision Called for LRINF Deployments at End of 1983 Unless an Arms Control Agreement Were Reached That Made Them Unnecessary.*



Meanwhile, NATO only began initial deployments of Pershing II and cruise missiles at the end of 1983. The NATO decision was and remains an Alliance decision, not a unilateral American one. It has been endorsed repeatedly at meetings of NATO defense and foreign ministers since 1979, and last fall the elected representatives of the countries on whose territory the new missiles are initially being based added their endorsement. That the first deployments of the NATO program began in December does not in any way imply a weakening of our resolve to conclude an arms reduction agreement covering these systems. On the contrary, the deployments represent an effort to convince the Soviet leadership that such an agreement would be in its interest as well as the Alliance's.

c. Arms Reductions

Since the advent of the nuclear age, the United States has demonstrated its commitment to far-reaching arms controls. This Administration is determined to achieve not just arms control, but genuine reductions.

In 1946, when the United States still had a nuclear monopoly, we presented the Baruch Plan to eliminate nuclear weapons entirely and

to establish an international authority to govern the peaceful use of nuclear energy. The Soviet Union, however, rejected that ambitious proposal, and for more than a decade refused to accept any meaningful measure to control arms or enhance global stability. That impasse was finally broken with the signature of the Antarctic Treaty in 1959 and the Atmospheric Test Ban in 1963. Since then, we have concluded several bilateral and multilateral accords to limit the growth of weaponry, to prevent the proliferation of nuclear arms, and to reduce the danger of accidental or unintended conflict.

Chart I.B.4
Arms Control Agreements

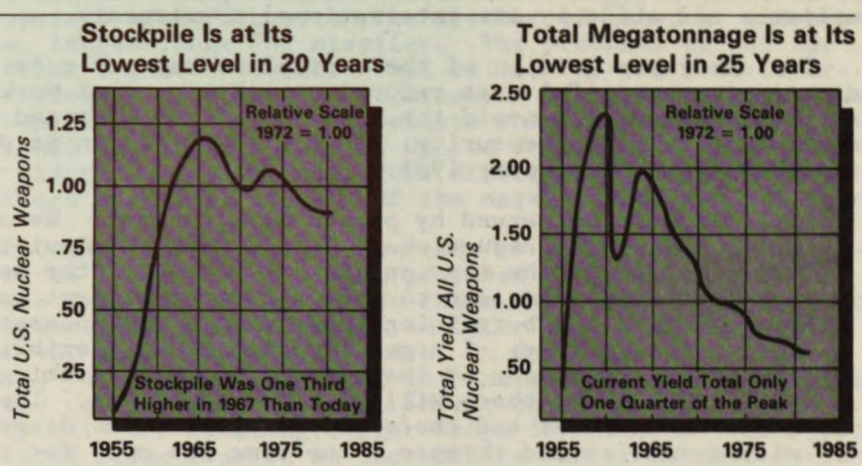
1959	1963	1967	1968	1971	1972
The Antarctic Treaty	"Hotline" Agreement	Agreement on Peaceful Uses of Outer Space	Nuclear Non-Proliferation Treaty	Seabed Arms Control Treaty	Biological and Toxin Weapons Convention
	Limited Test Ban Treaty				ABM Treaty[a]
					Interim Agreement[a]

[a] SALT I Agreements

We are committed to maintaining the lowest possible level of forces consistent with the requirements of deterrence. The United States had about one-third more nuclear weapons in 1967 than it has now. When NATO made its two-track INF decision in 1979, it reduced its stockpile by 1,000 nuclear weapons. Moreover, in October 1983, the NATO defense ministers decided that we could safely withdraw another 1,400 nuclear weapons from Europe over the next few years. Success at the negotiating table will allow us to reduce our nuclear weapons even further.

While the United States' commitment to enhancing global peace and security through effective arms control has never wavered, we have had to recognize the problems that have plagued earlier agreements and negotiations. Some accords -- such as the Nonproliferation Treaty and the Hotline Agreement -- have made a clear contribution to global security. Others have been much less beneficial. For example, the provisions of the SALT I and II agreements offered neither reductions nor stability in strategic nuclear arms. Instead, the SALT I framework allowed the

Chart I.B.5
U.S. Nuclear Arms Reductions



Soviet Union to engage in an unprecedented expansion and modernization of its arsenal, which destabilized the strategic balance. The SALT II agreement would have codified that unilateral buildup and allowed additional growth in Soviet forces, thereby permitting even further deterioration of the military balance.

Besides the weak provisions in some earlier treaties, over the last few years a growing volume of evidence has been collected about Soviet violations of existing agreements. Several of these violations must have been planned by Soviet authorities many years ago, in some cases perhaps at the very time the Soviet Union entered into the agreements. For example, the Biological Weapons Convention (signed in Moscow in 1972 and ratified by the Soviet Union in 1975) requires that each party "never in any circumstances" develop, produce, or stockpile biological agents or toxins. As has become evident over the last several years, not only did the Soviet Union develop, produce, and stockpile such weapons, but it has actually experimented with them on human beings in Indochina.

In addition, the Soviets have violated the SALT II limits on encryption of missile test telemetry data and the Helsinki Final Act requirement for advance notification of certain major military exercises. A new, large phased-array radar that they are now constructing is an almost certain violation of the ABM Treaty. The Soviet SS-X-25 missile, currently under development, probably is a second new ICBM type, prohibited by the SALT II agreement; even if it is not a new type, it still violates SALT II provisions regarding the permitted ratio between the weight of an ICBM reentry vehicle and the missile's total throw-weight. Finally, it is likely that the Soviets have violated Threshold Test Ban Treaty limits on the size of underground nuclear tests, and they probably are deploying SS-16 missiles in violation of SALT II.

While these compliance problems underline the importance of effective verification of arms control agreements, they also show that verification measures alone will not ensure that treaties are respected. Above all, the Soviet Union must take a responsible attitude toward compliance and abide by its international commitments.

Our clear recognition of these problems has not made us any less dedicated to meaningful arms reductions. But we must work to ensure that future agreements avoid the problems of the past and make a real contribution to global security. As President Reagan said at the United Nations in September 1983:

> "Peace cannot be served by pseudo arms control. We need reliable, reciprocal reductions. I call upon the Soviet Union today to reduce the tensions it has heaped on the world in the past few weeks, and to show a firm commitment to peace by coming to the bargaining table with a new understanding of its obligations. I urge it to match our flexibility. If the Soviets sit down at the bargaining table seeking genuine arms reductions, there will be arms reductions. The governments of the West and their people will not be diverted by misinformation and threats. The time has come for the Soviet Union to show proof that it wants arms control in reality, not just in rhetoric."

In the Strategic Arms Reductions (START) negotiations with the Soviet Union, we seek to reverse the trends, which had continued through the SALT process, of ever-larger and more destabilizing Soviet arsenals. We have proposed that each side reduce its strategic ballistic missile warheads by about one-third, and redress the disparity in ballistic missile destructive capability and potential. While those goals remain central elements of our START proposal, we have made several major adjustments to our position since the negotiations began in June 1982 in order to facilitate an agreement.

For example, in October 1983, the President proposed a mutual guaranteed build-down of ballistic missile warheads. This proposal would encourage movement away from MIRVed ballistic missiles and toward more stabilizing, single-warhead missiles. To ensure reductions, the President's proposal also provided that each side would undertake net annual reductions of at least 5% of its current total of strategic ballistic missile warheads until it reached a floor of 5,000 warheads. At the same time, the President announced that we would be willing to discuss a build-down arrangement for strategic bombers, and to negotiate tradeoffs between areas of U.S. and Soviet advantage. All of those adjustments to our START position were made in close consultation with the Congress and the bipartisan Scowcroft Commission.

Unfortunately, the Soviet Union has not yet shown comparable flexibility, either by responding positively to our recent initiatives or by advancing more forthcoming proposals of its own. The Soviet START proposal would not impose the significant limits on ballistic missile warheads or on destructive capability and potential that are essential for a real contribution to security and stability.

At the conclusion of the most recent START round, the Soviet Union refused to agree to an opening date for the next round. We hope that it will soon do so and begin to negotiate seriously on the central issues of the talks. Although the two sides remain far apart in START, the Soviet Union has in that forum for the first time been willing to discuss reductions in strategic arsenals. It has also shown some

limited flexibility on secondary issues during the course of the negotiations.

In the Intermediate-Range Nuclear Force (INF) negotiations, as in START, U.S. proposals have focused on the systems of greatest concern -- in this case, longer-range INF missiles. The proposal we put forward when the talks began in November 1982 called for the most desirable possible outcome: the complete elimination of these weapons from each side's arsenals. We continue to believe that this result would be the best for all concerned: for the United States, for the Soviet Union, and for all the states in Asia, the Middle East, North Africa, and Europe that are potential targets of the massive Soviet SS-20 force.

The Soviet Union, however, was not ready to accept such an agreement. So, in March 1983, the President proposed an interim accord that would reduce U.S. and Soviet longer-range INF missile warheads to substantially lower, but equal, levels; he later suggested a specific global limit of 420 warheads on each side. In September 1983, the President offered yet another important initiative designed to move the talks forward and to respond to several Soviet concerns. He agreed to consider proposals for limiting longer-range INF aircraft, to apportion any negotiated reductions in an appropriate manner between Pershing II and ground-launched cruise missiles, and to consider a commitment not to deploy in Europe all the missiles that we would be allowed under a global limit.

The Soviets, however, persisted in their demand that NATO be prohibited from deploying any longer-range INF missiles, while the Soviet Union continues to threaten our friends and allies with several hundred SS-20 warheads.

Because the Soviets have refused to consider any other proposal, in 1983 we began deploying the first NATO Pershing II and ground-launched cruise missiles on schedule, in accordance with the Alliance decision of December 1979. Both the Pershing II and the ground-launched cruise missiles have attained initial operating capability.

Meanwhile, the Soviets suspended the negotiations, without agreeing on a date for resumption. In effect, they walked out of the negotiating room. Nevertheless, we are hopeful that the Soviets will agree to continue the talks, now that they recognize that NATO is determined to restore the INF balance and that it will not accept a Soviet monopoly in longer-range INF missiles. We, for our part, are ready to continue to negotiate, and dismantle any and all of our Pershing II and ground-launched cruise missiles in accord with an equitable arms control agreement.

Outside the nuclear area, we and our NATO allies have been conducting negotiations with the Warsaw Pact in the Mutual and Balanced Force Reduction (MBFR) talks to reduce military manpower in Central Europe to equal and significantly lower levels. Our goal is an equitable and verifiable agreement that would bring each side down to a level of 700,000 ground force personnel and a maximum of 900,000 combined air and ground force personnel. At the NATO Summit in July 1982, President Reagan announced a new, comprehensive proposal for MBFR. Taking many Eastern concerns into consideration, the NATO participants in the MBFR talks then put forward a draft treaty -- the first time such a document had been proposed since the talks began in 1973.

In addition to arms reduction efforts, the United States is exploring ways to help prevent miscalculation in a crisis. These

"confidence-building measures" are designed to complement the extensive unilateral steps the United States has taken over the last three decades.

Specifically, in November 1982, President Reagan proposed a set of new bilateral U.S.-Soviet confidence-building measures, to be negotiated in the START and INF talks, that would provide for advance notification of all ballistic missile launches and of major military exercises, and for an expanded exchange of data on both strategic and intermediate-range nuclear forces. In May 1983, the President endorsed the Defense Department's recommendations for additional bilateral measures to strengthen stability. Growing out of a year-long interagency study conducted in close cooperation with the Congress, those proposals called for the addition of a high-speed facsimile capability to the U.S.-Soviet Hotline, the creation of a parallel Joint Military Communications Link, and the establishment by the U.S. and Soviet governments of high-rate data links with their embassies in each other's capitals. We are now discussing these proposed communications improvements with the Soviet Union.

Such bilateral accords between the United States and the Soviet Union can make a clear contribution to controlling crises and preventing the possibility of unintended military conflict. Because broader multilateral measures also play an important role in enhancing stability, in May 1983 the President endorsed a Department of Defense recommendation for a multilateral agreement, open to all states, that would facilitate consultations in the event of an unexplained nuclear incident. This proposal would extend to all nations the U.S.-Soviet commitment to such consultations embodied in the 1971 Accidents Measures Agreement.

In January 1984, the United States and Canada joined the Soviet Union and 32 NATO, Warsaw Pact, and neutral European states in the Conference on Disarmament in Europe (CDE). The CDE focuses, in essence, on reducing the risk of surprise attack. It aims at militarily significant, verifiable measures that will make peacetime military activities in Europe more predictable and visible. We and our NATO partners in the CDE talks are proposing a cohesive set of measures to expand exchanges of military information and to provide for observation of military activities. We hope through these measures to reduce the risk that war could ever occur in Europe because of misunderstanding or miscalculation and to lower the danger that peacetime military activities might be used for intimidation or deception.

These various proposals are not meant to mark the end of a process, but instead to add momentum to the process already under way. We are continuing to explore all possible avenues to greater peace and stability, whether through nuclear or other arms reductions, improved communications, or other confidence-building measures. In all of those efforts, we are working closely with allied governments and with the Congress, benefiting from -- and fostering -- a renewed bipartisan consensus at home and a strengthened alliance system abroad.

2. Adding Credibility to Our Defensive Posture

Our policy is defensive. The United States does not seek new territory and uses its military force only in response to clear threats to stability and peace. We pursue this policy knowing fully that our defensive posture grants several military advantages to a potential aggressor. He can choose when, where, and how to attack. He can formulate a detailed plan for his operations to maximize his strengths

and exploit our vulnerabilities. He can also mask his pre-attack mobilization efforts -- under the guise of training exercises or diplomatic crises -- so that we are faced with ambiguous advanced warning.

To compensate, we must work to improve our command, control, communications, and intelligence capabilities, so that we can detect an adversary's early war preparations and react appropriately to an attack or provocation. To ensure adequate warning, the Reagan Administration has undertaken programs that enhance the ability of both national command authorities and battlefield commanders to obtain more extensive and more timely information.

We have improved the readiness of our forces to respond quickly to an attack. Readiness levels have climbed substantially in the past three years, particularly in the important areas of manning, training, spare parts, and strategic mobility.

We have improved the capability of our Reserve Component forces by providing them with additional modern equipment and attracting to their ranks qualified and motivated personnel. Now they are better able to mobilize rapidly and deploy to the battle area in time to influence the outcome of a conflict.

We have sought to make our forces more flexible and mobile. Grenada reinforced a lesson from the 1982 war in the Falklands: we must not only structure our forces to cope with potential contingencies that we can foresee, but must also provide ourselves with the wherewithal to deal with the "unforeseen contingency." Our rescue mission in Grenada, at the request of the Organization of East Caribbean States and the Governor General of Grenada, and in response to the danger in which our citizens were placed, in no way impaired the readiness of our forward-deployed forces elsewhere.

While we concentrate on developing forces that could deal with those contingencies most threatening to the United States and our friends and allies, we cannot neglect, or be unprepared for, a wide range of lesser threats. We have therefore taken steps to reverse the steep decline in the size and capabilities of our Special Operations Forces, whose utility extends well beyond wartime operations. We are improving our lighter ground force units, both in terms of the firepower available to them and through innovations in tactics, doctrine, and specialized equipment. In addition, recent Army initiatives to standardize the organization of its light infantry divisions to 10,000-man structures will add to our strategic flexibility.

We are improving the mobility of our forces by obtaining sufficient airlift and sealift forces -- along with prepositioned equipment and supplies in key theaters -- to ensure that our forces can be rapidly deployed to areas of conflict. With new outposts in many regions of the world, the Soviet Union can now interfere with or threaten friendly nations, either directly or through its surrogates, in regions where we do not station forces in peacetime. Even in areas where we maintain forward deployments, lift forces and prepositioned materiel are essential to our ability to reinforce our units and to sustain them.

3. Restoring the Peace

This Administration has stood firmly by deterrence and a defensive orientation as the first two principles of defense policy precisely

because we do not seek to achieve our national objectives by the use of force. The use of military force has become particularly dangerous in the nuclear age. As President Reagan has said on many occasions, including last September at the United Nations: "Nuclear war cannot be won, and must never be fought." Since there can be no winners in a nuclear war, we have no alternative to ensuring the absolute certainty of nuclear deterrence, and to making an unwavering commitment to reduce the dangers of nuclear war through effective arms reductions and the President's strategic defense initiative.

But credible deterrence, either nuclear or conventional, requires that we have the ability, in case deterrence fails, to halt any attack and restore the peace on terms favorable to us and our allies. And we must accomplish that while trying to limit the scope, duration, and intensity of a conflict. Obviously, U.S. forces are not available to defend everywhere against any threat at all times. Should deterrence fail, general strategic priorities, specific circumstances, and forces available at the time would govern force employment.

In seeking to limit the scope of a conflict, we would seek to contain the conflict and deny the enemy his war aims. Given the Soviet Union's ability to fight in more than one theater simultaneously, however, our planning must consider the possibility that war could spread to other theaters. To deter the Soviets from exploiting their global capability, the Reagan Administration has begun to restore our naval strength and to expand our airlift and sealift capabilities.

To limit the duration of a conflict, we must demonstrate to an adversary that nothing could be gained by trying to outlast us in a conventional war. To this end, the Reagan Administration has increased the sustainability of our forces and our investment in the defense industrial base so that we can rapidly expand and efficiently manage our production.

In seeking to limit the intensity of a conflict, we must be able to halt an attack and restore the peace by employing forces that do not require escalating the conflict to new dimensions of warfare. Since Soviet-bloc forces would probably enjoy numerical superiority in most theaters in which they might launch a conventional attack, we must be able to offset that advantage with qualitatively superior conventional forces. It is expensive for us to maintain this technological edge; however, it is essential if we are to avoid either the costs incurred by greatly expanded conventional forces or the risk of early reliance on nuclear weapons. Our entire conventional force modernization program is designed to maintain qualitative superiority, as is the U.S.-initiated effort in NATO to exploit newly emerging technologies.

4. Regional Objectives and Missions

To determine the size and type of military forces we require, we must also consider our regional objectives and the military missions necessary to achieve those objectives. Our planning for conventional forces centers on defending the three theaters of most critical interest to us -- Europe, the Middle East and Southwest Asia, and East Asia and the Pacific -- and on performing associated maritime missions. Although we also could use our conventional forces in other areas, and against lesser military powers, our planning has to be based on the assumption that there could be multitheater aggression by the Soviet Union with full participation by allies on both sides. This planning assumption has been chosen because it reflects actual Soviet force

structure and strategy, and because it poses the most challenging test we could face in preserving our freedom.

a. Europe

The security of the United States is inextricably linked to the independence of the democracies of Western Europe. In recognizing this fact and the threat posed to both Europe and North America by the Soviet Union, the United States has joined with fourteen European nations and Canada in the North Atlantic Treaty Organization (NATO), our principal collective defense alliance. NATO's military forces -- strategic nuclear, intermediate- and short-range nuclear, and conventional -- form a bulwark of forces that allows NATO to deter aggression and, if deterrence were to fail, to respond credibly to any type of aggression. If the Warsaw Pact were to launch a conventional attack, NATO's primary objective would be to blunt the offensive and maintain the territorial integrity of the alliance, while restricting the conflict to the lowest possible level of violence.

In peacetime, the United States stations ground and air forces in Europe, and deploys naval forces in the Atlantic and Mediterranean. In time of crisis, we are prepared to reinforce these forward-deployed forces rapidly and heavily. Specifically, we have pledged to bring U.S. forces in Europe up to a total of ten divisions within ten days of a reinforcement decision, with corresponding increases in tactical aviation. Additional reinforcements would follow. The European NATO nations are prepared to round out their units with rapidly mobilized reserve personnel and to provide additional combat and support units. This would nearly double the strength of NATO's in-place forces.

Although the United States had been pledged to these missions for a number of years, we had not taken all the measures necessary to accomplish them. The Reagan Administration has begun the programs that will allow us to fulfill these missions by adding to our lift forces, increasing prepositioning, improving force readiness, and completing agreements with several European states for the provision of wartime logistic support to deployed U.S. forces.

An equitable division of the burdens and the benefits of the common defense remains a priority goal. The Reagan Administration has repeatedly urged our allies to improve their forces and to increase their expenditures for defense. In a broader context, we have encouraged our allies to participate where feasible in security operations in support of free-world interests in other important areas, and to facilitate and support the activities of the United States in this regard.

b. Southwest Asia and the Middle East

The primary objective of our policy for the Middle East is to deter Soviet aggression in that vital area. Our policy is designed to provide for the security of Israel, protect the territorial integrity of moderate Arab states, and work to achieve a lasting peace between the Arabs and Israel. As part of that policy, we are expanding our security relationships with regional states. In Lebanon, for example, we are committed to helping that country's government train and equip a force that can be used to assume control over Lebanese territory. Our goal in Lebanon remains the withdrawal of foreign forces, the reconciliation of the various political factions, and the development of a strong central government. Our security assistance programs

further help to improve indigenous military capabilities, as well as maintain our security commitment to Israel.

For Southwest Asia, our objectives are to prevent influence or takeover by forces inimical to our interests, to assist regional states in strengthening their stability and maintaining their territorial integrity by improving indigenous defense capabilities, to preserve access to oil and other raw materials, and to develop closer security ties with moderate Arab states so that we can cooperate with them to resolve regional conflicts that threaten our mutual interests.

To meet these objectives, we must be able to project and sustain forces that could be called on to fight in support of friendly states. While considering the potential contributions of local states, our overall strategy for countering a Soviet move toward the Persian Gulf oil fields requires early participation by U.S. forces. If we are to achieve success, it is essential that we build up to the required levels the forces that could be made available to our new Central Command. So that a substantial increment of the Central Command's forces could be deployed early in a conflict, we must continue the strategic mobility programs we have started, continue to expand our access to facilities in the region, and selectively improve existing regional military facilities.

c. East Asia and the Pacific

U.S. national interests and security are closely linked to East Asia and the Pacific region. In time of war, our objectives include defense of U.S. territory and the lines of communication that connect us to our Pacific allies and friends. We would also help our allies protect themselves and their territory.

We intend to remain a Pacific power with the wherewithal to defend our interests in Asia. In Northeast Asia, we are encouraging our allies to take on more of the responsibility for defending themselves and thereby contribute to the defense of the region. We have urged Japan to develop within this decade the capabilities required to carry out its self-defense missions, including defending its sea-lanes out to a distance of 1,000 miles. We also remain committed to Korea's efforts to defend itself against the North Korean threat.

Elsewhere in Asia, we encourage and support the efforts of Thailand and the Philippines to strengthen their defense capabilities, and we continue our efforts to develop an enduring relationship with the People's Republic of China. We look to our ANZUS allies to continue their contribution to the security of the South Pacific, Southeast Asia, and the Indian Ocean. To support our regional policies, we depend upon security assistance, combined exercises, and military-to-military contacts to make the military forces of our friends in the region better able to operate with our own and thereby more capable of effective combined operations, should they ever be required.

d. South America, Central America, and the Caribbean

U.S. security interests in South America, Central America, and the Caribbean derive from the region's close geographic proximity to the United States, its strategic location astride vital shipping lanes, and its raw material resources. The Rio Pact and the Panama Canal Treaties are the cornerstone of our defense arrangements in this area. A friendly South America, Central America, and Caribbean region have in the past greatly reduced the need for defenses along the United

States' southern flank, and have helped to secure the critical Caribbean sea-lanes vital to U.S. security.

The region is also important to America's economic well-being. Major oil refineries and facilities for processing other raw materials are located in the Caribbean. Nearly half of our seaborne trade, as well as many strategic minerals, pass through the Panama Canal, the Gulf of Mexico, and the Caribbean. The Caribbean is the fourth largest market in the world for U.S. products and the region accounts for about one-third of all U.S. investments in developing countries.

The increased use of South Atlantic sea-lanes by oil tankers and other shipping important to our NATO allies has likewise enhanced the strategic importance of the adjoining regions of South America. This is reflected by the continuing increase in Soviet ship-days spent in South Atlantic waters.

A politically unstable region increases opportunities for Soviet-Cuban expansionism, and jeopardizes U.S. economic, political, and military interests. Because of the military buildup in Cuba and the extensive combat experience and training -- including amphibious exercises -- of Cuban troops, Cuba has the capability, with Soviet assistance, to project its power and subvert or coerce our friends and allies in the Caribbean and elsewhere. The military buildup in Nicaragua likewise exceeds rational defensive needs and is destabilizing to the regional balance. The arms and documents found in Grenada illustrate the scope and ambition of Soviet and Cuban penetration of this region, and validate our policies for these areas.

e. Africa

In Africa, our objective is to support the independence and stability of friendly governments and to ameliorate the conditions that lead to involvement in the region by rival outside powers. We also seek to preserve free access to Africa's mineral resources, some of which are essential for meeting defense and industrial needs of the Western nations.

We must deny the Soviet Union or its surrogates opportunities to make further inroads in Africa. Since important lines of communication 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 (and working to deny them to the Soviets). To challenge the forces creating instability in Africa, 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 minimizes the burden on fragile African economies.

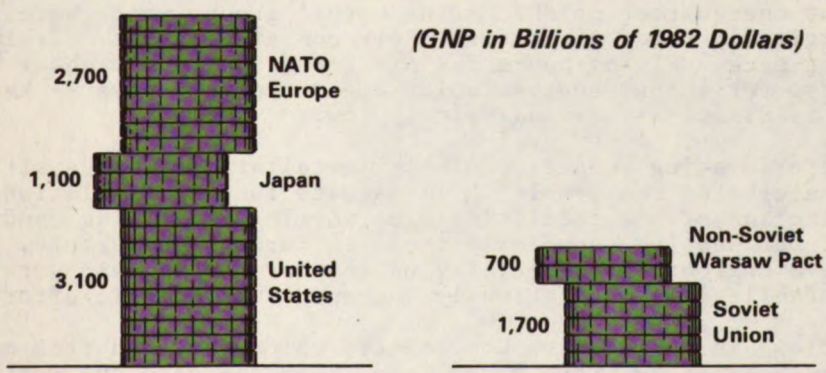
C. MEETING THE CHALLENGE: DEFENSE CAPABILITIES

When this Administration took office in 1981, we had to determine whether our capabilities were sufficient to carry out our defense policy. Our finding, to which a bipartisan majority in the Congress also subscribed, was that a decade's neglect of our defense posture had taken a severe toll. Declining military morale, precariously low stocks of spare parts and munitions, and obsolescent equipment and facilities all called into question our ability to counter -- and, therefore, to deter -- threats to our interests around the world.

In effect, the President and the Congress were faced with a double duty. First, we had to act quickly to improve the basic readiness and staying power of the forces we had, so that if an immediate crisis were to arise, we would be ready to meet it. But, at the same time, we had to recover lost years of investment by increasing research and development and by modernizing and strengthening both our conventional and our nuclear forces.

Pursuing these dual goals is not easy or inexpensive. But neither is it beyond our means. In recognizing our areas of weakness, we should not forget our strengths, particularly the enormous economic strength of free societies. The combined gross national products (GNPs) of the United States, its NATO allies, and Japan are nearly triple those of the Soviet Union and the other Warsaw Pact states -- a tremendous advantage in resources. And while U.S. defense spending has now risen from the low levels of the 1970s, in real terms it still draws upon a small portion of our total resources. The FY 1985 defense budget will require 6.8% of our total GNP, as compared to an average of more than 8% during the 1950s and 1960s -- not a high price when one considers the cost of failing to deter or defeat aggression.

Chart I.C.1
Comparative Economic Base (1982)



We have never sought to match the Soviet Union or the Warsaw Pact unit for unit, system for system, or soldier for soldier. Our alliances are more robust than theirs, since our allies join us willingly, while the Soviet Union guarantees loyalty by menacing its "friends." Our troops are more highly motivated than theirs, since our forces are prepared to fight for the freedom that the Soviet Union and its allies deny to their own citizens. Free enterprise and innovation have given our military forces a technological edge. And finally, with a flexible strategy, we can effectively deter aggression in many areas without having to maintain significant levels of forces in all of them simultaneously.

But we cannot depend on the strength of our friends and allies if we are not willing to maintain our own defense effort, or our commitment to joint ventures and security assistance. We cannot rely on the superior quality of our men and women in uniform if we are not willing to give them the compensation they deserve, or the tools they need to do their jobs. We cannot assume that we will keep our technological edge unless we continue developing and modernizing our equipment and halt the hemorrhage of technology to the Soviet Union. We cannot retain the benefits of flexibility without training and equipping our forces to respond to different types of contingencies. Above all, we cannot escape the responsibility of retaining forces of sufficient quantity and quality to make our deterrent credible at all levels of conflict.

After three years of sustained effort, we have made significant progress in restoring the credibility of our forces and demonstrating our determination to preserve our deterrent strength. The following sections describe the progress we have made in upgrading our defense capabilities and the programs we must follow to maintain our conventional and nuclear deterrents in the years ahead.

1. Readiness

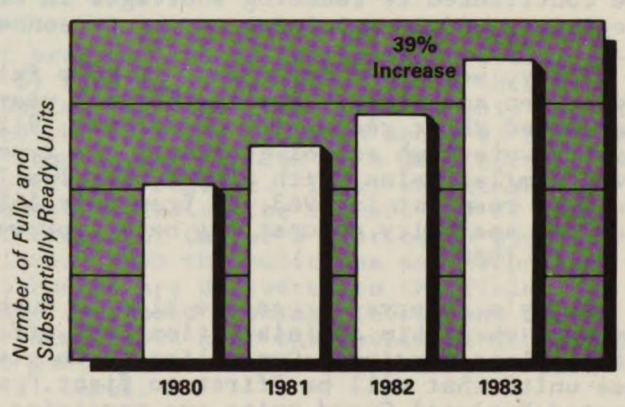
When this Administration took office, years of underfunding readiness had left our forces unprepared to respond quickly and reliably in a crisis. Far too many of our active combat units were not ready for combat, including about one quarter of the Army's combat units, two-fifths of our major ships, and one-third of our naval aviation squadrons. About one-quarter of the Marine Corps' ground units were rated as only marginally ready to perform their combat missions. Training had been cut back. Flying hours for Air Force tactical fighter pilots, steaming days for ships, and battalion field training days -- key indices of readiness -- were alarmingly low.

The deteriorating condition of our installations and repair facilities exacerbated the problem. Inadequate funding, inflation, and the advancing age of our facilities made working and living conditions for many of our people, especially those in Europe, deplorable. Lowered morale among our personnel, living in poor housing and working in rundown facilities, had seriously weakened our logistic effort.

Conditions in the Reserve Components, which suffered from manpower and equipment shortages, were worse than those faced by the active-duty military. The historic practice of equipping these units with outmoded or "hand-me-down" hardware, with insufficient regard to their wartime missions or deployment schedules, made their combat effectiveness dubious at best. By 1979, the trained manpower strength in Selected Reserve units was 237,000 below that required in time of war.

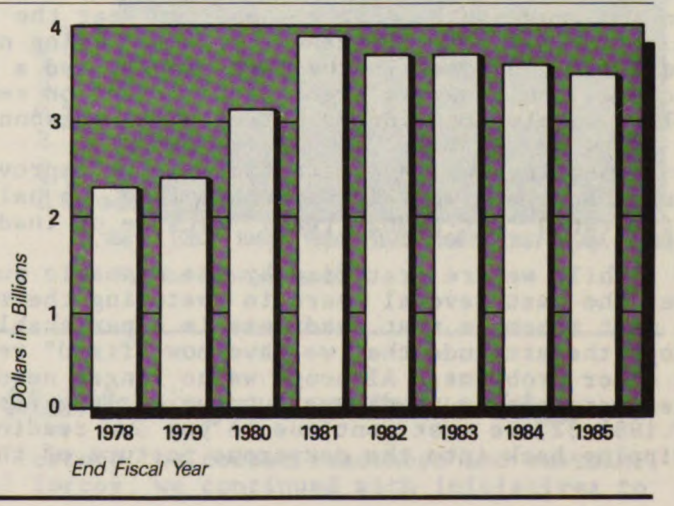
We acted quickly to improve the readiness of our conventional forces. In one of the first initiatives taken by this Administration, we recommended, and the Congress agreed, to increase substantially the funds devoted to force readiness -- adding $3 billion in FY 1981 and $9 billion in FY 1982. Between December 1980 and September 1983, the number of major active and reserve units that were at least substantially ready increased by 39%.

Chart I.C.2
Readiness Trends
(End of Year)



We already have greatly improved the materiel readiness of our forces -- the condition of their weapons and equipment. Funding for readiness increased by 28% between FY 1980 and FY 1984, and the

Chart I.C.3
Backlog of Maintenance and Repair of Installations



President's budget for FY 1985 contains an additional 12% growth. We acquired critically needed spare parts, reduced repair backlogs, and purchased essential tools and supplies. In addition, construction, repair, and real property maintenance projects totaling some $41.3 billion over the FY 1981-84 period have begun to alleviate the unacceptable working and living conditions we inherited, and we plan to continue our emphasis on this area with $14.5 billion in FY 1985.

With the support of the Congress, our initiatives to provide fair and competitive levels of compensation have raised the overall quality and experience level of the men and women in our armed forces. In our initial budget proposals, we provided for an average 14.3% pay raise for military people in 1982. Additionally, special and incentive pays have contributed to reducing shortages in key skill and leadership categories, and to retaining career personnel.

Today, we have a force that is more fully manned with higher-caliber men and women. During the past year, all of the Services met or exceeded their recruiting objectives; 91% of our non-prior-service recruits were high school graduates, up from 68% in 1980. Retention showed similar gains, with almost 68% of all eligible personnel having chosen to reenlist in 1983, up from only 55% three years earlier. Fill rates for specialty occupations have improved significantly since the end of FY 1980.

Today's reserve forces are also in much better condition than they were when this Administration took office, although some equipment problems persist. Our policy is to give equipment priority to those units that will be "first to fight," whether active or reserve. Selected National Guard units are receiving our most modern armor, the Abrams tank and the Bradley fighting vehicle. Air defense capabilities of reserve forces are being upgraded: some Air National Guard and Air Force Reserve units are now flying F-16 fighter aircraft, and the Naval Air Reserve will receive the new F/A-18. The Naval Reserve is operating the new Perry-class guided missile frigate. Manpower strength is up across the board. For example, in the past year the strength of the Selected Reserves rose to over one million for the first time since 1961.

The revitalization of our armed forces is one of the most important achievements of the Reagan defense program. It reflects not only better pay and benefits, but also increased recognition by our servicemen and women that it is an honor to wear the nation's uniform. But we cannot afford complacency: the declining number of service-eligible young men and women in the years ahead, and a rapidly improving economic picture, could have a significant effect on recruiting and retention unless we give continuing attention to personnel compensation.

Likewise, we have made significant improvements in training. Between December 1980 and September 1983, we halved the number of active units rated "not combat ready" because of inadequate training.

While we are gratified by the dramatic successes we have achieved over the past several years in restoring the readiness of U.S. forces, we must remember that readiness is a perishable commodity. We cannot adopt the attitude that we have now "fixed" readiness and can move on to other problems. Although we no longer need year-to-year percentage increases in readiness funding as large as were necessary in FY 1981-82, we must continue to pay our readiness bills to avoid slipping back into the dangerous posture of the recent past. This

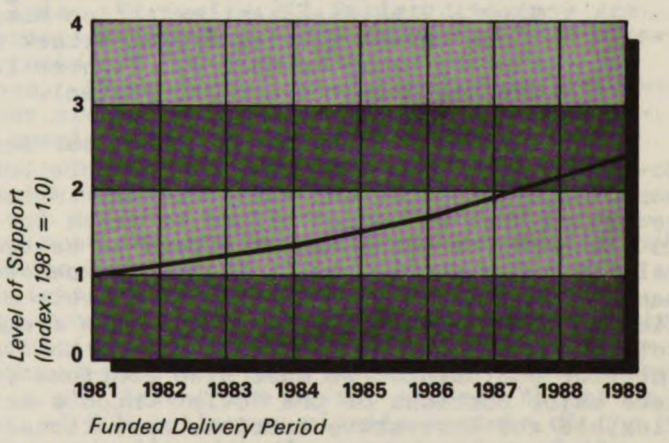
Administration is committed to maintaining and, indeed, to improving the readiness of our forces.

2. Sustainability

Not only did we find our forces unprepared to respond quickly in an emergency; we found they were not supplied to sustain operations for very long. Because funding levels in previous budgets were often insufficient to meet even peacetime consumption, our stockpiles of munitions and secondary items were inadequate for combat operations, and our ability to engage in combat on a large scale at high intensity would have been very limited. The Warsaw Pact, by contrast, had been building its stockpiles for several years and, therefore, could outlast us in conventional combat.

We have made significant progress toward redressing critical deficiencies in sustainability by funding large increases in this area over the past three years. During the very first days of this Administration, we requested and received from the Congress about $3 billion in additional sustainability funding for FY 1982 -- a 30% increase over the previous Administration's FY 1982 request. Total sustainability funding for the next three years, including the request for FY 1985, will be nearly double that of President Carter's last three budgets (FY 1980-82) in constant dollars. When the munitions and secondary items procured by the FY 1985 budget are delivered to the field, the Reagan Administration will have increased stockage levels and other measures of sustainability by almost 50% over the levels it inherited. By the end of the decade, our munitions sustainability is projected to be more than double the 1981 level.

Chart I.C.4
Estimated Munitions Sustainability



3. Modernization: Maintaining a Qualitative Edge

Having taken steps to restore the combat readiness and sustainability of our conventional forces, we continued with initiatives to

provide our forces with the equipment needed to counter growing Soviet capabilities. We were faced with two grave problems. First, many elements of our conventional forces -- both active and reserve -- suffered from shortfalls of major equipment such as armored personnel carriers, aircraft, and missiles. Second, much of the major equipment we did have -- even in our front-line combat units -- was aging and essentially obsolete compared with new Soviet hardware. Spending reductions of the 1970s had forced the Services to retain some equipment, procured before and during the Vietnam conflict, beyond its useful lifespan. In contrast, the Soviet Union continued to build great numbers of capable, modern weapons. By 1980, the Soviets had fielded a new generation of equipment with equal, and in some cases superior, capabilities compared with our front-line weapon systems.

In the past three years, we have begun a major program to modernize our conventional forces. We started by correcting the deficiencies found in the previous Administration's proposed budget for FY 1982, by:

-- Restoring funding for several needed weapon systems that would have been terminated in that budget (e.g., the Army's M-88 recovery vehicle, the Navy's amphibious lift ships and MK-48 torpedo, and the Air Force's KC-10 tanker/cargo aircraft.)

-- Increasing funding for other weapon production programs that had been budgeted at low and inefficient -- and thus more expensive -- rates (e.g., the Army's M-2 Bradley fighting vehicle system and UH-60 Blackhawk helicopter, the Navy's EA-6B Prowler electronic warfare aircraft and AIM-9 Sidewinder missile, and the Air Force's F-15 and F-16 fighter aircraft.)

-- Funding or accelerating several weapon development programs that promised to provide a means of maintaining and, in some cases, regaining the technological edge we had enjoyed over our potential adversaries (e.g., the Army's antitactical missile capability and terminally guided submunitions, the Navy's High-Speed Antiradiation Missile (HARM), the Marine Corps' AV-8B Harrier V/STOL attack aircraft, and the Air Force's advanced tactical fighter technologies program and synthetic aperture radar system).

The FY 1985-89 program continues our commitment to providing up-to-date, capable systems that will enable our forces to counter a numerically superior and qualitatively improving opponent. While we recognize that we cannot afford to reach for the most advanced systems in all cases, we also cannot afford to be tempted by the ill-informed call to procure only small, light, inexpensive, unsophisticated equipment. The equipment that will effectively meet an increasingly sophisticated threat is what we seek and have sought. We will not ask our soldiers, sailors, marines, and airmen to fight superior numbers with inferior equipment. We must also continue to seek ways to make obsolete major portions of the Soviet Union's existing inventory, through flexible and innovative tactics, operational expertise, and improved weapon technology.

Our development and procurement efforts emphasize characteristics in new weapons that will maximize their capabilities worldwide, and in various types of conflicts.

-- We are devoting substantial resources to improving the responsiveness and flexibility of our forces. Further, through

improved surveillance and communications systems, we will be better able to bring our combat power to bear at the right place, and with minimum delay, even though conditions on the modern battlefield will be changing rapidly.

-- We are developing equipment that can operate in different climates, over different terrain, in daytime or at night, and in all types of weather.

-- We are emphasizing increased ranges and speeds for major elements of our forces, including submarines, tactical aircraft, air-delivered ordnance, antiship missiles, and artillery.

In the next portion of this chapter, we will address our modernization efforts with respect to each major component of the force structure. In each case, we will discuss the mission of these forces, and how their modernization responds to the challenges posed by improvements in Soviet military forces.

a. Land Forces

Our land forces must provide the capability to engage an enemy at all levels of conflict -- from counterterrorist operations to full-scale armored and mechanized warfare. The latter poses the most serious challenge, especially for those forces committed to the forward defense and rapid reinforcement of NATO. Meeting that challenge falls primarily to the largest component of our active land forces -- the Army's armored and mechanized divisions. They are designed and equipped to counter the Soviet-bloc armies -- a modern, tactically mobile, and firepower-intensive opponent.

Ninety-four Soviet divisions threaten the NATO alliance in central and northern Europe. An additional 16 divisions in interior Soviet military districts and 55 active Warsaw Pact divisions are available as reinforcements. Soviet and surrogate forces also threaten our interests and friends in Southwest Asia and challenge our forces or those of our allies in Northeast Asia. Virtually all Soviet divisions are either motorized rifle or armored divisions. The threat to NATO alone consists of roughly 47,000 tanks, 72,000 other armored vehicles, and 27,000 field artillery pieces. These forces are improving qualitatively; for example, Soviet tanks are being upgraded with a 125mm smoothbore gun that has a higher muzzle velocity and fires a larger round than our current 105mm main tank gun, and Soviet artillery units are being modernized with new self-propelled 122mm and 152mm howitzers.

To meet this threat, we must improve the antiarmor capability and tactical mobility of our forces, as well as provide them with better command, control, and communications (C^3) support. The M-1 Abrams tank, M-2/3 Bradley Fighting Vehicle (BFV), and the AH-64 Apache attack helicopter provide potent additions to our antiarmor capability. The M-1's superior agility, advanced fire control system, and better armor will enable it to stand up to and defeat the Soviet armored threat on the battlefield. The number of TOW antiarmor missile systems on the battlefield will increase dramatically with the introduction of the TOW-equipped Bradley vehicle. The Apache helicopter will employ the new, and highly effective, Hellfire antiarmor system.

Battlefield mobility provides us with an effective means of countering a numerically superior opponent. Mobility can allow an outnumbered force to concentrate men and materiel at a crucial time and place in order to exploit the enemy's vulnerabilities. We continue to place

high priority on the tactical mobility of our conventional land forces with the acquisition of the UH-60 Blackhawk utility helicopter and the High Mobility Multipurpose Wheeled Vehicle (HMMWV). The Blackhawk, in addition to being more maneuverable and less vulnerable than the Vietnam-era UH-1 "Huey," provides us with a capability to lift an entire rifle squad (eleven combat-loaded troops); the UH-1 could lift just six to eight combat-loaded troops. The HMMWV provides our land forces with a five-fold increase in payload over the smaller jeep it replaces, with much greater reliability and cross-country mobility.

Future battlefields promise to be cluttered and confusing, with a rapidly changing tactical situation brought about by highly mobile opposing forces. Improvements in commanders' ability to see, shape, and manage this modern battlefield are being provided by lightweight, jam-resistant C^3 systems that will be fielded during the mid- to late 1980s, such as the Joint Tactical Communications (TRI-TAC) system. TRI-TAC will provide high-quality and reliable switched communications service to tactical users at all levels.

b. Maritime Forces

Strong maritime forces are an essential element of our national strategy. Among their most important missions, in peace and war, are the protection of vital sea-lanes that we would need to honor our defense commitments in Europe, Southwest Asia, and Northeast Asia. Maritime forces also support an active defense of the littoral countries with whom we maintain collective defense alliances, such as the nations on NATO's northern and southern flanks. Indeed, their global reach, responsiveness, integrated force structure, and self-sustaining capability make maritime forces particularly useful in responding to a wide variety of crises.

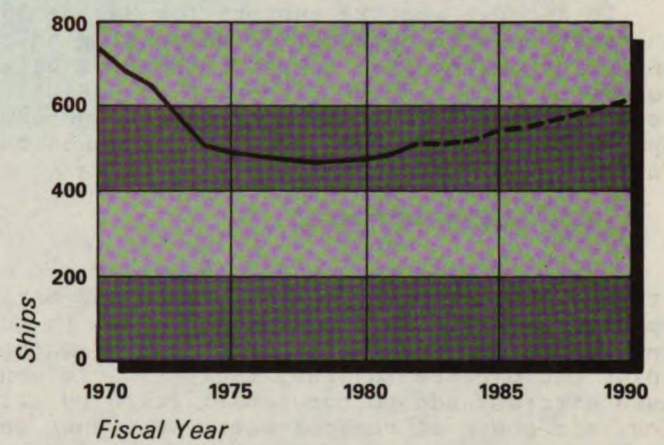
Over the past two decades, the Soviets have engaged in a sustained and determined effort to undermine Western maritime defense capabilities. Soviet antiship cruise missiles, especially those launched from long-range bombers and submarines, pose a serious threat to our naval forces. To carry and launch these antiship missiles, the Soviets continue to build the Backfire bomber, which can threaten our naval operations over a large part of the world's ocean area. New antiship missiles with longer ranges, higher velocities, and more elusive flight profiles have also complicated our maritime air defense tasks. Their greater range makes it more difficult for our fighters to destroy Soviet bombers before they reach missile-launching positions. The faster speeds and elusive flight profiles of the Soviet missiles themselves greatly complicate the task of our shipborne interceptor missiles.

New submarine types -- such as the Oscar SSGN, the improved Victor III SSN, the Alfa SSN, and other new classes that may appear in the near future -- have various combinations of faster speed, quieter operation, deeper diving capability, and greater weapon loadings. This has increased the threat to our naval forces and shipping, and has made it more difficult for our antisubmarine warfare forces to find and engage Soviet submarines, already the largest undersea force in the world. At the same time, the Soviets are improving their submarine-launched antiship missiles by extending their range and increasing their speed and targeting capabilities.

To meet this growing Soviet challenge, and to maintain a strong maritime defense, we have begun a major expansion of the Navy from the 479 deployable battle force ships we inherited to a fleet of 600,

including 15 deployable aircraft carriers. If the Congress sustains our plans, we expect to reach our goal of a 600-ship Navy in FY 1989.

Chart I.C.5
Deployable Battle-Force Ships



We also have taken measures to counter the qualitative improvements in Soviet maritime forces by continuing to upgrade the capabilities of our carrier battle groups, and improving our maritime command and control system. We have also strengthened our ability to defend vital sea-lanes against air attacks by developing tactical over-the-horizon (OTH) radars that can detect enemy aircraft at distances of up to 1,800 miles. The earlier warning afforded by these new surveillance radars will enable us to use land-based interceptors and airborne early warning aircraft more effectively in maritime air defense missions. Two new classes of ships, the CG-47 cruiser and the DDG-51 destroyer, incorporate the Aegis air defense system with its advanced detection and fire-control capabilities for intercepting high-speed cruise missiles after launch.

We are likewise upgrading our antisubmarine warfare capabilities. Construction of improved versions of the highly capable SSN-688 Los Angeles-class attack submarine continues, and we are designing a new class of nuclear attack submarines. New towed-array sonar systems deployed aboard surface warships, coupled with new LAMPS MK III Seahawk helicopters, will allow our surface forces to detect and engage quieter and faster Soviet submarines armed with long-range weapons before our ships can be targeted. We are also augmenting our long-range ocean surveillance systems and modernizing our force of land-based P-3 maritime patrol aircraft in order to improve our capability to locate and destroy enemy submarines in forward areas before they come within range of our naval forces and convoys. Improved torpedoes and antisubmarine rockets now in production or under development will provide capabilities needed to counter the new Soviet submarines.

We are also revitalizing our amphibious assault capability with the construction of new amphibious ships and landing craft. By the

middle of the next decade, our lift forces will have grown in quantity by roughly one-third, while gaining a capability to launch assaults from points over the horizon, where ships would be less vulnerable to enemy attack. Our program will also help avoid the block obsolescence that would otherwise have overtaken our amphibious capability in the 1990s. Together, these measures will maintain our capability to employ Marine Corps units in response to crisis situations, while providing a mobile offensive landing force in time of war.

To improve gunfire support for Marine operations ashore, and generally enhance options for responding to threats overseas, we are continuing our program to refurbish four battleships. These vessels provide us with massive firepower in coastal areas and are well-protected against attack by torpedoes and cruise missiles. Our recent experience with the New Jersey off Lebanon has demonstrated their capability.

c. Tactical Air Forces

The worldwide nature of the threat and of U.S. interests and commitments requires that our Air Force and Marine tactical air forces be capable of operating from forward bases in Europe and the Pacific, of rapidly reinforcing these bases, and of maintaining the capability to deploy and operate in other regions where conflict may begin. Carrier-based aircraft add to our capabilities by allowing us to project tactical air power in regions where we cannot depend on access to land bases.

Over the past decade, the Soviets and their allies have continued to make significant improvements in both the quantity and quality of their air forces. They now have an inventory of several thousand modern fighter, attack, and bomber aircraft that can seriously contest us for air superiority and pose a significant threat to our ground- and sea-based forces. The qualitative parity represented by the MiG-29 and Su-27, two new supersonic, all-weather, night-capable fighters, will significantly reduce our current tactical air advantage, as will the introduction of "Mainstay" -- the AWACS of the Soviet air forces. Furthermore, these new aircraft are complemented by a formidable array of ground-based air defense systems, which would restrict the ability of our aircraft to operate at low altitudes in support of ground operations.

Air superiority remains a critical linchpin in the air, sea, and ground battle; without it, our forces are subject to attack by enemy aircraft. To retain our qualitative edge in this area, we need high-performance fighters that can detect and identify enemy aircraft in all types of weather and at long ranges, shoot first, and engage multiple targets in rapid succession. To achieve these capabilities, we must continue to purchase F-14, F-15, F-16, and F/A-18 fighter aircraft and improve their reliability and maintainability so that they will be able to remain operational for longer periods. We are also equipping them with the Advanced Medium-Range Air-to-Air Missile (AMRAAM), which will improve the F-14's and F-15's air-to-air combat effectiveness and give the F-16, for the first time, a capability to engage targets beyond visual range. It will also enable the F/A-18 to attack fighters and fighter-bombers from standoff ranges.

To counter the growing Soviet threat to our sea-based forces, we must upgrade our primary fleet air-defense fighter, the F-14, and improve its long-range Phoenix missile. The F-14 upgrade will make its air combat performance more competitive with the new, high-performance

Soviet fighters. The Phoenix improvements will make it better able to cope with the increasing electronic countermeasure threat posed by newer Soviet bombers and air-to-surface missiles.

d. Mobility Forces

Only with a rapid deployment capability is our strategy of collective defense likely to succeed. Throughout the 1970s, planning for mobility forces, including airlift and sealift forces, focused primarily on reinforcing one theater at a time. As Soviet capabilities for simultaneous conflict in several theaters grew, it became apparent that we needed to develop the capability to conduct concurrent deployments, and to respond quickly to crises in areas in which we do not have forward-deployed troops.

Our goal, as we plan for the most demanding contingency, is to be able to deploy forces to Southwest Asia while also reinforcing NATO and key areas in Northeast Asia. Our forces must also be capable of sustaining deployed forces, and of intra- or intertheater redeployment in response to combat needs. Forces capable of meeting these objectives should be adequate for virtually any other contingency.

We plan to incorporate allied lift assets into our reinforcement efforts wherever possible. Our NATO and Northeast Asian allies have significant sealift capabilities to assist our deployments, and we are working to maximize their contribution. Although our allies also would contribute aircraft, their airlift capabilities are relatively small; we would have to provide the bulk of the airlift needed for a multitheater deployment. To reduce our airlift requirements to manageable proportions, we are prepositioning equipment and supplies in all three forward defense areas: Europe, Southwest Asia, and Northeast Asia.

A deployment to Southwest Asia would place particularly severe demands on our lift capabilities. The great distances involved, combined with the need to respond quickly, force us to rely heavily on airlift and prepositioning. Although the forces deployed by air would constitute only a small part of the total force required in the event of a major conflict or crisis in SWA, these forces would be essential for protecting the ports and other facilities needed for the subsequent deployment of our main forces by sea.

To strengthen the deterrent value of our conventional forces, this Administration is determined to provide the airlift and sealift capability needed to meet our most important reinforcement objectives. Procurement of new C-5s and KC-10s and an expanded Ready Reserve Force of ships is already under way. We are also working on the qualitative improvements that are especially important in SWA (e.g., development of the C-17 as well as new equipment for unloading ships in austere ports). Compared to the capability existing when we took office in 1981, these programs will:

-- Increase intertheater airlift by 75% by 1990 and eventually more than double it;

-- Increase the capacity of Ready Reserve shipping by 150%;

-- Increase the number of Army divisions and Marine brigades for which equipment and supplies are prepositioned;

-- Enhance en route support to our airlift forces;

-- Provide prepositioned equipment for the rapid deployment of all the Air Force aircraft planned for SWA; and

-- Give us an adequate capability to unload ships in the austere ports of SWA.

With these capabilities, we will be able to conduct major concurrent deployments to the most critical theaters. We must be able to meet our NATO commitment of providing six reinforcing divisions in ten days. At the same time, we must be able to establish a strong air defense posture in SWA quickly, and to deploy other forces in time to oppose any Soviet forces moving south.

e. Special Operations Forces

Buttressed by their massive buildup of strategic and conventional forces, the Soviets have undertaken -- directly and through surrogates -- a global campaign of destabilization, focused on the Third World, that seeks to achieve their objectives without direct confrontation with the United States. This is, and will continue to be for some time, the most prominent direct threat to U.S. national security interests.

U.S. Special Operations Forces (SOF) are being employed to counter these destabilization efforts. As a key element of our security assistance program, SOF work with the armed forces of 15 countries from all parts of the world, training them to deal effectively with instability and aggression. By assisting others to prepare their own defenses, we enhance the free world's ability to cope with Soviet expansionism, reduce the likelihood that U.S. forces will become involved in combat, and demonstrate our determination not to default on our commitments. At the same time, their foreign language capabilities and sensitivity to cultural differences allow SOF to work effectively with the peoples of other countries in a way that builds good will.

In time of crisis, these same forces represent a flexible, tailored alternative in situations where the use of conventional forces may not be appropriate or feasible. In a major conflict, they would be an indispensable adjunct to our conventional capabilities. SOF would be employed in a variety of roles including unconventional warfare, counterterrorist operations, security assistance, psychological operations, and direct action and intelligence missions.

Recognizing that the value of these forces transcends the limited investment in resources they represent, we have given high priority to revitalizing Special Operations Forces. We have added new Army Special Forces units and Navy SEAL teams. In addition, we are procuring aircraft, such as the MC-130 and HH-60D, outfitted to insert and remove SOF teams. Finally, we are upgrading our communications equipment and language training, which increases the ability of our SOF to work effectively in remote locations.

4. Meeting the Strategic Challenge

Ultimately, however, our ability to deter conventional conflict also depends upon a strong strategic deterrent. A potential aggressor must understand that, if conventional deterrence should fail, we possess a credible nuclear deterrent. Consequently, the need to modernize our strategic triad is no less essential, and no less immediate, than the need to modernize our conventional forces, and cannot be considered

in isolation. In the minds of those we would deter, strategic nuclear deterrence must begin where conventional deterrence ends.

a. Growing Soviet Power

In the early 1960s, the United States had overwhelming strategic superiority. Our nuclear posture presented the Soviet Union with a compelling deterrent to launching a nuclear strike against the United States. Because the Soviets possessed a relatively small number of weapons that were ineffective against any U.S. strategic forces, they would have been unable to execute an attack successfully. If Soviet planners had targeted our missile silos and alert bomber bases with the systems they then possessed, they would have depleted their nuclear arsenal without having significantly reduced U.S. retaliatory forces. And since the Soviet Union could not limit the certain, massive retaliatory destruction of its own forces and assets, it would have made no sense at all for Soviet planners to target U.S. cities.

Although by 1970 the Soviet Union had attained rough strategic parity with the United States, during the following decade it continued a massive expansion of its strategic forces. The resulting major qualitative and quantitative improvements in both offensive and defensive systems significantly altered the strategic balance. Both sea- and land-based offensive intercontinental nuclear forces were modernized. The Soviets began the decade with 14 modern ballistic missile submarines; by 1980, this force had grown to 62 SSBNs. Today, even though their Y-class SSBNs are newer than all but three of our missile submarines, the Soviets have already begun replacing them with still newer SSBNs. In addition, the Soviets greatly expanded their land-based missile force by developing and deploying the SS-17, SS-18, and SS-19 ICBMs. Together, the SS-18s -- which are the world's largest ICBMs -- and the SS-19s carry between 4,000 and 5,000 highly accurate warheads designed specifically to attack our missile silos.

In conjunction with this offensive force buildup, the Soviets also began a major effort to increase their active and passive defenses in a clear and determined attempt to blunt the effects of a possible U.S. retaliation. This included major modernization of their already large air defense network -- which is today the most sophisticated in the world -- and development of a new ABM 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 strengthening survivability of key command and control systems and facilities for national leaders.

A combination of Soviet defensive measures and the U.S. restraint described earlier in this report created a "sanctuary" for the Soviet ICBM force and other key assets protected by hardening. This, combined with the Soviet ability -- using only a portion of their SS-18s and SS-19s -- to attack our Minuteman force, significantly eased the problems of Soviet nuclear planners. They could now 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 force 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 leaders could come to believe that their hardening programs would permit them to emerge from a major conflict with their forces, control, and war-supporting capabilities damaged but still functioning.

Thus, in a little over a decade, the Soviet Union had developed a significant counterforce capability while eroding our ability to retaliate. These developments have undercut the stability of the nuclear balance and undermined the retaliatory effectiveness that was at the heart of our policy of deterrence. If uncorrected, we could face the very real danger that the Soviet leadership could at some point come to believe that it could blackmail us by threatening to use nuclear forces to gain its military or political ends. Our strategic modernization program is designed to reverse these adverse trends, restore the strategic balance, and strengthen stability and deterrence.

b. Restoring the Nuclear Balance: The Strategic Modernization Program

To be certain that our strategic nuclear forces would be capable of deterring a Soviet first strike, and to preserve the deterrent linkage between our strategic nuclear and our forward-deployed conventional and nuclear forces, we found that we needed to modernize all three legs of our strategic triad:

-- Our ICBMs lacked the requisite yield and accuracy to threaten retaliation against hardened Soviet assets, and were vulnerable themselves to a Soviet first strike.

-- Our B-52s, last built in 1962, had become much less capable of penetrating the sophisticated Soviet air defense system. While some B-52s were in the process of being modified to carry cruise missiles, we recognized that an effective bomber force required a combination of penetrators and stand-off cruise-missile carriers.

-- Our missile submarines -- almost all of which were built from 1962 to 1966 -- faced block obsolescence within a decade, and their missiles did not have the ability to hit hard targets.

-- Our command, control, and communications systems lacked the survivability and endurance necessary to support our nuclear policy and our nuclear forces.

Because we had deferred U.S. modernization for a decade while the Soviets were expanding, we faced the difficult task of modernizing all elements of our strategic forces at once -- at a time when our conventional forces also required major improvements. Our strategic modernization program, which costs less than 15% of our defense budget, provides for:

-- Ensuring that our C^3 systems are survivable and will remain capable of performing their basic functions throughout any potential sequence of Soviet attacks.

-- Procuring 100 B-1B bombers to provide a penetrating bomber capability, while continuing to equip selected B-52s with cruise missiles. The program also continues development of an advanced technology bomber, which, in combination with the B-1B, will ensure that we are able to have both penetrating and stand-off capabilities well into the next century;

-- Building Trident submarines at the rate of one per year in order to provide for a modern SSBN force when the Poseidon submarines reach the end of their service lives. We are also developing the Trident II submarine-launched ballistic missile and the Tomahawk sea-launched cruise missile. The Trident II, when deployed at the end of this decade, will give us both increased payload and the improved accuracy necessary to hit hard targets. The deployment of cruise missiles on selected attack submarines and surface ships adds to the nuclear reserve force, further diversifying our capabilities.

-- Improving our strategic defenses by upgrading our surveillance systems and modernizing our interceptor forces.

-- Providing the foundation for the modernization of our ICBM force by procuring and deploying 100 MX/Peacekeeper missiles and by developing a new, small, single-warhead ICBM.

As the Congress is aware, the issue of ICBM force modernization has been among the most difficult defense questions faced by this Administration and its predecessors. However, over the past twelve months, due in large part to the significant service performed by the President's Commission on Strategic Forces (the Scowcroft Commission), we have been able to build a bipartisan consensus on this issue. The four presidents and six secretaries of defense who faced the question of ICBM modernization over the last twelve years frequently embraced different solutions to this problem. All nevertheless shared the hope that a single, perfect solution to ICBM survivability and prompt hard-target kill capability would be found. The Scowcroft Commission recognized that no single weapon system or basing mode would be able to solve all of our problems and meet all of our requirements for both the near and the longer term. It is significant that the Scowcroft Commission fully endorsed the need to modernize all three legs of our strategic triad, as well as our C^3 systems. The Commission's recommendations, which the President accepted and the Congress approved, called for a two-phased solution that will not only help restore the overall strategic balance, but also solve the problems of retaliatory effectiveness and survivability.

Consistent with the recommendations of the Scowcroft Commission, we plan to deploy 100 Peacekeeper missiles in Minuteman silos to reestablish the hard-target capability necessary to maintain deterrence. However, this will not provide the degree of survivability we ultimately require. For the longer term, the plan calls for achieving survivability through development and deployment of a new, small, single-warhead ICBM, and continued research on missile-basing technologies. Deployment of the Peacekeeper will eliminate the Soviet monopoly of prompt hard-target capability. Deployment of a single-warhead missle will distribute the total number of warheads contained in the ICBM force over a larger number of smaller missiles, reducing the attack incentive of a potential aggressor. Continued research and development efforts on several basing modes offer a potential for increased survivability of our land-based forces.

c. Strategic Defense

While this Administration is taking these steps to strengthen the offensive arm of deterrence and to obtain significant, verifiable arms reductions, in a speech to the American people last March President

Reagan also offered the hope of a world made even safer from the threat of ballistic missiles. Recent advances in technology may offer us, for the first time in history, the opportunity to strengthen deterrence by developing an effective defense against ballistic missiles. President Reagan is determined that we explore fully that opportunity.

To guide the efforts of those working toward that important goal, the President last year directed an intensive analysis to describe a technically feasible research program for an effective defense against ballistic missiles, and to assess the implications of such a program for the prevention of nuclear war, deterrence of aggression, and the prospects for arms control. The study concluded that advanced defensive technologies could offer the potential to enhance deterrence and to help prevent nuclear war by reducing significantly the military utility of Soviet preemptive attacks and by undermining an aggressor's confidence in the probability of a successful attack against both the United States and its allies. It also identified a research program that will clarify future technical options for a defensive system.

Although the study acknowledged that there are uncertainties that will not be resolved until more is known about the technical characteristics of defensive systems and the possible responses of the Soviet Union to U.S. initiatives, it concluded that a research program should be started now. Of key importance in this regard is the fact that the Soviet Union has pursued advanced ballistic missile defense technologies for a number of years and is the only country maintaining an operational ballistic missile defense system. Unilateral Soviet deployment of an advanced system capable of countering Western ballistic missiles -- added to their already impressive air and passive defense capabilities -- would weaken deterrence and threaten the security of the United States and its allies. Thus, U.S. research efforts will provide a necessary and vital hedge against the possibility of such a one-sided Soviet deployment. In addition, our effort could provide a potentially powerful tool to moderate the development of future offensive systems and to make the world more stable and secure.

The Strategic Defense Initiative must complement other elements of U.S. national security capabilities and policies. Consideration of a defensive system against a range of nuclear threats by no means diminishes the need to strengthen U.S. and allied conventional military capabilities. Nor does it change our responsibility to help deter other types of attack on our allies. As President Reagan said: ". . . their safety and ours are one. And no change in technology can or will alter that reality." In the search for effective strategic defensive systems, it must be a primary requirement that they provide security to our allies as well as the United States and that they do not reduce our capabilities to maintain our commitments around the world.

Our studies have also considered the relationship between ballistic missile defense and U.S. arms control policy. Our proposed research program will be entirely consistent with existing U.S. treaty obligations. For the longer term, offensive force reductions and defensive technologies can be mutually reinforcing. Effective defenses that reduce the utility of ballistic missiles and other offensive forces have the potential for increasing the likelihood of negotiated reductions of those offensive forces. In turn, effective limitations on offensive systems could assist defensive systems in reaching their full deterrent potential. Ballistic missile reductions of the magnitude proposed by the United States in the START and INF talks would be very effective in this regard.

In summary, an effective defense against ballistic missiles can have far-reaching implications for enhanced deterrence, greater stability, and improved opportunities for arms control. Our efforts do not seek to replace proven policies for maintaining peace, but to strengthen their effectiveness in the face of a growing Soviet threat. The essential objective of the U.S. strategic defense initiative is to diminish the risk of nuclear destruction and to provide for a more flexible, less menacing way of preventing nuclear war in the decades to come.

5. Management Reforms

While our defense program seeks the minimum capability required to deter war and to preserve peace with freedom, it is still an ambitious undertaking. Because the challenges we face are many, and the capabilities we must build are significant, we must ensure that we invest every defense dollar wisely. With a budget of $305 billion, which will involve over 15 million contractual transactions in the coming year, we face daunting management challenges.

We have prepared ourselves for those challenges. One of the first steps we took after arriving at the Pentagon was to determine how we could manage our defense programs more efficiently. Within a few months, we instituted a sweeping acquisition improvement program that comprised 32 major initiatives to bring good business sense to defense procurement.

To correct long-standing inefficiencies, we have taken measures to budget more realistically for future acquisitions, to encourage more competition, to produce equipment at more efficient rates, and to infuse greater stability into defense contracting. In each case, we have not only had to change internal procedures in the Defense Department, but have also had to work with industry and the Congress. For, while our reforms help industry take advantage of more efficient and economic production, we are also demanding more of defense contractors than we did in the past. And, while our reforms give us more defense for the dollar, they also require the Congress to consider business efficiency ahead of political expediency, and to approve up-front investments for long-term savings.

Well-entrenched problems and inefficiencies are not always easily uncovered or readily corrected. The Defense Department's auditors and investigators have been working with our employees to identify such problems, and with our managers to ensure that reforms are implemented. One area that we have investigated aggressively is spare parts procurement. Unfortunately, our findings have become the source of press stories that criticize the Defense Department without mentioning that the Defense Department itself uncovered the problems or that we have instituted a very successful ten-point program to resolve our problems with spare parts. Our reforms have only begun. Inefficiencies that have existed for decades cannot be eliminated at once. But the Defense Department has taken the lead in President Reagan's campaign to improve management throughout the government.

We have good reason to be optimistic, because our reforms are working. While they will never make inexpensive the cost of rearming America, they will assure that our defense budget is wisely invested. And there can be no investment more crucial to the future of our nation.

Part II
Defense Resources

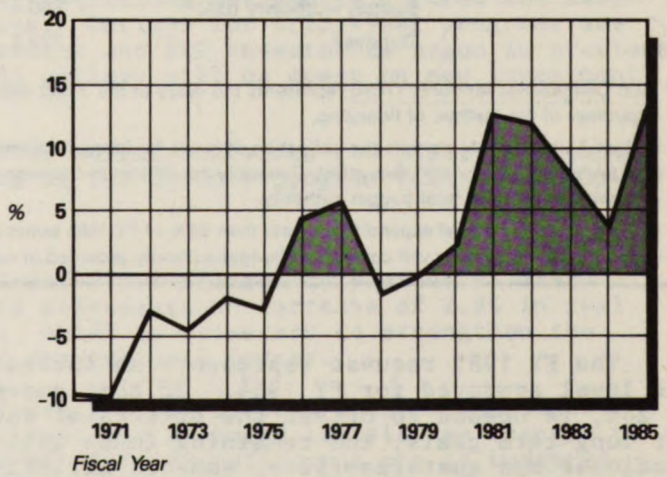
A. THE DEFENSE BUDGET

1. Introduction

The Defense budget is developed in light of objectives we have formulated, commitments we have made, and threats that we face. These factors do not ebb and flow with the business cycle. While such spending does have economic effects, these effects -- stimulative or otherwise -- should not dominate any debate about the level of our national commitment. Defense spending should be undertaken only for the purposes of national security.

There has never been any question that President Reagan's plan to restore America's defenses would require the commitment of substantial resources. As a first step, we prepared an $8.1 billion supplement to the FY 1981 budget and amended the proposed FY 1982 budget by $18.1 billion so as to provide some necessary immediate improvements for our existing forces. At the same time, we increased planned funding levels for FY 1983-86 in order to maintain and enhance the readiness and sustainability of our operating forces and to begin a program of force modernization that would ensure our future security against an increasing threat. The program we proposed contained a sustained real growth in defense expenditures each year through FY 1986, a marked difference from the no-growth pattern that prevailed throughout most of the 1970s (Chart II.A.1). The cumulative funding requirements for this ambitious five-year program amounted to $1,459 billion. With this came the obligation to spend these funds wisely. Therefore, we began immediately to improve the budget and acquisition process within the Department of Defense to ensure these resources would be allocated efficiently and economically.

Chart II.A.1
Real Growth in DoD Budget Authority



Since FY 1981, we have made considerable progress toward revitalizing our military forces. Providing needed funds for only a few

years cannot, however, eliminate the problems created by a decade of neglect. Reductions made to our FY 1984 budget request will delay the planned defense buildup. The momentum created by the FY 1981-83 budgets must be regained.

2. Components of the FY 1985 Budget

a. Budget by Category

The level of resources we are requesting for FY 1985 is essential to the long-term success of our revitalization program. A lower level would not only raise the total cost of the program due to delays, stretch-outs, and terminations, but also would upset the balance we have built into the defense program. The President's defense budget, shown in Table II.A.1, proposes budget authority of $305.0 billion for FY 1985. The tables in the appendices provide budget data by appropriation title and by component in current and constant FY 1985 dollars.

Table II.A.1
Department of Defense Budget
($ Billions)

Current-Year Dollars	FY 1983	FY 1984	FY 1985
Total Obligational Authority (TOA)[a]	238.7	259.1	305.7
Budget Authority (BA)[b]	239.5	258.2	305.0
Outlays[c]	205.0	231.0	264.4
FY 1985 Dollars			
Total Obligational Authority (TOA)[a]	259.6	270.8	305.7
Budget Authority (BA)[b]	260.4	269.9	305.0
Outlays[c]	222.2	241.8	264.4

[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.

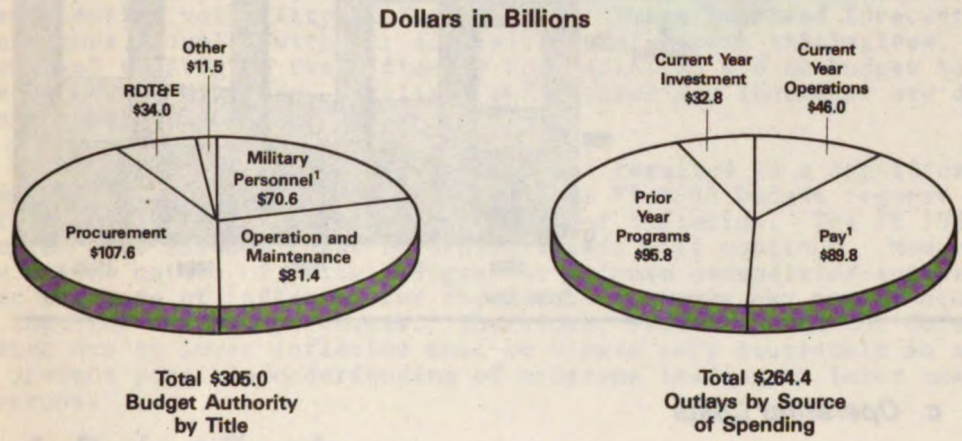
[c] Outlays represent actual expenditures. Less than 65% of FY 1985 outlays will result from FY 1985 budget authority; the remainder will come from budget authority provided in earlier years.

The FY 1985 request represents an increase of $46.8 billion over the level approved for FY 1984. Of that amount, nearly $11.7 billion, or 24%, is needed to offset the effects of inflation. Consistent with our long-term goals, the remaining funds will be used to improve combat readiness and sustainability, enhance airlift and sealift capabilities, modernize the strategic forces, and modernize and expand conventional forces.

The distribution of FY 1985 budget authority by major appropriation title and FY 1985 outlays by source of spending is shown in

Chart II.A.2. Operating costs represent about 52% of total DoD budget authority. This category includes pay, equipment maintenance, fuel and utilities, medical expenses, training, and spare parts. The remainder of the budget contains funds for research and development, procurement of weapon systems, and military construction and family housing.

Chart II.A.2
FY 1985 DoD Budget



[1]Includes Retired Pay Accrual Costs

In FY 1985, as in prior years, outlays will be spent primarily on current-year operations and pay, and on prior-year investments. Expenditures for current-year operations are generally used for maintenance and support activities. Outlays for prior-year programs are largely a function of procurement and R&D investments begun in previous years. Only 12.4% of FY 1985 outlays will be spent on new investment programs.

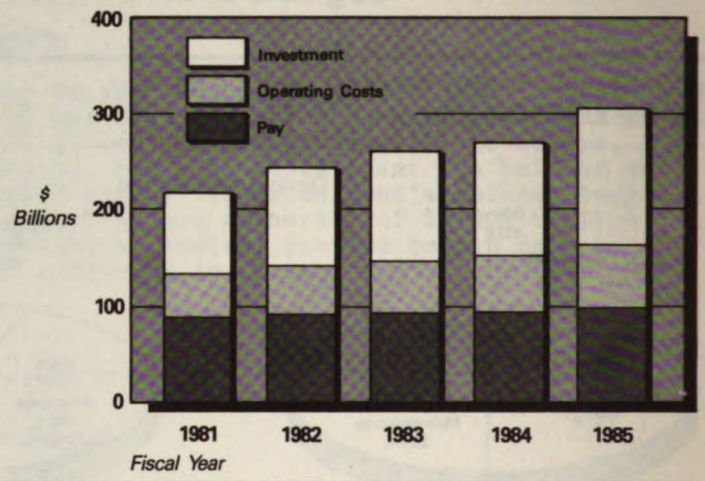
Real growth in the FY 1985 budget continues the positive trend begun in FY 1981 in all areas of the defense program (Chart II.A.3).

b. Personnel

The FY 1985 budget includes $98.9 billion to pay our military and civilian personnel. This represents an increase of 2.9% in real terms over the FY 1984 level, which is necessary to strengthen the manning of our strategic and conventional forces.

This category also includes pay for retired military personnel. For several years, the Department has proposed legislative changes to the method by which the cost of military retirement pay is budgeted. The FY 1984 DoD Authorization Act requires the adoption of an accrual accounting system for military retirement pay beginning in FY 1985. Under this system, the budget will reflect the future retirement benefits accrued by military personnel on active or reserve duty. This method will have no effect on total federal outlays, but will make the defense budget a better measure of the cost of military pay.

Chart II.A.3
DoD Budget Shares
(Budget Authority in FY 1985 Dollars)



c. Operating Costs

In FY 1985, we will continue the steady improvement in the operation and support of our forces, which, in turn, enhances readiness and sustainability. Further improvements in materiel readiness are expected as a result of the increased procurement of spare and repair parts, equipment maintenance and modification, and other logistic support. In addition, the budget includes resources necessary to support weapon systems introduced as part of the modernization program, and to provide additional and more realistic training for our personnel.

d. Investment

After increasing by 38.1% from FY 1981 to FY 1983, investment funding (procurement, RDT&E, and military construction) will rise by only 4.7%, in real terms, in FY 1984. It is essential that we regain the momentum we achieved in the modernization program by making essential improvements to the conventional and strategic forces. Therefore, the FY 1985 budget proposes a 19.5% increase in investment funding. These funds will permit us to procure the systems described in Part III of this report.

Resources are again provided for key acquisition initiatives. The FY 1985 budget requests funds to procure 12 major weapon systems on a multiyear basis. This approach allows us to buy items at more economical rates (thereby lowering unit costs) and to use production resources more efficiently. The budget also includes funding for major productivity-improvement projects to modernize government-owned tooling, equipment, and facilities. Increased amounts are likewise budgeted for manufacturing-technology programs. While these initiatives require large near-term investments, they produce significant savings over the course of a program.

3. Price-Level Assumptions

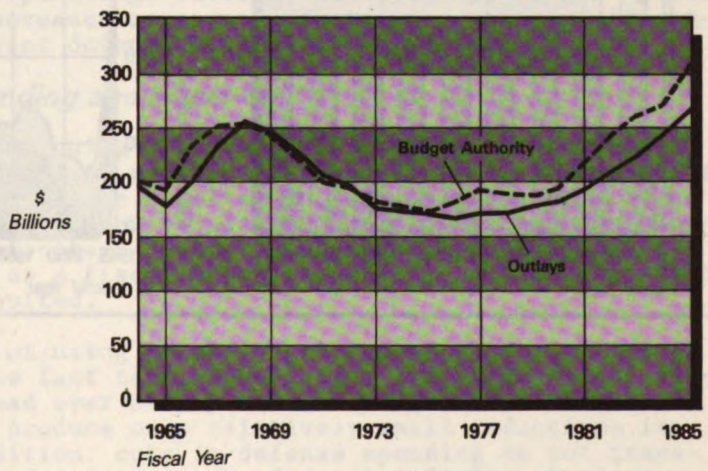
Estimates of the future impact of inflation are prepared on the basis of projected inflation rates for the Gross National Product (GNP) deflator furnished by the Office of Management and Budget. The GNP deflator is used for all purchases except major weapon systems and fuel. Beginning with the FY 1983 budget, we have used special weapon system commodity inflation estimates based on analyses of historical trends of defense inflation published by the Department of Commerce's Bureau of Economic Analysis. Special consideration is also given to projected fuel prices, due to the large amount of fuel we must buy and the potential volatility of fuel prices. These improved forecasting techniques, coupled with our acquisition management initiatives, have been used to program realistically for inflation and to budget to most likely cost. Military, civilian, and retired pay increases are determined separately.

The President's economic program has resulted in a significantly lower rate of inflation. We adjusted the FY 1984 budget request to reflect the declining trend in the rate of inflation. The FY 1985-89 program also assumes these favorable trends will continue. However, the unique nature of price changes for defense commodities suggests that the rate of inflation for the general economy may not be equal to that for defense purchases. Therefore, reductions in the defense budget due to lower inflation must be viewed very cautiously so as to prevent possible underfunding of programs leading to later cost overruns.

4. Budget Trends

The FY 1985 budget continues the carefully planned growth in defense resources begun in FY 1981. This pattern is in stark contrast to the no-growth trend during much of the 1970s, when defense spending did not keep pace with the level of inflation (Chart II.A.4).

Chart II.A.4
DoD Budget Trends
(in FY 1985 Dollars)

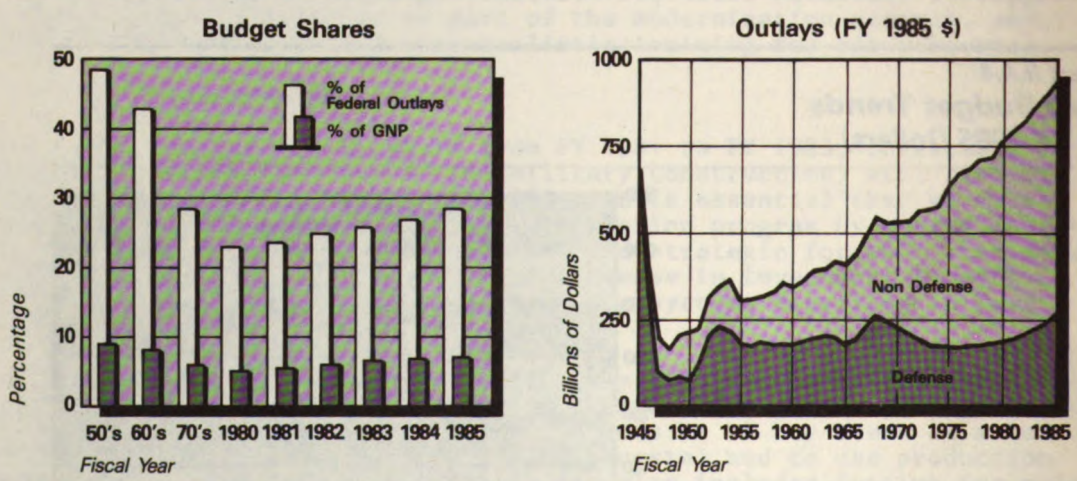


However, the growth in defense spending achieved since FY 1981 and planned for the next five years has led some to question whether we can afford this buildup. A historical review of the defense share of GNP and total federal spending shows that the current and projected level of resources committed to defense is clearly affordable.

Even though total federal spending has increased substantially over the past two decades, there has been a substantial change in its composition, with defense expenditures declining as a percentage of both federal expenditures and GNP. The defense share of federal outlays has dropped from an average of 48% in the 1950s to about 30% today (left figure, Chart II.A.5). Even with the continuing buildup, defense spending will account for only one-third of the federal budget in FY 1989. Nondefense spending, on the other hand, constituted about 50% of total federal outlays in the 1950s, but now represents more than 70% of the budget. In further contrast, nondefense federal expenditures have increased dramatically in real terms since FY 1970, while defense spending has declined, and is only now approaching its FY 1968 level (right figure, Chart II.A.5).

Based on current estimates of defense outlays and economic growth, the defense share of the nation's output of goods and services (GNP) will average only slightly more than 7% over the next five years (left figure, Chart II.A.5). This is well below the peacetime levels of the 1950s and early 1960s. Should economic growth exceed current forecasts, the defense share of GNP would be even smaller. (Defense shares of the budget and economic aggregates are shown in the appendices.)

Chart II.A.5
DoD Budget and Total Federal Outlays



5. Economic Effects of Defense Spending

There has been considerable discussion about whether the U.S. economy can support the Administration's planned defense buildup without creating inflationary pressures and supply shortages. We recognize that the defense budget does have an impact on the economy, just as the economy has an impact on the formulation and execution of the defense budget. After careful analysis of these effects, we believe that increased defense spending is not detrimental to economic recovery and, in fact, has many positive aspects.

a. Defense Spending and Industrial Capacity

Last year, the Department of Commerce, with the cooperation of the Department of Defense, completed an extensive study of the adequacy of existing and planned industrial capacity to produce the goods and services required by an expanded defense effort. This in-depth analysis concluded that, in most cases, existing domestic capacity is adequate to supply projected defense and nondefense needs. The Defense Department has studied several defense-intensive industries in greater detail. We reviewed capacity in some important metals and metal-working industries and examined several tiers of the production process in the aircraft industry. The data from these studies, as well as those gathered from plant-by-plant and product-by-product comparisons, confirm the conclusions of the Commerce Department study. A group of leading private forecasters also agree that current U.S. production capacity is generally adequate to meet the increased demands generated by accelerated defense spending.

We are aware that there may be problems in a few industries. In the areas where vigorous demand may put pressures on plant capacity, the Department of Defense has taken a number of steps to eliminate potential bottlenecks or other problems. For example, we are now evaluating the production requirements generated by our future procurement plans on a recurring basis. For the first time, industry analysts are being provided detailed estimates of what defense requirements will be and when they will occur. As a result, any expansion of industrial capacity that is required can be foreseen and planned for in the private sector so that industry can better prepare itself to compete for defense business and plan the necessary capital investment. Therefore, with national support, advance planning, selected enhancements to the nation's industrial capacity, increased manpower and training, and sufficient raw materials, the current defense buildup is attainable.

b. Defense Spending and Fiscal Policy

The prospect of continuing high federal deficits has increased pressure to lower the level of resources available to meet our defense commitments. There seems to be a belief in some quarters that large defense-spending reductions must be made as the primary means of lowering future federal deficits. However, the defense budget is not and should not be used as a fiscal shock absorber -- a task for which it is not designed or suited.

The effectiveness of using defense spending as a tool of fiscal policy is limited by the fact that expenditures for major weapon systems are typically spread over many years. Consequently, large cuts in procurement funding produce only relatively small reductions in annual outlays. In addition, cuts in defense spending do not translate one-for-one into reductions in the federal deficit. In fact, only a portion of each dollar cut from the defense budget shows up as

a reduction in the deficit. The effect on the deficit is small (much smaller, for example, than the effect of reducing transfer payments) because of the contribution of defense spending to GNP and employment. Because of that linkage, favorable effects on the deficit of cuts in defense spending would be partially offset by the reduced tax revenues and increased unemployment insurance payments they would generate.

Cuts in major programs also tend to increase defense costs over the long run. Decisions on what type of systems to produce, and on the number of each to acquire, reflect assessments of the threats we face. When pressures are brought on the defense budget in response to short-run economic events, we are usually forced to choose between postponing the start of programs or stretching out existing ones. In either case, reductions in outlays would come at the expense of increased spending in future years. This is because entire programs would be deferred or, if stretched out, fewer units would be purchased each year, thereby raising unit costs and, ultimately, total spending levels.

Issues related to our national economic well-being are too important to the future viability of our way of life to be discussed in terms of only one issue -- defense spending. Defense budgets are planned in terms of the threats we face, and those threats do not change with changes in the business cycle. Defense spending, therefore, should not be adjusted in response to short-run economic developments. Doing so is not only ineffective fiscal policy, but also increases defense costs and impairs our national security.

6. Long-Range Forecasts

We are on the way to improving our defense capabilities, as we have promised the American people. The President's FY 1985-89 defense program, shown in Table II.A.2, sustains our effort to fulfill that promise. The program, which totals $1,891 billion over the five-year period, is based on the price assumptions discussed earlier.

The defense program represents an investment in the future. It is designed to meet both short- and long-term requirements as efficiently and effectively as possible. We recognize that long-term constraints on the nation's productive resources must be considered in the allocation of these resources. In the final analysis, however, the future security of our values and institutions must determine the affordability of our defense programs.

Table II.A.2

FY 1985 Department of Defense Budget Long-Range Forecasts ($ in Billions)

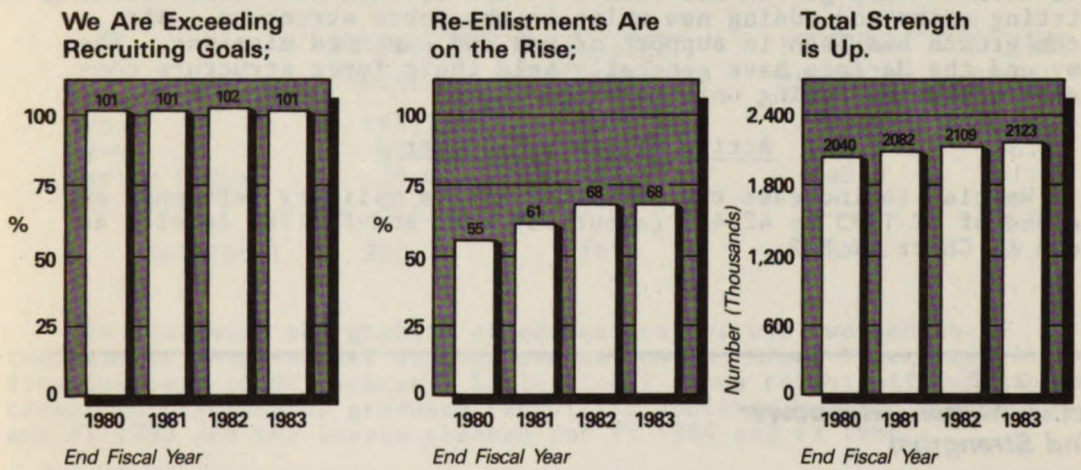
	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989
Budget Authority					
Military Retired Pay	17.6	19.4	20.9	22.5	24.0
Other Military Functions	287.4	330.2	358.3	389.0	422.1
Total, Current Dollars	305.0	349.6	379.2	411.5	446.1
Total, Constant (FY 1985) Dollars	305.0	333.0	344.7	357.9	371.7
Per cent Change	13.0	9.2	3.5	3.8	3.9
Outlays					
Military Retired Pay	17.4	19.3	20.9	22.5	23.9
Other Military Functions	247.4	282.5	318.3	347.3	374.9
Total, Current Dollars	264.4	301.8	339.2	369.8	398.8
Total, Constant (FY 1985) Dollars	264.4	286.7	306.8	319.5	330.1
Per cent Change	9.3	8.4	7.0	4.1	3.3
Composite Pay/Price Assumptions for Outlays	100.0	105.3	110.6	115.8	120.9

B. MANPOWER

1. Introduction

Well-trained and motivated people are our most valuable defense resource. Upon assuming office, this Administration learned that almost every aspect of our manpower program was in trouble. There was genuine concern that the all-volunteer concept might not succeed. In the past three years, all aspects of our manpower program have improved substantially. We are committed to protecting and enhancing our investment in people and to ensuring that this investment pays dividends in improved readiness.

Chart II.B.1
Improvements in Military Manpower



This chapter discusses our military and civilian manpower programs. It includes material on the important areas of equal opportunity and health and medical resources. Detailed discussions of our manpower program are provided in the Defense Manpower Requirements Report and the Military Manpower Training Report.

2. The Manpower Program

a. Active Military Manpower

When this Administration came into office, our forces were undermanned. We could not attract sufficient numbers of recruits to fill the ranks. Recruit quality, as measured by test scores and educational level, had reached an all-time low. Morale had plummeted, and experienced career personnel were leaving in large numbers. The cumulative effect of years of inadequate compensation and neglect of our men and women in uniform had taken its toll.

Today, there is overwhelming evidence that our efforts to revitalize the armed forces have met with success. The active forces are meeting their manning targets; all of the Services are achieving their recruiting objectives. Test scores and educational levels of new recruits now exceed those of the civilian youth population. Excessive losses from the career force have been stopped; reenlistments are up significantly; and the career force is growing in size, experience, and quality. On the basis of these positive results, we remain committed to a volunteer force in peacetime for the foreseeable future.

The following sections examine four aggregate indicators of personnel readiness: end strength, experience, skills, and stability.

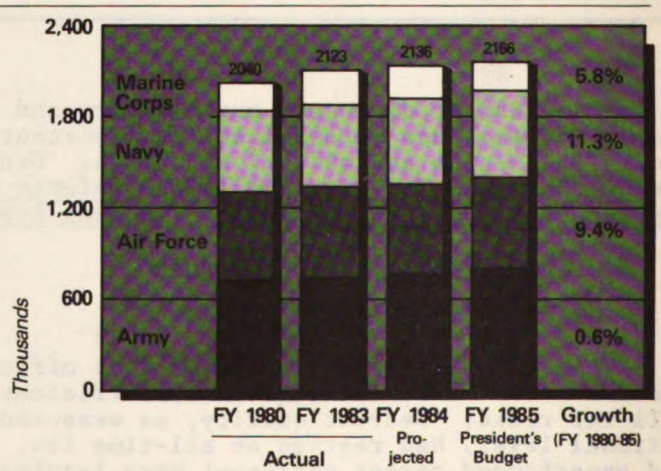
(1) End Strength

Total strength is a fundamental determinant of unit personnel readiness. From FY 1980 to FY 1983, active-duty end strength increased by 83,700 personnel, or just over 4.1%. The Air Force and the Navy experienced the greatest growth, both in absolute and relative terms. Navy growth has been a result of both more fully manning existing units and adding new units to the force structure. Air Force growth has been in support of new and expanded missions. The Army and the Marines have generally held their force structure constant, while increasing unit manning.

(a) Active Military Manpower

We plan to increase the number of active military personnel at the end of FY 1985 by 42,450 (about 2%) over end-FY 1983 levels, as shown in Chart II.B.2.

Chart II.B.2
Active Military Manpower (End Strengths)



The Congress denied all but 8,500 of the 37,300 growth in active-duty end strength requested for FY 1984. This loss comes at a time when the force structure is expanding and the threat is increasing. We cannot consider manpower requirements and levels independent of programs. If end-strength levels are constrained while funding for new programs is approved, the undermanning that results will ultimately degrade overall readiness.

(b) Recruiting

FY 1983 was an excellent recruiting year in both quantity and quality. As in FY 1981 and FY 1982, all four Services met or exceeded their recruiting goals. Table II.B.1 shows actual enlisted accessions for FY 1983 and planned recruiting levels through FY 1985.

Table II.B.1

Enlisted Active-Duty Accessions
(Numbers in Thousands)

	Actual		Planned	
	FY 1983 Number	Percentage of Objective	FY 1984 Number	FY 1985 Number
Army	145.3	101	147.5	139.6
Navy	82.8	100	89.1	96.6
Marine Corps	39.0	103	40.0	41.6
Air Force	63.6	100	61.0	69.8
DoD Total	330.7	101	337.6	347.6

In assessing the quality of accessions, we use two shorthand indicators: high-school diploma completion and Armed Forces Qualification Test (AFQT) scores. Table II.B.2 shows the significant increase in high-school graduate recruiting achieved between FY 1980 and FY 1983 and the levels planned for FY 1984 and FY 1985.

Table II.B.2

High School Diploma Graduates
Among Non-Prior-Service (NPS) Active Duty Accessions a/
(Numbers in Thousands)

	Actual				Planned			
	FY 1980		FY 1983		FY 1984		FY 1985	
	Number	%	Number	%	Number	%	Number	%
Army	85.8	54	116.2	88	120.5	88	122.0	90
Navy	65.8	75	68.3	91	66.1	82	70.9	82
Marine Corps	32.5	78	33.8	92	34.9	90	36.4	90
Air Force	59.3	83	59.4	98	57.6	96	59.8	92
DoD Total	243.5	68	277.7	91	279.1	88	289.1	88

a/ Numbers may not add to totals due to rounding.

Table II.B.3 shows that in FY 1983 the Services achieved quality levels mandated by the Congress in the annual Authorization Acts since FY 1981. While we are confident that recruiting efforts will continue to succeed, the more stringent limitations on AFQT Category IV (below average) accessions restrict our flexibility and could present a problem in future years, particularly for the Army.

Table II.B.3

Quality Indicators
(FY 1983 Non Prior Service (NPS) Active Duty Accessions)

	Category IV Recruits as Percentage of NPS a/	High School Diploma Graduates as Percentage of Male NPS
Army	12	86
Navy	8	90
Marine Corps	6	91
Air Force	2	98
DoD Total	8	90

a/ Male and Female

Congressional recruiting guidance, further improvements in the economy, and a continuing decline in the size of the military-age population will make recruiting in the coming years an extremely challenging task. The Services must have appropriate recruiting resources and incentives if they are to continue attracting high-quality men and women. We will continue to make every effort to enhance both the attractiveness of military service and its competitiveness in the youth labor market.

(2) Experience

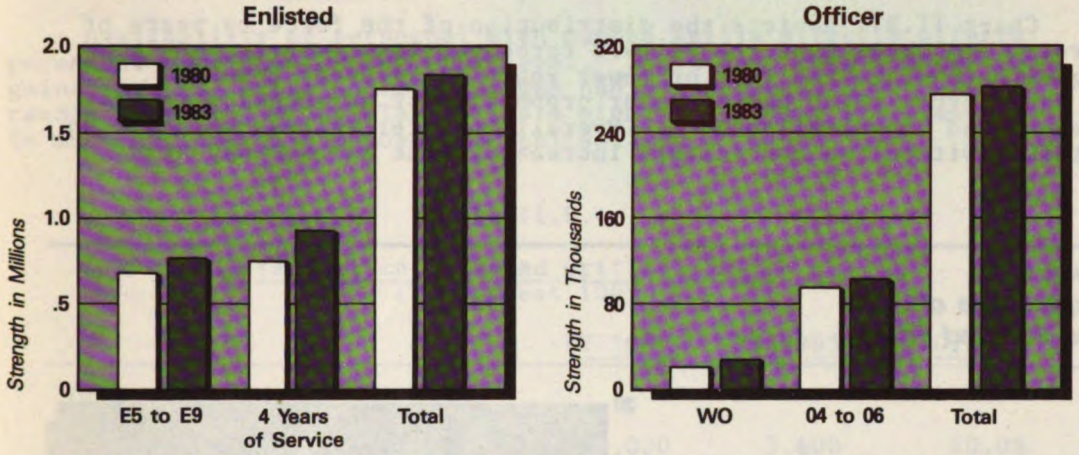
Experience is another key element of personnel readiness. As the following discussion points out, we have made significant improvements in the average experience levels of both the officer and the enlisted force, as measured by years of service and grade distribution.

(a) Officer

Since FY 1980, the total officer population has increased by nearly 22,600, or over 8.1%, with 6,000 of this net increase (27%) among officers with between four and nine years of service. This indicates that more junior officers are choosing to stay in the service at their initial career decision point (generally the fourth or fifth year of service). Today, our junior officers generally have more years of service in grade, which results in better and more experienced leadership at the unit level.

Retention of officers continued to improve through FY 1983. As the economy further improves, there may be some reduction in retention, although it should remain at an acceptable level. Good retention has continued to improve 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.B.3
Experience and Leadership



(b) Enlisted

Between FY 1978 and FY 1983, the proportion of career personnel in the enlisted force rose by 13%. Two major factors have contributed to this gain. First, we regained some of the experience lost in the middle and late 1970s by enlisting more personnel who had served previously in the military, especially in the Navy. In FY 1983, some 25,600 people with prior military service chose to enlist; this exceeded our goal by nearly 6%. Second, reenlistment rates are improving. Defined here as immediate continuous reenlistments as a percentage of eligible personnel, the reenlistment rate increased from 61% (207,000 reenlistments) in FY 1981 to 68% (227,000 reenlistments) in FY 1983.

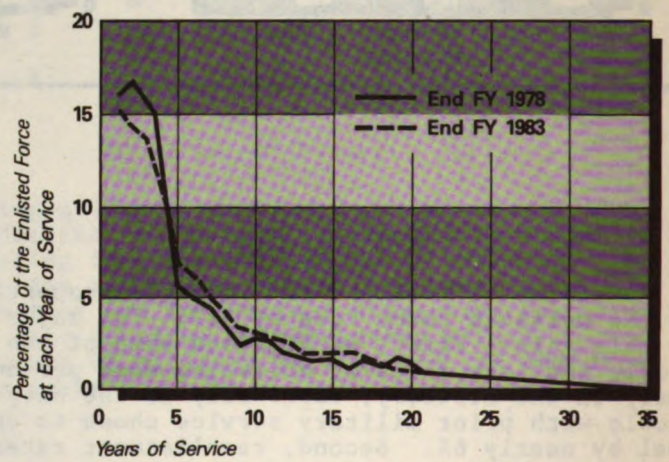
The Services continuously review their personnel needs in the context of force modernization. It is important to continue the growth in our career force over the coming years, given the higher levels of skill and experience required to operate and maintain today's technologically advanced equipment. Besides meeting our equipment-related requirements, continued growth will support the enlisted leadership needs of the Services and permit relatively stable personnel management practices, which enhance retention over the long term.

As the experience of the force increases, costs will increase. However, recent increases in personnel-related costs do not reflect "grade creep," but rather the evolutionary pay increases that have been driven by inflation, our commitment to competitive and equitable compensation, and, to a lesser degree, our conscious effort to raise and maintain the experience level of the force. A greater appreciation for factors that have influenced personnel costs can be gained by comparing some characteristics of the FY 1978 and FY 1983 forces.

The percentage of the career force in the five most senior pay grades has decreased steadily since FY 1978. This has contributed to our shortage of enlisted leadership. Improved retention has reversed excessive career force losses and has brought about the recent career force growth, which supports the programmed force structure.

Chart II.B.4 depicts the distribution of the force by years of service and shows that the FY 1978 force was less experienced (a higher percentage had four or fewer years of service) than the FY 1983 force, which had a higher proportion of personnel with between 5 and 15 years' service. Overall, greater experience has been obtained without an appreciable increase in the average pay grade.

Chart II.B.4
Experience of the 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. A large portion of the shortages remains 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.

Without a doubt, the Enlistment and Selective Reenlistment Bonuses remain the most cost-effective accession and retention incentives. However, we also make maximum use of nonmonetary management initiatives to improve retention. These initiatives cover the full range of the personnel life cycle, including reclassification and retraining, promotion, reenlistment, and separation. Quality of life programs and job enrichment efforts are aimed at making military jobs more rewarding and challenging. However, a sustained economic recovery, lower unemployment rates, further erosion of relative military

pay, and expanding accession requirements collectively call for continued congressional support to avoid a manning shortfall in FY 1984 and FY 1985.

(3) Skills

Availability of personnel with needed skills directly affects personnel readiness at the unit level. There have been some recent gains in skill areas where shortages had contributed to degraded readiness in the past. Table II.B.4 highlights these improvements in manning some of our most critical skills.

Table II.B.4

Personnel in Selected Critical Skills
(To nearest 100)

	FY 1980	FY 1983 a/	Growth
Officer			
Nuclear officers, Navy	3,000	3,600	20.0%
Pilots			
Navy/Marine Corps	13,800	15,300	10.8%
Air Force	23,900	24,700	3.3%
Engineers	13,400	14,500	8.2%
Enlisted			
Combat Arms			
Army	156,200	160,900	3.0%
Marine Corps	39,700	42,000	5.8%
Electronics Equipment Repairmen	154,600	172,200	11.4%
Electrical/Mechanical Equipment Repairmen	348,500	373,300	7.1%
Nuclear power, Navy	20,600	23,500	14.1%

a/ Data are as of 30 September 1983

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

-- A 20% shortage of nuclear-trained officers, with a 26% shortage in the grades of lieutenant commander to captain, is our most serious problem. The shortfall is being reduced by increasing retention, but correcting the higher-grade shortage will require extremely high retention levels.

-- Although requirements for pilots continue to grow, we have reduced the pilot shortage from about 5,000 in FY 1981 to about 1,200 in FY 1983. This favorable trend should continue.

-- The overall shortage of engineers should be nearly eliminated by FY 1984, but we will continue to have difficulty obtaining and retaining enough personnel in certain specialties, like electronic engineering.

In addition to improved manning of critical enlisted skills, we are maintaining high-quality personnel in these skills. Four factors are responsible for the growth and quality we have achieved: the positive accession and retention trends previously cited; the effect of enlistment bonuses on the quality of recruits entering training; more effective training in areas of greatest need; and lower rates of attrition during the first 12 months of service (from 15.0% in FY 1981 to 13.5% in FY 1983). Our lower 12-month attrition rate has been achieved in conjunction with a slightly higher rate of three-month attrition losses (9.7% in FY 1983 vs 8.8% in FY 1981), which reflects early identification and separation of people who fail to meet performance standards.

Training imparts skills, and one of our foremost objectives is to continue the progress the Services have made toward more effective training for individuals and military units.

Individual Training. The FY 1985 budget request continues incremental improvements to individual training begun in prior years. For example, the Air Force is continuing a program of moderate increases in the length of training courses for maintenance personnel. The Navy is requesting selected increases in training resources to bring this kind of training to the required level of effectiveness.

Unit Training. We continue to place a high priority on developing team proficiency and cohesion of operational units. In pursuing this objective, we emphasize realistic training -- that is, under conditions as close to combat as technology, safety rules, space availability, and the prudent use of resources will allow. The combination of technology, innovative training concepts, and adequate space that characterizes the Army's National Training Center at Fort Irwin, California, is a prime example of this approach. We also are emphasizing the use of training devices and facilities required for realistic training with new weapon systems as they become operational -- for example, team firing ranges for Abrams (M-1) tanks and Bradley Fighting Vehicles.

(4) Stability

There are a number of ways in which increased stability resulting from lower personnel turnover contributes to improved readiness:

-- Individuals stay together longer in units, improving their teamwork and mutual confidence.

-- Team proficiency is increased, tactical competency is improved, the lessons learned in team training last longer, and operational efficiency and safety are enhanced.

-- Costs are avoided, since fewer Permanent Change of Station (PCS) moves are required to replace losses. In FY 1983, there were 47,800 fewer individual moves than in the previous year, which allowed a cost avoidance of about $103 million.

During FY 1980-83, the trend has clearly been toward greater stability. Measured annually, the stability of the enlisted military population has increased by 3.7%, with the following increases reflected according to Service:

Army	1.8%
Navy	4.6%
Marine Corps	2.7%
Air Force	5.5%

Among the factors contributing to greater stability are more completed enlistments, more reenlistments, and fewer accessions overall; management discipline; more personnel of higher quality, who are more likely to complete an enlistment and/or to reenlist; and greater job satisfaction among our service members.

(5) Other Related Factors

Other factors related to personnel readiness and the overall management of the force are quality of life, compensation, education incentives, and general/flag officer management.

(a) Quality of Life

Quality of life encompasses many individual programs that recognize the importance of the people who make up the armed forces and acknowledge 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.

Chart II.B.5
Quality of Life Programs

Medical Care	**Family Services**
Child Care	**Education Programs**
Legal Assistance	**Retail Store Activities**
Religious Programs	**Postal Services**
Assignment Policies	**Financial Counseling**
Housing	**Recreation Services**

We have given priority to improving the quality of life in overseas and remote areas, both for single Service personnel, and, where accompanied tours are authorized, for families. Twelve schools for dependent children in overseas areas will be built or remodeled during FY 1984. Twenty-one new child care facilities will be constructed, as will twenty-six physical fitness centers, fifteen family service centers, eight chapels, and six multipurpose recreational facilities. We plan to increase the number of family service centers on defense installations to 266 within the next year. 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.

Significant progress has also been made in the family advocacy area, where new initiatives have resulted in increased awareness, enhanced delivery of assistance to families in need, and improved measures aimed at the prevention of child and spouse abuse and neglect.

We recognize that service members are making career decisions based on their families' assessment of their quality of life. It

appears that a significant correlation exists between 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. DoD's efforts in the last three years, in concert with those of the Congress, clearly demonstrate our commitment to improving the quality of service life. Our ultimate goal must be to treat each member of the armed forces and his or her family with compassion, concern, and consideration.

(b) Compensation

The military compensation system plays a vital role in our manpower program. It is one of the major determinants of our ability to attract and retain the military manpower necessary to meet our national security objectives. The significant compensation improvements that have been made since FY 1981 have enabled us to compete with the civilian sector for required manpower.

The compensation program proposed for FY 1985 is consistent with our fundamental goal of providing military personnel a fair and equitable compensation system, one that recognizes the hardships and sacrifices intrinsic to military service and, at the same time, that enables us to meet our manpower objectives. We will be seeking a military pay raise, improvement in reimbursement for expenses associated with permanent change of station moves, and improvements in a number of special and incentive pays. Our approach to these special and incentive pays reflects recommendations of the Fifth Quadrennial Review of Military Compensation (QRMC).

One feature of the compensation program related to moving expenses is the Temporary Lodging Expense (TLE), first authorized in the Uniformed Services Pay Act of 1981. It will provide reimbursement for members and their dependents up to $110.00 per day for a maximum of four days for subsistence and lodging expenses actually incurred while occupying temporary quarters in the continental United States incident to a permanent change of station move. Thus far, the Congress has prohibited funding for TLE for military personnel, while TLE for civilians has been increased from 30 to 60 days. Since the FY 1984 Defense Authorization Act withdrew authorization to implement TLE for that year, the Services did not specifically identify funds for this program in their submission for the FY 1985 budget. Unless the Congress withdraws authorization for TLE for FY 1985, the Department desires to implement this vital reimbursement and will do so within the funds appropriated.

An area of the military compensation system that will receive particular attention during the coming year is the military retirement system. The Department of Defense, through the Fifth QRMC, is evaluating alternatives to the current military retirement system, looking for changes that reduce the cost to the taxpayer, while permitting the Services to achieve required levels of readiness. It is important to emphasize, however, that the current retirement system is a major force management tool that provides retention incentives for active-duty officer and enlisted members and thus shapes, to an extent, our entire force structure. The Fifth QRMC has approached retirement reform from this perspective, and has attempted to ensure that any recommended changes will take into account the effects on retention and readiness. We will consider the recommendations of the Fifth QRMC, including the submission of legislation, as appropriate.

(c) Education Incentives

Carefully designed education incentives are an effective means of attracting high-quality personnel to military service and retaining them. In that regard, we are concerned about the effects on retention of the upcoming expiration date of the Vietnam-era GI Bill. As the 1989 expiration date of the program draws near, a sizable number of members eligible for benefits may decide to leave the service in order to use them. Replacing these trained and experienced personnel would be expensive and time consuming. DoD supports extension of the expiration date.

(d) General and Flag Officer Strengths

We solicit the support of the Congress in the much needed and long overdue effort to establish a framework for the management of flag and general officers that will provide the necessary oversight, flexibility, and responsiveness required to administer changing flag and general officer requirements in support of national security objectives. Legislation to establish such a framework has been submitted for the consideration of the Congress.

b. Reserve Military Manpower

The Reserve Components -- the Army Reserve, Army National Guard, Naval Reserve, Marine Corps Reserve, Air Force Reserve, and Air National Guard -- are important elements of the Total Force. The Total Force policy, first articulated by Defense Secretary Laird in 1970, has been further supported and vigorously pursued by this Administration. The Total Force policy places increased reliance in times of crisis on the surge capability of Reserve Components to compensate for smaller active forces. As a result, we realize economies in total defense costs by maintaining significant portions of our total military capabilities in a reserve rather than an active-duty status. Integrating the Reserve Components and active forces into an effective Total Force is now closer to reality because the Reserves are being reequipped with first-line military equipment.

(1) Selected Reserve Manpower Strength

Table II.B.5 presents current and projected Selected Reserve manpower end strengths. The projected program reflects continued growth of Selected Reserve manpower, which will increase by 9.9% from FY 1983 to FY 1985.

Selected Reserve manning has improved considerably in recent years due in large measure to congressional support of the Department's initiatives, including full-time Guard and Reserve recruiters, bonus and educational assistance incentives, and full-time support increases. These initiatives, coupled with renewed nationwide public support of the armed forces, give us confidence that the manpower posture of the Guard and Reserve will continue to improve.

Table II.B.5

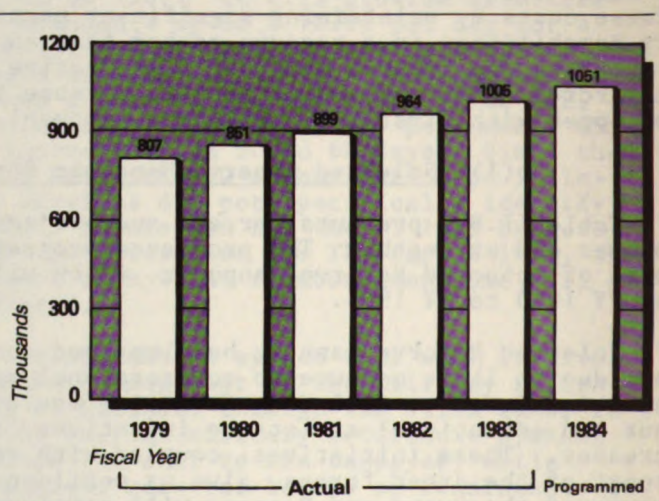
Selected Reserve Manpower
(End Strength in Thousands)

	Actual FY 1983	Programmed FY 1984	Programmed FY 1985
Army National Guard	417	433	447
Army Reserve	266	278	298
Naval Reserve	109	122	129
Marine Corps Reserve	43	44	46
Air National Guard	102	104	108
Air Force Reserve	67	70	75
DoD Total a/	1,005	1,051	1,104

a/ Numbers may not add to totals due to rounding.

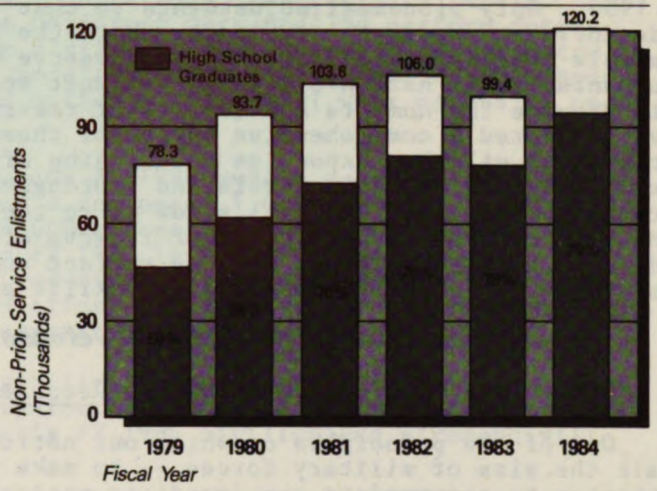
The Reserve Components' manpower picture has brightened both in terms of the quality of these forces and their size. Since 1979, Selected Reserve strength has increased each year, as shown in Chart II.B.6.

Chart II.B.6
Selected Reserve Manpower
(End Strength)



Supporting the numerical gains are overall improvements in the number of high school graduates entering the Reserve Components. Enlistment bonuses and educational assistance have been major factors in the improved quality of enlistments in recent years.

Chart II.B.7
Reserve Enlistments of High School Graduates



(2) Full-Time Support (FTS) Personnel

One of the most important factors influencing Reserve Component readiness is the number of FTS personnel available to provide day-to-day management, administration, training, and maintenance. By the end of the current fiscal year, the Air National Guard and the Air Force Reserve will have about 27% and 13%, respectively, of their unit personnel in active reserve or technician FTS positions. These levels are expected to increase somewhat with changing missions and conversion to more technologically complex aircraft. FY 1984 FTS levels for both the Army National Guard and Army Reserve will amount to approximately 10% and 6%, respectively, and are expected to increase to 16% and 11% of Selected Reserve strength by FY 1988 in order to bring combat readiness to required levels. In the Naval and Marine Corps Reserve, FY 1984 FTS will amount to approximately 11-12% of Selected Reserve strength, including personnel on active duty in the Marine Corps. The following strengths have been programmed in order to meet the FTS requirements for the Reserve Components through FY 1988.

Table II.B.6

Full-Time Support

	FY 1984 End Strength	Projected FY 1988 End Strength
Army National Guard	40,751	78,800
Army Reserve	16,607	34,000
Naval Reserve	13,846	18,000
Marine Corps Reserve	801	1,700
Air National Guard	27,761	30,200
Air Force Reserve	8,778	9,500
Total	108,544	172,200

(3) Reserve Officer Personnel Management Act (ROPMA)

A comprehensive system of law providing the basis for the appointment and career management of reserve officers was first enacted in 1954. Only piecemeal adjustments to that legislation have been made during the past thirty years. With the significant increase in the role and responsibilities of the Reserve Components as major participants in the nation's defense, we must ensure that this system will provide the numbers and quality of reserve officers we need. We have completed a comprehensive review of these laws and drafted legislation that will be responsive to changing officer requirements over a wide range of strength levels and contingencies. The Reserve Officer Personnel Management Act will allow us to conduct the long-range planning so essential to providing our reserve officers with attractive and meaningful careers and help us attract and retain officers of the proper age and grade who possess the skills and experience we need.

c. Civilians in the Department of Defense

(1) Overview of Civilian Requirements

One of the principles on which our nation was founded was to limit the size of military forces -- to make them no larger than necessary to accommodate our immediate national defense requirements and to provide the framework for the larger forces needed in emergencies. Although this nation's relationships and responsibilities have changed dramatically over the last 200 years, the principle of a relatively small military force remains unchanged.

One of the ways to ensure the success of this policy is through the use of civilians in the DoD. Civilian employees play the major role in logistic support, base operations, and research and development efforts. Civilians also provide a substantial portion of medical and personnel support and personnel training, and perform essential auxiliary activities, including intelligence and communications operations.

(2) Current End Strengths

In FY 1985, the DoD plans to employ 999,453 direct-hire civilian employees and 85,383 indirect-hire civilian employees for a total civilian work force of 1,084,836. Direct-hire civilians are the U.S. citizens and citizens of some foreign countries who work directly for the DoD. Indirect-hire civilians are foreign nationals employed by their own country in support of U.S. forces in accordance with status of forces agreements. The Department reimburses the host country for the pay of the indirect-hire personnel.

In the direct-hire work force, approximately 35% of our employees are Federal Wage System workers. They are the "blue collar" work force that supports depot-level maintenance, supply, and logistics operations. They also maintain and operate our installations. The rest of the direct-hire work force are the General Schedule and Manager employees who support the Department with engineering, scientific, professional, technical, clerical, and administrative efforts.

In order to achieve the Department's program objectives, it has been necessary to increase Defense civilian manpower levels over those of the immediate post-Vietnam era. The increases in civilian manpower over the past few years reflect the Department's efforts to balance human resource requirements with funded workloads.

During the decade of the 1970s, Defense civilian manpower had decreased dramatically because of employment ceilings, hiring freezes, and reduced expenditures. These lower manpower levels caused backlogs in depot maintenance, shipyard operations, and facility repair. The Department was forced to use uniformed personnel to perform duties that could have been done by civilians. These efforts contributed to reduced readiness and lower morale because all the necessary support work was not being done, and uniformed personnel were not being used in their military capacity.

Congressional action on our FY 1984 budget request reduced our civilian manpower levels from a requested 1,072,200 to a level of 1,056,200, a reduction of 16,000 spaces. This action "freezes" our civilian end strength at the FY 1983 levels. The increases we had requested were dedicated to reducing unacceptable backlogs in depot maintenance and to increased efforts in improvement of procurement, supply, and contract administration efforts.

We will use our 2% flexibility authority in FY 1984 to accommodate depot maintenance and spares management efforts that must be accomplished. The Department's FY 1984 civilian end strength will be approximately 1,078,000.

The Department's missions and workloads are increasing. We are being asked to do more, in more places, with more responsiveness than at any other time in our history. In order to perform our missions effectively, we need to maintain the high level of readiness that is supported by our civilian work force. Civilian manpower is a crucial ingredient in the Department's overall readiness condition.

(3) Management Initiatives

(a) Civilian Manpower at Industrially Funded Activities

Imposition of civilian manpower ceilings that are substantially lower than funded workloads does not save money. Low civilian personnel ceilings at industrially funded activities force the Services and Defense Agencies to use inefficient management practices such as removing temporary civilian employees from their rolls for the last day of the fiscal year. The Department has maintained that it would prefer to have civilian manpower levels tied to mission requirements and funded workloads. This is what is done in private industry.

The Congress, in the FY 1983 DoD Appropriations Act, included a general provision, Section 788, that effectively removed civilian manpower ceilings at DoD industrially funded activities. These activities, which include shipyards, air rework facilities, research laboratories, and other manufacturing and production activities, are operated on a profit and loss basis. The Congress has removed the civilian manpower ceilings at these locations as a test of the Department's ability to operate more effectively when not constrained by statutory ceilings. We will provide a report to the Congress on the results of this test.

(b) Commercial Activities

We are proud of our efforts to make better use of manpower and money through the implementation of OMB Circular A-76. This program allows the private sector to provide base-support services to the

military if it can do so at a lower cost. In the period FY 1979-83, we conducted over 900 bidding competitions for work performed by approximately 32,000 DoD employees. This competition has resulted in making approximately $140 million available to finance high priority initiatives. In FY 1984, we plan to subject an additional 10,000 civilian and military positions to competition.

(c) Efficiency Reviews

The Efficiency Review Program is designed to make more efficient those activities that are exempt from competition with the private sector. It uses a review process similar to that now used in the Commercial Activities Program, including the development of performance work statements that describe the work to be done and standards to be met. By putting this program into effect, we expect to eliminate unnecessary and inefficient work practices.

(d) Improving Productivity

We are aware of the continuing need for productivity improvement to realize the full potential of the DoD work force. Productivity has been increasing at a rate of 2.1% annually since 1972, a trend we expect to continue.

Productivity improvement efforts have focused on major productivity-enhancing investments that release resources for high-priority tasks. Under the Productivity Investment Fund (PIF), $137 million has been earmarked in FY 1985 for productivity-enhancing capital investments (PECI) expected to produce a lifetime return of approximately $22 for each $1 invested. PIF projects for FY 1981-83 totaled $404 million and should generate annual savings equivalent to 8,800 manpower spaces during the period FY 1982-88. We have already incorporated these projected savings into our requirements. In addition to the PIF, which is sponsored by OSD, each Military Service will be encouraged to establish a minimum funding of $50 million per year to support PECI in its planning for FY 1986-90.

We also anticipate productivity growth to result from other productivity improvement initiatives. These include use of computer-aided work measurement in developing labor standards and broader application of various work force motivation strategies such as quality circles and shared gains programs.

(e) Inter-Service Support

DoD components are also exploring ways to eliminate duplication of services through inter-Service support agreements. These agreements establish single managers to perform specific base operating support functions for all military installations in a particular geographic area.

3. Topics of Special Interest

a. Equal Opportunity

The DoD Human Goals Charter sets forth in very strong terms the abiding commitment of the civilian and military leadership of the DoD to the principle that the individual has intrinsic dignity and worth. In support of the Human Goals Charter, we stress that effective equal opportunity programs can significantly improve our cohesiveness, our readiness, and our total defense capability.

"In all that we do, we must show respect for the serviceman, servicewoman, and the civilian employee, recognizing their individual needs, aspirations, and capabilities."

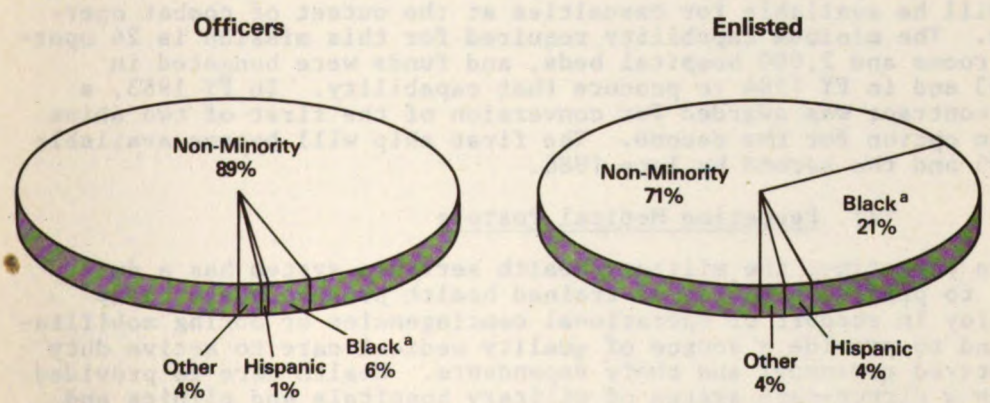
– DoD Human Goals Charter

CHART

In July 1981, we issued a policy statement prohibiting sexual harassment, describing such behavior as unacceptable conduct to be neither condoned nor tolerated. We directed the Services to issue similar policy statements and requested the Service Secretaries' personal involvement in making this policy work. We have instructed the Services Secretaries to increase the role of women in the Services; to ensure that women are not discriminated against in recruiting or career opportunities; and to break down aggressively any remaining barriers that prevent the fullest use of the capabilities of women in providing for our national defense.

Women will be provided full and equal opportunity with men to pursue appropriate careers in the Military Services for which they can qualify. This means that military women can and should be used in all roles except those explicitly prohibited by combat exclusion statutes and related policy.

Chart II.B.8
Minorities in the Armed Forces
(30 September 1983)



[a] Black Excludes Black Hispanics

The DoD has also demonstrated its commitment to effective equal opportunity programs by participating in the activities of a number of special organizations. We provided speakers, panelists, brochures, displays, booklets, statistics, and overall support to numerous veterans', minority, and women's groups. DoD publications entitled Black Americans in Defense of Our Nation, Hispanics in America's Defense, and Women in America's Defense were designed, printed, and widely circulated.

Minority enlisted percentages have remained fairly stable at about 30% since January 1981, while the percentage of minority officers has increased from 9.3% to 10.6%. The number of women on active duty also increased (7.9% to 8.9% for officers; 8.6% to 9.3% for enlisted). The Services now have two minority four-star general officers, one Black and one Hispanic. As of September 1983, eight women held general/flag rank.

b. Health and Medical Resources

(1) Wartime Medical Posture

(a) Personnel

The number and types of both active and reserve medical personnel fall far short of the total projected wartime requirements. We continue to pursue aggressive programs to increase the wartime availability of pretrained medical personnel for our medical treatment facilities in the continental United States and overseas.

We have taken a number of steps to improve the medical readiness of the reserve forces. The Physician Reservists in Medical Universities and Schools (PRIMUS) and Reserve Flexibility (REFLEX) Programs offer incentives to critically needed health-care specialists, such as surgeons, to participate in medical reserve training. We have also established programs for the early commissioning and the continuing health education of health-care professionals in the Reserve Components.

(b) Hospital Ship

A hospital-ship capability is an essential component of medical support for rapid deployment forces, because it alone can ensure that care will be available for casualties at the outset of combat operations. The minimum capability required for this mission is 24 operating rooms and 2,000 hospital beds, and funds were budgeted in FY 1983 and in FY 1984 to procure that capability. In FY 1983, a final contract was awarded for conversion of the first of two ships with an option for the second. The first ship will become available in 1985 and the second by late 1986.

(2) Peacetime Medical Posture

In peacetime, the military health services system has a dual role: to provide a source of trained health professionals ready to deploy in support of operational contingencies or during mobilization and to provide a source of quality medical care to active duty and retired personnel and their dependents. Health care is provided through a direct-care system of military hospitals and clinics and through the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), and is an integral component of military personnel compensation policy and quality of life.

Our goal is to make this system as cost-effective as possible, while still satisfying both mobilization and compensation requirements. Our progress toward this end is discussed in the Management chapter of this report and basically involves efforts to increase the productivity of the system.

4. Conclusion

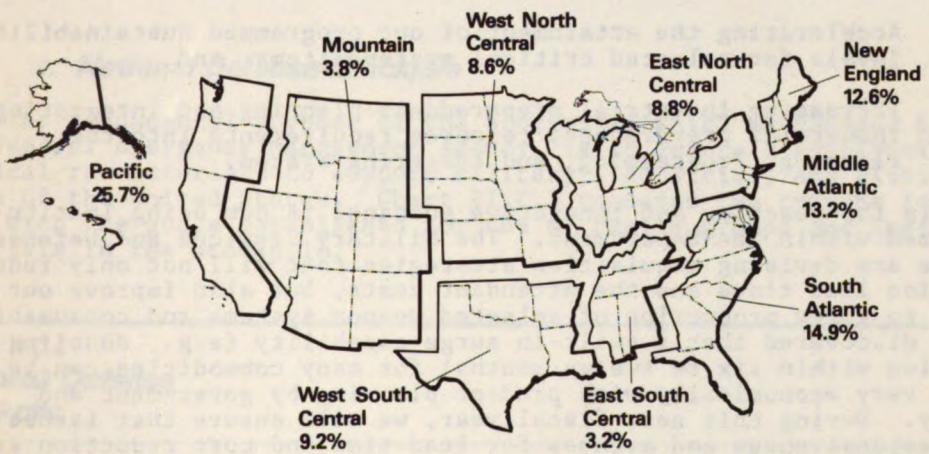
In the past three years, we have seen improvements in every dimension of personnel readiness: strength, experience, skill, and stability. We must have adequate manpower to operate, maintain, and support our expanding force structure at the highest levels of effectiveness and efficiency. Management emphasis by the Services and the Office of the Secretary of Defense has translated congressional support for our personnel programs into increased military readiness. We are committed to continued improvements in the management of our most valuable resource -- people!

C. THE INDUSTRIAL BASE

1. Introduction

The national industrial base encompasses the total industrial capacity to produce and maintain goods in the United States. The defense industrial base refers to the industrial capacity, in both the private and public sectors, available to produce and support materiel required for the armed forces. A very small percentage of the defense industrial base is government owned, since, in accordance with legislative mandate, we place maximum reliance on the private sector for the production of defense goods. There are between 25,000 and 30,000 private-sector prime contractors throughout the U.S. doing business with the Department of Defense (DoD), while the government owns only 72 defense production plants, of which 14 are in "lay-away" status for emergency use. Chart II.C.1 shows the geographic distribution of prime contracts.

Chart II.C.1
Defense Contracting
(Prime Contract Awards Over $10,000 - FY 1982 % by Region)



During 1980 and 1981, a number of studies and reports documented the deterioration of the industrial base. Findings included such symptoms as declining productivity growth, aging facilities, materials shortages, increasing foreign dependency, skilled labor shortages, inadequate defense budgets, and often burdensome government regulations. The situation had been marked by a dramatic decline in the number of contractors willing to do business with DoD. For example, from 1967 to 1981, the number of companies involved in aerospace production declined from 6,000 to 3,500, and 1,500 of these had entered the market since 1979.

While the U.S. industrial base was experiencing its greatest decline in history, with detrimental effects on both the civilian and defense sectors, the Soviet Union was rapidly expanding its industrial base, which is overwhelmingly dedicated to armaments production, often at the expense of the consumer sector.

To reverse the alarming decline of U.S. industry and to counteract a growing Soviet threat, we have taken a number of actions on our own, and have actively supported the President's Economic Recovery Program, which is now beginning to result in industrial expansion and modernization. We established the DoD Acquisition Improvement Program to streamline procedures and make defense contracting a more attractive business venture. We are assisting the educational community in identifying and solving present and potential skilled labor shortages. We have also sought to improve industrial planning by making available to industry data that project five-year defense requirements and show the impact of defense spending in 400 industrial sectors.

2. Current Programs

a. Industrial Base Guidance

We have clarified industrial base guidance objectives, placing emphasis on:

-- Producing and delivering our five-year peacetime procurement program efficiently, effectively, and as quickly as possible;

-- Providing a capacity to surge production of critical items and to respond to the requirements of mobilization;

-- Accelerating the attainment of our programmed sustainability levels for selected critical systems/items; and

-- Increasing industrial preparedness planning and integrating industrial preparedness resource requirements into the Planning, Programming, and Budgeting System.

This far-reaching and innovative guidance is now being institutionalized within the Department. The Military Services and Defense Agencies are devising acquisition strategies that will not only reduce production lead times and the attendant costs, but also improve our ability to surge production of selected weapon systems and consumables. We have discovered that a built-in surge capability (e.g., doubling production within six to twelve months) for many commodities can be created very economically with prudent planning by government and industry. During this next fiscal year, we will ensure that issues of surge responsiveness and avenues for lead-time and cost reduction are refined and aggressively pursued during the acquisition review process. We are also acquiring the industrial preparedness planning resources required to maintain the momentum we have achieved for industrial base capability development.

b. The Defense Production Act

The Defense Production Act of 1950 (Chart II.C.2) 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 ratings available under Title I of the Act in order to maintain production schedules and reduce lead times and costs. Using Title III authority, we awarded a contract to the Gila River Indian Community to establish a

demonstration guayule (natural rubber substitute) industry as a means of reducing our dependence on imported rubber.

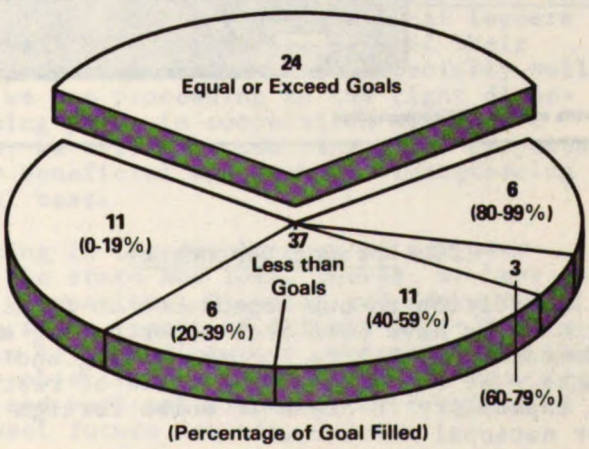
Chart II.C.2
Defense Production Act of 1950

Title I	Authorizes Allocation of Resources to Prevent Disruption of Production
Title III	Provides for Expansion of Industrial Capability to Meet National Security Needs
Title VII	Establishes Advisory Committees to Allocate Production During Wartime

c. National Defense Stockpile

The fundamental purpose of the stockpile, which is managed by the Federal Emergency Management Agency, is to ensure a supply of critical raw materials to support military, industrial, and civilian needs of the United States. Chart II.C.3 compares the current inventory with the goals established for the 61 family groups and individual materials in the stockpile.

Chart II.C.3
National Defense Stockpile

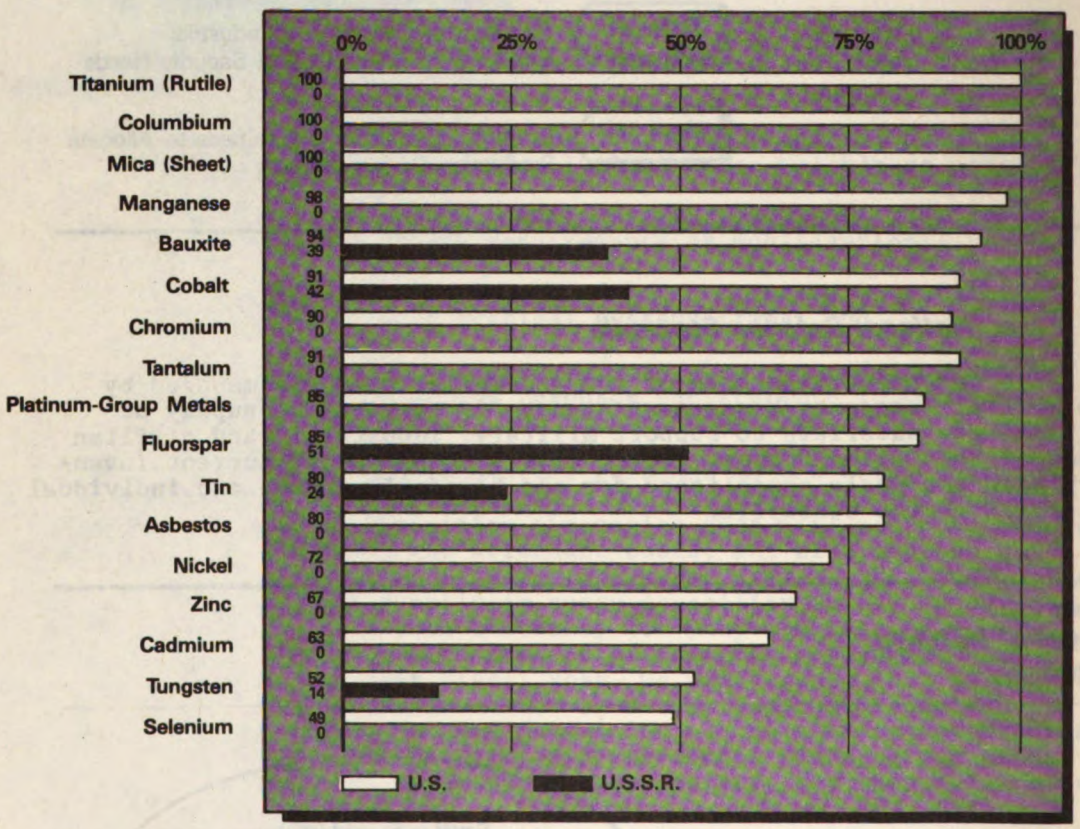


(1) Critical Raw Materials Status

Our requirements for raw materials are included in the President's National Materials and Minerals Program Plan and Report, which was sent to the Congress on April 5, 1982. This report established the first national minerals policy and outlined actions we are taking to reduce our vulnerability in this area, which is highlighted in Chart II.C.4.

Chart II.C.4

Imports of Selected Minerals and Metals [a]



[a] Net imports as % of 1982 consumption.

Source: U.S. Bureau of Mines.

(2) Foreign Dependence

In addition to our dependence on foreign sources for many raw materials, we have also been experiencing a significant decrease in our domestic capability for processing and manufacturing industrial products. We are exploring methods of restoring our domestic industrial capability in areas in which foreign dependence can be damaging to our national security.

d. Manufacturing Technology Program

The Manufacturing Technology Program is a broad-based program to improve the productivity and responsiveness of the defense industrial base by investing in advanced technologies for the production of DoD materiel. This program has been in existence for over 20 years, and we intend to continue to give it priority attention because of its demonstrated high-payoff record and its ability to improve industrial productivity on a broad national basis. One recent accomplishment is a manufacturing process for high-purity gallium arsenide materials used in integrated circuits for missile guidance control systems, which has resulted in savings of $4.8 million to date. Another is a process for inspecting aircraft fastener holes electronically that is ten times faster than manual methods and is expected to provide $20 million in savings on the C-5 wing modification alone.

e. Industrial Property Management

Government-owned industrial property is provided to contractors when it is necessary and in the government's best interest. Examples of property that may be provided to contractors include plants, equipment, assembly tooling, raw materials, and component parts. During FY 1983, we formed the Defense Government Property Council, composed of senior executives from the key staffs involved in property management. The Council will establish policies to ensure effective management of the government's $36 billion investment in industrial property.

f. Government-Industry Relations

An important part of our overall effort to revitalize the industrial base is the communication of potential defense requirements to the private sector. Some of our recent actions in this area are described below.

-- We have updated the Defense Economic Impact Modeling System (DEIMS) to reflect FY 1984 budget estimates. DEIMS projects defense requirements for 400 industrial sectors, 163 occupational categories, and 72 strategic materials. These data, which are available to industry as well as government analysts, can be used to avoid production bottlenecks and limit excessive cost increases caused by shortages of industrial capacity.

-- In May 1983, we published a manual, Defense Procurement and Economic Development, that assists state and local leaders who desire to pursue defense contracts as part of their economic development programs. It has been especially well received, so we feel we are proceeding in the right direction. During the coming year, in cooperation with state and local governments, we will be conducting pilot projects to test this mutually beneficial approach to strengthening our defense industrial base.

-- In addition to assisting in the development of manpower training programs at the state and local levels, we have developed the Regional Occupational Planning and Educational System, which considers the impact of defense expenditures on manpower demands in key manufacturing regions across the country. Our primary objective in this area is to encourage and support national and regional planning for training of skilled manpower to meet future demands.

-- We are forming a government/industry Working Group on the Production of Critical Electronic Components under our Advisory Group for Electronic Devices (AGED). The working group will investigate problems associated with the critical electronic component production base, with emphasis on the advanced development and production phases of the procurement cycle. Initial efforts will be directed toward analyzing problems encountered in transitioning components from R&D to production phases, examining dependence on foreign suppliers, and analyzing component development and production skills needed in the industry. To date, AGED has been concerned with all aspects of electronic component R&D. Establishment of the new working group on production will help close the gap between R&D and production.

g. Industrial Productivity

Improving productivity of defense contractors is a matter of great concern to the Department of Defense. The average annual rate of growth in U.S. manufacturing productivity has declined from 4.0% for the period 1948-73 to 1.2% for 1973-81, a trend that compares unfavorably to that of our foreign competitors.

Higher productivity can improve our defense posture through reducing the unit cost of equipment we procure. Accordingly, the Department of Defense has developed a number of initiatives and is reemphasizing activities already under way that have a positive impact on productivity. One initiative is the test of the Industrial Modernization Incentives Program (IMIP). The objective of the IMIP test is to develop and refine contract incentives, such as contractor investment protection and shared-savings rewards, that encourage defense contractors to use their own funds for productivity-enhancing capital investments. Test data and information on the effects of various incentives will provide a solid basis for future policy development. Although the test is still at an early stage, efforts ranging from discussions to business-agreement implementation are under way with more than 30 contractors.

We are also strengthening our policies to eliminate costly and unnecessary requirements in our weapon system contracts. For example, in development contracts we are placing greater emphasis on specific results required, rather than detailed "how to" procedures for achieving those results. We are also working to exclude the application of premature and untailored specifications, standards, and data items from our requests for proposals and contracts.

3. Conclusion

During the past year, we have begun to see positive results of the policies established and actions taken to revitalize the defense industrial base. The development and maintenance of a strong and viable industrial base must be a cooperative effort by government and industry. Now that the economy has begun its rebound, the DoD must sustain the various programs put into place to keep our acquisitions on schedule.

We are encouraged by the spirit of cooperation that has been evident in resolving national industrial responsiveness issues and the growing public understanding of the need for continuing these initiatives, which are making such a vital contribution to a strong America.

D. MANAGEMENT

1. Introduction

Early in 1981, we established an overall goal -- to strengthen the U.S. defense posture in the most efficient manner possible. Because of the decade-long lag in defense spending, the gap between U.S. and Soviet military investment had widened dangerously. Recognizing this, the public and the Congress supported President Reagan's proposed defense spending increases. At the same time, both the President and the Congress made it clear that, while supporting these increases for the Department of Defense, they expected us to devise better ways of managing the considerable financial, manpower, and industrial resources allocated to defense-related activities.

In approaching this task, we have stressed a management philosophy that strikes a proper balance between centralized policy formulation and decentralized program execution. While prescribing a centralized policy approach, we believe that there must be participation by those who will be responsible for executing those policies. Consequently, we have strengthened the role of the Service Secretaries and made them members of the Defense Resources Board (DRB) -- a body of senior officials who advise the Secretary of Defense on major resource decisions.

While we believe that execution must be decentralized, we likewise believe it must be monitored by the policymakers. For this reason, we have instituted a series of "Secretarial Performance Reviews." Each week, on a rotating basis, the Service Secretaries must report on one or two major programs. During these reviews, the focus is on major issues such as schedule, budget, and performance.

To attain the goal of improved management, the Department has embarked on other major initiatives, and we believe significant progress has been made.

-- We have streamlined the defense planning, programming, and budgeting system by emphasizing planning, reducing paperwork, clarifying the roles of the central staff and the Military Services, and enhancing the role of the DRB.

-- We have improved the weapon system acquisition process by reducing costs and acquisition time, providing for greater stability in long-term procurements, encouraging competition, and strengthening the defense industrial base.

-- Furthermore, we are focusing high-level attention on a number of other major efforts to reduce costs; to eliminate waste, fraud, and abuse; and to improve the way the Pentagon does business in general.

Some of our more significant reform measures are highlighted in the following discussion.

2. Major Management Improvements

a. Planning, Programming, and Budgeting System (PPBS)

The PPBS is the primary decisionmaking system in the Department of Defense. It is through the PPBS process that the Department develops the five-year plan that culminates in the presentation of the President's defense budget to the Congress.

In the planning phase, the role and purpose of the United States in the world environment are analyzed. The product of the planning phase -- the Defense Guidance -- provides goals, objectives, and guidelines to the Military Services and Defense Agencies.

The programming phase applies fiscal resources to the goals and objectives within funding constraints specified in the Defense Guidance. These resource applications are submitted by the Secretaries of the Military Departments and the heads of Defense Agencies. The defense staff, under the guidance and direction of the Defense Resources Board, reviews the submissions in the context of policies and strategies outlined in the Defense Guidance and in terms of feasibility and cost-effectiveness. The final products of the programming phase are the Program Decision Memoranda, which serve as guidance for the ensuing preparation of the budgets of the Military Services and Defense Agencies.

The budgeting phase concentrates on pricing, scheduling, and coordination of major issues. The purpose of this phase is not so much to estimate what something will cost as it is to specify what managers must accomplish with a given amount of money under certain conditions. This phase produces the documentation necessary for a defense budget submission to the Congress.

Upon arriving at the Pentagon in 1981, we found that the PPBS process had become congested with paperwork and needed to be streamlined to allow senior defense management to concentrate on such major problems as cost control.

As a result of our efforts, the planning process has been invigorated by the establishment of a carefully structured and participatory planning process. The evolution and maturation of the planning phase is a major milestone in the history of the PPBS. Planning is, for the first time, an equal partner with programming and budgeting.

We have reduced the documentation requirements for this phase by 50%. Information provided to top managers is now structured in a way that provides focus on the agreement of major programs with defense strategy and goals, rather than on micromanagement of detail that can mask the larger issues.

We have instituted the practice of having the Commanders-in-Chief of the Unified and Specified Commands consult with the DRB, offering their assessments of the threat and regional defense situations. This provides a unique and high-level military insight into the current situation and options for the uncertain future. The Chairman of the Joint Chiefs of Staff provides this kind of advice on a regular basis.

b. Acquisition Management Improvements

While strengthening the PPBS process, we also wanted to make certain that major weapon systems were acquired in an efficient and economic manner. In April 1981, we launched the Acquisition Improvement Program (AIP) -- a concentrated, high-level effort to solve long-standing acquisition problems within the Department. This program offered 32 initiatives to shorten the acquisition process, improve readiness, increase cost savings, and strengthen the defense industrial base. In June 1983, the Deputy Secretary of Defense reviewed the status of the program and determined that 13 of the original 32 initiatives had been incorporated within the acquisition process.

Implementation of these initiatives has served to streamline the acquisition process by reducing the number of required decision milestones, the amount of documentation, and the number of programs reviewed by high-level management.

While progress has been made on another 9 of the 32 initiatives, further action is still required to ensure proper implementation. Among these are a variety of programs and activities that provide incentives to improve productivity and to reward cost-saving performance. Efforts are also under way to reduce the administrative burden represented by unnecessary directives, regulations, and non-cost-effective contract requirements. Other initiatives, intended to simplify the acquisition process through the revision of statutory thresholds and through increased funding flexibility, cannot be implemented without congressional action, which we will continue to seek.

Twelve of the original thirty-two initiatives have been consolidated into several areas for management emphasis. These areas were selected because we believe they offer both the greatest management challenge and the highest potential payoff.

(1) Program Stability

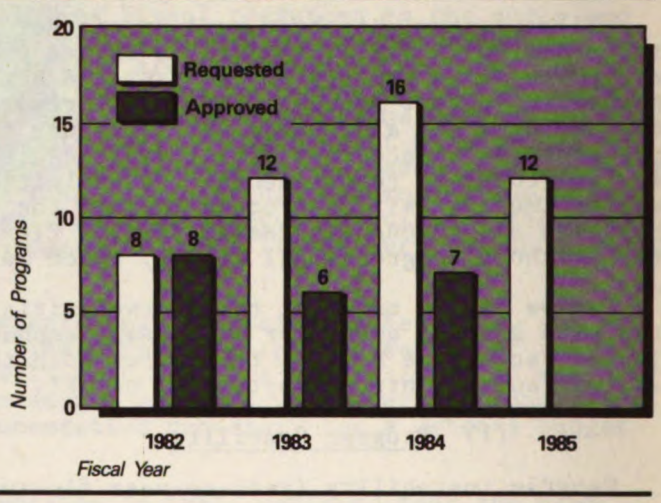
Program instability (year-to-year fluctuations in planned orders) is a major contributor to increases in weapon systems costs and presents the greatest challenge to acquisition reform. Fluctuations in the Department's top-line budget authority have an adverse effect on stability, particularly when programs are deferred and stretched out to absorb reductions. Even minor reductions in the number of units procured in a given year have far-reaching effects on administrative and contractual arrangements and can overturn favorable terms and conditions. A number of our original initiatives were intended to minimize program instability and overcome the problem of affordability. We have made some progress through multiyear procurement, economic production rates, realistic budgeting, better review of new programs, and the reduction and cancellation of lower-priority programs.

(a) Multiyear Procurement

Multiyear procurement has been one of the most important as well as most successful means of achieving greater program stability through the use of more economical lot buys. The expanded use of multiyear procurement was approved in FY 1982, and cost avoidance savings are estimated to be about $4.4 billion. However, recent congressional actions have reduced the effectiveness of this initiative and threaten to impede future progress. Chart II.D.1 shows congressional approval of multiyear procurement candidate programs over a three-year period.

Notwithstanding this adverse trend in program approvals, we are resolved to maintain our commitment to achieve savings and stability through our multiyear procurement initiatives. Twelve new multiyear candidates have been submitted in the FY 1985 budget. A strong effort will be made to win congressional approval.

Chart II.D.1
Multiyear Procurement



(b) Economic Production Rates

Improved program stability can also be achieved by maintaining economic, stable production rates for mature systems for which the design is fixed and production facilities and overhead expenses are well established. Initial progress has been good; we estimate that the 18 programs approved for more-economic production rates in the FY 1983 and FY 1984 budgets will save about $2.6 billion during FY 1982-89. The FY 1985 budget includes more-economic production rates for a number of programs.

This acquisition improvement initiative has been augmented by adding increased emphasis on Producibility Engineering and Planning (PEP). PEP promotes the attainment of a producible design as a product of engineering development and is instrumental in reaching and maintaining economic production rates for individual programs.

(c) Realistic Budgeting

Cost realism is also an essential ingredient of improved program stability. Overly optimistic cost estimates and unrealistically low projections of inflation contributed heavily in the past to unanticipated cost growth. Beginning in FY 1982, an important adjustment was made so that budgeting could be based upon projected inflation rates that more accurately reflect those actually experienced by the defense sector of the economy.

We are also making greater use of independent cost estimates to achieve more accurate cost projections. Independent reviews of cost estimates for 10 programs in 1982 were completed during the budget preparation process. As a result of cost reviews conducted by the Cost Analysis Improvement Group (CAIG), we incorporated more than

$2 billion into the FY 1984 budget to reflect a more realistic view of probable costs for five major weapon systems. During 1983, we expanded independent reviews to cover 25 programs.

(d) Improved Program Review

Increased program stability depends, in the long run, upon improved affordability. To the extent that we can focus our limited resources on high-priority items, we can attain greater program stability. During the past year, the DRB conducted a comprehensive review of all major acquisition initiatives, including new programs proposed by the Military Services and the Office of the Secretary of Defense (OSD). Higher-priority programs (e.g., Army's laser weapons, Navy's nuclear attack submarine, and Air Force's advanced air-to-surface missile) were approved and included in the FY 1985 budget. At the same time, the Services and the DRB have canceled or reduced many lower-priority programs.

(2) Improved Support and Readiness

The Department's effort to reduce costs and acquisition time must be balanced by the need to ensure adequate readiness and supportability once a system has been deployed. We are placing greater emphasis on programs now in development to ensure that they meet future readiness and support goals. Our goal is to establish readiness objectives at the beginning of the system acquisition process. During the past year, changes to improve readiness and support were ordered during reviews of eight major programs.

(3) Encouraging Competition

The advantages of competition are well known. Competition can keep costs down, improve quality, speed innovation, and strengthen the defense industrial base. In view of these benefits, we have launched a concerted effort throughout the Department aimed at strengthening competition.

The Services and the Defense Logistics Agency (DLA) have appointed "advocates for competition" who are charged with reviewing contracts in areas where competition has been lacking in order to remove any barriers to open competition. Various procedures are being used by these individuals to enable them to achieve our competition goals. These procedures include reviewing proposed sole-source purchases at selected dollar thresholds, establishing procedures to make it easier for commercial suppliers to bid on defense contracts, and tying competition initiatives to merit pay performance standards.

We are emphasizing early planning to introduce competition in the development and production of major defense systems and we have recently achieved considerable success by means of various second-sourcing techniques for some missile programs. Planning for second-source application is under way for several other programs as well.

In addition, the Assistant Secretary of Defense (Comptroller) has undertaken a wide range of actions aimed at strengthening competition in computer procurement. He has emphasized the advantages of competition in various computer policies, and is monitoring computer acquisition data to see that progress is being achieved in increasing competition.

The Department's actions on acquisition reform reflect our commitment to substantial improvements in this area. At the same time, we recognize that much remains to be done, and we fully intend to press for even greater gains. We are emphasizing the development of appropriate measurement techniques and information management in order to provide better support for program and budgetary decisions that involve the principles of the Acquisition Improvement Program. We are exploring ways to incorporate AIP initiatives into the acquisition process for major systems and the planning, programming, and budgeting system. Finally, we are making special efforts to inform the Congress of the importance of the AIP and to seek legislative changes where necessary to ensure full implementation.

c. Spare Parts Procurement and Management Improvements

It is not sufficient to concentrate only on major weapon systems. Over the life cycle of these systems, we consume billions of dollars annually in spare parts. For example, there are about 30,000 separate spare parts for aircraft engines alone. Spare parts constitute an important aspect of our defense program.

In recent months, it has been widely reported that the Department has paid exorbitant prices for spare parts. While these reported cases do not represent the norm, there is little doubt that some serious problems exist in spare parts procurement and management. However, it is noteworthy that our own management procedures have uncovered this problem and are being applied to correcting it.

To end price abuses in our spare parts procurements, we recently established a ten-point program, highlighted in Chart II.D.2.

Chart II.D.2
Program to End Spare Parts Price Abuses

1. Incentives for Employees to Find Cost Savings
2. Stern Disciplinary Action Against Employees Who Allow Abuses to Continue
3. Senior Management to Alert Contractors to the Seriousness of the Problem and Our Strong Resolve to Control Prices
4. Services to Make the Competition Advocate Program Work
5. Services to Refuse to Pay Unjustified Price Increases
6. Services to Seek Refunds Where Overcharges Have Occurred
7. Services to Cease Doing Business with Contractors Who Refuse to Meet Contracting Standards
8. Reforms in Basic Contract Procedures
9. Additional Audits and Investigations
10. Secretary's Personal Resolve to Straighten Up the Spare Parts Situation.

We recognize, however, that spare parts procurement pricing is just one facet of the problem. While emphasizing spare parts procurement procedures and costs, we must also pay attention to how they are used and controlled once they enter our inventories. While continuing action on the ten-point program, we are also requiring mandatory application of the DoD Parts Control Program. This program promotes use of military-preferred, standard-piece parts during engineering design, development, production, or modification of equipment and major weapon systems. The program fosters standardization, which leads to greater demand for standard parts, reduction in the variety of parts in inventories, and competition through multiple sourcing.

In addition, we are expanding the training administered to personnel engaged in the procurement of spare parts, and we have accelerated our plans to acquire computer software to assist parts control personnel. We are also working to identify disparities in spare parts prices within and among various procuring activities, and are reviewing existing contracts to address any and all opportunities for improved prices.

d. Efforts to Eliminate Waste and to Prevent and Detect Fraud and Abuse

Chart II.D.3

Activities to Curb Waste, Fraud, and Abuse (FY 1983)

Audits of Internal Management of Defense Operations and Programs
18,467 Reports Potential Savings: $1.6 Billion

Investigative Cases
16,357 Cases Closed
8,023 Cases Referred for Prosecution or Administrative Action
657 Convictions
Fines, Penalties, Restitutions, and Recoveries Collected from Referrals to:
Justice Department: $5.2 Million
Military Departments: $9.6 Million

DCAA Audits
57,782 Reports
$28.6 Billion in Contract Costs Questioned — $9.1 Billion Sustained[a]

Army Corps of Engineers' Contract Audits
487 Reports
$85.8 Million in Contract Costs Questioned — $34.4 Million Sustained[a]

DoD Inspection Organizations
11,831 Reports

Follow-Up Actions Completed
60,055 Audit Recommendations Estimated Savings: $1.4 Billion

Defense Hotline
3,747 Calls and Letters Received

[a] Questioned costs sustained represent those costs questioned from current and prior periods; there is a lag between the time costs are questioned and contracts are negotiated.

We have stepped up our efforts against waste, fraud, and abuse in the Department. The additions to our audit, inspection, and investigative staffs have enabled us to uncover more problems, while our audit follow-up procedures have provided the means to track measures taken to ensure that savings and management improvements are promptly and fully achieved.

The FY 1983 Defense Authorization Act established an Inspector General (IG) for the Department of Defense and transferred the Defense Audit Service, the Defense Criminal Investigative Service, and the Defense Logistics Agency's Inspector General to the DoD IG office. In cooperation and coordination with the Military Departments, the DoD IG has undertaken a full-scale effort to search out waste, fraud, and abuse in DoD (see Chart II.D.3). Detailed information on this effort is presented in his semiannual report to the Congress.

e. Defense Contract Audit Agency Management Initiatives

We have directed the Defense Contract Audit Agency (DCAA) to work with the contract administration offices of the Military Departments and Defense Agencies to strengthen spare parts pricing procedures and to assist in the negotiation of major spare parts purchases. Over and above this specific focus, DCAA will expand its role as an independent audit advisor on procurement in general. Specifically, under the direction of the Assistant Secretary of Defense (Comptroller), DCAA has begun actions to:

-- Investigate areas within the Defense Acquisition Regulations cost principles and Cost Accounting Standards where loopholes, voids, or ambiguity could result in excessive costs to the Department;

-- Employ a series of new audit and reporting techniques for analyzing contractors' total compensation packages (salary/wages plus fringe benefits) and provide contracting officers with a more meaningful range of advisory audit recommendations on projected inflation for use in contract negotiations;

-- Strengthen DCAA's responsibilities for the audit of subcontractors. Because subcontracts represent a substantial portion of costs associated with major weapon systems procurement, we must ensure that fair and reasonable subcontract prices are established as part of prime contract negotiations;

-- Identify and report possible instances of fraud in defective pricing more effectively. Instances of defective pricing will be reviewed against specific criteria to determine if patterns or trends indicate that investigative effort would be appropriate;

-- Develop new audit approaches in such areas as equipment use and maintenance, travel costs, and contractor-originated design changes, to ensure that contractor operations are as cost-efficient as possible;

-- Establish an automated information network designed to keep auditors and audit management apprised of particularly effective audit techniques and procedures. This network will also serve to increase awareness of suspected contractor irregularities; and

-- Undertake a comprehensive review of its internal administrative and management processes, procedures, and systems to improve the efficiency and effectiveness of its operations.

3. Organizational Changes for Improved Management

a. Department of Defense Council on Integrity and Management Improvement

The Council on Integrity and Management Improvement has been established to focus high-level attention on management improvement actions. The Council has established a Department-wide Management Improvement Program, involving the Military Services as well as the Defense Agencies. Under this program, considerable dollar savings and increased efficiency continue to be realized in such areas as inventory control, health care delivery systems, and surplus property disposal.

b. Additional Assistant Secretary Authorizations

In 1981, we requested legislation to restore the five assistant secretary positions eliminated by the previous Administration in 1977. The FY 1984 Authorization Bill contained provisions for six new assistant secretary positions, four of which were contained in the Department's original request. These four positions will be used as an Assistant Secretary of Defense (Development and Support); an Assistant Secretary of Defense (Research and Technology); an Assistant Secretary of the Army (Financial Management); and an Assistant Secretary of the Navy (Financial Management).

In addition to these four positions, the FY 1984 Authorization Bill establishes two positions that were included as the result of congressional initiatives and a desire on the part of the sponsors to give higher visibility to certain functions in the Department. The titles and responsibility of the positions are specifically designated in the bill. They are an Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) and an Assistant Secretary of Defense (Reserve Affairs).

c. Office of Operational Test and Evaluation

The FY 1984 Authorization Bill created an Office of Operational Test and Evaluation. Among its managerial activities, this office will prescribe policies and procedures for conducting operational testing and evaluation of weapon systems. We are currently implementing the provisions of the legislation.

d. Directorate for Management Improvement

We have established a Directorate for Management Improvement under the Assistant Secretary of Defense (Comptroller) to promote management innovations and improvements throughout the Department. This office will also provide a capability for timely and well-organized responses to external management improvement initiatives, such as Reform '88 and recommendations stemming from the President's Private Sector Survey on Cost Control.

e. Foreign Military Sales (FMS)

Foreign Military Sales (FMS) constitute a self-supporting, multi-billion dollar program. Under this program, the United States sells

defense articles or services to foreign governments to assist them in establishing and maintaining an adequate self-defense posture.

The tremendous growth in FMS over the last several years created significant management problems for the Department. These problems became the focus of our concern, as well as that of the Congress, and prompted us to create a Foreign Military Sales Financial Management Improvement Program (FFMIP) Office. Under the direction of the Assistant Secretary of Defense (Comptroller), the FFMIP office coordinates the FMS financial management improvement activities of the Military Departments and performs comprehensive planning and program control aimed at developing adequate systems for the overall management of the FMS program by the Office of the Secretary of Defense.

4. Other Management Improvements

a. President's Private Sector Survey on Cost Control

When the President's Private Sector Survey on Cost Control (the Grace Commission) was established by Executive Order in June 1982, the Department viewed this as an opportunity to consider additional management reforms that might achieve savings in defense.

The Grace Commission's four reports on the Defense Department were released late last fall. Although the Executive Branch has not completed its formal review process, DoD has completed an initial review of the issues and recommendations and has several summary reactions.

First, we agree with about 70% of the Grace Commission's recommendations. We are especially encouraged by the Commission's support of management initiatives we have already instituted, such as multiyear procurement, economic production rates, enhanced competition, and other improvements to the acquisition process.

Second, our analysis indicates that congressional action is required on over 80% of the Grace Commission's claimed savings. A good example of this type of recommendation is greater use of multiyear procurement. In all cases where recommendations are prudent and where congressional action is required, we plan to send to the Congress recommendations for specific legislation.

Finally, we do not believe that the three-year savings figure of $93 billion that was derived by the Grace Commission is a realistic budget projection for cost savings. This figure is not realistic because of the lack of budget precision in the savings projections; because these savings estimates include an unrealistic 10% inflation projection; because many of these savings estimates are based on unrealistic assumptions; and because there is double counting on duplicative recommendations. Also, many of these recommendations cannot be implemented immediately and could not be in effect until the late 1980s or early 1990s. In spite of these limitations, we expect that the ultimate savings and cost avoidance achieved by the Department in implementing the Grace Commission's recommendations will be substantial.

b. Reform '88

Another major effort that we support is Reform '88, a long-range presidential initiative to improve the administrative management of the federal government. Reform '88 is receiving high-level attention

throughout the Department as a means of fostering efficient and effective management and eliminating fraud and abuse. Its impact is already being felt through such activities as detection of weakness in control practices and their correction, improved handling of revenue and disbursements, and collection of debts owed to the government. For example, during the past year, we have accelerated our efforts to collect debts, and have exceeded our FY 1983 debt collection target of $85 million.

As part of the overall Reform '88 initiatives, we are conducting management reviews in conjunction with the budget process. The primary focus of these reviews has been to improve the effectiveness and efficiency of administrative operations and the systems supporting these operations.

c. Military Health Care System

The Military Health Care System has two major parts: the direct care system, which comprises the health resources of the three Services (hospitals, clinics, and physicians and other health professionals), and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). The direct care system's primary mission is to achieve a healthy fighting force supported by a medical component prepared for combat. The CHAMPUS mission is to manage a cost-sharing civilian health-benefit program for uniformed services' beneficiaries when direct care from the military health care system is not available. The nationwide rise in health care costs continues to be a major concern. The system must provide a quality health benefit in a cost-effective manner.

Many initiatives have been developed in an effort to reduce health care expenditures without reducing quality and accessibility. These include emphasis on coordinating benefits with other health coverage and expanded fraud and abuse detection activities (e.g., use of the Defense Enrollment Eligibility Reporting System to screen out ineligible individuals, and stricter requirements for use of the military direct care system and CHAMPUS). We are also automating our Uniform Chart of Accounts data collection systems at over 200 facilities worldwide. Our Uniform Staffing Methodologies system is providing data from facilities for better determination of manpower requirements. We have developed the Resource Analysis and Planning System as a multipurpose, decision support system. The Tri-Service Medical Information System program office has now installed nearly 70 subsystems serving over 200 sites. As the integration of these systems comes to fruition, we are able to allocate resources more effectively, operate our health care system more efficiently, and deter fraud and abuse within that system.

5. Conclusion

The Department's management improvement accomplishments and reforms in the way we do business represent good news. However, it is good news of progress, not of completion. We fully intend to continue to press for further internal management improvements and to exert every possible effort to achieve additional economies and efficiencies. We will need the full support of the Congress in this effort.

Part III
Defense Programs

A. LAND FORCES

1. Introduction

a. Force Rationale

U.S. land forces comprise the active and reserve forces of the Army and Marine Corps. These forces contribute to deterrence by exhibiting our capability to conduct ground combat operations, should the peace be broken. In support of their deterrent role, we station forces in Europe and the western Pacific, deploy amphibious forces at sea, and maintain a reservoir of rapidly deployable forces -- both active and reserve -- in the United States.

The various types of contingencies for which we must prepare demand forces of varying sizes and capabilities. For 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 prolonged periods.

Designing ground forces to perform this multitude of tasks presents a dilemma: those forces most capable of opposing Warsaw Pact forces -- heavier, 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 at various locations abroad.

Substantial portions of our light forces -- including the Army's 82nd Airborne Division, 101st Airborne Division (Air Assault), and ranger battalions, and the Marine Corps' three active divisions (with their supporting aviation and combat service support units) -- are organized and trained primarily for rapid-response and forcible-entry operations worldwide. Once deployed, these forces are dependent on timely reinforcement and logistics support to conduct sustained combat operations. 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

-- Equipped with modern weapons.

The last point is particularly important. Land forces were hit hard by the spending cutbacks of the 1970s. This resulted in inadequate procurement of modern weapons and equipment, and led to severe equipment shortfalls in many combat units. Our problems were compounded by the massive buildup and modernization of Soviet forces

-- particularly armored and mechanized divisions -- over that same decade. Our program aims at offsetting the trends of the 1970s and restoring the deterrent strength of our land forces.

c. Army and Marine Corps Operations in 1983

In order for our land forces to deter war, they must be capable -- and be seen as being capable -- of fighting and winning. During 1983, the Army and Marine Corps demonstrated our ability and resolve to defend our allies and protect our national interests. Exercise Reforger '83 demonstrated our ability to reinforce NATO with ground and air units. An armored division, an armored cavalry regiment, and a ranger battalion were among the major Army units participating in the exercise. Joining them were 23 additional units from the active force and 39 Reserve Component units.

Operations in the Caribbean Basin and Central America served as a clear demonstration of our commitment to protecting the security of our friends in that region. Approximately 6,000 U.S. soldiers and marines were committed to the rescue mission in Grenada last October, and some 2,500 troops participated in exercise Big Pine II -- the largest U.S./Honduran combined exercise to be conducted since the Latin American exercise program began in 1965.

With their mission "to land and secure positions near Beirut International Airport, to maintain a presence in support of the Lebanese armed forces, and to provide a stabilizing influence," our Marine forces are once again demonstrating this nation's ability to react quickly and effectively to international crises. As part of a 5,200-member multinational peacekeeping force that includes Italian, French, and British troops, the roughly 1,200 U.S. Marines deployed in Lebanon conduct motorized and foot patrols, provide training to the Lebanese armed forces, and participate in humanitarian programs that assist the civilian population.

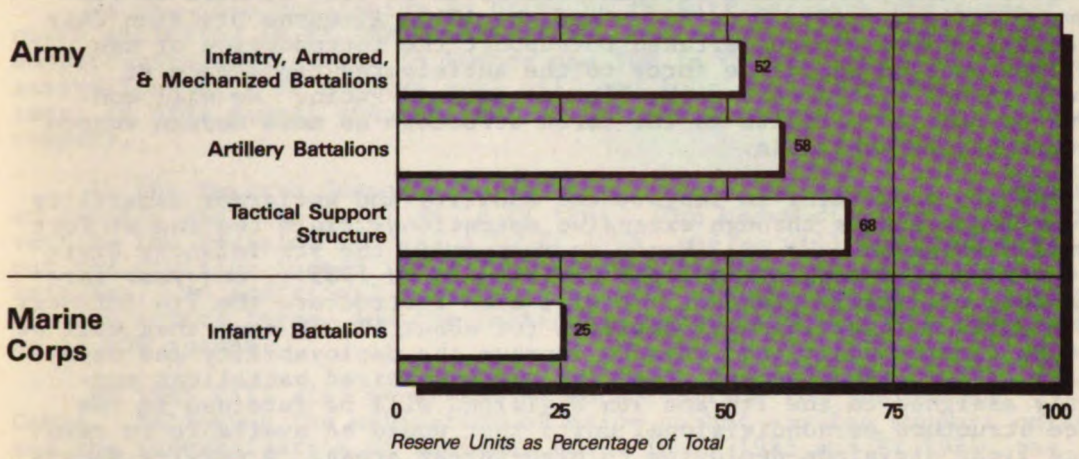
d. Force Composition

In FY 1985, our planned land force structure will consist of 30 divisions. Twenty of those divisions (17 Army and three Marine) will come from the active force; the remaining ten divisions (nine Army and one Marine) will be supplied by the Reserve Components. 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 combat divisions rely on reserve forces to achieve their full combat potential. Of the 17 active Army divisions, four 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 complement. In this way, a total of 19 Reserve Component maneuver battalions will be used to round out the active divisions. In addition, the Reserve Components provide a large number of service support units for the active force. Many of these reserve units are scheduled to deploy within 10 days of mobilization.

But our use of Reserve Components extends beyond "roundout" and rapidly deployable support units. Chart III.A.1 shows just how much.

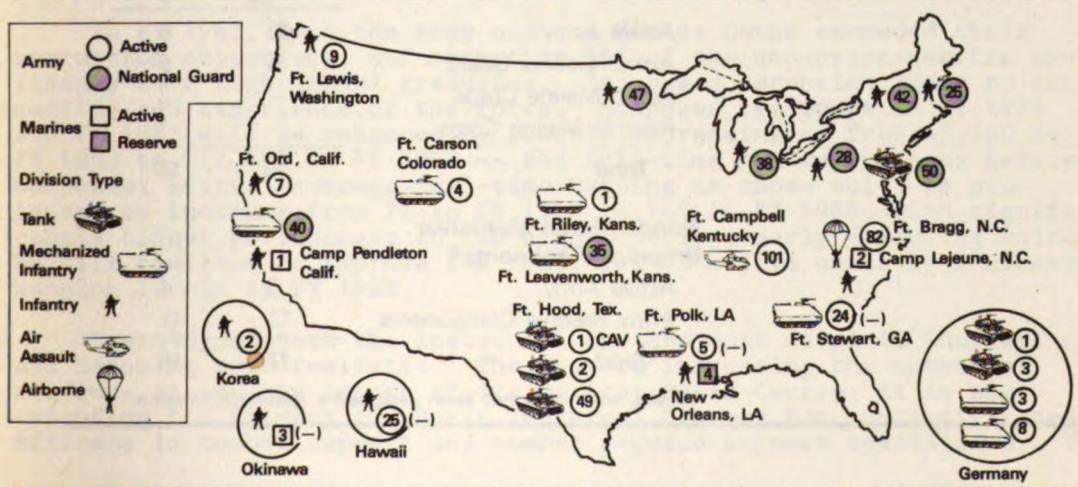
Chart III.A.1
Contribution of Reserve Components (End FY 1984)



e. Force Disposition

Chart III.A.2 depicts the location of all active and reserve Army and Marine Corps divisions at the end of FY 1984. In addition to the major deployments shown, two brigades of Army divisions based in the continental United States (CONUS) are forward deployed in Europe, and one Marine brigade is stationed in Hawaii. The Army also maintains three separate brigades and regiments in Europe, four active and 21 reserve brigades and regiments in CONUS (not involved in roundout), one active brigade each in Panama and Alaska, and one reserve brigade-sized unit each in Alaska and Puerto Rico.

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



2. FY 1985-89 Programs

a. Force Structure

FY 1985 will be a year of reorganization and consolidation for the active Army, following reorganizations in FY 1984 of most of its heavy divisions -- Division 86 -- and the 101st Airborne Division (Air Assault). Those were undertaken to support the introduction of new equipment and to adapt the force to the anticipated rapid pace of future combat by increasing the "leader-to-led" ratio. We will continue to make adjustments to the force structure as more modern weapon systems become available.

We are continuing to improve the mobility and antiarmor capability of our light forces through extensive operational field testing at Fort Lewis, Washington. We will begin to reorganize the 9th Infantry Division into a high-technology light division in FY 1985 -- one year earlier than originally planned. We will also restructure the 7th Infantry Division as a light infantry division (of about 10,000 men) that will be used to examine additional ways to improve the deployability and capability of our light forces. The tank and mechanized battalions currently assigned to the 7th and 9th Divisions will be retained in the force structure as nondivisional units that would be available to reinforce light divisions deploying to high-threat areas. A cavalry squadron in the 3rd Armored Cavalry Regiment that we had originally intended to inactivate in FY 1984 will also be retained. Activations in FY 1985 include a ranger battalion and the initial increments of an additional active division.

Table III.A.1 shows the current allocation of heavy and light forces, by Service and by unit type.

Table III.A.1
Distribution of Heavy and Light Forces (End FY 1984)

Divisions	Heavy	Light
Active Army	10	6
Army National Guard	4	5
Active Marine Corps	—	3
Reserve Marine Corps	—	1
Total	***14***	***15***
Nondivisional Maneuver Brigades/Regiments[a]		
Active Army	5	4
Army Reserve Components	12	11
Total	***17***	***15***

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

Programs for the Special Operations Forces (SOF) focus on improving their capabilities applicable to the lower end of the conflict spectrum (for example, counterterrorism operations). We will add three aviation companies in FY 1985, while continuing to fill out the units activated in FY 1984.

We are also continuing to bring up to full strength the support units activated in FY 1983 and FY 1984, and we will add about 2,000 support structure spaces in Europe and 500 in CONUS. Among the planned activations will be a petroleum, oil, and lubricant (POL) supply company; an area signal company; two ammunition companies; and a POL truck company.

In the Reserve Components, the combat force structure will remain at roughly the same level as in FY 1984. The heavy divisions will convert to the Division 86 design in FY 1985, and we will begin to flesh out the division formed in FY 1984 by consolidating three separate brigades. An additional (existing) brigade will be designated to round out the active force, and the tactical support structure will increase by 12,000 spaces.

FY 1985 will also be a year of consolidation for the Marine Corps. Following the activation of major combat service support units and the reorganization of antitank units in FY 1983 and FY 1984, the Corps' major focus will be on improving readiness.

The Army and Marine combat units available to the U.S. Central Command (USCENTCOM) will remain essentially unchanged in FY 1985 and gradually increase in the years following. When the 9th Division ends its testing and converts to its new configuration, the readiness of those forces will increase markedly. The 12,000 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 in Europe. The major improvements in the units available to USCENTCOM will be readiness related -- a result of increased manning, additional modern equipment, and increased participation in exercises.

b. Readiness

We are making major improvements in the three areas that contribute to the combat readiness of our land forces -- manpower, training, and materiel.

In FY 1983, both the Army and the Marine Corps exceeded their recruiting objectives, and more than 85% of the non-prior-service enlistees were high school graduates. Increased retention added to the quality and experience of the force. Manpower readiness in FY 1984 and FY 1985 will be enhanced by sharply increasing -- from 45,260 in FY 1983 to 112,800 in FY 1988 -- the full-time manning of Army Reserve Component units. Average full-time manning in those units is projected to increase from 7% in FY 1983 to 14% in FY 1988, with significantly higher percentages in the high-priority, early deploying units. We will continue to improve the readiness of active units by increasing manning levels in FY 1985.

Training at both the individual and the unit level is increasing and becoming more realistic. The Army is increasing the number of students in and the length of its Officer Basic Course; it is also expanding its Primary and Basic Technical Courses for noncommissioned officers in combat support and combat service support specialties. The

Army and Marine Corps are continuing their efforts to improve the training of Reserve Component units: additional full-time support personnel will be devoted to training programs, more units will train at the National Training Center, and selected units will conduct additional training with active units. Other initiatives include the creation of a Physical Fitness Center and Fitness Research Institute, construction of 20 additional troop physical fitness centers, and establishment of a Survival, Evasion, Resistance, and Escape program. Our plans also call for a 35% increase in funding for training ammunition in FY 1985 and for expanded use of training simulators.

Funding for spare parts and depot repair work continues to receive heavy emphasis. Spending in these areas is of great importance, since it yields the quickest, most cost-effective improvements in materiel readiness. The FY 1985 program will reduce the depot maintenance backlog. Funding for initial and replenishment spares will continue to meet the peacetime requirement. The Army's FY 1985 program includes a $146.6 million cash augmentation to the stock fund to support new weapon systems entering the inventory.

c. Sustainability

The ability to sustain our land forces in a conventional conflict is a function of the amount of materiel on hand to replace items lost or consumed in combat, the availability of trained personnel to replace soldiers and marines lost in combat, the size of the support forces, and the amount of host nation support available. 1/ We are building our stockpiles of war-reserve munitions toward prudent stockage objectives. Funding for Army and Marine Corps munitions (for both war reserves and training) will rise from $4.7 billion in FY 1984 to $5.9 billion in FY 1985 -- an increase of about 18% after adjusting for the effects of inflation. We are continuing to procure and preposition combat-attrition replacements for major items of equipment. Though we have increased funding for war-reserve spare parts and other secondary items needed to keep our equipment operating in combat, shortfalls will remain for some items. We intend to reach our stockage objectives for those items by FY 1989.

The sustainability of Army and Marine Corps forces also depends on the size and quality of Reserve Component units and on the surge capacity of the training base. The FY 1985 program calls for substantial increases in the trained personnel strength of the Reserve Components -- from 402,900 in FY 1984 to 416,400 in FY 1985 in the Army National Guard; from 261,800 to 282,500 in the Army Reserve; and from 39,600 to 42,100 in the Marine Corps Reserve. The additional personnel will be used to activate new reserve units and to reduce shortfalls in existing ones, thereby increasing the readiness of those units to levels commensurate with their increased responsibilities in the total force. The shortfall in pretrained individual manpower will be reduced slightly in FY 1985, but we will still not be able to meet all of the Army's mobilization requirements. While the mobilization training base will improve in FY 1985, training capacity will remain below wartime needs.

We are also increasing the sustainability of our land forces by improving our support forces and by pursuing additional host nation support agreements. Much of the increase in Reserve Component strength in FY 1985 will be due to the activation of additional support units

1/ The term "host nation support" refers to facilities and services our allies have agreed to provide in support of U.S. forces.

and the increases in full-time manning. These increases will move us closer to meeting wartime requirements for combat support and combat service support units. We continue to seek host nation support agreements with our NATO and other allies to augment our own wartime support efforts.

d. Modernization

(1) Close Combat

We assign high priority to developing and fielding weapon systems that will enable our land forces to defeat heavily armored forces in close combat on the modern battlefield. The FY 1985-89 program emphasizes the continued acquisition of systems that will improve the firepower, tactical mobility, and survivability of our forces.

M-1 Abrams Tank -- The M-1 tank's superior agility, advanced fire-control system, and modern armor will make it an effective and survivable counter to Soviet armored forces throughout the 1990s and beyond. Unlike previous tanks, the 60-ton M-1 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. The Congress has authorized production of 3,328 M-1 tanks to date. The planned production rate of 60 units per month will allow the Army to reach its goal of fielding 7,058 M-1s by the mid-1990s. In late 1986, we plan to begin fielding an improved version (designated M-1E1) equipped with a 120mm gun. Approximately 50% of the tanks in the M-1 force will eventually carry this gun.

The Bradley Fighting Vehicle (BFV) System -- The BFV provides mechanized infantry and armored cavalry forces with tactical mobility equivalent to that afforded by the M-1 tank, while greatly improving their antiarmor capabilities. The BFV would accompany the M-1 in battle, its TOW antiarmor missiles providing the punch needed to complement the M-1 in knocking out enemy armored forces. By the end of FY 1984, the Army will have procured 2,300 of these vehicles. Our program will, by the beginning of FY 1986, increase the production rate to a maximum of 75 vehicles per month, allowing the Army to achieve its acquisition objective of 6,882 BFVs by the end of FY 1990.

Assault Amphibian Vehicle (LVT7) -- The LVT7 is a lightly armored vehicle 2/ designed to transport Marine amphibious assault units from ship to shore. On the ground, it provides an essential measure of tactical mobility and protection for Marine infantry units. By the end of FY 1984, the Marine Corps will have procured 329 LVT7A1s (an improved version of the LVT7), satisfying its acquisition objective. In FY 1985, the Corps will complete a program to upgrade its existing fleet of 984 LVT7s to the new configuration.

Light Armored Vehicle (LAV) -- The LAV will increase the ground combat mobility, survivability, and firepower of the Marine Corps' infantry units. The vehicle will be produced in several versions, designed for use in command and control, recovery, and other operations. The basic vehicle will be equipped with a 25mm cannon. The Corps plans to buy 758 LAVs by the end of FY 1985.

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

TOW Missile System -- The Army and Marine Corps have programmed funds to continue procurement of an upgraded version of the TOW anti-tank missile (the TOW 2), incorporating an improved warhead and guidance system. This weapon, to be deployed with antiarmor forces, will give our soldiers and marines a means of defeating advanced technology armored systems.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
M-1 Tank				
Development:				
$ Millions	104.1	107.3	108.6	87.2
Procurement:				
Quantity	855	840	720	720
$ Millions	1,830.7	1,676.3	1,758.8	2,005.0
BFV				
Development:				
$ Millions	49.6	36.7	45.7	26.3
Procurement:				
Quantity	600	600	710	900
$ Millions	813.2	815.5	1,056.4	1,256.9
LVT				
Procurement:				
Quantity	453	416	244	--
$ Millions	283.6	237.3	120.6	--
LAV				
Development:				
$ Millions	11.1	10.7	11.9	15.7
Procurement: a/				
Quantity	134	236	292	--
$ Millions	94.7	170.6	276.9	--
TOW Missile				
Development:				
$ Millions	2.2	1.9	9.9	7.3
Procurement:				
Quantity	13,000	20,200	21,822	22,014
$ Millions	162.1	217.2	297.5	255.8

a/ Includes the basic vehicle and variants.

(2) Land Forces Aviation

(a) Helicopters

The Army and Marine Corps maintain a versatile fleet of helicopters to support their combined-arms teams. These aircraft help detect and engage enemy armored forces; they also transport troops within combat

theaters. Because they serve the needs of our forces in so many ways, we must ensure that they continue to contribute the fire support and tactical mobility needed to counter a numerically superior, and qualitatively improving, opponent. Programs to enhance the firepower of attack helicopters, increase the lift capacity of assault-support helicopters, and improve the survivability of both will ensure their continued effectiveness in the decades ahead.

Attack Helicopters -- The AH-64 (Apache) helicopter will add substantially to the antiarmor capability of Army divisions. Equipped with the new Hellfire missile system, the Apache will be able to operate in day or night, in all weather conditions, in all parts of the world. The helicopter is scheduled to be fielded in FY 1985.

In FY 1986, the Marine Corps will begin filling a serious shortfall in its attack helicopter fleet that has resulted from the reduced pace of modernization in the 1970s. 3/ It will equip 44 new AH-1Ts with improved engines, Hellfire air-to-surface missiles, and Sidewinder air-to-air missiles. The 48 AH-1Ts operated by the Fleet Marine Force also will be reengined; the missile systems are now being installed on those aircraft.

Assault-Support Helicopters -- To improve the tactical mobility of its forces, the Army is procuring new UH-60 (Blackhawk) helicopters and modifying its existing fleet of CH-47s (Chinook). A larger, more agile, and less vulnerable aircraft than the UH-1 (Huey) it replaces, the UH-60 will be able to deliver 50% more cargo and troops over greater distances at higher airspeeds, providing commanders added flexibility in employing their troops. The CH-47D modernization program will increase that helicopter's lift capacity by approximately 60%, while improving its reliability and maintainability and reducing its vulnerability. The Marine Corps is increasing the heavy-lift capacity of its helicopter fleet by procuring the three-engined CH-53E (Super Stallion), the free world's largest helicopter.

(b) Developmental Aircraft

Developmental aircraft programs emphasize the use of new technology. The Navy is continuing work on the Joint Services Advanced Vertical Lift Aircraft (JVX), a medium-lift, tilt-rotor aircraft designed to meet the Marine Corps' amphibious assault lift requirements and the Navy's combat search-and-rescue requirements. Tilt-rotor technology provides a means of combining the versatility of vertical-lift aircraft and the range, speed, and survivability of conventional planes. The schedule calls for the Marine Corps to take delivery of the first production model in 1991, with Army and Air Force procurement of derivative versions anticipated by the mid- to late 1990s.

The Army is developing a new family of light rotorcraft (LHX) to replace its aging fleet of AH-1, OH-58, and OH-6 helicopters, which are rapidly approaching the end of their useful service lives. The aircraft will also be used to replace aging UH-1s in those units not slated to receive UH-60s. The aircraft will be produced in several versions, designed to perform scout, utility, and attack missions. Initial deliveries are expected in the mid-1990s.

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

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
AH-64				
Development:				
$ Millions	33.6	27.8	16.8	11.5
Procurement:				
Quantity	48	112	144	144
$ Millions	802.1	1,191.7	1,290.2	1,150.3
AH-1T				
Procurement:				
Quantity	--	--	22	22
$ Millions	--	17.8	193.0	202.3
Hellfire a/				
Development:				
$ Millions	25.3	3.2	2.9	3.4
Procurement:				
Quantity	3,971	4,870	6,464	7,880
$ Millions	247.4	235.5	262.9	298.0
UH-60				
Development:				
$ Millions	8.4	15.0	--	--
Procurement:				
Quantity	96	84	78	78
$ Millions	559.8	433.0	504.8	496.5
CH-47D				
Procurement:				
Quantity	24	36	48	48
$ Millions	260.8	330.3	446.9	438.2
CH-53E				
Procurement:				
Quantity	11	11	8	4
$ Millions	212.3	186.9	234.3 b/	87.5
JVX				
Development:				
$ Millions	34.9	88.6	199.6	628.1
LHX				
Development:				
$ Millions	--	26.2	75.1	154.9

a/ Includes Army and Marine Corps funding.
b/ Includes funds for start of multiyear procurement.

(3) Air Defense

Our land forces deploy a balanced mix of air defense systems that provide point and area defense against a wide range of targets. Shorter-range systems -- such as Stinger and Chaparral missiles and antiaircraft guns -- are designed primarily to defend elements of deployed divisions positioned near the front lines (e.g., forward command posts and maneuver units). Longer-range systems -- such as Patriot and Improved Hawk missiles -- protect 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 system that can be carried by an individual soldier or marine. It is designed to defend against low-altitude attacks at relatively short ranges. The system is being procured jointly by the Army and Marine Corps to replace the aging Redeye. (The Air Force is also procuring the system to help in defending its air bases.) Stinger-Post, an improved version of the missile with increased resistance to enemy countermeasures, will enter production in FY 1984.

Sgt. York Gun -- The Sgt. York is a self-propelled, twin-40mm gun designed to defend forward maneuver elements of heavy Army forces against air attacks. It offers improvements in range, lethality, and survivability over the self-propelled 20mm Vulcan gun it replaces.

Product Improvement Vulcan Air Defense System (PIVADS) -- The Army is proceeding with a program to improve the capabilities of its 20mm Vulcan air defense guns. Planned improvements include modifying the fire control system to increase target-tracking and gun-pointing accuracy. The towed version of the gun will be deployed with active light divisions; the self-propelled version, now operated by heavy divisions, will be transferred to the National Guard as the Sgt. York gun is deployed.

Chaparral -- The short-range air defense missile organic to most active Army divisions, Chaparral will remain in service through the end of the century. To ensure its continued effectiveness, we are upgrading the system with forward-looking infrared (FLIR) sensors that will enable it to engage targets at night and in poor weather. We also are developing an improved guidance system with high resistance to the types of infrared countermeasures we expect enemy aircraft to employ in the future.

Short-Range Air Defense Command and Control (SHORAD C^2) -- To take maximum advantage of the capabilities offered by its new forward-area air defense systems, the Army is developing an improved automated command and control system for use at the division level. Called SHORAD C^2, the system will be able to identify and acquire targets for optically guided missiles such as Chaparral and Stinger, assign priorities among multiple targets, and transmit engagement instructions to air defense system operators. By streamlining the target distribution process and improving the coordination among deployed air defenses, the SHORAD C^2 system will greatly increase the effectiveness of our entire air defense network.

(b) Long-Range Systems

Patriot -- The Patriot is the Army's advanced all-altitude air defense missile. The system incorporates a multifunction, phased-array radar, giving it a significant electronic counter-countermeasures capability and enabling several missiles to be directed to their targets virtually simultaneously. A state-of-the-art system, Patriot will be highly effective against any airborne target likely to be encountered through the end of the century. Beginning in October 1984, we will field the missile with U.S. Army units in Europe, where it will form the backbone of NATO's future air defense system. Several allied nations are also considering procuring the Patriot for their forces.

Improved Hawk (I-Hawk) -- We are proceeding with a program to upgrade the I-Hawk missile system now deployed with Army and Marine Corps air defense batteries. The modifications include installation of a new missile motor and an improved guidance system (to enable multiple missiles to be directed against targets simultaneously) as well as other reliability and maintainability upgrades. These improvements will ensure that our I-Hawk systems will be able to operate effectively in the expected electronic countermeasures environment of the 1990s.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
Stinger				
Development:				
$ Millions	20.0	--	13.9	5.9
Procurement:				
Quantity	2,566	1,956	3,316	8,522
$ Millions	240.3	182.8	298.2	681.9
Sgt. York Gun				
Development:				
$ Millions	10.9	--	--	--
Procurement:				
Quantity	96	130	132	144
$ Millions	539.9	559.4	527.7	425.8
PIVADS				
Development:				
$ Millions	1.5	3.8	--	21.8
Procurement:				
$ Millions	--	38.2	33.2	27.7
Chaparral				
Development:				
$ Millions	24.7	21.0	17.6	18.4
Procurement:				
Quantity	--	--	--	--
$ Millions	52.8	17.8	118.3	151.7

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
SHORAD C^2				
Development:				
$ Millions	1.0	40.8	129.4	88.6
Procurement:				
Quantity	--	--	--	--
$ Millions	--	--	--	114.0
Patriot				
Development:				
$ Millions	45.4	83.0	61.5	55.7
Procurement:				
Quantity a/	12/287	12/440	15/585	18/815
$ Millions	844.8	963.5	1,202.4	1,354.5
I-Hawk				
Development:				
$ Millions	36.6	32.0	18.9	5.4
Procurement:				
Quantity	--	--	--	--
$ Millions	20.7	30.9	82.4	115.1

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 are improving the ability of our land forces to detect enemy forces and mass large volumes of accurate, effective firepower against them. We are improving the target acquisition and fire control capabilities of our weapon systems, providing our new munitions with improved laser-homing capabilities, and improving our ability to sustain our fire support forces on the modern battlefield.

Target Acquisition -- We have merged the Army's Battlefield Data System (BDS) program and the Air Force's PAVE MOVER program into a single development effort -- the Joint STARS program. (Details are provided in the Deep Interdiction section below.) The remotely piloted vehicle (RPV), also in development, will improve our ability to locate and designate targets for laser-guided weapons and to adjust artillery fire.

Fire Control -- The Army is continuing development of the Advanced Field Artillery Tactical Data System (AFATDS), a new-generation, automated fire-control system that will increase the efficiency and targeting capacity of its firing batteries. The Marine Corps is continuing development of the Artillery Computer System (ACS), a lightweight, battery-operated computer that will provide rapid, accurate gun-pointing data for firing batteries. Entering procurement in the next five years will be the Army's Battery Computer System (BCS), a small computer that will provide firing data for individual guns in

a firing battery (to permit more flexible gun positioning and independent automated fire control), and 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. The FY 1985 budget supports continued procurement of Ground Laser Locator Designators (GLLD) for the Army and Modular Universal Laser Equipment (MULE) for the Marine Corps.

Weapons -- The Multiple-Launch Rocket System (MLRS) is a high-rate-of-fire rocket system assigned to general-support artillery units. It can be used to supplement cannon artillery fire or to strike targets (such as 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 system last year and is using multiyear procurement authority for continued production. It is also participating in a multinational program to develop a warhead with terminally guided submunitions (TGSM) for the MLRS.

We will continue procuring M-109A2 155mm self-propelled howitzers to replace our shorter-range, Vietnam-era M-109s. The increased range of these weapons is needed to return fire on long-range artillery and to provide fire support across the battlefield under rapidly changing conditions.

The Field Artillery Ammunition Support Vehicle (FAASV) is a highly mobile tracked vehicle designed for use with self-propelled artillery units in Europe. It will provide armor protection for ammunition, and will carry ammunition-handling equipment to prepare and supply ammunition for howitzers. The system will be fielded in FY 1985.

Ammunition -- We will continue to build our inventories of improved conventional munitions, rocket-assisted projectiles, 155mm howitzer-delivered scatterable mines, and 155mm laser-guided Copperhead artillery projectiles. We are increasing the size of our stockpile of war-reserve munitions to improve the staying power of our artillery units on the modern battlefield.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
RPV				
Development:				
$ Millions	81.7	132.6	103.1	30.9
Procurement:				
Quantity	--	--	--	--
$ Millions	--	--	144.5	251.9

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
AFATDS				
Development:				
$ Millions	15.0	21.5	33.1	36.2
ACS				
Development:				
$ Millions				
BCS				
Procurement:				
Quantity	146	146	182	80
$ Millions	30.1	28.7	39.7	18.1
GLLD				
Procurement:				
Quantity	--	180	208	240
$ Millions	--	45.6	56.1	59.5
MULE				
Development:				
$ Millions	--	0.5	0.5	0.5
Procurement:				
Quantity	115	134	115	--
$ Millions	39.2	45.4	40.8	--
MLRS				
Development:				
$ Millions	26.1	1.0	1.9	--
Procurement:				
Quantity a/	23,640/72	36,000/76	50,472/44	72,000/29
$ Millions	444.4	545.4	561.9	558.5
MRLS TGSM				
Development:				
$ Millions	2.4	15.7	35.4	42.5
M-109A2				
Procurement:				
Quantity	--	120	70	152
$ Millions	--	87.2	52.4	123.1
FAASV				
Procurement:				
Quantity	54	120	170	230
$ Millions	29.7	59.1	84.2	122.4

a/ Rockets/launchers.

(5) Deep Interdiction

New technologies are providing our land forces with radically new techniques for defeating armored attacks. We are developing systems that will be able to locate and track fixed and 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 that deliver a variety of munitions, including terminally dispensed lethal submunitions. Programs that emphasize extended-range target acquisition and deep-attack capabilities include the Joint Surveillance and Target Attack Radar System (Joint STARS), the Joint Tactical Fusion (JTF) program, and the Joint Tactical Missile System (JTACMS).

Joint STARS -- This airborne radar, being developed jointly by the Army and Air Force, will be able to locate and track moving targets at extended ranges. Drawing on the information it provides, our forces will be able to use their advanced missile systems to strike targets deep behind enemy lines.

JTF -- This automated system will process, analyze, and distribute intelligence reports obtained from multiple sources. This information will assist battlefield commanders in assessing the status and disposition of enemy forces and selected targets. For the future, we are developing a more advanced fusion system that will provide direct, real-time intelligence.

JTACMS -- This missile, being developed jointly by the Army and the Air Force, will be able to dispense terminally guided and unguided submunitions at targets deep behind enemy lines. It will exploit the long-range vision of our new target acquisition and attack guidance systems, enabling our forces to direct attacks against enemy follow-on forces, air defense systems, tactical ballistic missile launchers, and command and control centers.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
Joint STARS a/				
Development:				
$ Millions	53.2	108.8	206.5	203.1
Procurement:				
Quantity	--	--	--	--
$ Millions	--	12.0	25.5	132.1
JTF				
Development:				
$ Millions	31.2	59.3	124.4	162.6
JTACMS a/				
Development:				
$ Millions	30.8	60.0	114.5	206.0

a/ Includes Army and Air Force funding.

(6) Tactical Wheeled Vehicles

The Army and Marine Corps are continuing to improve the intra-theater mobility of their forces by upgrading their over-age, over-mileage fleets of tactical wheeled vehicles. The Marine Corps will begin fielding the High Mobility Multipurpose Wheeled Vehicle (HMMWV) in FY 1984, and the Army will follow in FY 1985. This versatile 5/4-ton vehicle is being procured to replace some jeeps and a number of other vehicles in the 1/4- to 5/4-ton range.

In the 10-ton category, the Army is placing its highest priority on procuring the Heavy Expanded Mobility Tactical Truck (HEMTT). The HEMTT will be produced in five body styles and be used by combat and combat support units to support MLRS, Patriot, and other high-priority systems. The Marine Corps is procuring a variant of the HEMTT, the Logistics Vehicle System (LVS), for its combat support and combat service support units. The LVS will have four interchangeable rear-body units. By integrating the HEMTT and LVS procurement programs, we have been able to accelerate the introduction of the Marine Corps' vehicle by more than a year. Army units began receiving their HEMTTs in FY 1982; the first Marine Corps LVS will be delivered in late FY 1984.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
HMMWV				
Development:				
$ Millions	4.7	--	--	--
Procurement:				
Quantity	2,921	8,517	14,578	17,195
$ Millions	78.8	213.4	386.1	452.7
HEMTT				
Procurement:				
Quantity	2,189	1,231	1,181	1,172
$ Millions	374.1	204.5	200.1	210.8
LVS				
Development:				
$ Millions	--	0.2	0.2	0.4
Procurement:				
Quantity	262	296	708	718
$ Millions	28.2	29.0	66.7	74.3

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

In equipping our land forces, we seek to provide them the responsiveness and flexibility they need to defeat a numerically superior enemy. But it is not enough merely to provide our forces with modern weapon systems; we must develop effective means of employing those weapons and controlling our forces on the battlefield. 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 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 program is designed to provide reliable, jam-resistant communications support to deployed 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 and supporting equipment.

Single-Channel Ground and Airborne System, VHF (SINCGARS-V) -- This program will provide secure, jam-resistant VHF radios to replace the 20-year-old equipment now in use with combat battalions and companies. The Army and Marine Corps plan to begin fielding these radios in FY 1985.

Army Data Distribution System (ADDS) -- A secure, jam-resistant digital communications system, the ADDS will be used to transmit data among command and control, intelligence, air defense, fire support, electronic warfare, and other computer systems. It will be fielded beginning in FY 1988.

Maneuver Control System (MCS) -- The MCS is a command and control system designed to 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 additional development with the direct participation of the users.

Electronic Warfare -- To increase its ability to jam enemy communications, the Army will procure additional tactical jamming systems (MLQ-34), more hand-emplaced expendable jammers, and the EH-60 Quickfix electronic warfare helicopter. Principal modernization programs for tactical intelligence systems include continued procurement of the Improved Guardrail V and Trailblazer (TSQ-114D) systems, improvements to the Quicklook and Teampack (MSQ-103) systems, development of tactical fusion systems, and initial development of the Joint STARS system.

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.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
GMF				
Development:				
$ Millions	18.1	16.8	15.9	19.6
Procurement:				
Quantity	--	--	--	--
$ Millions	310.8	261.2	313.3	371.5

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
SINCGARS-V				
Development:				
$ Millions	15.4	16.0	7.8	11.9
Procurement:				
Quantity	175	3,075	8,000	15,700
$ Millions	19.8	49.5	135.4	256.4
ADDS				
Development:				
$ Millions	34.3	25.3	23.2	39.2
Procurement:				
Quantity	--	--	--	--
$ Millions	--	--	--	59.7
MCS				
Development:				
$ Millions	18.2	9.3	25.7	9.5
Procurement:				
Quantity	--	--	--	--
$ Millions	26.0	16.4	27.9	62.4

3. Conclusion

The FY 1985-89 program is aimed at the continuing revitalization of our Army and Marine Corps forces, severely weakened by the defense spending cutbacks of the 1970s and threatened throughout the world by the continued improvement and expansion of the ground forces of the Soviets and their surrogates. The program will create a modern and balanced force, armed with advanced weapon systems and maintained at a high level of manpower and material readiness. The program will produce a force capable of being rapidly expanded by the Reserve Components and prepared for sustained combat operations in locations throughout the world.

B. NAVAL FORCES

1. Introduction

a. Maritime Defense Missions

Naval forces perform several key functions in support of our national defense strategy. On the most general level, they support our forward defense posture, with its network of overseas alliances and other global commitments. Operating in concert with land-based air forces and with the maritime forces of our allies, U.S. naval forces preserve access to vital ocean areas and protect the sea-lanes we depend upon to reinforce U.S. and allied forces overseas. Naval forces also support an active forward defense of key regions on the Eurasian littoral that are integral to our defense system. Primary among these are the nations on NATO's northern and southern flanks, allied nations in the Pacific region, and friendly countries exposed to potential Soviet aggression in the Middle East and Persian Gulf regions.

In peacetime, naval forces support our foreign policy through a series of overseas deployments, often conducted as part of joint exercises with forces from other nations. Apart from these routine deployments, naval forces -- especially the aircraft carriers, other combatant ships, and support ships that form our carrier battle groups -- are deployed overseas as necessary in response to international crises. These deployments serve to deter aggression by potential adversaries while providing tangible evidence of our commitment to protect the safety and security of our allies and friends. Naval forces are particularly appropriate for this role because of their inherent mobility and flexibility and because they can operate in distant regions without having to rely heavily on access to foreign bases.

The operations of our naval forces during the past year have vividly demonstrated their value, both as a deterrent and as a vital element of our forward defense posture. In trouble spots ranging from Central America to the eastern Mediterranean, the full range of naval forces -- carrier battle groups, amphibious forces, and our first reactivated battleship -- was deployed to support allies and friends and to deter potential aggressors. The Navy also conducted major training exercises in several strategic regions. Areas of operation during 1983 included the Northwest Pacific, the Caribbean, the Mediterranean, the Indian Ocean, and the Norwegian Sea. A number of the exercises involved multicarrier operations; in many, our forces were joined by allied navies and other maritime forces, thereby strengthening the cohesion of the Western maritime defense system.

b. Program Goals for Naval Forces

(1) The Navy in 1981

When this Administration took office, we found major weaknesses in our naval forces. Our deployable battle force numbered 479 ships at the end of FY 1980, including 13 aircraft carriers (one of which left the deployable fleet the following year). Amphibious shipping was adequate to lift only one division-sized Marine Amphibious Force. We deemed this force inadequate to support America's worldwide national security interests, especially in light of the need for an expanded military deterrent against Soviet aggression in Southwest Asia.

The fleet also was suffering from serious readiness deficiencies and manning shortfalls. For example, in January 1981, only about 60% of our ships were rated even "marginally ready" for combat, and of those, only about half were rated "fully ready" or "substantially ready." Moreover, low stocks of ammunition would have seriously limited our ability to sustain conventional combat against Soviet forces.

(2) The Growing Soviet Threat

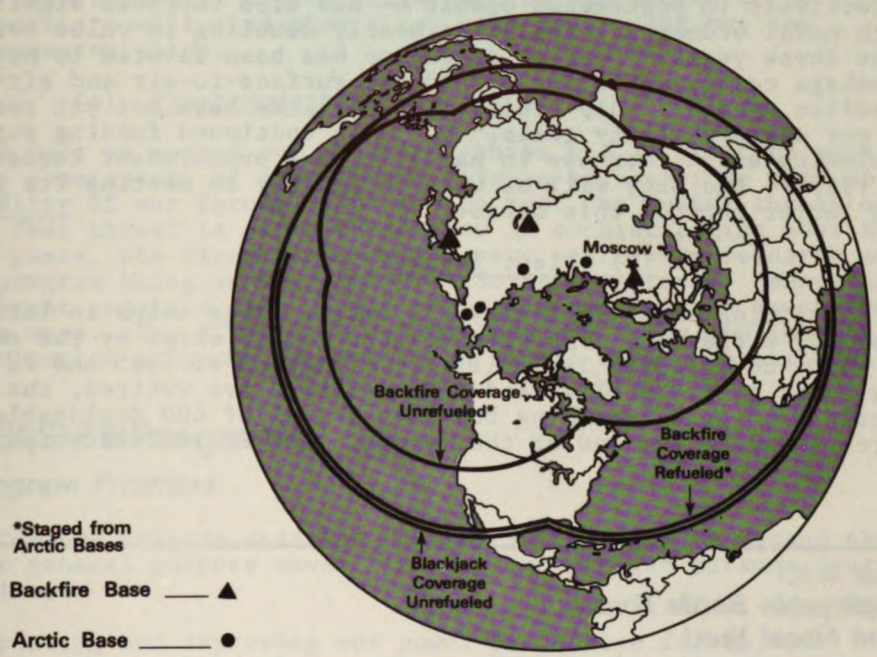
At the same time, the threat posed by Soviet naval forces had grown alarmingly as a result of a massive military buildup sustained over two decades. Particularly noteworthy have been the advances in the Soviet submarine fleet. By far the world's largest undersea combat force, the Soviet submarine fleet contains more than 360 active submarines of all types, including more than 260 attack submarines. Traditionally large, the force has improved greatly in quality over the past decade. This trend is reflected in the steadily increasing percentage of nuclear-powered submarines, which can patrol for extended periods in distant waters and offer the tactical advantages of greater underwater speed.

There are several indications that the Soviet submarine fleet will continue to grow in quality during the next decade. The Soviets are now building five different types of attack submarines -- one diesel-powered and four nuclear-powered classes. These submarines are significantly bigger and better than their predecessors, and they are also quieter, which makes them more difficult for our antisubmarine forces to detect. These improvements are being introduced rapidly into the Soviet submarine force as a result of the high rate of production sustained by Soviet shipyards over the last decade. The threat from this force is diversifying, and in 1984 the Soviets will begin to arm their most modern submarines with long-range, land-attack cruise missiles (similar to the U.S. Tomahawk), fitted with nuclear warheads.

The threat posed by Soviet naval aircraft has also grown dramatically over the last decade. Backfire bombers armed with long-range antiship missiles are the greatest menace. There are now more than 100 Backfires in service with Soviet Naval Aviation, plus a like number in the Soviet Air Force, and production is continuing at a rate of about 30 per year. With an unrefueled combat radius of about 3,000 miles, the Backfire can threaten our naval forces over a large portion of the world's ocean area, as shown in Chart III.B.1. Adding to the air threat, a new strategic bomber with even greater range -- the Blackjack -- is in development and could be deployed as early as 1987.

The Soviets are also building a new generation of surface combatants. A fourth Kiev-class vertical/short takeoff and landing (V/STOL) aircraft carrier is expected to join the fleet this year. The second unit of the 28,000-ton Kirov class of nuclear-powered guided missile cruisers has started sea trials, and a third unit is under construction. The first unit of the new Slava class of conventionally powered guided missile cruisers has entered service, and two other units are being constructed. The Soviets also are building two new types of guided missile destroyers, the Sovremennyy and Udaloy classes. By the end of the decade, we expect them to introduce their first aircraft carrier capable of operating conventional takeoff and landing aircraft, permitting them to conduct air defense and strike operations in regions outside the reach of their land-based aircraft.

Chart III.B.1
Blackjack and Backfire Coverage from Soviet Bases (2-Way Missions)



(3) Administration Initiatives

Soon after taking office, this Administration established a major program calling for an accelerated modernization and expansion of our naval forces. That program is designed to correct deficiencies in the fleet and to maintain the maritime strength we need to support our national strategy. As an immediate goal, we sought to improve the fleet's day-to-day readiness and sustainability. For the longer term, we sought to expand the fleet, building toward the goal of a 600-ship Navy with 15 deployable carrier battle groups and expanded amphibious lift and support forces. At the same time, to meet the threat of increasingly sophisticated Soviet forces, we sought to modernize the fleet.

(a) Fleet Readiness and Sustainability

The increased resources devoted to readiness and sustainability during the past three years are already bearing fruit. The turnaround in readiness has been particularly impressive. Since January 1981, the proportion of the ships in the fleet rated "combat operationally

ready" has increased by 17 percentage points, with a 25-percentage-point increase in the two highest categories of readiness. The biggest factor in this bright picture has been the sharp improvement in the personnel situation, although increased funding for spare parts and other maintenance programs has been another major factor.

Sustainability -- a measure of how long our forces can fight effectively in protracted combat -- has also improved significantly, with naval ordnance inventories nearly doubling in value over the past three years. Special attention has been devoted to meeting stockage requirements for torpedoes, surface-to-air and air-to-air missiles, and antiship cruise missiles. We have not yet reached all of our sustainability goals. But with continued funding support -- including a 23% increase in naval weapons procurement requested for FY 1985 -- the Navy will be well on its way to meeting its goals by the latter part of this decade.

(b) Fleet Expansion

Starting with 479 deployable battle force ships in late 1980, the Navy's fleet is projected to grow to 545 ships by the end of FY 1985, as shown in Table III.B.1. Between FY 1985 and FY 1989, as new ships join the fleet and older vessels are retired, the fleet will continue to grow, reaching the Navy's goal of 600 deployable battle force ships by the end of the decade. The FY 1985-89 shipbuilding

Table III.B.1
Deployable Battle Forces
(End Fiscal Year)

	FY 1980	FY 1984	FY 1985
Ballistic Missile Submarines	40	35	37
Strategic Support Ships	8	6	6
Aircraft Carriers	13	13	13
Battleships	0	2	2
Cruisers/Destroyers	107	98	99
Frigates	71	103	110
Nuclear Attack Submarines	74	95	96
Diesel Attack Submarines	5	4	4
Amphibious Ships	66	61	61
Patrol Combatants	3	6	6
Mine Warfare Ships	3	3	4
Mobile Logistic Ships	68	74	74
Combat Support Ships	21	25	33
Total	***479***	***525***	***545***

plan (shown in Table III.B.2 at the end of this chapter) projects a steady rate of ship construction to achieve and sustain the various components of a 600-ship Navy. Individual programs are discussed in later sections of this chapter.

As part of our naval expansion program, we are upgrading the Naval Reserve Force (NRF). For example, by the end of the decade, we will have transferred 24 modern frigates from the active force to the NRF. Reservists will also play a key role in manning our new mine countermeasures ships.

(c) Fleet Modernization

Not only must we expand our forces of ships and aircraft to meet the worldwide commitments of our forward defense strategy; we must upgrade the quality of our forces if we are to meet the Soviet threat of the future. That threat is expected to grow in sophistication over the next several years, the direct result of a very aggressive research and development program being conducted by the Soviet military. Countering the future threat requires that we use our resources in more innovative and efficient ways. The FY 1985-89 defense program funds a balanced mix of modernization programs, described in detail below, to meet this objective.

2. FY 1985-89 Programs

a. Program Priorities

The FY 1985-89 program sustains several initiatives to expand and modernize our general purpose naval forces. The program pursues four broad objectives:

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

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

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

-- Expanding and modernizing our support forces, including logistics ships 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 discussed in the Nuclear Forces chapter.

b. Aircraft Carriers

(1) Multimission Capabilities

Aircraft carriers capable of launching and recovering conventional takeoff and landing aircraft form the core of our multimission carrier battle groups. Although the precise number and mix of escort ships can vary, our planning assumes that a carrier battle group would typically include six surface combatants (cruisers and destroyers) and

a small number of attack submarines operating in the "direct support" role. Logistical support is provided by specialized underway replenishment ships that accompany the battle groups.

The modern combat systems deployed with carrier battle groups -- tactical aircraft, surface combatants, and submarines -- provide capabilities across the full range of naval missions. They can project power against targets on land and at sea. They can provide an air-defense umbrella in the skies above a naval task force. They can also undertake antisubmarine operations. Together, these capabilities enable our naval forces to respond rapidly to crises in distant regions of the globe and to conduct maritime operations in areas where we do not maintain airfields and other major land bases.

(2) Force Expansion Plans

From a force of 12 deployable carriers in FY 1981, our program builds to 15 deployable carriers by the end of the decade. (For the remainder of this decade and well into the next, the force will include an additional carrier. The extra unit is needed to maintain required force levels as existing carriers are removed from the force for 28-month periods to have their service lives extended.) Our thirteenth deployable carrier, the Carl Vinson (CVN-70), joined the fleet in FY 1982. In FY 1986, our fourteenth carrier, the Theodore Roosevelt (CVN-71), will enter service. At the end of the decade, delivery of the Abraham Lincoln (CVN-72), one of the two carriers authorized in FY 1983, will give the Navy 15 deployable carriers. In late 1991, when the George Washington (CVN-73), the other carrier authorized in FY 1983, is delivered, we will remove the Coral Sea from the deployable force and use it as a training carrier. Under this plan, the Midway, a carrier built at the end of World War II, will remain in the deployable force through the end of the century.

As the Navy builds its carrier force, the FY 1985-89 program will be putting us well on our way toward achieving the goal of 15 deployable carrier battle groups, with the full complement of escorts, support ships, and carrier-based aircraft. Several programs addressed elsewhere in this chapter contribute to that end.

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 may need to start a program to replace the carriers now undergoing service life extension.

(3) Service Life Extension Program

The service life extension program (SLEP) is an integral part of our plan to expand and modernize the carrier force. This program is designed to extend by 15 years the original 30-year service life of eight existing large-deck carriers, thereby providing an economical alternative to new carrier construction. Work on the first carrier in the program, the Saratoga, was completed last year, and the second ship, the Forrestal, has begun its renovations. Funding for the third ship is requested in FY 1985.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
Aircraft Carriers (CVN)				
Procurement:				
Quantity	2	--	--	--
$ Millions	6,503.2	11.0	13.1	8.1
Service Life Extension Program				
Quantity	1	--	1	--
$ Millions	717.0	116.4	792.3	152.6

c. Other Power Projection Forces

In addition to expanding and modernizing the carrier force, we are increasing the offensive capabilities of other major components of the fleet. The amphibious fleet is slated for a major upgrade. We are refurbishing and returning to service our four 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) Amphibious Assault Forces

The expansion and modernization of amphibious assault shipping is one of the major initiatives of this Administration. We have developed a comprehensive, long-term plan to guide our improvement efforts, the major elements of which are now under way. The plan calls for a major increase in amphibious lift capability, with a goal of achieving the lift to support the assault echelons of a Marine Amphibious Force (MAF) and a Marine Amphibious Brigade (MAB) by 1994 -- an increase of roughly one-third over today's capability. The plan integrates amphibious shipping requirements with the scheduled introduction of new Marine Corps equipment -- CH-53E helicopters, JVX advanced vertical-lift aircraft, heavier artillery pieces, and improved ground vehicles. Taking advantage of the capabilities offered by the new high-speed landing craft now under construction, the plan also develops a new concept of operations calling for launching amphibious assaults from points over the horizon, where assault ships would be less vulnerable to enemy counterattacks.

In peacetime, our amphibious assault forces have proven their worth many times, most recently by supporting the Marine peacekeeping forces in Lebanon. In wartime, amphibious forces provide a global capability for forcibly establishing lodgments ashore.

(a) LHD-1

The LHD-1 Multipurpose Amphibious Assault Ship program is the cornerstone of our plan to expand amphibious lift capabilities. Similar in design to the LHA-1 amphibious assault ship, the 40,000-ton LHD-1 will be used primarily to transport troops, vehicles, and cargo in an amphibious assault. With a capacity to carry three air-cushioned landing craft and large numbers of helicopters, the ship

will be particularly useful for supporting over-the-horizon assaults. As a secondary mission, it will serve as a "convertible" carrier from which we could operate V/STOL aircraft.

The lead ship in the LHD-1 program was authorized by the Congress in FY 1984, and we plan to request three more LHDs over the next five years. Our long-range goal is to build a total of 10 or 11 -- enough to replace the seven LPH-class ships scheduled for retirement in the late 1990s and add the capacity we need to meet our expanded lift requirements.

(b) LSD-41 and Variants

Last year, the Congress authorized a fourth LSD-41 dock landing ship. We are requesting funds for the fifth and sixth ships in FY 1985. We need to build at least eight of these ships to replace LSD-28s and, at the same time, increase the fleet's capacity to carry and support new air-cushioned landing craft. Construction of the first three ships is well under way, with the lead ship, the Whidbey Island, scheduled for delivery late this year, ahead of its target date.

Later in the decade, following construction of eight to ten LSD-41s, we plan to begin producing a modified version of the ship, designed to carry two (rather than four) air-cushioned landing craft but more vehicles and cargo. The new design will provide a better match with Marine Corps lift requirements. To meet our amphibious lift goal and to replace the amphibious shipping scheduled for retirement in the next decade and beyond, we plan a steady production rate of two LSD-41s or variants per year.

(c) LPD-4 Service Life Extension

As part of the modernization program for our amphibious forces, we plan to renovate 11 existing LPD-4 landing platform dock ships, giving them 10-15 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 lift capability. The five-year program funds seven renovations, the first of which is scheduled for FY 1987.

(d) LCAC

The landing craft, air-cushioned (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 tens of miles offshore, outside the reach of many enemy weapons. We plan to buy at least 90 of these craft, enough to support the landing requirements of a MAF and a MAB.

Due to resource constraints, we have funded a somewhat slower buildup in the LCAC production rate than we anticipated last year. Although this will delay LCAC's introduction into the fleet somewhat, it will give us a better opportunity to work out any problems that might be identified when testing of the first production craft begins in 1985. The Congress has authorized 12 LCACs through FY 1984. Our five-year program requests funds for 57 more, including nine in FY 1985.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
LHD-1				
Procurement:				
Quantity	--	1	--	1
$ Millions	55.0	1,365.7	39.2	1,365.5
LSD-41				
Procurement:				
Quantity	1	1	2	2
$ Millions	418.2	415.6	509.6	541.6
LPD-4 SLEP				
Quantity	--	--	--	--
$ Millions	--	--	15.0	94.1
LCAC				
Procurement:				
Quantity	--	6	9	12
$ Millions	59.3	158.8	245.7	325.8

(2) Battleship Reactivations

As part of our program to expand the offensive capabilities of the fleet, we are reactivating our four Iowa-class battleships. Armed with new Tomahawk and Harpoon missiles, these ships are being returned to the fleet at a small fraction of the cost of building new ships with comparable capabilities. They will provide a valuable supplement to the carrier force in performing presence and strike missions, while substantially increasing our ability to provide naval gunfire support for power projection and amphibious assault missions.

Work on the first ship in the program, the New Jersey, was completed in 1983 -- ahead of schedule and within cost targets. The New Jersey has already proven her worth in deployments to the western Pacific, Central America, and the eastern Mediterranean. Work on the second ship, the Iowa, is proceeding smoothly toward a planned completion date early this year. We are requesting funds in FY 1985 for the third reactivation and have scheduled the fourth for FY 1987.

(3) Cruise Missiles

(a) Tomahawk

The Tomahawk cruise missile program is the cornerstone of our effort to increase and diversify the striking power of the fleet. Tomahawk missiles will be based aboard large numbers of surface ships and submarines, giving them a capability to strike enemy surface ships and shore targets beyond the horizon.

Over the past year, we have adjusted the Tomahawk production schedule in order to correct quality control problems that were uncovered during initial production. As a result, our FY 1985 procurement request (180 missiles) is substantially smaller than we anticipated

last year. Under the restructured program, we are gaining confidence in the quality of the new missiles coming off the production line, and our ongoing testing program is yielding positive results.

Our first operational Tomahawk missiles have been deployed in armored box launchers on the reactivated battleship New Jersey. Tomahawk is also slated for deployment aboard attack submarines, cruisers, and destroyers. To maximize the number of weapons that can be carried, we are installing vertical launch systems (VLS) on selected classes of ships -- including SSN-688 attack submarines, CG-47 cruisers, DD-963 destroyers, and DDG-51 guided missile destroyers. A newly developed launch mechanism, 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 reliability and permits multiple launchings in rapid succession.

(b) Harpoon

Production of Harpoon antiship missiles continues, with 1,466 missiles included in the FY 1985-89 program. The Harpoon is deployed on most of our surface combatants and attack submarines, and it can be launched from long-range P-3 patrol aircraft and A-6 attack aircraft as well. We also plan to extend the missile's deployment to F/A-18 strike-fighters, carrier-based S-3 patrol aircraft, and long-range B-52 bombers. Last year, the Air Force conducted live firings of Harpoon missiles from B-52 bombers; it is now modifying two B-52 squadrons to carry the missile.

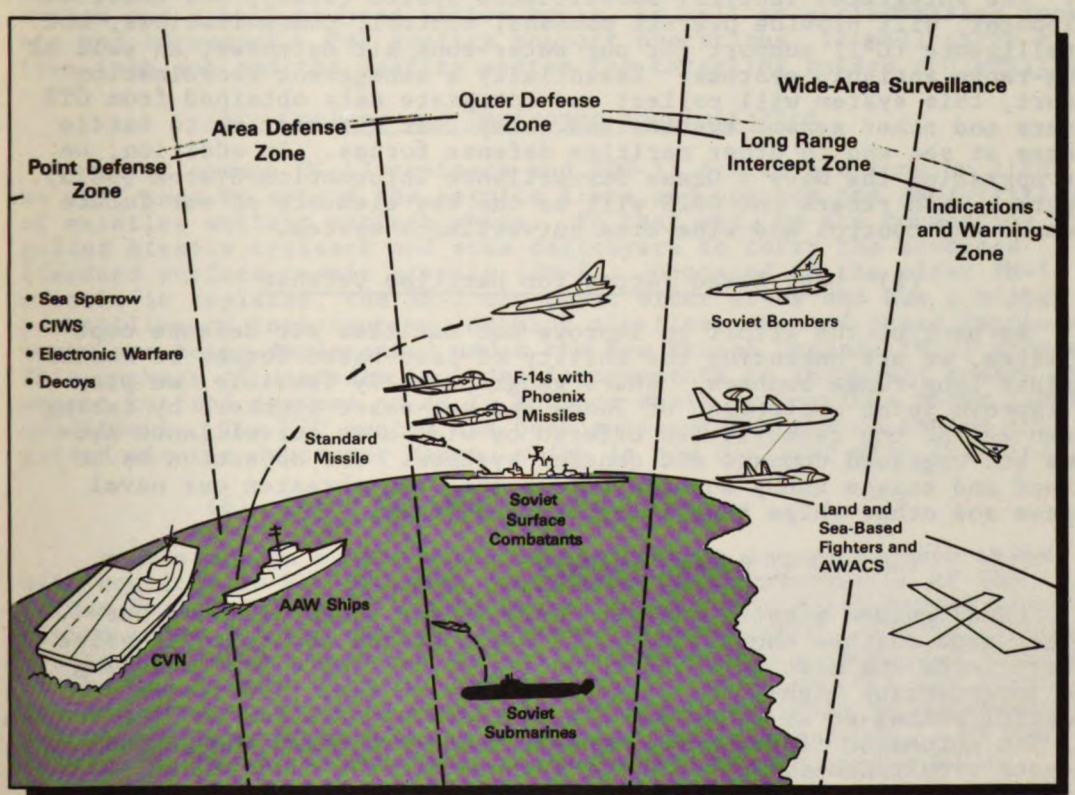
	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
Battleship Reactivations				
Quantity	1	--	1	--
$ Millions	348.7	62.5	449.2	96.2
Tomahawk Missiles				
Procurement:				
Quantity	51	124	180	180
$ Millions	221.3	346.0	593.0	549.0
DD-963 VLS Backfit				
Quantity	--	1	3	6
$ Millions	--	21.6	105.6	239.6
Harpoon Missiles				
Procurement:				
Quantity	223	313	354	360
$ Millions	235.4	289.8	361.9	336.0

d. Antiair Warfare (AAW) Programs

Soviet antiship missiles launched from bombers, submarines, and surface ships pose a major threat to our naval forces and sea lines of communication. The best way to counter this threat is to develop systems that can detect and engage Soviet forces before they come within range of launching their missiles. Our antisubmarine warfare programs, discussed in the next section, are designed to improve our ability to destroy enemy submarines before they reach missile launch positions. Likewise, our antiair warfare programs are designed to improve our ability to intercept Soviet bombers before our forces come within range of Soviet missiles. But because these "outer zone" defenses cover broad ocean areas that can never be totally sealed off from enemy submarines and bombers, we must improve our ability to neutralize enemy missiles themselves. Overall, the purpose of such a "defense-in-depth" approach is to inflict losses on attacking forces in a series of engagements by different kinds of defensive systems.

The air defense system employed by our carrier battle groups illustrates the defense-in-depth approach. "Outer zone" protection is provided by an integrated team of airborne early warning aircraft, fighter-interceptors, and electronic warfare aircraft. These forces

Chart III.B.2
AAW Defense in Depth



are used to detect and intercept enemy bombers before they come close enough to launch their antiship missiles. A second zone of "area" defenses is provided by long-range surface-to-air missiles (SAMs) installed aboard antiair warfare ships, which in the future will include CG-47 cruisers and DDG-51 destroyers. Area SAMs protect not only the ships on which they are installed but also the neighboring ships in a naval task force. A "point defense" zone provides a last-ditch defense against air attack. Point defense systems -- including short-range interceptor missiles, guns, decoys, and electronic warfare systems -- are designed to protect only the ships that carry them. Beyond these approaches, 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, thus increasing the opportunities for our fighter-interceptors to engage them.

(1) Wide-Area Surveillance and Command and Control

To maximize the effectiveness of our outer-zone defenses, we must have warning of an attack early enough to get a large portion of our fighters in position to engage enemy bombers. This requires improved wide-area surveillance. To that end, we are continuing development of a tactical over-the-horizon (OTH) radar system with a detection range of up to 1,800 miles. Deployed in locations from which they can scan likely bomber approach corridors, OTH radars will greatly enhance the effectiveness of our air defenses. The system we are developing will also be "relocatable" to prepared sites, providing an emergency capability to establish surveillance systems in areas where we do not routinely maintain surveillance coverage.

The Integrated Tactical Surveillance System (ITSS), now under development, will provide overall command, control, communications, and intelligence (C^3I) support for our outer-zone air defenses, as well as long-range antiship systems. Essentially a management coordination effort, this system will collect and integrate data obtained from OTH radars and other sensor systems and relay that information to battle forces at sea and to other maritime defense forces. In addition, we are upgrading the Navy's Ocean Surveillance Information System (OSIS). Together, OTH radars and OSIS will be the key elements of our future command and control and wide-area surveillance system.

(2) Land-Based Forces for Maritime Defense

As part of the effort to improve our maritime air defense capabilities, we are enhancing the ability of land-based forces to defend against long-range bombers. Where geographically feasible, we plan to improve joint employment of land- and sea-based fighters by taking advantage of the capabilities offered by wide-area surveillance systems and upgraded command and control systems. Our objective is to detect and engage enemy bombers before they can threaten our naval forces and other ships transiting key sea-lanes.

(3) CG-47 Aegis Cruisers

CG-47 guided missile cruisers will be the centerpiece of our future area defense capability. The Aegis system aboard these ships 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 automated 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 cruise missile saturation attacks.

Last year, after completing a series of sea trials and operational tests of its Aegis system, the lead ship of this new class, the Ticonderoga, began operations with the fleet. Over the next few years, 12 additional units, funded in prior years, will enter service. The FY 1985-89 shipbuilding program includes 13 more of these ships, which will give us 26 Aegis cruisers by the early 1990s and nearly complete the program.

(4) DDG-51 Guided Missile Destroyers

We are requesting authorization in FY 1985 for the lead ship in the DDG-51 guided missile destroyer program. This program is designed to provide a smaller, less expensive complement to the CG-47, allowing the Navy to replace the large numbers of guided missile cruisers and destroyers that will start reaching retirement age at the end of the decade. The five-year program funds the first 14 DDG-51 destroyers.

An 8,450-ton ship with improved survivability features, the DDG-51 will operate with carrier battle groups and surface action groups, or as the primary escort protecting amphibious task forces and groups of support ships. For antiair warfare, it will be equipped with the Aegis weapon system. The design also includes a vertical launch system with space for a mix of 90 surface-to-air missiles, Tomahawk cruise missiles, and antisubmarine rockets. Harpoon missiles installed in separate launchers will complement the antiship capabilities of Tomahawk. For antisubmarine protection, the DDG-51 will be equipped with our most capable sonar systems, including a towed-array system and a hull-mounted active sonar, as well as antisubmarine rockets and torpedoes. For gunfire support operations, it will carry a five-inch gun and the Seafire system for targeting guided projectiles.

(5) 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 existing antiair warfare ships. To that end, we are converting guided missile cruisers and some destroyers to carry the advanced Standard surface-to-air missile (SM-2). Compared to 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 are being implemented under the New Threat Upgrade (NTU) program. This package of upgrades includes improvements to shipboard radars and weapon control systems so as to enhance their performance under jamming conditions. The NTU system has been successfully tested aboard the guided missile destroyer Mahan, which is now deployed with the fleet.

(6) Point Defense Systems

Modernization of the self-defense systems aboard surface ships will continue in FY 1985 with 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. We are also procuring an improved version of the Sea Sparrow missile, the RIM-7M. In addition, the five-inch Rolling Airframe Missile (RAM) has successfully completed development and initial operational testing. We are requesting funds in FY 1985 to procure the first increment of these missiles for retrofit in

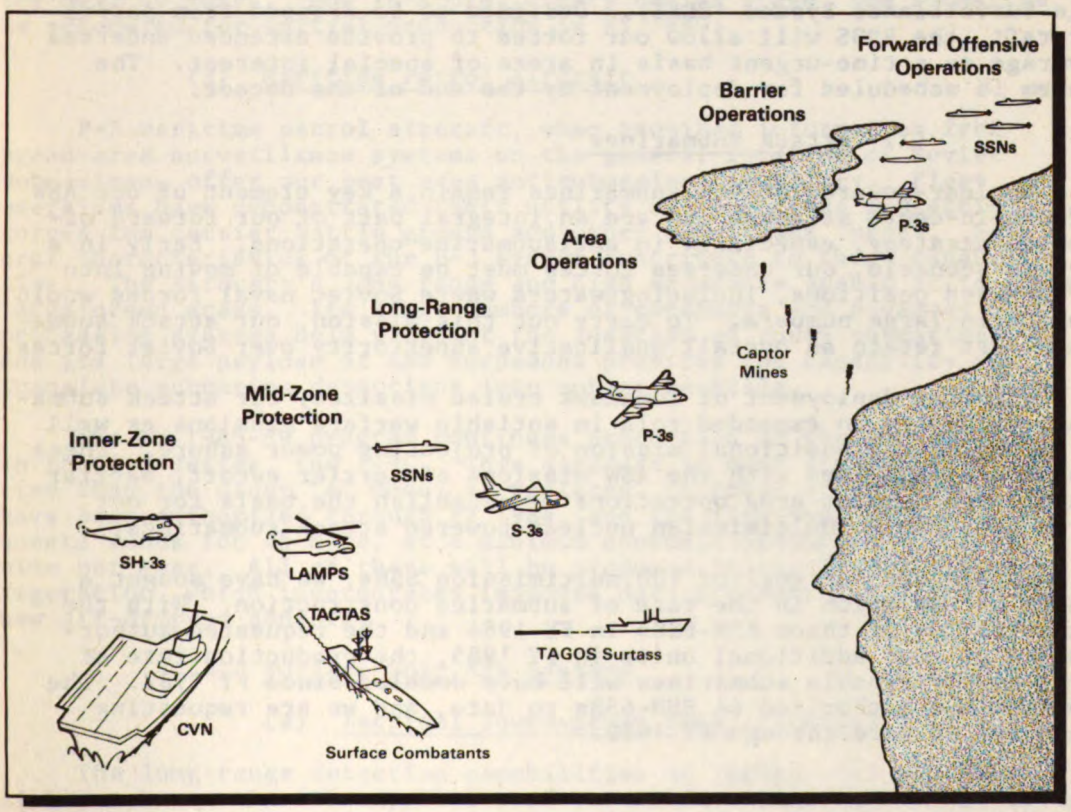
selected Sea Sparrow installations. Funding is also requested for procurement of large quantities of decoy systems.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
OTH Radars				
Development:				
$ Millions	1.7	28.4	63.7	24.3
Procurement:				
Quantity	--	--	--	--
$ Millions	--	93.2	218.9	233.8
CG-47 Cruisers				
Procurement:				
Quantity	3	3	3	3
$ Millions	2,972.7	3,268.3	3,194.0	3,326.9
DDG-51 Destroyers				
Development:				
$ Millions	138.3	108.6	124.6	129.7
Procurement:				
Quantity	--	--	1	--
$ Millions	--	79.0	1,173.4	279.1
Standard Missiles				
Procurement:				
Quantity	1,150	1,190	1,380	2,430
$ Millions	608.1	625.6	732.0	1,184.1
Phalanx Close-In Weapon System				
Procurement:				
Quantity	37	40	51	43
$ Millions	124.1	122.4	166.3	145.7
Sea Sparrow Missiles				
Procurement:				
Quantity	336	321	327	379
$ Millions	63.5	66.3	73.8	87.1
Rolling Airframe Missile System				
Development:				
$ Millions	16.2	4.2	6.5	2.2
Procurement:				
Quantity	--	--	30	235
$ Millions	--	19.0	18.0	34.6

e. Antisubmarine Warfare (ASW) Programs

Effective defense against the Soviet submarine threat requires a defense-in-depth 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 on long-range P-3 patrol aircraft, CAPTOR (for Encapsulated Torpedo) mines, and attack submarines, 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. As a general rule, long-range protection is provided to carrier battle groups by carrier-based S-3 patrol aircraft, land-based P-3 patrol aircraft, and attack submarines operating in direct support. Long-range protection for other naval task forces -- including replenishment groups, amphibious forces, and military convoys -- is provided by P-3 aircraft. Mid-range protection is provided both to carrier battle groups and to other naval task forces by formations of surface combatants equipped with towed-array passive sonar systems and torpedo-armed antisubmarine helicopters. An inner defensive screen for carrier

Chart III.B.3
ASW Defense in Depth



battle groups and other task forces is provided by surface combatants equipped with powerful hull-mounted active sonars, while carrier battle groups are afforded additional protection by carrier-based antisubmarine helicopters carrying specially designed active sonars.

(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. The FY 1985-89 program funds two new systems designed to maintain our advantage in submarine surveillance.

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

TAGOS SURTASS ships, our new mobile long-range surveillance system, will join the fleet in late 1984, following initial tests during the first half of the year. These ships will supplement fixed surveillance systems by extending coverage to ocean areas not presently monitored and by providing a backup system should the fixed systems be incapacitated. The Congress has appropriated funds for 12 TAGOS ships through FY 1984. The five-year program requests funds for six more -- three each in FY 1985 and FY 1986.

(b) Rapidly Deployable Surveillance System (RDSS)

To augment existing surveillance systems, we are developing a new mobile undersea monitoring system, designated the Rapidly Deployable Surveillance System (RDSS). Designed to be dropped from patrol aircraft, the RDSS will allow our forces to provide extended undersea coverage on a time-urgent basis in areas of special interest. The system is scheduled for deployment by the end of the decade.

(2) Attack Submarines

Nuclear-powered attack submarines remain a key element of our ASW defense-in-depth strategy and are an integral part of our forward offensive strategy, especially in antisubmarine operations. Early in a wartime scenario, our undersea forces must be capable of moving into far-forward positions, including waters where Soviet naval forces would operate in large numbers. To carry out this mission, our attack submarines must retain an overall qualitative superiority over Soviet forces.

With the deployment of Tomahawk cruise missiles, our attack submarines will play an expanded role in antiship warfare missions as well as taking on the additional mission of projecting power ashore. These missions -- combined with the ASW missions of carrier escort, barrier patrol, and forward area operations -- establish the basis for our force goal of 100 multimission nuclear-powered attack submarines.

To achieve our goal of 100 multimission SSNs, we have sought a steady acceleration in the rate of submarine construction. With the authorization of three SSN-688s in FY 1984 and the requested authorization of four additional units in FY 1985, the production rate of these highly capable submarines will have doubled since FY 1982. The Congress has authorized 44 SSN-688s to date, and we are requesting funds for 20 more through FY 1989.

To keep pace with the improvements in the Soviet submarine force, we have begun several programs to modify and improve the SSN-688 design. New SSN-688s are being provided additional firepower through the installation of a vertical launch system. A number of modifications will make the SSN-688 submarine quieter. New SSN-688s are also being modified to operate under the ice -- an essential capability for conducting forward patrols in northern waters. Another important improvement, the ability to lay mines, is scheduled for incorporation in FY 1985.

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 meet the Soviet submarine threat of the 21st century, we have begun development of a new attack submarine incorporating the latest advances in technology. A key design objective is to make improvements in sound-quieting. The new submarine also will carry more weapons than previous classes, will have improved sensor systems, and will be able to operate under the ice more effectively. These improvements, which cannot be accommodated within the existing SSN-688 hull, are necessary if we are to maintain our qualitative advantage over Soviet submarines and the ability to operate in forward areas. The new-design SSN will also provide the necessary flexibility to react to the inevitable changes that will occur in naval warfare over the next 40 years. Now in a preliminary design stage, the submarine is scheduled for initial production in FY 1989.

(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 best area antisubmarine capability. Fleet exercises have demonstrated their 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 numbers 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 1985-89 program continues production of the latest model in the P-3 series, the P-3C. This aircraft is many times more effective than the older "A" model it replaces. A total of 241 P-3Cs have been authorized through FY 1984, and the five-year program requests funds for 45 more, at a minimum economic production rate of nine per year. All of these will be produced in the Update III configuration, which incorporates improved data-processing equipment and new air-dropped sensors.

(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 continuing increases in the range of weapons carried by Soviet submarines. The SQR-18 towed-array sonar system is being deployed aboard all 46 of our FF-1052-class frigates, including those in the Naval Reserve Force. The SQR-19, a more advanced towed-array sonar system, is now in the final stages of development, following a series of highly successful tests at sea. That system is scheduled for installation later in the decade on DD-963, DDG-993, and DDG-51 destroyers, and on CG-47 cruisers and active FFG-7 frigates.

(b) Light Airborne Multipurpose System (LAMPS)

This year marks the introduction into the fleet of the SH-60B LAMPS MK III antisubmarine helicopter, also known as Seahawk. A derivative of the Army's H-60 Blackhawk, the SH-60B, incorporating advanced electronics, will allow modern surface combatants to exploit the opportunity for long-range ASW engagements offered by the detection capabilities of 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.

Current plans call for deploying LAMPS MK III helicopters aboard some 100 surface combatants, including DD-963 and DDG-993 destroyers, CG-47 cruisers, and active FFG-7 frigates. An earlier ASW helicopter, the LAMPS MK I Seasprite, will continue to be deployed aboard reserve FFG-7s and older frigates, which will not be upgraded to support the LAMPS MK III system. An existing shortage of LAMPS MK I helicopters will be eliminated by the early 1990s through the conversion of surface combatants from the LAMPS MK I to the LAMPS MK III configuration and the continued delivery of new and refurbished Seasprite helicopters funded in FY 1984 and prior years.

We are planning a stable production rate of 18 SH-60B helicopters per year, with a total of 90 to be requested over the next five years. With the 66 Seahawks that have been authorized through FY 1984, this will provide at least one SH-60B for each suitably configured surface combatant.

(5) ASW Weapons

We must develop improved ASW weapons able to defeat new Soviet submarines that are faster and quieter, can dive deeper, have greater resistance to hull penetration, and incorporate other qualitative improvements. To that end, we are continuing to improve both our heavy and lightweight torpedoes and our long-range ASW rockets.

(a) MK-48 Torpedoes

We are continuing production of the MK-48 heavyweight torpedo. This weapon, carried by submarines, can be used against both surface ships and submarines. To increase its effectiveness against the new Soviet submarines now entering service, we are developing an upgraded version, called ADCAP (for Advanced Capability). The ADCAP program is on schedule, and we expect to begin deploying the system in the mid- to late 1980s.

(b) Lightweight Torpedoes

We are also continuing to upgrade our inventory of MK-46 lightweight ASW torpedoes. These weapons can be launched from surface

ships, patrol aircraft, or antisubmarine helicopters, and they are also carried as a payload in long-range antisubmarine rockets and CAPTOR mines. To provide the near-term improvements needed to counter new Soviet submarines, we are procuring an upgraded version, called NEARTIP (for Near-Term Improvement Program). The program includes both new torpedoes and conversion kits to modify older ones.

For the late 1980s, we are developing the MK-50 torpedo, formerly known as the Advanced Lightweight Torpedo (ALWT). An entirely new torpedo, the MK-50 will be significantly more capable than the MK-46 in terms of speed, diving depth, accuracy, and destructiveness. The program is making impressive progress, with full-scale development under way in FY 1984.

(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 of these, 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) deployed on surface ships.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
TAGOS				
SURTASS Ships				
Procurement:				
Quantity	--	--	3	3
$ Millions	1.8	6.8	200.2	192.6
RDSS				
Development:				
$ Millions	19.1	18.2	11.8	26.5
SSN-688				
Procurement:				
Quantity	2	3	4	4
$ Millions	1,650.4	2,079.3	2,965.4	2,914.9
P-3 Aircraft				
Procurement:				
Quantity	6	5	9	9
$ Millions	286.1	294.5	465.0	503.2
TACTAS				
Development:				
$ Millions	9.8	3.6	--	--
Procurement:				
Quantity	5	12	10	15
$ Millions	71.1	110.0	125.6	162.4

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
SH-60B LAMPS MK III				
Development:				
$ Millions	9.0	2.1	--	7.6
Procurement:				
Quantity	27	21	18	18
$ Millions	620.1	438.0	385.6	376.3
MK-48 Torpedoes				
ADCAP Development:				
$ Millions	159.9	180.9	127.6	64.4
ADCAP MOD Kit Procurement:				
Quantity	--	25	36	96
$ Millions	--	77.7	116.9	285.0
MK-48 MOD 4				
Procurement:				
Quantity	144	144	144	144
$ Millions	119.9	124.5	130.4	158.2
MK-46 Torpedoes				
Procurement and Conversion:				
Quantity	440	1,200	1,565	1,521
$ Millions	152.7	215.3	257.8	313.2
MK-50 Torpedoes				
Development:				
$ Millions	104.2	115.1	143.3	147.3
Vertical Launch ASROC				
Development:				
$ Millions	--	29.8	26.6	27.1

f. Support Forces

While we are expanding and modernizing the combat capabilities of our naval forces, we must not neglect the less glamorous, but no less important, support forces. Indeed, the demand for support ships has grown as a result of fleet expansion and a stepped-up tempo of operations in distant waters. At the same time, our existing support forces are aging and in need of replacement. To meet these demands, the FY 1985-89 program funds several programs to modernize and expand the support fleet, with particular emphasis on underway replenishment ships. We also are improving mine countermeasures capabilities -- a mission area that has been neglected in the past.

(1) Multiproduct Station Ships

The battle-group concept of operations requires one multiproduct ship (AOE or AOR) for each carrier battle group, to provide fuel, ammunition, and stores. As we move toward our goal of 15 deployable carrier battle groups, we must add four new multiproduct ships to the 11 we now have. The five-year program funds three new AOEs, the first in FY 1986.

(2) Fleet Oilers

To keep our multiproduct station ships supplied with fuel, fleet oilers perform shuttle services between battle groups at sea and forward bases. The TAO-187 construction program, begun in FY 1982, will fill an existing shortage of oilers and provide replacements for the 30-year-old oilers now operated by the Military Sealift Command. Fourteen TAO-187s are included in the FY 1985-89 shipbuilding program, adding to the four ships authorized through FY 1984. We also plan to modify existing AO-177 oilers to increase their fuel-carrying capacity. Funds for the first of these conversions will be requested in FY 1988.

(3) Mine Warfare Forces

The Soviet Union maintains the world's largest and most capable inventory of naval mines. Our aging force of minesweeping ships and helicopters is only marginally effective against this threat. To improve mine countermeasures capabilities, we are procuring two new classes of ships and a new type of minesweeping helicopter.

We are also requesting funds to continue procurement of new mines, which will allow us to exploit more fully the geographic bottlenecks facing the Soviet Navy.

(a) Mine Countermeasures Ships

Last year, we began construction of the first in a new class of mine countermeasures ships, the MCM-1 Avenger. MCM-1 ships will both improve our minesweeping capability and provide our forces with a capability to hunt and neutralize advanced Soviet mines that cannot be countered by sweeping techniques. Five of these ships have been authorized through FY 1984. The nine ships included in the FY 1985-89 shipbuilding plan complete the program.

A second new type of mine countermeasures ship, the MSH-1, will augment MCM-1 ships during initial harbor clearance and breakout operations. The MSH-1 mine-hunter will be equipped with advanced combat systems similar to those on the MCM-1, but will be smaller and less expensive. The Congress authorized the lead ship of this class in FY 1984. To complete the 17-ship program, the five-year shipbuilding plan contains an additional 16 vessels.

(b) Mine Countermeasures Helicopters

The FY 1985 budget includes a request for funds to begin procuring a new mine countermeasures helicopter, the MH-53E. A modified version of the CH-53E cargo helicopter, the MH-53E offers significant improvements over the older RH-53D minesweeping helicopter. Specific improvements include longer flight time and an ability to tow heavier, more capable mine countermeasures devices. The five-year program procures 31 MH-53Es, toward a planned goal of 44.

(c) Mines

We are continuing procurement of three types of mines. The CAPTOR mine is designed for use in deep ocean areas, where it keeps watch against enemy submarines transiting antisubmarine barriers. The Submarine-Launched Mobile Mine (SLMM) gives us the capability to conduct covert mining operations in enemy waters. The Quickstrike mine is designed for use in shallower waters, such as enemy harbors and other ocean chokepoints, and can be deployed by aircraft or surface ships.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
Multiproduct Ships				
Procurement:				
Quantity	--	--	--	1
$ Millions	--	--	--	815.0
Fleet Oilers				
Procurement:				
Quantity	1	2	3	3
$ Millions	163.8	328.5	564.1	596.9
MCM-1 Ships				
Procurement:				
Quantity	1	3	4	4
$ Millions	118.0	288.7	360.0	405.7
MSH-1 Ships				
Procurement:				
Quantity	--	1	-	1
$ Millions	--	65.0	--	236.4
MH-53E Helicopters				
Procurement:				
Quantity	--	--	2	10
$ Millions	--	--	58.6	218.7
Captor Mines				
Procurement:				
Quantity	300	300	300	--
$ Millions	108.2	111.2	135.2	--
SLMM				
Procurement:				
Quantity	266	242	280	280
$ Millions	22.9	23.3	24.5	25.8
Quickstrike				
Procurement:				
Quantity	--	--	--	--
$ Millions	32.2	34.9	35.7	56.5

g. Rapid Deployment Forces

The Navy has begun a large number of sealift enhancement programs to support our rapid deployment forces. These are described in the Force Projection chapter.

3. Conclusion

Over the past three years, we have built a solid foundation for strengthening our maritime defense capabilities. The FY 1985-89 program builds on that foundation and continues that momentum. We are well on our way to a 600-ship Navy. Progress must be sustained if we are to build a balanced fleet with the full range of capabilities needed to counter the growing threat from Soviet military forces.

Table III.B.2
FY 1985-89 Shipbuilding Program

Type of Ship	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1985-89 Five-Year Total
Trident (Ballistic Missile Submarine)	1	1	1	1	1	5
SSN-688 (Attack Submarine)	4	4	4	4	4	20
New SSN (Attack Submarine)	—	—	—	—	1	1
CG-47 (Guided Missile Cruiser)	3	3	3	2	2	13
DDG-51 (Guided Missile Destroyer)	1	—	3	5	5	14
LHD-1 (Amphibious Assault Ship)	—	1	—	1	1	3
LSD-41/Variant (Landing Dock Ship)	2	2	2	2	2	10
MCM-1 (Mine Countermeasures Ship)	4	4	1	—	—	9
MSH-1 (Mine Hunter-Sweeper)	—	4	4	4	4	16
AOE (Multipurpose Stores Ship)	—	1	—	1	1	3
AE (Ammunition Ship)	—	1	1	1	1	4
AR (Repair Ship)	—	—	—	—	1	1
TAO-187 (Oiler)	3	3	3	3	2	14
TAGOS (SURTASS)	3	3	—	—	—	6
TAGS (FBM Support Ship)	2	—	—	—	—	2
New Construction	23	27	22	24	25	121
CV (Aircraft Carrier) SLEP	1	—	1	—	—	2
BB (Battleship) Reactivation	1	—	1	—	—	2
LPD-4 (Landing Platform Dock Ship) SLEP	—	—	1	3	3	7
AO ("Jumbo" Oiler) Conversion	—	—	—	1	2	3
TAK (FBM Cargo Ship) Conversion	1	—	—	—	—	1
TAGM (Range Instrumentation Ship) Conversion	—	—	1	—	—	1
AGS (Sound Testing Barge) Conversion	—	1	—	—	—	1
TAVB (Aviation Support Ship) Conversion	1	1	—	—	—	2
TACS (Crane Ship) Conversion	2	—	—	—	—	2
Conversions/SLEPs/Reactivations	6	2	4	4	5	21

C. TACTICAL AIR FORCES

1. Introduction

To protect our national interests and meet the global commitments of our forward defense strategy, our tactical air forces must be able to respond rapidly to aggression, wherever it may occur. A well-trained and properly equipped tactical air force can quickly destroy land and sea targets, as well as provide an air defense umbrella in support of ground and naval forces.

a. Program Goals

We depend heavily on tactical air power to counter the significant numerical advantage in ground forces held by the Soviet Union and its Warsaw Pact allies. Our forces have long been considered superior to the Soviets' in terms of air combat capabilities. But in the face of the massive buildup and modernization of Soviet forces, our advantage has been diminishing.

Already possessing an inventory of more than 5,000 fighter and attack aircraft, the Soviets are continuing to produce tactical aircraft at a rate higher than our own. And new generations of aircraft, with sharply improved combat capabilities, are expected to join their forces in the near future. Backed by a formidable array of ground-based air defense systems, these aircraft could seriously contest ours for superiority in the air, while posing a significant threat to our forces on the ground and at sea. Countering that threat will require continued improvements in the combat effectiveness of our tactical air forces.

The FY 1985-89 program, therefore, focuses on four broad objectives:

-- 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-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, maintain control of the skies above land and naval forces, protecting them from air attacks (the "counterair" mission). Fighter and attack aircraft, armed with bombs and guided missiles, deliver attacks against 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).

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, defense suppression, and special operations.

(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. Each wing typically contains three squadrons of 24 aircraft each. (Combat support units, such as those composed of EF-111 electronic warfare aircraft, are generally organized into squadrons of 18 to 24 aircraft.) By the end of FY 1989, we will have the equivalent of 40 tactical fighter wings -- 27 active and 13 ANG and reserve.

In support of our fighter forces, the active and reserve Air Force components operate two electronic warfare squadrons, five defense suppression squadrons, fourteen tactical reconnaissance squadrons, eleven tactical command and control squadrons, and eight Special Operations Forces (SOF) squadrons. By the end of the decade, we will have modernized several elements of the support forces and added one reconnaissance squadron.

The force also includes seven squadrons of B-52G 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.

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 carrier battle groups, we will add a 13th wing in FY 1984 and 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 1985-89 Programs

Our five-year program was formulated with an awareness of the finite resources available and the need to allocate those resources among the most urgent priorities. The program pursues, in general

order of priority, improvements in four broad areas: readiness and sustainability; modernization; electronic warfare; and target acquisition, surveillance, and warning.

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 Materiel 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. During the previous decade, the combat readiness of our tactical air forces fell below desired levels. This Administration, therefore, has given top priority to improving the readiness of the forces and the equipment they operate. We have made significant progress to date, building up stocks of spare parts for our aircraft and providing more -- and more realistic -- training for our air crews. The FY 1985-89 program continues those trends.

(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 three years. Since FY 1982, we have added $20.2 billion for these items.

We are also making more use of civilian personnel at depot-level maintenance facilities. Plans to hire additional maintenance personnel will enhance our ability to respond to wartime surge requirements, while minimizing peacetime support costs.

(b) Personnel and Training

To realize the full potential of our significant investment in tactical aircraft, we must have highly trained air crews. 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, our tactical air crews continue to be considered superior to Warsaw Pact aviators.

In FY 1985, Air Force tactical aircraft pilots will average about 240 flying hours. This represents an increase of nearly 50% 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 288 flying hours in FY 1985, up from 276 hours in FY 1984. We must sustain these increased levels of training if our air crews 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 air crews 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 air crews a unique and realistic training aid.

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 air crews. 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.

(2) Force Sustainability

The possibility of extended conflict required accelerated improvement in our ability to sustain our forces. Therefore, we increased Air Force and Navy funding for war reserve spares and munitions. These efforts have resulted in a 25% increase in the number of days a typical Air Force squadron could sustain combat operations. Similarly, the ability of our naval fighter and attack squadrons to conduct prolonged wartime operations is much improved.

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 flight-line support vehicles in Europe and Southwest Asia, and to increase storage capacity for munitions and for petroleum, oil, and lubricants (POL) in both regions. The Force Projection and Materiel Readiness 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 reduce the average age of the force; and to permit a modest force expansion.

We are procuring aircraft (F-14s and F-15s) and weapon systems (Phoenix and AMRAAM missiles) with improved capabilities to detect, identify, and engage enemy aircraft at long ranges and in bad weather. Likewise, we are procuring aircraft such as the F-16 and F/A-18 in sufficient numbers to improve air combat performance in unavoidable close-range engagements. Additionally, weapon systems such as LANTIRN are being developed to improve our capabilities to attack ground targets at night and in adverse weather.

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 8 to 9 years because of the high stress associated with carrier operations. By FY 1989, the aircraft operated by active and reserve Air Force 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 15 years of service, respectively.

Over the next five years, we plan to buy 1,386 fighter and attack aircraft for the Air Force and 881 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 1989.

(1) Air Force Programs

In FY 1985, the Air Force is proposing to procure 48 F-15s and 150 F-16s. The F-15 procurement will support the formation of about one and one-half F-15C/D tactical fighter squadrons, freeing earlier-model F-15A/B aircraft for transfer to reserve units. 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 earlier-model F-4Cs and other aging aircraft. The remaining F-16s are being assigned to the reserves. One ANG unit received F-16s in FY 1983, and an Air Force Reserve unit is scheduled to follow in FY 1984. Additional deliveries of F-15 and F-16 aircraft to the reserves are scheduled for FY 1986 and later years.

We would prefer to procure F-15s and F-16s at higher, more efficient rates in FY 1985 to accelerate the modernization of the reserve force, but cannot do so because of the higher priority given to other defense activities. The later years of the five-year program, however, will permit us to procure fighter aircraft at more efficient rates.

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 preserve our advantage in the latter half of the decade, when the Soviets are expected to deploy a new generation of fighter aircraft with improved air-to-air combat capabilities. Therefore, the FY 1985-89 program funds several ongoing weapon development programs, including the Advanced Medium-Range Air-to-Air Missile (AMRAAM), which will give the F-16 a night/all-weather, radar-missile capability, while significantly improving the F-15's capabilities in aerial engagements beyond visual range. For the future, we are continuing studies of Advanced Tactical Fighter (ATF) concepts that could lead to the introduction of a new aircraft type in the mid-1990s.

The FY 1985 program continues funding for a new air-to-ground variant of the F-15 or F-16, commonly known as the "dual-role fighter." This aircraft will significantly improve the range/payload capability of our tactical forces and, in conjunction with LANTIRN, their ability to operate at night and in adverse weather. We have completed an operational comparison of F-15 and F-16 derivatives and, in early 1984, expect to select an aircraft for development.

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 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 acquire 372 additional F-15s through FY 1989, and to continue buying these aircraft into the mid-1990s.

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 150 F-16s in FY 1985, then increase the production rate to 216 aircraft per year in FY 1986 and beyond. We also are developing a cranked-arrow-wing version that will greatly expand the aircraft's range and payload.

MC-130H (Combat Talon II) -- A modified C-130 aircraft operated by Special Operations Forces, the MC-130H is equipped with precision-navigation, terrain-following, and self-protection systems that enable it to penetrate enemy airspace at night and at low altitudes. Its primary mission is to drop combat personnel and equipment behind enemy lines. By FY 1991, the inventory will include 35 of these aircraft.

HH-60D/E (Nighthawk) -- With its extended range and improved avionics, the "D" model of this helicopter will be capable of precision low-level navigation at night and in adverse weather. This version will replace aging helicopters in Special Operations Forces and a portion of the helicopters in the combat rescue fleet. We plan to modernize the remainder of the combat rescue fleet with the less costly HH-60E. This model, with less sophisticated avionics, will improve our combat rescue capability in favorable weather conditions.

LANTIRN -- Currently under development, the LANTIRN is a pod-mounted navigation and targeting system designed to acquire enemy targets in day or night and to relay targeting information to air-launched weapons. 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. With LANTIRN, the F-16 and A-10 will be able to navigate and use their weapons at night and in adverse weather.

IIR Maverick -- An antiarmor, air-to-surface missile, the IIR Maverick is an updated version of the current TV-guided system. The IIR version uses an imaging infrared seeker for guidance, expanding its capability in the night-attack role. Teamed with LANTIRN, it will provide a potent addition to our future antiarmor capabilities. The system will be fielded beginning in FY 1984.

Advanced Medium-Range Air-to-Air Missile (AMRAAM) -- The AMRAAM is a new, all-weather missile being developed for use by both the Air Force and the Navy. Unlike current radar missiles, which are guided to their targets by the radar systems aboard the aircraft that 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, and that 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 to see the missile or to "track back" to our aircraft's location. We are modifying all of the Air Force's F-4D/E aircraft to carry the highly effective AIM-9L/M missiles.

Wide-Area Antiarmor Munitions (WAAM) -- The Soviets' numerical superiority in tanks and other armored vehicles poses a serious threat to U.S. and allied ground forces in Europe. The WAAM concept focuses on neutralizing this threat through simultaneous dispersal of numerous submunitions, each capable of seeking out and destroying armored vehicles. We are continuing development of advanced antiarmor munitions and delivery systems.

Tactical Aircraft Modifications -- 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 1985-89 program include: for the A-10, an inertial navigation system; and for the F-4, a low-smoke engine modification and an improved radar warning receiver. Additionally, under the Compass Call program, we are modifying 16 C-130 aircraft to provide them with the capability to jam enemy communications.

Air Base Survivability -- We have begun a major program to increase the survivability of European air bases from which we would operate aircraft during a crisis. The program includes improvements both to the 20 main operating bases (MOBs) we maintain and to several dozen collocated operating bases (COBs), maintained by the European allies, that we would share with allied forces in a NATO reinforcement. High-priority projects scheduled to begin in FY 1985 include fabrication of revetments, blast walls, and earthworks at a large number of MOBs and COBs.

We also plan to construct additional concrete shelters for U.S. aircraft deploying to the COBs. Accordingly, we will be working closely with our NATO allies over the next few years to establish funding procedures for the shelters. We are requesting a modest level of "prefinancing" ($42 million) in FY 1985 to begin construction at six COBs. 1/ Pending the availability of NATO funding, we must take steps to ensure the survivability of our air bases and aircraft in the event of a NATO/Warsaw Pact contingency.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
F-15				
Development:				
$ Millions	115.2	107.6	82.9	34.3
Procurement:				
Quantity	39	36	48	60
$ Millions	1,479.0	1,526.2	2,213.5	2,531.3
F-16				
Development:				
$ Millions	71.9	104.4	83.4	44.8
Procurement:				
Quantity	120	144	150	216
$ Millions	2,244.5	2,551.3	4,145.4	4,654.4
MC-130H				
Procurement:				
Quantity	1	2	2	4
$ Millions	40.5	71.1	101.4	144.2

1/ The term "prefinancing" refers to the commitment of U.S. funds for NATO-related projects in advance of the allocation of Infrastructure funding.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
HH-60D/E				
Development:				
$ Millions	27.2	36.2	81.3	29.0
Procurement:				
Quantity	--	--	--	3
$ Millions	--	--	22.5	183.0
LANTIRN				
Development:				
$ Millions	99.9	58.1	98.3	43.6
Procurement:				
Quantity	--	--	4	34
$ Millions	--	--	190.3	441.9
IIR Maverick				
Procurement:				
Quantity	900	1,980	4,690	8,200
$ Millions	248.9	303.1	608.2	746.4
AMRAAM				
Development: a/				
$ Millions	211.7	193.4	253.4	133.4
Procurement:				
Quantity	--	--	174	1,042
$ Millions	--	57.9	431.0	842.9
AIM-9M				
Procurement: a/				
Quantity	2,420	2,050	1,000	1,220
$ Millions	141.2	135.6	71.2	92.6
WAAM				
Development:				
$ Millions	13.7	23.5	27.3	12.6
Tactical Aircraft Modifications				
Procurement:				
$ Millions	687.0	624.7	776.7	1,029.9
Air Base Survivability				
Procurement:				
$ Millions	--	6.4	41.7	18.0

a/ Includes Air Force and Navy funding.

(2) Navy and Marine Corps Programs

Over the next five years, we plan to buy 881 Navy and Marine Corps fighter and attack aircraft and some 60 combat support aircraft.

The 546 F/A-18s planned during the program period represent more than 50% of the tactical aircraft funded by the Navy. The F/A-18 was introduced into active Navy and Marine units in FY 1983. By the early 1990s, 28 Navy and 12 Marine squadrons will fly F/A-18s. The versatility of this strike-fighter will provide tactical planners an extra dimension in responding to a wide variety of threats.

The procurement plan also supports our objective of providing two F-14 fighter squadrons for each large-deck carrier. The F-14 is our primary fleet air defense aircraft; armed with long-range, air-to-air Phoenix missiles, it enhances the ability of our carrier battle groups to operate in high-threat areas. Carrying the Tactical Air Reconnaissance Pod System (TARPS), the F-14 also provides our carrier task forces with an organic reconnaissance capability. To ensure its continued effectiveness against new-generation Soviet aircraft, we are proposing to begin procuring an upgraded model, the F-14D, in FY 1988. The F-14D will incorporate significant improvements in avionics and radar, enhancing its ability to detect and destroy enemy aircraft. It will also be fitted with a more powerful engine, improving its combat performance.

By the early 1990s, our A-6E attack aircraft will be nearing the end of their service lives and need to be replaced. We are therefore evaluating the relative merits of an upgraded version of the aircraft with improved avionics, radar, and engines, against the possibility of developing an entirely new all-weather attack aircraft. While we are requesting funds for six A-6Es in FY 1985, further procurement will be deferred pending a decision on a possible follow-on aircraft.

We are procuring the new AV-8B vertical takeoff and landing (V/STOL) aircraft for Marine Corps light attack squadrons. The AV-8B will replace older AV-8A/Cs and A-4Ms, freeing the A-4Ms for transfer to reserve units.

Further details on major elements of the Navy's modernization program are provided below:

F-14 (Tomcat) -- The F-14 is an all-weather aircraft designed for fleet air defense. The only aircraft in the Navy's inventory that can carry the long-range Phoenix air-to-air missile, it is intended primarily to protect carrier battle groups against long-range Soviet bomber and cruise missile attacks.

F/A-18 (Hornet) -- The newest addition to the Navy's inventory, the F/A-18 is a multipurpose aircraft capable of employment in both the fighter and the attack role. It is being used to replace older F-4s in Navy and Marine units, and A-7s in Navy units, thereby modernizing a major portion of the fighter-attack force while significantly increasing the fleet's air-superiority capability. The recent addition of forward-looking infrared sensors and laser spot trackers gives it a limited ability to attack targets at night and in adverse weather. In the future, we anticipate using F/A-18s for tactical reconnaissance missions. Eventually, the aircraft will be used to modernize reserve squadrons in the Navy and the Marine Corps.

A-6E (Intruder) -- The A-6E is the only carrier-based aircraft that can attack land and sea targets at night and in all types of weather. It is operated by active Navy and Marine Corps units.

AV-8B (Harrier) -- A V/STOL attack aircraft, the AV-8B incorporates improvements over the earlier "A" model in payload, performance, and ordnance delivery accuracy. It is being procured to replace AV-8A/Cs and A-4Ms in Marine Corps units.

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 in 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. The Navy plans to continue procurement of the AIM-7M to meet its air-to-air missile requirements until the AMRAAM enters production.

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) -- An all-weather, air-to-air missile, the AIM-54A/C is intended primarily for long-range attacks against bombers. First procured in FY 1980, the "C" model has improved electronic counter-countermeasures features relative to earlier versions.

Tactical Aircraft Modifications -- Major elements of the FY 1985-89 program include: for the A-6, an inertial navigation system, the Target Recognition Attack Multisensor (TRAM), and a major rewing program; for the A-7, a forward-looking infrared (FLIR) sensor; for the EA-6B, improved radar jamming equipment (the ICAP II program); and for the E-2C, an improved radar antenna (the TRAC-A program).

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
F-14				
Development:				
$ Millions	14.7	42.0	294.0	542.6
Procurement:				
Quantity	24	24	24	24
$ Millions	931.2	949.9	976.9	969.1
F/A-18				
Development:				
$ Millions	107.8	16.7	19.8	54.7
Procurement:				
Quantity	84	84	84	102
$ Millions	2,469.6	2,318.4	2,686.0	2,861.7

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
A-6E				
Development:				
$ Millions	4.7	8.5	17.9	12.2
Procurement:				
Quantity	8	6	6	--
$ Millions	218.0	213.4	214.6	98.1
AV-8B				
Development:				
$ Millions	117.8	101.9	70.4	38.5
Procurement:				
Quantity	21	27	32	46
$ Millions	741.5	793.6	822.6	1,013.2
AIM-7M a/				
Procurement:				
Quantity	1,471	1,379	923	1,313
$ Millions	277.9	275.7	173.6	253.7
Laser Maverick				
Development:				
$ Millions	1.0	1.9	2.0	--
Procurement:				
Quantity	12	263	600	1,500
$ Millions	41.4	36.2	110.7	177.9
AIM-54A/C				
Procurement:				
Quantity	108	265	400	567
$ Millions	243.8	333.2	472.0	508.3
Tactical Aircraft Modifications				
Procurement:				
$ Millions	475.6	511.5	566.7	698.5

a/ Includes Air Force and Navy funding.

c. Electronic Warfare

The FY 1985-89 program funds a mix of electronic warfare systems 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.

Most enemy air defense systems emit electromagnetic radiation to locate penetrating aircraft and guide missiles to them. We are developing systems, such as the Precision Location Strike System (PLSS) and

the High-Speed Antiradiation Missile (HARM), with improved capabilities to locate, identify, and destroy enemy targets by exploiting the electromagnetic radiation they emit.

We are pursuing the following major programs to improve our capabilities in these areas:

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 weapon systems.

High-Speed Antiradiation Missile (HARM) -- The HARM air-to-surface missile, being developed jointly by the Navy and the Air Force, is designed to suppress or destroy land- and sea-based air defense radars. The system will be fielded beginning in FY 1985.

Precision Location Strike System (PLSS) -- The PLSS is designed to locate and identify enemy air defense emitters and guide weapons to them, in all weather conditions and from standoff ranges. Currently under development by the Air Force, the system is scheduled to become operational in the mid-1980s.

Pave Tiger -- The Pave Tiger is a small, ground-launched, expendable drone aircraft designed to suppress or destroy elements of enemy air defense networks. The Israelis' success in employing drone systems against Syrian ground-based air defenses illustrates the excellent potential of these aircraft.

Airborne Self-Protection Jammer (ASPJ) -- This joint Navy/Air Force program will provide many of our modern tactical aircraft with reprogrammable electronic countermeasures designed to cope with the projected electromagnetic threat. Unlike earlier jamming systems, which were carried in external pods, the ASPJ system will be built into most aircraft and so will not detract from their aerodynamic performance.

Antijam, Secure Voice, Data, and Identification Friend or Foe (IFF) Systems -- The Joint Tactical Information Distribution System (JTIDS) is a secure, jam-resistant, digital data and voice system designed for use by all four 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 and at selected ground sites in the United States and Europe. The remaining portions of the system, which include terminals of various sizes and capabilities, will be fielded throughout the 1980s and into the 1990s.

At the Congress' direction, we have terminated the Seek Talk program and have evaluated several alternative approaches to providing, by the end of the decade, a secure, jam-resistant voice radio for our tactical air forces. The preferred alternative, the Enhanced JTIDS System (EJS), will satisfy our secure, high antijam voice requirements. As a near-term response to the Soviet jamming threat, we are modifying our tactical ultrahigh frequency (UHF) radios with the "Have Quick" system. More than 1,000 aircraft have been equipped with this system over the past year.

The Air Force is also developing a combat identification (IFF) system for use by all 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.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
EA-6B				
Development:				
$ Millions	12.7	23.4	44.1	58.3
Procurement:				
Quantity	6	8	6	6
$ Millions	296.0	452.8	379.2	314.5
HARM				
Procurement:				
Quantity	289	722	1,674	2,461
$ Millions	161.7	379.2	656.4	803.2
PLSS				
Development:				
$ Millions	78.7	69.0	83.0	63.3
Procurement:				
$ Millions	1.8	8.8	198.2	146.2
Pave Tiger				
Development:				
$ Millions	14.3	5.6	1.0	3.5
Procurement:				
Quantity	100	400	500	--
$ Millions	24.2	48.2	38.9	--
ASPJ				
Development:				
$ Millions	78.6	84.6	69.7	29.0
Procurement:				
$ Millions	25.2	45.0	270.5	472.3
JTIDS				
Development:				
$ Millions	164.4	168.8	239.0	246.3
Procurement:				
$ Millions	--	--	2.9	21.1

d. 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 operation. It is also a valuable supplement to our naval forces in performing the sea-lane defense mission.

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 have provided valuable surveillance capabilities, we believe that new wide-area sensors -- such as the 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.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
E-3A				
Development:				
$ Millions	67.0	63.4	76.6	102.0
Procurement:				
Quantity	2	--	--	--
$ Millions	142.5	76.2	--	--
E-2C				
Development:				
$ Millions	40.5	43.6	39.1	25.6
Procurement:				
Quantity	6	6	6	6
$ Millions	287.6	302.5	341.8	370.2
TR-1				
Procurement:				
Quantity	4	5	3	--
$ Millions	149.1	171.1	199.6	71.8

e. Rapid Deployment Force Programs

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 the Marine Corps have identified several units for commitment to the Central Command, oriented toward Southwest Asian (SWA) operations. A mix of fighter, attack, and support units has 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 of the limitations -- such as a lack of aircraft parking aprons, inadequate airport navigation facilities, and poor fuel storage and distribution -- that complex modern aircraft could face when operating from unprepared sites. For example, lack of sufficient parking aprons precluded our dispersing the aircraft, which increased 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

Since air power is a decisive factor in conventional warfare, we have taken a number of steps to improve the combat effectiveness of our tactical air forces. To maintain their technological advantages over potential adversaries, we are adding newer, more capable aircraft, munitions, and combat support systems to their inventories. Focusing on combat readiness and sustainability, we are providing our air crews with better training and improved logistics support. 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 considerable 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 strategy of deterrence through forward defense with limited peacetime presence requires a rapid deployment capability. For deterrence to be effective, we must be capable -- and be seen as being capable -- of responding promptly to aggression, with forces of sufficient size and strength to limit the extent of a conflict and protect the security of friends and allies. A credible deterrent, then, hinges to a large extent on our ability to deliver forces rapidly to distant trouble spots and to sustain them once deployed. Projection forces give us that capability.

Deterring Soviet aggression is our biggest challenge. As Chart III.D.1 shows, the Soviets and their allies have a significant advantage of proximity to several critical theaters -- Europe, Southwest Asia, and Northeast Asia -- and they are steadily improving their ability to launch simultaneous attacks in these theaters. In addition, they are enhancing their ability to transport their own or surrogate forces to areas far from both the Soviet Union and the United States.

As a result of these Soviet gains, the demands on our projection forces are greater today than ever before. We must be prepared to dispatch forces promptly to any of a number of regions around the world -- possibly simultaneously. To meet this challenge, we depend on airlift and sealift, complemented by prepositioned materiel (both on land and at sea), and on access to facilities in friendly nations. In designing these programs, we consider the contributions our allies can make with their mobility forces, and the transportation resources potentially available from the civil sector here and abroad.

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 a wide range of deployments. In regions such as Southwest Asia (SWA), where we maintain only a limited military presence in peacetime, airlift would deliver the initial increment of combat forces. These forces -- comprising tactical air, air defense, and light ground units -- would be needed to establish a foothold and secure an area, including ports and airfields, for the arrival of follow-on forces. For deployments to regions such as Western Europe, where we station forces in peacetime, airlift is the only transportation mode that can satisfy our rapid-reinforcement objectives.

Our heavier -- mechanized and armored -- forces cannot be transported rapidly by air in the numbers needed. 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. We achieve this capability by combining airlift with prepositioning.

(2) Prepositioning

Prepositioning, whether on land or at sea, sharply reduces movement requirements in the important early days of a deployment. For example, by storing heavy items of equipment for our mechanized divisions in warehouses in Europe, we can cut each division's transit time from several weeks to two or three days, thereby enabling us to meet our NATO reinforcement objectives. Although land-based prepositioning programs do much to improve our 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 the need arises. Sea-based prepositioning programs, therefore, contribute to our ability to deploy forces rapidly to threatened areas worldwide.

(3) Sealift

Army and Marine Corps units for which we have not prepositioned equipment would, in most cases, deploy by sea. Fast sealift and amphibious ships would be the first to arrive, followed by government-controlled conventional shipping and ships requisitioned from the U.S.-flag fleet. Just as we do with airlift programs, we combine prepositioning with sealift to shorten response times. Supplies and equipment used to unload ships and operate ports can be prepositioned near potential conflict regions, where they would provide a full support capability when our fastest ships arrive.

(4) En Route Basing Support

Access to bases en route to the conflict theater is important for any deployment, particularly a large one. To move a large force quickly, we must maximize the amount of cargo carried aboard each aircraft. Without access to intermediate bases for refueling, we would have to sacrifice cargo space in order to carry more fuel or call upon our limited aerial-refueling forces. 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 so that they can support military operations during a crisis.

c. Segments of a Deployment

A deployment of any scale would have two segments: the initial movement of combat and support forces to the theater of operation and subsequent movements within the theater.

We use the term "intertheater mobility" to refer to the movement of forces and materiel between major geographic regions or theaters. This portion of a deployment is accomplished by airlift and sealift.

We use the term "intratheater mobility" to denote movements of forces and supplies within a theater of operation. The term applies both to movements from air or sea ports of debarkation to initial destinations and to subsequent movements in response to changing battlefield conditions. Some units would use their own vehicles; others, lacking their own surface or air transportation, must rely on intratheater mobility support.

d. Force Projection Goals

Given the growing ability of the Soviet-bloc nations to launch simultaneous offensives in Europe, SWA, and the Pacific region, our long-term goal is to be able to deploy the forces we need to these areas concurrently.

For a NATO reinforcement, our objective is to be able to move six Army divisions, 60 tactical fighter squadrons, and one Marine Amphibious Brigade (MAB) -- all with initial support -- to their combat positions within 10 days. Our objective for SWA is to be able to deploy a major joint task force and required support within six weeks of being asked for assistance. Our objectives also include deployments to reinforce our units stationed in Northeast Asia.

(1) Europe

Rapid reinforcement is central to the U.S. commitment to NATO. Our reinforcement objectives for NATO are designed to enable us to augment our forward-deployed forces quickly enough to block Warsaw Pact breakthroughs. Because the reinforcements include six entire Army divisions and their support, we rely on extensive prepositioning to reduce the amount of materiel that has to be moved by air. Under the POMCUS (Prepositioning of Materiel Configured to Unit Sets) program, the Army stores heavy items of equipment (such as 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. Expensive equipment (such as helicopters), sensitive electronic equipment that is difficult to store, and the troops themselves would be airlifted to the marshalling area, where the units would assemble and move forward.

Two other land-based prepositioning programs contribute to our ability to reinforce NATO rapidly in a crisis. The Air Force stores equipment for its fighter and airlift forces at operating bases in several European countries, while the Marine Corps prepositions heavy equipment in Norway for an amphibious brigade.

Once the initial reinforcements had been airlifted to the theater, sealift would accomplish much of the remainder of a deployment. Because government-controlled and U.S.-flag shipping can fulfill only a portion of the requirement, we would also use ships from allied

civil fleets. Our dependence on allied shipping would increase if we had to deploy forces simultaneously to two or more theaters.

(2) Southwest Asia

Since we have no forward-deployed forces in SWA, and the main Soviet ground forces would take longer to arrive, our deployment objectives for that region are quite different from those for NATO. Establishing air defenses would have a high priority early in a deployment, as would the protection of ports and preparations to receive aircraft and ships. We rely on airlift, combined with prepositioning, to 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 our objectives are challenging, they can be met with the planned improvements to our projection forces if we have some support from friendly nations in the region and we respond promptly to warning.

Deploying forces to SWA is a challenging assignment. The distances are long -- more than 12,000 nautical miles by sea and 8,000 nautical miles by air -- while the ports and airfields are austere. If we can deploy forces rapidly to SWA, however, we will be able to move comparable forces to almost any area on the globe. Many of the programs directed specifically toward SWA, such as sea-based prepositioning, could be used to support deployments to other areas, if necessary.

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 322 long-range cargo aircraft (C-5s, C-141s, and KC-10s) designed primarily to transport materiel to or between theaters of operation. Another 520 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, we maintain approximately 76 dry cargo ships and 34 tankers under government control. Some of these ships are used for routine peacetime operations; others could be made available within 10 to 15 days of notification. Approximately 200 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 our civil fleets. The Civil Reserve Air Fleet (CRAF) could contribute 212 passenger and 108 cargo aircraft -- about 90% of the international passenger aircraft and all of the international cargo aircraft in the U.S. commercial inventory. The U.S.-flag fleet could supply approximately 202 dry cargo ships and 120 tankers. Of these, 160 cargo ships and 25 tankers are available by charter or government contract under the Sealift Readiness Program, which operates at no direct cost to DoD.

f. Assistance from Allies

Our NATO allies and the Republic of Korea (ROK) have agreed to contribute a number of ships and aircraft for reinforcements of their regions. The European allies have earmarked some 600 ships, 37 long-range cargo aircraft, and 22 passenger aircraft for a NATO reinforcement. The ROK has likewise committed a pool of ships and aircraft it would make available to help reinforce that theater. These commitments

would speed the reinforcement of these regions, while freeing some of our aircraft and ships for use in other theaters.

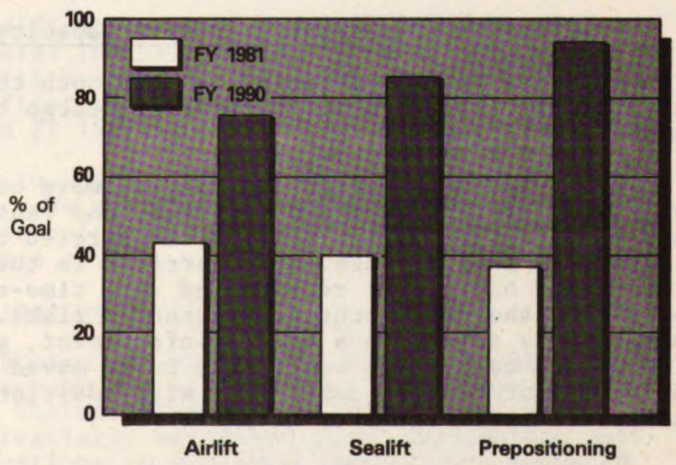
g. Improvements Since FY 1981

While the United States' force-projection capabilities were substantial when this Administration took office, they were insufficient to meet all of the potential deployment demands. We lacked the ability to move large forces quickly enough to deter Soviet aggression in distant regions outside NATO's boundaries. Nor could we deploy 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 1981, our initiatives to improve our airlift and sealift capabilities, and to preposition additional materiel abroad, have begun to redress these deficiencies.

In January 1982, we announced a major airlift program calling for procurement of 50 C-5B and 44 KC-10 aircraft. In September 1983, we began a long-proposed program to enhance the capabilities of the Civil Reserve Air Fleet (CRAF) by adding cargo-convertible features to existing wide-bodied passenger aircraft in the fleet. Combined with the increased purchases of spare parts we have made over the past three years, these initiatives will, by 1990, increase our intertheater airlift capability by roughly 75%, and more than double our ability to move outsized equipment by air.

For sealift, the FY 1983 budget began an expansion of the Ready Reserve Force (RRF). At the same time, we revised our goal for this force from 44 to 77 ships, including 16 tankers. The FY 1983 budget also began a program to increase the contribution the U.S.-flag fleet could make to the movement of military equipment. The equipment purchased under this program will enable us to modify commercial container ships so that they can carry the full range of military cargo.

Chart III.D.2
Force Projection Improvements



Finally, the FY 1983 and 1984 budgets expanded our land- and sea-based prepositioning programs and accelerated a major sea-based prepositioning program.

Chart III.D.2 summarizes the improvements programmed through FY 1990.

h. Operations in FY 1983

During FY 1983, our projection forces were used to deliver supplies for forward-deployed forces in Europe and Northeast Asia, to deliver the troops and materiel we contributed to the multinational peacekeeping force in Lebanon, and to resupply and assist allies in Africa and Central America. For example, we airlifted more than 600 tons of equipment and supplies, and some 1,400 people, to the Middle East to support peacekeeping efforts in that region. To support our operations in Grenada, some 12,800 troops were moved by air and sea. A landing force of 1,800 marines was deployed by amphibious shipping, while the Military Airlift Command flew more than 1,500 sorties, transporting more than 14,000 tons of supplies and equipment and 11,000 soldiers.

2. FY 1985-89 Programs

The programs we are proposing for the next five years will add substantially to our ability to project forces over long distances to austere regions. They also will move us considerably closer to our goal of being able to deploy major forces and sustain combat operations in two or more theaters simultaneously.

Our planned airlift improvements will help eliminate long-recognized shortages. Our prepositioning programs will enhance our rapid-response capabilities worldwide. Especially noteworthy will be the completion in 1986 of the Maritime Prepositioning Ships (MPS) program, which will give us the capability to deploy a heavily configured Marine division very rapidly to any theater near which these ships are based. Our sealift programs will increase the number of government-controlled ships that can be made available early in a deployment, provide fast sealift for an Army division, and improve our ability to unload all types of ships in austere ports.

a. Airlift Programs

(1) Expansion of Airlift Capacity

Over the next five years, we plan both to add cargo aircraft to our military fleet and to increase the cargo contribution of aircraft in the civil fleet.

The C-5B increases our ability to move outsized equipment, such as helicopters, large weapon systems, and vehicles. These items would have to be dismantled in order to be carried by any other aircraft in military or civilian use. Upon arrival in the combat theater, the items 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 our 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 would probably 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.

The CRAF contains civilian passenger and cargo aircraft that can be called on to augment military airlift forces during a contingency. Under the CRAF Enhancement program, we are adding cargo-convertible features (e.g., cargo doors and reinforced floors) to passenger aircraft so that they could be converted quickly to carry military equipment in an emergency. In September 1983, we signed a contract to begin this program. Exercising the options available under this contract will allow us to modify 19 passenger airliners, bringing the total available force to 20.

Although the FY 1985-89 program makes significant improvements to our intertheater airlift capabilities, our FY 1989 capability will not meet our long-term goals. Consequently, the FY 1985 budget includes a request for funds to begin full-scale engineering development of the C-17 cargo aircraft. 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, it will be able to operate into austere airfields, thereby increasing the amount of cargo that can be delivered directly to operating locations. After its intertheater mission is completed, it could be used to augment the C-130 force in moving troops and materiel within the theater.

(2) Improvements to Existing Aircraft

Meeting our airlift objectives requires that we improve our existing airlift forces as well as acquire additional capacity. The FY 1985-89 program sustains several efforts to enhance the effectiveness of our military airlift forces.

(a) Intertheater Airlift

We are continuing a modification program for our C-5A aircraft to correct structural deficiencies in their wings. Once modified, the 77 aircraft now in the fleet will be able to remain in service well into the 21st century. The modification program began in FY 1982 and is scheduled to be completed in FY 1987.

We also are continuing to build up our stocks of spare parts for our C-5A and C-141 aircraft. We must buy adequate amounts of these items in peacetime if our aircraft are to achieve and sustain their planned utilization rates in a crisis.

(b) Intratheater Airlift

Last year, we began a program to modify the wings of older-model C-130 aircraft in order to repair corrosion damage and to correct problems caused by stress. The modifications to the "A" and "D" models will be made during regularly scheduled depot maintenance periods through FY 1986; modifications to the other models were begun in FY 1984 and will be completed in FY 1989. With these modifications,

the entire C-130 force will be able to remain in service through the end of the century.

We are also modifying the Army's fleet of CH-47 helicopters to increase their operational capability, and are continuing to procure CH-53 helicopters for the Marine Corps. (These programs are discussed in more detail in the Land Forces chapter.)

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
C-5				
Procurement:				
Quantity	1	4	10	16
$ Millions	798.9	1,367.1	2,189.8	2,568.8
KC-10				
Procurement:				
Quantity	8	8	8	12
$ Millions	891.3	742.0	647.0	507.0
CRAF Enhancement				
Quantity	--	3	4	8
$ Millions	--	95.9	128.9	253.6
C-5 Wing Modification				
Quantity	18	24	--	--
$ Millions	184.6	241.6	--	--
C-17 Cargo Aircraft				
Development:				
$ Millions	60.0	26.6	129.3	364.2

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 a majority of the forces and cargo (including much of the nonprepositioned equipment for heavy divisions and support units) as well as most of our ammunition and supplies.

(1) Fast Sealift

In FY 1981-82, we acquired eight SL-7 container ships -- at 33 knots, the fastest cargo ships available. To enable these ships to carry the full range of military cargo, and to improve their loading and unloading time, we are converting them to a self-sustaining, "roll-on/roll-off" configuration. Funds for the first four conversions were provided in FY 1982, and the FY 1984 budget funded the remaining four. All eight ships will be operational by the end of FY 1986.

(2) Ready Reserve Force

As noted earlier, we have begun a program to expand the Ready Reserve Force (a part of the National Defense Reserve Fleet) to 77 ships (61 cargo ships and 16 tankers) by FY 1988. This will require adding 30 cargo ships and 15 tankers to the present inventory. These ships can be made available for sealift operations on five to ten days' notice, without disrupting routine commerce. In peacetime, we would plan to use the ships to meet any surge requirements of the Military Sealift Command. In a major crisis, they would provide some of our earliest-available sealift. We also could use them for smaller contingencies not requiring the entire U.S.-flag fleet.

(3) 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 container ships has substantially increased shipping companies' productivity, it has put into commercial service ships with only 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 cannot be containerized to be loaded on them.

The Navy has developed two techniques for giving container ships a breakbulk capability during contingencies. One option is to load cargo on a strengthened version of the commercially available flat rack, a large platform that fits in the standard container guides on these ships. In essence, flat racks 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, that are installed in reinforced container guides, where they provide a cargo hold accessible from the main deck. Sea sheds are strong enough to carry the heaviest items of military equipment. Once fitted, they can remain in a ship indefinitely. Both flat racks and sea sheds increase the military utility of container ships. We plan to buy enough of this equipment to outfit approximately 30 container ships. A fleet of that size could provide lift for about one Army division and its support.

(4) Sealift Discharge

Deployments to SWA could well require unloading cargo, water, and fuel in austere or damaged ports, or in areas lacking port facilities. The Army and Navy are working together to improve their ability to unload ships under these conditions.

Container ships without cranes and roll-on/roll-off ships without ramps typically use cranes and ramps available in the modern ports they serve. These facilities must be transported to austere ports. Our program buys transportable barges to load and unload ships unable to navigate in shallow waters; mobile piers; portable facilities for unloading petroleum, oil, and lubricants (POL) from tankers; portable ramps for roll-on/roll-off ships; and an Auxiliary Crane Ship (TACS) to unload non-self-sustaining container ships. To meet the Army's and Marine Corps' requirements, we plan to buy 11 TACS by FY 1989. The lead ship was funded in FY 1982.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
SL-7 Conversions				
Procurement:				
Quantity	--	4	--	--
$ Millions	44.0	227.0	2.2	9.7
Ready Reserve Force				
Procurement:				
Quantity	--	9	9	10
$ Millions	--	31.0	31.0	31.0
Flat Racks and Sea Sheds				
Procurement:				
$ Millions	10.2	17.3	18.5	56.3
TACS				
Procurement:				
Quantity	--	1	2	3
$ Millions	--	29.8	44.0	71.0
Sealift Discharge				
Procurement:				
$ Millions	5.0	34.0	87.1	136.4

c. Prepositioning Programs

Rapid deployment -- whether to reinforce a developed region, such as Western Europe, or to deploy forces to an austere one, such as SWA -- often depends heavily on prepositioning. We have undertaken several programs to store equipment and supplies in Europe and SWA for U.S.-based forces that would deploy there in time of crisis.

(1) Prepositioning in Europe

(a) Army

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 were inadequate to meet the Warsaw Pact threat. Since that time, the Warsaw Pact has increased the effectiveness and mobility 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 program, we have stored heavy equipment for four Army divisions and supporting units in Europe, and have promised our NATO allies that we will provide equipment for two more divisions, for a total of six. Belgium has provided land for the fifth set; the Netherlands, for the sixth. Infrastructure funds have been allocated to cover the costs of constructing the sites. Work began last year,

and the first warehouses will receive equipment during FY 1984. We expect the remaining warehouses to be ready by the end of FY 1985, and with continued congressional support, we plan to move equipment into them as they become available.

(b) Air Force

The Air Force prepositions equipment in Europe to speed the delivery of tactical fighter squadrons and the minimum support they need to begin fighting. The materiel in storage includes engineering equipment for repairing damaged runways, as well as ground support and medical equipment. To sustain forward-deployed forces until further reinforcements can arrive, munitions, spare parts, POL, and other consumable items have also been prepositioned.

(c) Marine Corps

The Marine Corps is continuing a land-based prepositioning program in Norway, where it is storing equipment for an amphibious brigade. This materiel will be in place by the end of FY 1986.

(2) Southwest Asia 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 program to preposition supplies aboard ships dates from July 1980, when the Near-Term Prepositioning Force (NTPF) was created. That force originally comprised seven ships, stationed at Diego Garcia, an island base in the Indian Ocean. Six of the ships carried equipment and supplies for a Marine Amphibious Brigade; the seventh carried fuel for the Marines and other early arriving forces. Eleven depot ships were added to the force during 1981 and 1982 to increase the amount of ammunition, supplies, POL, and medical equipment available to early arriving Air Force and Army units.

Ultimately, we plan to preposition unit equipment and supplies for three Marine Amphibious Brigades. Under the Maritime Prepositioning Ship (MPS) program, we are chartering 13 self-sustaining, roll-on/roll-off ships for this purpose. In time of crisis, the troops and their remaining materiel would be airlifted to the theater, where they would draw their equipment and supplies from the ships.

We plan for the first MPS task force to be on station in late 1984 and the second and third in 1985 and 1986, respectively. The task forces to be formed in 1984 and 1985 will be stationed outside the SWA region. The task force scheduled for deployment in 1986 will be based at Diego Garcia, where it will replace the six ships from the NTPF that carry Marine equipment.

d. Access to Foreign Facilities

We have reached formal agreement with several nations, and are seeking permission from others, to preposition materiel, to use regional facilities during crises, and to conduct routine training

exercises during peacetime. In some cases, it has been necessary to improve existing facilities. Construction at these sites was initially funded in FY 1980-81, and most of the programs are scheduled to be completed by the end of FY 1987.

By agreement with the United Kingdom, we are upgrading facilities at Diego Garcia so as to increase the capacity of its airfield to support en route refueling and to prepare for mooring additional MPS and ammunition ships. We are also upgrading facilities at Lajes Air Base in the Azores, and are seeking agreement with Portugal to increase the fuel-storage capacity there. These programs enhance our ability to deploy forces rapidly in a crisis as well as to support peacetime operations.

e. Command, Control, and Communications (C^3) Support

We plan to procure new communications equipment for commercial ships to use in wartime. This equipment will eliminate the 12- to 36-hour delays inherent in the current system as well as provide secure communications channels over which we can advise cargo ships of the location of enemy forces. At the same time, we are upgrading the high frequency (HF) radios aboard our intertheater military aircraft in order to increase their reliability.

We are also developing several automated planning and C^3 systems, including the Joint Deployment System. These systems will contain master data files and computer models to be used in formulating contingency plans; they also will provide up-to-the-minute information to commanders making deployment decisions in a crisis.

3. Conclusion

The growing reach of Soviet military power, coupled with 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.

Building on our progress to date, the FY 1985-89 program will bring even larger gains in capability. The procurement of additional C-5 and KC-10 aircraft, and new C-17 aircraft, along with CRAF Enhancement, will add to the capability and flexibility of our airlift forces. Completion of the Maritime Prepositioning Ships program will enable us to deploy a division-sized Marine force very rapidly to distant conflict theaters worldwide. And the expansion of the Ready Reserve Force, 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 combat-ready forces to distant theaters simultaneously. While further improvements will be necessary, these programs will enhance significantly the rapid deployability of our forces and, consequently, their deterrent strength.

E. NUCLEAR FORCES

1. Introduction

U.S. nuclear forces include strategic offensive forces, strategic defensive forces, nonstrategic nuclear forces, and the command, control, and communications systems that support those forces.

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 attacker and by compensating for vulnerabilities in any one of the triad components.

Strategic defensive forces include air defense forces and ground- and space-based surveillance systems. Air defense forces control access to North American airspace, warn of bomber attacks, and provide a limited air defense during war. Surveillance systems warn of ICBM and SLBM attacks and monitor and track objects in space. These systems contribute to deterrence by ensuring we would receive timely warning of an attack, thus reducing Soviet confidence that they could successfully carry out a surprise attack.

Strategic command, control, and communications (C^3) systems help assess attacks, support command functions, and provide communications linking our 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 systems 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.

Since October 1981, the President has vigorously pursued a plan for maintaining deterrence by modernizing aging nuclear forces while negotiating arms reductions with the Soviet Union. Our modernization efforts are linked firmly to our arms control objectives. 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 ballistic missiles should improve the survivability of our future ICBM force. Modernization and reductions are directly linked through the nuclear weapons "build down" proposed by the President in the START negotiations.

2. FY 1985-89 Programs for Strategic Forces

The FY 1985-89 program sustains the modernization plan begun in 1981, adds a vigorous development program for a small land-based missile, and begins a long-term research program to counter ballistic missiles with defensive measures.

a. Strategic Offensive Forces

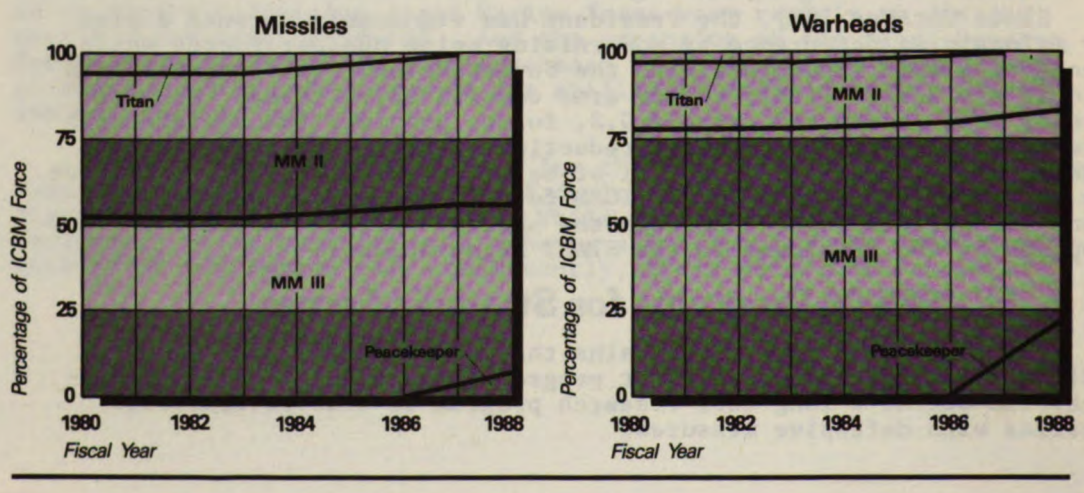
(1) The ICBM Force

High alert rates and excellent supporting communications systems make ICBMs the most responsive element of the triad. The ICBM's ability to put hardened Soviet targets at risk is essential to effective deterrence. We face growing asymmetries, however, with respect to our capability against hardened targets: the unfavorable balance between our capability and that of the Soviets, and the disparity between our capability and our military requirements.

The Peacekeeper ICBM is essential to redress these asymmetries as soon as possible and to encourage the Soviet Union to negotiate arms reductions. The Peacekeeper will be more accurate than our existing Minuteman missiles, will carry more warheads, and will be capable of holding hardened Soviet targets at risk. Development of the missile is well under way. Flight testing began in 1983; deployment in Minuteman silos, in line with the recommendations of the Scowcroft Commission, will begin in late 1986. By 1990, all of the planned force of 100 Peacekeeper missiles will be deployed. The FY 1985 budget request includes funds for continued research and development, production of the missile, and modifications to the Minuteman silos that will hold the new missiles.

Research on the new small ICBM recommended by the Scowcroft Commission is under way, with full-scale development scheduled to begin in FY 1987. The missile will weigh approximately 30,000 pounds, ensuring its compatibility with a mobile basing system. We are considering several competitive design concepts both for the missile itself and for the basing vehicles and structures. At the same time, we are looking at requirements for the system as a whole, including its concept of operations, C^3 support requirements, and its potential impact on the environment. The FY 1985 budget request includes research and

Chart III.E.1
ICBM Force Modernization



development funds for the missile and hardened mobile launcher and for follow-on basing concepts, including advanced silo-hardening technology.

ICBM modernization, and the importance of maintaining the Minuteman force, are illustrated in Chart III.E.1. The FY 1985 program provides needed refurbishment for Minuteman, including the replacement of aging missile components and test equipment. At the same time, we are retiring our obsolete force of Titan II missiles. The deactivations are scheduled to be completed in 1987.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
Peacekeeper Missile and Basing				
Development:				
$ Millions	2,407.2	1,984.9	1,716.3	852.3
Construction: a/				
$ Millions	16.7	31.2	114.0	77.9
Procurement:				
Quantity	--	21	40	48
$ Millions	--	2,157.4	3,171.9	2,833.0
Small ICBM and Mobile Launcher				
Development:				
$ Millions	--	345.4	465.2	482.0
Follow-on Basing Technology				
Development:				
$ Millions	--	121.9	259.3	161.7
Minuteman Modernization				
Development:				
$ Millions	7.2	4.9	4.7	32.9
Procurement:				
$ Millions	82.7	106.6	121.4	129.4

a/ Excludes planning and design, and family housing.

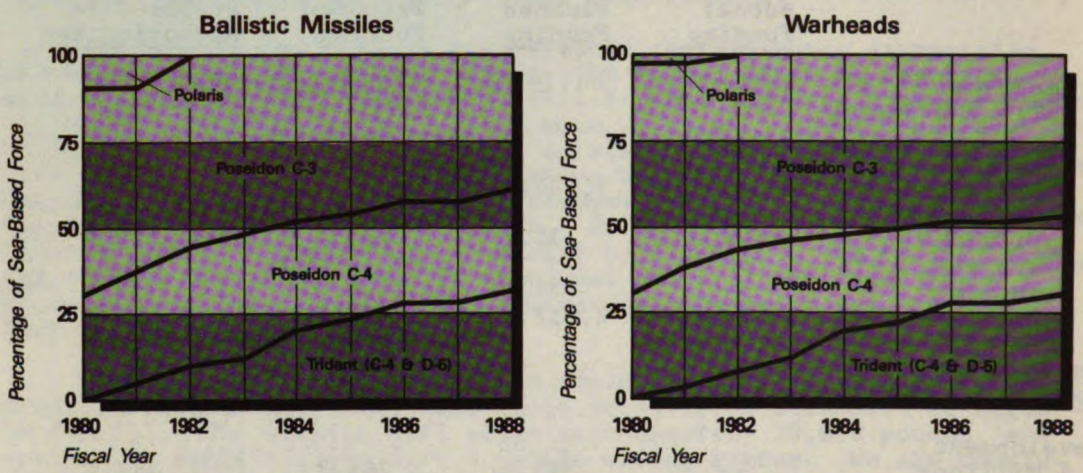
(2) Sea-Based Strategic Nuclear Forces

Ballistic missile submarines (SSBNs), when at sea, are the most survivable element of the strategic triad. The SSBN modernization program calls for replacing the aging fleet of Poseidon submarines with more capable and survivable Tridents, and for achieving a sea-based capability to destroy hard targets by developing and deploying the Trident II (D-5) missile. The program will ensure the continued effectiveness of our sea-based forces into the next century.

Today, the bulk of the sea-based deterrent is provided by Poseidon (C-3) and Trident I (C-4) missiles deployed on Poseidon submarines (see Chart III.E.2). Replacing Poseidon missiles with the longer-range Trident I increases the Poseidon submarines' operating area and,

therefore, their survivability. These submarines will reach the end of their useful service lives in the mid- to late 1990s.

Chart III.E.2
Sea-Based Force Modernization



Trident submarines are more capable and more survivable than the Poseidons they are replacing. They carry 24 missiles instead of 16, and their missile tubes will be able to accommodate the larger, more effective Trident II (D-5) missile. Tridents also are faster, quieter, and harder to detect than Poseidons, have improved sonar and self-defense systems, and can spend a greater portion of their time at sea. Eleven Trident submarines have been authorized through FY 1984, and we are requesting authorization of the twelfth in FY 1985. The first three Tridents are already at sea; their performance during sea trials has met or exceeded design specifications.

The first eight Tridents will be equipped with the Trident I missile. The Trident II will be deployed on all new Trident SSBNs starting with the ninth, and will be retrofitted into the first eight. The Trident II can carry larger payloads and is more accurate than the Trident I, thus providing the SSBN force with the capability to put hard targets at risk. The new missile is now in full-scale development, with initial deployment scheduled for 1989. The FY 1985 budget request includes the first increment of funding for Trident II missile production, as well as long-lead funding for navigation, guidance, and reentry systems.

For the near term, we plan to deploy sea-launched cruise missiles (SLCMs) with nuclear warheads on attack submarines and surface ships. Nuclear SLCMs will be effective against a wide range of enemy targets. Putting them on attack submarines and surface ships will be a cost-effective way of increasing our hard-target capability at sea, and will improve the overall survivability of the force by distributing missiles among a larger number of platforms.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
Trident Submarine				
Procurement:				
Quantity	1	1	1	1
$ Millions	1,757.4	2,137.8	1,793.9	1,862.6
Trident I Missile				
Procurement:				
Quantity	62	52	--	--
$ Millions	633.7	549.9	163.8	109.2
Trident II Missile				
Development:				
$ Millions	369.6	1,473.2	2,091.1	2,250.5
Procurement:				
Quantity	--	--	--	--
$ Millions	--	--	162.9	758.0

(3) The Strategic Bomber Force

Modernization of the bomber force will dramatically improve the strategic balance in this decade. Bombers are survivable, and they can attack the full range of strategic nuclear targets. In addition to their nuclear capabilities, long-range bombers can be used to support general-purpose force operations. They can deliver large conventional payloads against targets virtually anywhere in the world, thereby significantly increasing the firepower available to theater commanders. They also are useful in naval support roles, such as laying mines and attacking surface ships.

Today's force of B-52 and FB-111 bombers provides a credible deterrent. Toward the end of the decade, however, as the Soviets' air defense system becomes more formidable, B-52s will find it increasingly difficult to survive as penetrating bombers. We therefore plan to deploy the B-1B beginning in 1985 and to continue modifying B-52s to carry cruise missiles. By the end of the decade, the B-1B will be our primary penetrating bomber; most B-52s will serve as cruise missile carriers. Those B-52s not modified to carry cruise missiles will take on general-purpose missions. The Advanced Technology Bomber (ATB), to be deployed in the early 1990s, will ensure that our bombers will be able to penetrate Soviet air defenses into the 21st century.

(a) Bomber Modernization

The B-1 is making excellent progress. The flight-test program began ahead of schedule, and the first production aircraft should begin flying several months earlier than originally planned. The 1985 budget request includes funds to procure 34 aircraft, continue flight tests of the B-1A, and begin flight tests of the B-1B.

A major element in the bomber modernization program is the deployment of air-launched cruise missiles (ALCMs), first on B-52s and later on the B-1B. ALCMs are small, low-flying, highly accurate missiles that are very effective against hard targets and pose difficult

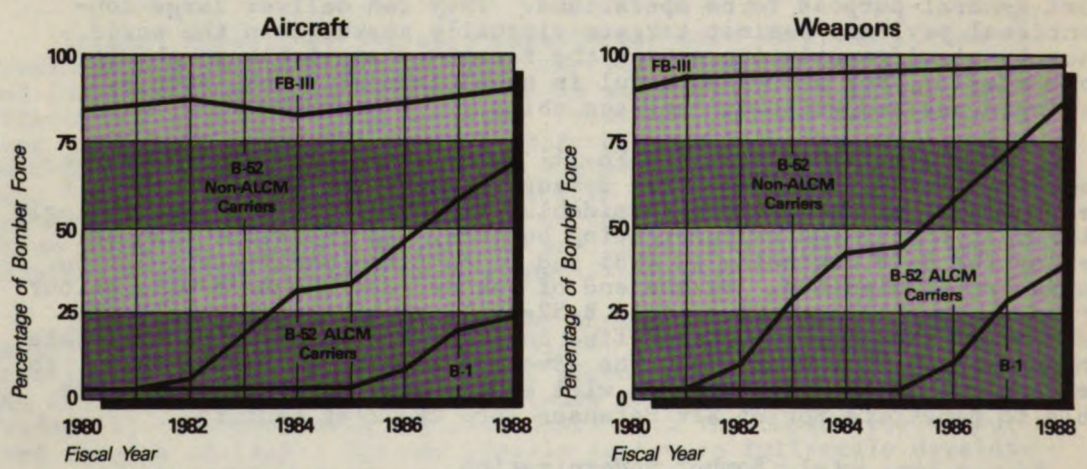
problems for Soviet air defenses. By the end of FY 1984, we will have deployed ALCMs on 90 operational B-52Gs. Starting in 1985, we will begin to modify B-52Hs to carry the missiles.

To counter the projected Soviet air defense threat, we are beginning development of a longer-range advanced cruise missile (ACM) that will incorporate low-observable technology. B-52s equipped with ACMs will be able to stand off farther from Soviet defenses and still put distant targets at risk. Once they are launched, the missiles themselves will be less vulnerable: their longer range will allow them to circumnavigate enemy defenses, while their low-observable design will enhance their ability to penetrate highly defended areas.

(b) Current Bomber Force

Within the framework of the modernization program, we are planning carefully for the most effective use of existing aircraft. B-52G and B-52H aircraft will only be modified consistent with their intended missions and projected operational lives. Planned modifications include a new offensive avionics system, improved electronics countermeasures equipment, engine refurbishments, and autopilot upgrades. Chart III.E.3 shows the proportion of bombers and bomber weapons of each type in the force from FY 1980 to FY 1988.

Chart III.E.3
Bomber Force Modernization



(c) Aerial Tankers

Aerial refueling is essential to virtually all bomber missions -- strategic and conventional. It allows bombers to reach more distant targets, cover greater distances at lower altitudes, and fly around enemy air defenses. Tanker forces provide refueling support for tactical fighters as well as bombers; they also can serve as transport aircraft. To meet these varied demands, which could occur

simultaneously, we plan to expand our aerial refueling capability by reengining existing KC-135As and purchasing new KC-10 cargo/tanker aircraft.

Reengining KC-135s with current-technology CFM-56 engines -- the KC-135R program -- will increase the fleet's refueling capability by approximately 50%, reduce operating and maintenance costs, and ensure the fleet's continued effectiveness well into the next century. The FY 1985 budget request includes funds to procure support equipment and engines to modify 53 aircraft.

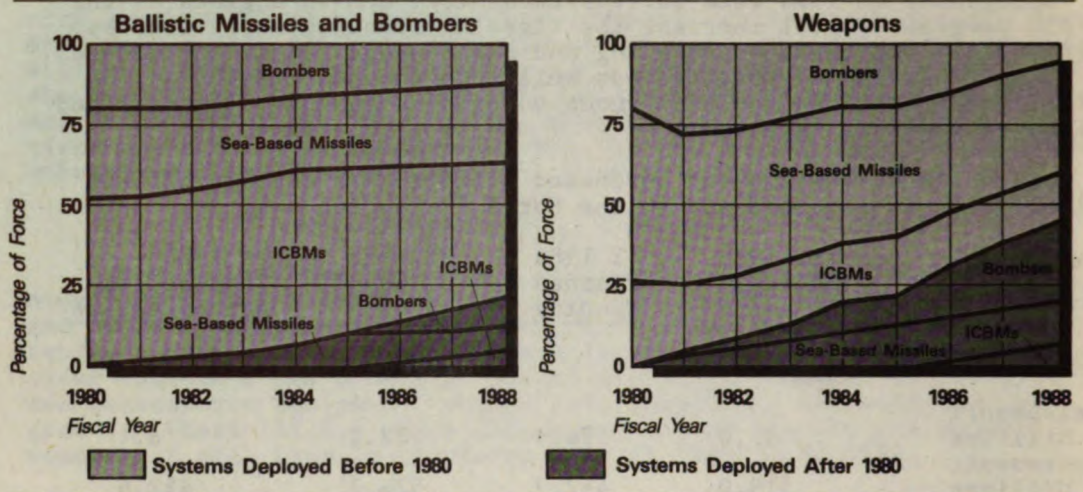
Since the KC-10 is being purchased primarily to enhance airlift capabilities, it is discussed in the Force Projection chapter.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
B-52 Bomber				
Development:				
$ Millions	91.0	76.1	22.2	8.1
Procurement:				
$ Millions	518.0	447.7	574.2	452.6
B-1 Bomber				
Development:				
$ Millions	753.5	737.2	508.3	375.2
Procurement:				
Quantity	7	10	34	48
$ Millions	4,033.5	6,124.5	7,712.3	5,591.9
Air-Launched Cruise Missile				
Development:				
$ Millions	166.9	38.2	28.0	26.6
Procurement:				
Quantity	330	240	--	--
$ Millions	502.4	422.2	80.5	73.5
KC-135 Reengining				
Procurement:				
Quantity	19	29	50	65
$ Millions	463.4	543.0	982.3	1,303.7

(4) Force Structure Modernization

Chart III.E.4 shows the actual and projected modernization of strategic forces during the 1980s. By 1988, modernized systems will constitute about 15% of our operational ballistic missiles and bombers and more than 40% of our weapons.

Chart III.E.4
Strategic Force Modernization



b. Strategic Defensive Forces

Strategic defensive forces and associated C^3 systems are integral components of our deterrent strategy. During the 1970s, funding for strategic defense was often deferred in the face of competing priorities. As a result, our strategic air defense interceptors have become obsolete, and the Soviet Union has operational ballistic missile defense and antisatellite systems, while we have none.

Our strategic defense programs end these years of neglect. The major new initiative this year is a research program for advanced defenses against ballistic missiles. We are also improving our network of air defense radars and modernizing our interceptor forces. Finally, we are strengthening our space surveillance capabilities and pursuing an operational antisatellite system.

(1) Strategic Defense Initiative

Last March, President Reagan set as a long-term national goal putting an end to the threat of nuclear ballistic missiles. He directed the Department of Defense to conduct intensive studies of the technologies applicable to ballistic missile defense, and of their implications for deterrence and arms control. The Defensive Technologies Study concluded that emerging technologies held substantial promise and recommended a long-term research program to develop sound options that could guide future decisions concerning the development of an effective defense against ballistic missiles.

The Defense Department used the Defensive Technologies Study as the basis for establishing a new program for the President's strategic defense initiative. It represents a major departure from recent ballistic missile defense efforts. Previous programs emphasized point-defense systems that would protect selected military targets by intercepting reentry vehicles in the terminal phase of their flight.

The new Strategic Defense Initiative program is designed to examine the feasibility of a system that could engage ballistic missiles and warheads along their entire launch-to-impact trajectories.

While the detailed structure of the new program has not been completed, its general outline is clear. We are focusing previously planned research dollars totaling nearly $1.74 billion (88% DoD, 12% DoE) in FY 1985, on five technology areas that offer the greatest promise for defense against ballistic missiles. The FY 1985 request also includes an additional funding increment of about $0.25 billion to augment these and exploit other new technological opportunities.

Although numerous complex technical problems must be overcome, our preliminary studies conclude that an effective defense against ballistic missiles is potentially feasible. Major research efforts will be required in directed-energy weapons, conventional weapons, and surveillance and target acquisition systems.

An essential element of the program is the early demonstration of key technologies needed for an effective ballistic missile defense. The knowledge gained from these demonstrations will support decisions in the early 1990s on whether to proceed with development of ballistic missile defenses and which systems appear most promising. Since the program is a research and technology effort, it can be fully pursued for the next several years within existing treaty constraints.

Since the studies also stressed the importance of strong central management, the program will have a single manager reporting directly to the Secretary of Defense. The manager will oversee the preparation and execution of the budget, and will have the authority to reprogram resources to more promising technologies, as necessary. He will also serve as the Department's focal point for reporting to the Congress on the program's progress and on actions requiring congressional review. While the initiative will be centrally controlled, the Services and Defense Agencies will participate in the budget formulation process and will have responsibility for executing their portions of the program.

(2) Air Defense

Over the past two decades, as Soviet ballistic missiles became the predominant strategic threat to North America, we reduced our defenses against Soviet strategic bombers. As a result, our surveillance systems would have difficulty detecting bombers penetrating at low altitudes or through gaps in radar coverage. Furthermore, our interceptor forces consist largely of obsolete fighter aircraft with only limited capability to defend against low-flying bombers.

The Soviets are now developing a new bomber and long-range cruise missile. To meet this increased threat and to correct deficiencies in our strategic air defense systems, we are upgrading our early warning radars and modernizing our interceptor forces. In the near term, our highest-priority objective is to provide warning of surprise bomber and cruise missile attacks. In addition, we are replacing aging F-106s with modern fighters that are more capable of controlling access to our airspace in peacetime and could provide a limited defense against Soviet bombers in wartime. Consistent with the President's strategic defense initiative, we are also examining technologies and system alternatives that could, in the long run, lead to more capable strategic air defenses.

(a) Surveillance Systems

Because long-range detection is essential if we are to have timely warning of bomber attacks, we plan to deploy eight 60° sectors of Over-the-Horizon Backscatter (OTH-B) radars for all-altitude surveillance of the eastern, western, and southern approaches to the continental United States. We are requesting funds in FY 1985 to complete procurement of OTH-B radars for the east coast segment of the network and to buy the first of three radars that will be installed on the west coast. We are also requesting funds in FY 1985 to develop and evaluate alternative surveillance systems for detecting cruise missiles.

To improve our ability to detect low-flying bombers and cruise missiles approaching from the north, and to reduce operating costs, we are replacing obsolete Distant Early Warning (DEW) Line radars across northern Alaska and Canada and western Greenland with modern microwave radars. Funds requested in FY 1985 will complete procurement of the long-range radars and continue development of shorter-range, "gap-filler" radars. The FY 1985 budget also requests funds to buy communications systems to link the radar installations with command centers. To achieve further savings, the obsolete CADIN-Pinetree radar network in southern Canada will be phased out.

(b) Interceptor Forces

U.S. and Canadian interceptor forces assigned to the North American Aerospace Defense Command (NORAD) maintain continuous ground alert at sites around the periphery of the 48 contiguous states, in Alaska, and in Canada. Alert aircraft are employed, in response to radar detections, to intercept unknown intruders and identify them visually. Supported by AWACS aircraft, these forces could provide a limited defense against bomber attacks. The Air Force, Navy, and Marine Corps would provide additional interceptors in a crisis.

To meet the increasing Soviet bomber and ALCM threat, U.S. active and Air National Guard interceptor squadrons assigned to NORAD are being equipped with newer, more advanced F-15 and F-16 aircraft. These modern fighters will provide a "look-down/shoot-down" capability to detect and engage enemy bombers penetrating at low altitudes. The Canadians are upgrading their air defense forces with the F-18.

(3) Space Defense

The Soviet Union has an operational antisatellite (ASAT) system; the United States does not. This fundamental imbalance provides the major impetus for our efforts to improve our defensive capabilities in space. The centerpiece of our ASAT program is the Air Launched Miniature Vehicle, which is designed to be launched from F-15s. Successful completion of this program will give us a means of destroying Soviet satellites orbiting at low altitudes, thereby enhancing deterrence against Soviet use of ASAT weapons. At the same time, we are continuing to examine the potential basis for negotiating ASAT arms control agreements.

Our ASAT program is now in the test and evaluation phase. We are requesting funds in FY 1985 to begin procuring the system and to make necessary improvements in associated C^3 systems. For the long run, we are assessing (in conjunction with our research supporting the President's strategic defensive initiative), the feasibility of advanced technologies, such as space-based lasers, for ASAT missions.

We are continuing to improve our ability to identify and track space objects and enemy satellites. By the end of FY 1988, we will have completed a worldwide network of five ground-based electro-optical surveillance sensors designed to detect and identify objects in deep space. The system's rapid search, detection, and tracking capabilities will assist us in defending our space-based systems while allowing us rapidly to identify new space weapons and satellites the Soviets might deploy.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
Strategic Defense Initiative				
Research: $ Millions	--	991.0	1,777.0	3,789.8
Air Defense				
Development: $ Millions	85.2	121.4	124.0	74.8
Procurement: $ Millions	28.0	182.0	272.4	414.1
Space Defense				
Development: $ Millions	213.3	203.6	143.3	101.7
Procurement: $ Millions	--	19.3	83.0	128.9

c. Strategic Command, Control, and Communications (C^3)

Forces alone are insufficient for deterrence. We must also have strategic command, control, and communications (C^3) systems to ensure that we could employ our nuclear forces effectively. Our C^3 systems must be able to provide our leaders the information they need to assess the size and scope of an attack, determine an appropriate response, and issue initial retaliatory orders. These systems also must be able to ensure that our forces would receive those orders, called emergency action messages (EAMs), and remain responsive to national authority both during and after an attack.

Strategic C^3 systems must be able to operate reliably under the extremely stressful conditions of a nuclear conflict. Unless we take steps to provide for the survivability of essential systems, they could easily be rendered ineffective through the direct or collateral effects of nuclear attacks, or by electronic jamming and other disruptive measures. The FY 1985-89 program will improve our strategic C^3 systems -- sensors, command centers, and communications -- by upgrading and augmenting their capabilities, increasing their mobility, protecting essential equipment against nuclear effects, and providing alternate and redundant methods of communication.

(1) Missile Warning and Attack Assessment Sensors

In the event of a missile attack, the ICBM and bomber forces, and some strategic C^3 systems, would depend for their survival on

timely warning information. Likewise, to select an appropriate response and to control escalation, our leaders must have high confidence that our warning systems have accurately assessed the size and scope of an attack. To meet these objectives, we are improving the survivability, performance, and coverage of our satellite and ground-based warning systems.

(a) Satellite Early Warning System

Early warning satellites in geostationary orbit would provide our first warning of a missile attack. These satellites use infrared sensors to detect ICBM and SLBM launches. Replacement satellites, scheduled for deployment in the mid- to late 1980s, will incorporate a number of improvements designed to enhance their performance and survivability (e.g., improvements in the sensors' focal plane and additional hardening).

Warning data from the satellites are transmitted to fixed ground-based processing stations. To reduce our dependence on these vulnerable facilities, we will deploy six mobile ground terminals (MGTs) to receive, process, and disseminate missile-warning data. By the end of FY 1985, we will have procured all six MGTs and begun operational testing and evaluation of the system.

(b) PAVE PAWS

To complement our satellite warning systems, and to provide redundant coverage of Soviet missile launch areas, we maintain two systems of ground-based radars -- the Ballistic Missile Early Warning System (BMEWS), which warns against ICBM attacks, and PAVE PAWS, an SLBM warning system. Although we are improving our BMEWS radars, our major efforts focus on the PAVE PAWS system.

The PAVE PAWS phased-array radars now operating on our eastern and western coasts would confirm satellite warning of an SLBM attack launched from normal Soviet submarine operating areas. To close coverage gaps to the southeast and southwest of our borders, we are deploying two new PAVE PAWS radars -- one in Georgia and the other in Texas. We are requesting funds in FY 1985 to continue construction of these two sites, both of which are scheduled to be activated by 1987. The four PAVE PAWS radars, along with the existing PARCS radar in North Dakota, will complete our planned network of five phased-array SLBM warning radars, and will allow us to shut down the aging FPS-85 and FSS-7 radars in Florida.

(c) Nuclear Detection System (NDS)

To improve our ability to detect, locate, and report nuclear detonations worldwide, we are procuring new, more accurate and survivable nuclear-detonation detection sensors for the satellites of the NAVSTAR/Global Positioning System (GPS). The new NDS sensors will be able to provide virtually instantaneous information on the scale and location of aboveground nuclear explosions in any part of the world. They will contribute to nuclear test ban monitoring in peacetime and would provide damage and strike assessment information to our command posts in the event of nuclear attack. The FY 1985 program includes installation and integration of the NDS sensors into the GPS host satellites. The system will become fully operational in the late 1980s.

(2) Command Centers

Command centers play a central role in the operation of the strategic C^3 system. Our strategic command centers must be able to survive a nuclear attack and continue to support decisionmaking and control of our strategic forces. Over the next five years, we will continue several important programs to increase the survivability and endurance of the National Military Command System.

Fixed command centers are our most capable command and control assets in peacetime, during crises, and in the early stages of a nuclear attack. Our principal efforts to upgrade the utility and efficiency of the National Military Command Center (NMCC) and the Alternate NMCC include providing additional protection against electromagnetic pulse (EMP) 1/ effects, modernizing their electric power systems, and upgrading their information-processing equipment.

Similar improvements are in progress for our airborne command centers, which are more likely to survive a nuclear attack. By the end of FY 1985, we will have hardened all four E-4B National Emergency Airborne Command Post aircraft against EMP effects. We also are upgrading the automatic data-processing equipment aboard these aircraft, and to provide redundant communication links to our forces and sensor systems, we are equipping them with superhigh frequency (SHF) satellite communications terminals. (SHF communications are less susceptible to jamming and nuclear effects than communications transmitted in the ultrahigh frequency (UHF) band.)

We are also upgrading selected communications equipment aboard our fleet of EC-135 aircraft, which serve as airborne command posts for the Commander-in-Chief, Strategic Air Command (CINCSAC) and other nuclear force commanders. The modifications include hardening the equipment against EMP effects.

(3) Communications

Communications link the various elements of our strategic C^3 systems. They connect warning sensors to command centers; they enable information to be exchanged among command centers; and they link command centers with the nuclear forces. Although our first priority is to ensure that our forces would receive retaliatory orders, we are working toward more survivable two-way communications between commanders and their forces.

(a) Satellite Communications System

In FY 1983, the Air Force Satellite Communications (AFSATCOM) system became fully operational. This system provides one-way, low-data-rate communications to our strategic forces and two-way teletype communications for strategic force management. We have deployed AFSATCOM UHF terminals throughout our forces and our command and control networks. Various host satellites, including those of the Navy's Fleet Satellite Communications (FLTSATCOM) system and Defense Satellite Communication System (DSCS) Phase III satellites, carry AFSATCOM transponders.

1/ The surges of current caused by the EMP effects of nuclear detonations can damage many types of electronic equipment that have not been adequately hardened.

Like the DSCS II satellites they replace, the new DSCS III satellites will be able to transmit large amounts of data very rapidly. They will have more EMP protection than DSCS II satellites, however. Because they will use SHF as well as UHF communications, they also will be more jam-resistant than either the DSCS II or AFSATCOM system. The DSCS III will transmit processed missile attack warning data from the Satellite Early Warning System to command centers. They also will provide a redundant link from E-4B command posts to our strategic nuclear forces. The first DSCS III satellite was launched in FY 1983; we plan for the full system to be operational by the mid-1980s.

To meet our need for effective continuous control of our forces, we are developing the Military Strategic and Tactical Relay (MILSTAR) satellite communications system. The satellites, now in full-scale development, will use extremely high frequency (EHF) communications, which are even less susceptible than SHF communications to the effects of nuclear detonations and jamming. The satellites also will incorporate a variety of survivability features to ensure their continued availability in a nuclear war. The EHF terminals will provide two-way communications links between commanders and their forces, allowing the forces to be redirected, as necessary, to increase their effectiveness. We are requesting funds in FY 1985 to begin construction of the satellites and to develop the EHF terminals.

(b) Ground Wave Emergency Network (GWEN)

The GWEN program is designed to enhance our ability to communicate with our bomber and ICBM forces in the early stages of a missile attack. Completely independent of the vulnerable civilian communications network, GWEN will comprise a set of ground-based, EMP-hardened communications relay nodes operating in the low frequency (LF) band. Each node will consist of transmitters and receivers installed on a radio tower with its own power supply. The first phase of the program, scheduled for installation and testing in FY 1985, will increase our confidence that bombers will receive timely warning of an attack. The second phase, to be completed in the late 1980s, will add substantially more nodes, increasing the system's survivability and giving us an alternate link to our ICBMs during and after an attack.

(c) Miniature Receiver Terminal (MRT)

To improve our ability to communicate with our strategic bombers after they have been launched on warning of a missile attack, we plan to equip them with miniature terminals for receiving very low frequency (VLF) communications. Although slower than transmissions in the higher frequency bands, VLF communications can be transmitted over much greater distances than line-of-sight UHF communications, and are much less susceptible to nuclear effects than UHF satellite communications. We plan to continue development of the system with funds requested in FY 1985 and to begin producing the terminals in FY 1987.

(d) TACAMO E-6A Aircraft

TACAMO aircraft, equipped with very low frequency (VLF) transmitters, are our most survivable command link to ballistic missile submarines at sea. We had planned to buy a new aircraft, called the E-6A, to replace the EC-130s currently performing the TACAMO mission. After a careful review, however, we concluded that the costs of the E-6A were too high. We have, therefore, decided to reevaluate our alternatives for upgrading the TACAMO aircraft fleet. In addition to the E-6A, we will consider other aircraft, including a modified version

of the EC-130. Our objective is to maintain assured communications to deployed submarines in the most cost-effective manner possible.

(e) Extremely Low Frequency (ELF) Communications

To receive messages when submerged, submarines must deploy an antenna at or close to the ocean's surface. This constrains their operating depth and speed, and potentially discloses their location. To increase operational flexibility and minimize the possibility of detection, we are deploying a dual-site, extremely low frequency (ELF) communications system. The first site will be housed at the existing test facility, in Wisconsin. The second site, to be located in northern Michigan, will operate in electrical synchronism with the Wisconsin site. The ELF system will provide a highly reliable and jam-resistant means of maintaining continuous contact with the submarine force. We are requesting funds in FY 1985 to construct the transmission system and produce the associated receivers.

	FY 1983 Actual Funding	FY 1984 Planned Funding	FY 1985 Proposed Funding	FY 1986 Proposed for Authorization
Strategic Surveillance and Warning				
Development: $ Millions	287.2	319.7	265.4	184.6
Procurement: $ Millions	160.8	130.5	107.6	175.4
Strategic Command Centers				
Development: $ Millions	115.9	115.8	272.7	213.0
Procurement: $ Millions	28.1	30.4	54.4	111.8
Strategic Communications				
Development: $ Millions	452.7	690.1	684.9	790.6
Procurement: $ Millions	272.3	433.1	402.9	875.6

3. FY 1985-89 Programs for Nonstrategic Nuclear Forces

The most important modernization program for our nonstrategic nuclear forces in the absence of an INF arms reduction agreement is the deployment in Europe of 464 ground-launched cruise missiles (GLCMs) and 108 Pershing II ballistic missiles on launchers. To provide the diversified force required for effective deterrence, we are also continuing to modernize our nuclear artillery, tactical nuclear bombs, and sea-based missiles. Finally, we continue to seek improvements in our command, control, and communications systems and in the safety, security, and survivability of our nuclear weapon systems.

a. Longer-Range INF Missiles

The Pershing II, which has a range of 1,800 kilometers, is replacing the shorter-range U.S. Pershing IAs now deployed in Europe. GLCM's longer range of 2,500 kilometers allows it to attack targets deeper in enemy territory and to be based farther rearward, thereby increasing its pre-launch survivability and offering an opportunity for broader participation among the allies by hosting U.S. deployments on their soil. Because of their high accuracy, both Pershing II and GLCM can attack hard targets and limit collateral damage. The deployment of a mixed ballistic/cruise missile force provides the flexibility to select the best weapon for a given mission while hedging against the unexpected neutralization of either system, thus greatly complicating enemy planning.

Initial deliveries of GLCM in the United Kingdom and Italy, and of Pershing II in the FRG, took place in November 1983. Follow-on deployments to those countries, and GLCM deployments to Belgium and the Netherlands, are planned over the next several years. All of these deployments are subject to modification, cancellation, or reversal if a successful arms control agreement with the Soviet Union is achieved.

b. Short-Range Nuclear Forces

Countering the substantial expansion of the Soviet arsenal of nuclear-capable artillery, and discouraging Soviet first use of these systems, requires that we modernize our short-range battlefield nuclear systems. These systems also help offset the Soviets' massive numerical advantage in conventional weapons. The mere presence of these nuclear weapons could force the Soviets into dispersed formations, slowing the momentum of an attack. In this posture, enemy forces could more easily be attacked by conventional weapons.

Over the next five years, we will continue to improve the capabilities of our short-range nuclear forces. We have programmed funds to continue production of a new eight-inch artillery round, the W79, as a replacement for our aging stock of W33s. The new round offers significant improvements over the W33 in range, accuracy, and security.

The eight-inch cannon alone cannot satisfy combat mission requirements for artillery-fired atomic projectiles. The 155mm howitzer is NATO's dominant artillery piece. The large number of these weapons deployed throughout the force structure increases the survivability and flexibility of our short-range nuclear forces. The FY 1985 budget therefore includes a request to resume development of the W82, a new 155mm artillery projectile designed to replace the aging W48.

c. INF Aircraft

NATO's current dual-capable aircraft inventory consists of F-111, F-16, F-4, F-104, Tornado, Buccaneer, and Jaguar fighter-bombers. (Dual-capable aircraft can perform both conventional and nuclear missions.) As part of an ongoing modernization program, NATO is replacing its older dual-capable aircraft with more modern F-16 and Tornado fighter-bombers. In conjunction with NATO's program, we are continuing to upgrade our tactical bomb stockpile by deploying new bombs with improved military characteristics and enhanced safety and security features.

d. Sea-Based Systems

Our modernization program for sea-based nonstrategic nuclear forces will enable surface ships and submarines to counter the enemy air and submarine threats more effectively. A nuclear warhead for the SM-2 surface-to-air missile is under development, with initial deployment scheduled for the late 1980s. For the longer term, we are considering a nuclear capability for the new Antisubmarine Warfare Standoff Weapon (for submarine launch) and the Vertical Launch Antisubmarine Rocket (for surface ship launch), as well as a new air-delivered nuclear depth bomb. These would replace existing maritime nuclear systems.

e. C^3 Systems

We continue to seek improvements in the security, reliability, and capability of the command, control, and communications systems that support our nonstrategic nuclear forces. By FY 1989, we will have deployed two new communications networks. The first, a UHF satellite communications system, will link the headquarters of the European Command with its deployed forces. Initial fielding and operational testing of the UHF teletype communications terminals is expected this year. The second communications system will consist of reliable, secure, and jam-resistant high frequency (HF) equipment that has been hardened against EMP effects. We are evaluating alternative designs and expect to select a system for full-scale engineering development in FY 1984. A similiar C^3 system is planned to support nonstrategic nuclear forces assigned to the Pacific Command.

4. Conclusion

Under President Reagan's modernization plan, we are building nuclear forces and support systems that will be more capable and, at the same time, more difficult to attack than our current forces. The plan is firmly linked to our arms reduction efforts. Together, modernization and arms reductions will ensure a credible and stable deterrent well into the next century.

F. REGIONAL SECURITY

Our vital interests include defense of key forward theaters, usually with the assistance of local friends and allies. This chapter describes our planning goals with respect to areas of importance to U.S. national security objectives. It discusses U.S. force commitments, command relationships, and specific defense programs (unilateral and multilateral) in each region.

1. Regional Interests and U.S. Defense Planning

Over the next several years, we could find ourselves facing serious challenges in a number of areas around the globe -- perhaps simultaneously. In the last year alone, we have dealt with incidents and crises in such widely separated places as Lebanon, Chad, Central America, and the Caribbean. The Soviet destruction of Korean Airlines Flight 007 and the Rangoon bombing have served as brutal reminders that political tensions in the Far East also remain at a high level. Underlying political tensions and increasing Soviet-bloc intervention capabilities combine to create the conditions for unanticipated crises in many other areas. Our plans and programs must, therefore, focus on strengthening our ability to respond effectively, with military force if necessary, in several strategically important areas, and in circumstances ranging from small-scale incidents to major military operations.

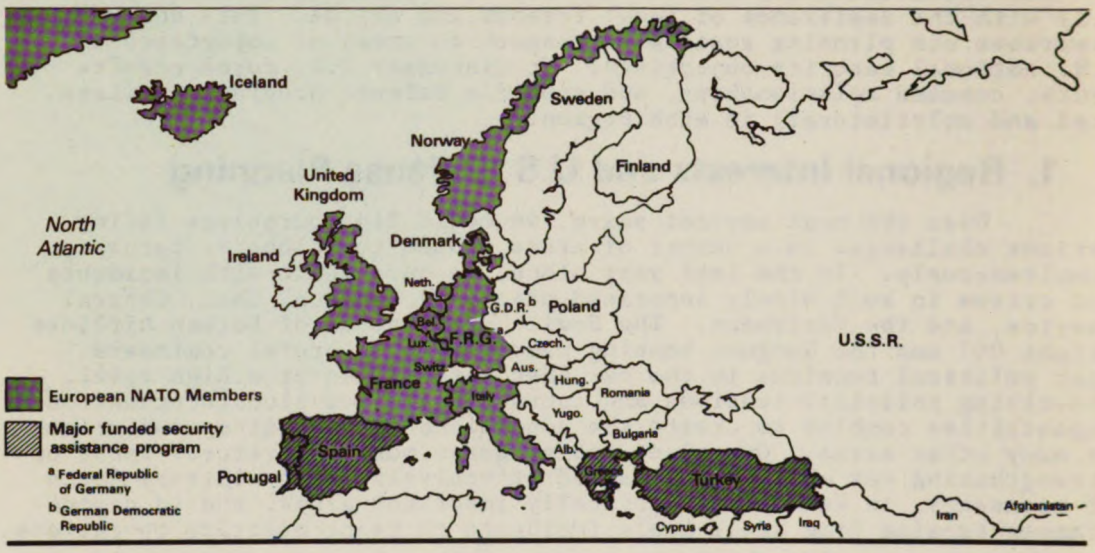
The need to deal with these strategic realities has led us to deploy substantial combat forces in Western Europe and the Pacific region in peacetime, while simultaneously withholding in the continental United States large numbers of active and reserve forces, some of which have the ability to deploy rapidly to trouble spots. As this chapter describes, we are particularly interested in improving our ability to deploy sizable combat forces to Europe (as reinforcements) and to Southwest Asia, an area where we do not maintain major peacetime deployments.

2. Western Europe/North Atlantic Treaty Organization (NATO)

NATO is unique among our alliances in that it provides, in peacetime, a comprehensive structure for political and military coordination that helps ensure an effective coalition defense posture. U.S. support of NATO's multilateral programs becomes particularly important as the Alliance implements the mandate provided by the June 1982 NATO Summit to strengthen NATO's defense posture, with special emphasis on conventional forces.

The vast majority of U.S. defense efforts in Europe are undertaken within the multilateral framework of NATO, or as bilateral arrangements that have a direct relationship to NATO objectives. These activities are extensive and varied, and our contributions to them complement those of our 15 allies. The resulting security benefits are far greater than we could obtain from comparable unilateral endeavors and expenditures.

Chart III.F.1
Europe



a. U.S. Forces for NATO

Under NATO arrangements, most national forces in Europe remain under national command in time of peace. They are ready to come under NATO command in times of emergency or war.

We currently maintain in Europe four Army divisions and three separate brigades, along with 28 Air Force squadrons. Our goal is to be able to increase our forces in Europe to ten Army divisions and supporting Air Force squadrons and one Marine Amphibious Brigade within ten days of a decision to reinforce. In order to achieve this important goal, U.S. programs for prepositioning materiel and for improving airlift and sealift forces, as well as European programs for providing reception and related facilities, must be completed.

The Second Fleet is in place in the Atlantic and the Sixth Fleet in the Mediterranean. In the event of an emergency, these would be reinforced as worldwide maritime conditions permitted.

b. NATO Nuclear Planning

NATO's Nuclear Planning Group (NPG) is responsible for coordinating matters involving NATO's nuclear forces. At the present time, all members of the Alliance except Iceland and France are represented on the NPG and its subsidiary 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 new, longer-range intermediate-range nuclear force (LRINF) missiles (Pershing II and ground-launched cruise missiles). A separate study group, 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 LRINF missiles. The HLG also conducted the study of Alliance nuclear needs that led to the October 1983 NPG decision to withdraw 1,400 nuclear weapons from Europe over the next five to six years. U.S. initiatives and programs in support of NATO's LRINF modernization and arms control goals are discussed in Part I and in the Nuclear Forces chapter of this report.

c. NATO Conventional Force Improvement Planning and Programs

NATO sets objectives for national force improvements, particularly in the field of conventional defense, by establishing "Force Goals." These goals take existing national capabilities as a baseline and establish, for each nation and in priority order, the steps the Alliance believes should be taken to improve them. The existing Force Goals call for a level of national effort based on annual real increases of 3% in national defense expenditures plus an additional "reasonable challenge" effort. In general, the United States and its allies are making significant progress toward achieving their Force Goals, particularly by modernizing their ground, tactical air, and naval forces -- improvements that are absolutely necessary to respond to the Warsaw Pact's own major improvement effort.

In the current economic situation, however, several NATO governments have set their defense spending at a level somewhat below a 3% real annual increase, in some cases reducing operations and training costs, in other cases delaying modernization plans. We will continue to press for adequate allied funding to achieve the Force Goals.

NATO is placing special emphasis on its air defenses. A great deal of effort has been put into developing a revised plan for air defense in Europe. A key feature of the plan will be the deployment of the U.S. Patriot surface-to-air missile system as a replacement for all Nike and some Hawk units in the Central Region.

To this end, in October 1982 we began exploratory talks with the Federal Republic of Germany (FRG) on possible joint solutions, based on equivalent contributions, to the problem of point and area air defense of air bases in Germany. The negotiations between the United States and the FRG have led to subsequent talks with the Netherlands and Belgium. We believe that joint air-defense arrangements will contribute to the important objective of more equitable burdensharing within the Alliance, and we welcome the support received from the Congress for these cooperative efforts.

A second area of special planning for improving NATO's conventional capability lies in the field of "emerging technologies." Because NATO's forces are outnumbered by the Warsaw Pact in some important categories -- armor, for example -- it is essential that the Alliance retain a qualitative lead in weapons technology by exploiting new opportunities in advanced weapons, munitions, command and control, intelligence, and communications. We will continue to work closely with our NATO partners to sustain the momentum of the emerging technologies effort and to encourage maximum allied participation in it.

d. NATO Infrastructure and U.S. Military Construction (MILCON) Programs for U.S. Forces in Europe

Under NATO's Infrastructure program, the Alliance members share the costs of constructing essential military facilities that their NATO-committed forces and NATO's international commanders would use in time of war.

In June 1983, with strong U.S. support, all participating NATO nations agreed to a significant increase in the Infrastructure program ceiling for FY 1980-84. This action has come closer to matching Infrastructure resources with needs, but NATO remains faced with major policy and financial decisions about backlogs, cost overruns, and growing requirements. We believe that the next multiyear Infrastructure program must be significantly larger if required facilities are to be completed in time to support the deployment of new units and weapon systems.

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.)

The NATO countries benefit economically from the Infrastructure program in several ways: general economic benefits devolve to host countries from the eventual operation, as well as 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. The major economic benefits to the United States from the program are of the third kind: while the United States contributes 27.4% of total funding, approximately 35-40% of the projects programmed annually are in direct support of U.S. forces.

The NATO Infrastructure program funds only wartime operational facilities. Personnel support facilities and other predominantly peacetime projects are funded nationally, according to the standards of each country. Were such construction to fall under common funding, the 27.4% U.S. share of all such projects would far exceed the amount of U.S. MILCON funds currently required for construction in Europe.

e. Host Nation Support (HNS)

Host nation support has become a primary element in NATO's efforts to achieve a stronger military posture. Under such arrangements, our allies help unload and transport U.S. reinforcements and provide their follow-on resupply to forward locations in Central Europe; in addition, they perform other support and security duties.

We continue to make significant progress in developing and expanding wartime HNS arrangements with Germany, Belgium, the Netherlands, Luxembourg, and the United Kingdom. Implementation of the HNS agreement signed with the FRG on April 15, 1982, is proceeding on schedule. Activation of German Army reserve units began in 1983 and will continue through 1987. The agreement has also formalized Germany's previous commitment to provide extensive support from its civil sector during a crisis or war.

Implementation of this agreement will not occur at the expense of, or adversely affect, the readiness of U.S. Reserve Component

forces. We are committed to improving our reserves, and our FY 1985 budget request makes extensive provisions for meeting their equipment needs. It is in the United States' interest to take full advantage of this opportunity to fill a critical gap in U.S. combat service support capability with the cost-effective HNS solution we have negotiated with Germany. We estimate that using German reservists will cost much less than providing equivalent capability with U.S. Reserve Component units.

f. Master Restationing Plan (MRP)

Over the past year, delegates from the United States and the Federal Republic of Germany continued their discussions on the MRP. This program would restation 20,000 troops from their present locations to U.S.-controlled land close to the East German and Czechoslovakian borders. We will continue talks on this important initiative.

g. 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. Prepositioning this equipment is the least expensive and, indeed, the only practical way to guarantee a ten-division U.S. force at D-Day. The POMCUS program provides a concrete and significant example of allied burdensharing.

The Belgians and Dutch have expended considerable political capital and material resources to provide the land and certain supporting facilities for the POMCUS sites (Division Sets 5 and 6) in their respective countries. Moreover, through the NATO Infrastructure program, the Alliance as a whole has provided just over $200 million in common funding for construction. The work is moving forward. Storage sites in the Netherlands will be ready for use beginning in FY 1984, and the Belgian facilities are scheduled for completion the following year.

The Congress approved funding for Division Sets 5 and 6 last year, and we will begin stocking the sites as they become available. Completing this program will reduce our intertheater airlift requirements and increase significantly the size of our initial reinforcement of Europe during a period of crisis.

h. NATO Arms Cooperation

U.S. initiatives in the area of arms cooperation continue to emphasize codevelopment, coproduction, and the organization of research under "families" of weapons. We have negotiated general reciprocal memoranda of understanding with most allies to open competition by waiving "buy national" provisions.

Protectionist legislative restrictions adversely affect such cooperative defense programs with our NATO allies, as well as with other friendly governments. Restrictions also harm our own defense industries by reducing opportunities for the offsetting arrangements ordinarily associated with large arms purchases from the United States. Without these offsets, our allies may look to other sources for meeting their military equipment needs. In this respect, the action of the Congress in the FY 1983 Supplemental and FY 1984 Appropriations Acts to provide relief from restrictions on procurement of specialty metals from foreign sources was particularly welcome and will serve the best interests of the United States.

i. NATO Exercises and Cooperative Training

A major portion of the U.S. military exercise program is devoted to NATO exercises. The Reforger and Crested Cap series provide for annual deployment of units to Europe. We participate in the Standing Naval Force Atlantic, and in the exercises of the ACE Mobile Force and the Naval On-Call Force for the Mediterranean, when these two latter NATO groups are activated. All these international exercises are aimed at improving interoperability among national forces.

Each NATO member nation is responsible for training its own forces. But national forces must be able to operate together effectively under NATO command. The Euro-NATO Training Group, in which 12 NATO nations participate, conducts cooperative training projects in commonly agreed courses of instruction under joint faculties, using common doctrine, tactics, and procedures. Examples of such projects are joint jet and helicopter pilot training (conducted in the United States) and training in Europe on such diverse subjects as air-ground operations; logistics planning; mountain operations; engineer operations; and nuclear, biological, and chemical defense.

j. Security Assistance

Our security assistance and arms sales programs with the countries of NATO promote standardization and interoperability within the Alliance while contributing to needed improvements in NATO's capabilities. We have requested Foreign Military Sales (FMS) credits and/or Military Assistance Program (MAP) funds for Turkey, Greece, Spain, and Portugal. We also plan to continue the mutually beneficial arrangements under which our other NATO allies -- and friendly non-NATO countries -- acquire U.S. defense articles and services on a cash basis under the FMS program or through commercial channels.

The program for Turkey is especially urgent. It reflects that country's critical strategic location and the need to upgrade its obsolescent arms and equipment, especially Air Force aircraft and ground air defenses. Similarly, the programs for Greece, Spain, and Portugal support badly needed modernization efforts and advance common security interests, as evidenced in the recently completed bilateral base arrangements with those countries.

Table III.F.1

Major Funded Programs, FY 1985
($ in Millions)

Country	FMS Credits	MAP Grants	International Military Education and Training Program	Economic Support Funds
Greece	500	--	1.7	--
Portugal	55	70	3.0	80
Spain	400	--	3.0	12
Turkey	525	230	4.0	175

k. Burdensharing

The very foundation of the Atlantic Alliance is the concept that member nations have common aims that are more readily achievable through

cooperative action. Cooperation implies that member nations will share the burden necessary to accomplish their common aims.

There is no single indicator of equitable burdensharing. Allied contributions to defense can best be understood by examining and comparing a variety of indicators of ability to contribute, on the one hand, and actual contributions on the other. Ability to contribute is assessed by such measures as gross domestic product and population. Actual contributions typically are measured by total defense spending, total defense manpower, and major force holdings. In the Report to Congress on Allied Contributions to the Common Defense, each of these measures will be thoroughly covered.

What is frequently overlooked is that the allies make important contributions to defense that are not directly covered by the quantitative indicators mentioned above. These include allied HNS, support by the FRG for Berlin, and earmarking of civilian assets for defense.

In addition, allied defense efforts must be viewed in their historical context. Over the past decade, the non-U.S. allies have gradually taken on more of the common burden. For example, between 1971 and 1981, real U.S. defense spending declined by 7% (exclusive of Vietnam war-associated reductions), whereas defense spending by our NATO allies increased by 23%. The United States is now engaged in an effort to redress some of the deficiencies that occurred during the years when U.S. defense resources were steadily declining.

At the same time, our allies clearly need to continue to enlarge their defense efforts, and we have urged them to do so. Our arguments are most likely to be successful if we maintain our own defense contribution in Europe at a high level. There is no evidence to indicate that U.S. troop withdrawals would spur our allies to do more on their own behalf. Indeed, all indications are that a withdrawal would have converse effects. To many Europeans, a unilateral withdrawal would convey the impression that the United States no longer considers the Warsaw Pact threat a serious problem. For others, such a pullout would lead to the conclusion that a successful forward defense is not desirable or achievable, thereby increasing the likelihood that accommodation would be sought with the East.

Rather than threatening withdrawals, the United States must lead by example. Indeed, we cannot afford to reduce our commitment to collective defense -- which is vital to our own national security -- while the threat to Western interests continues to grow.

3. Southwest Asia (SWA) and the Middle East

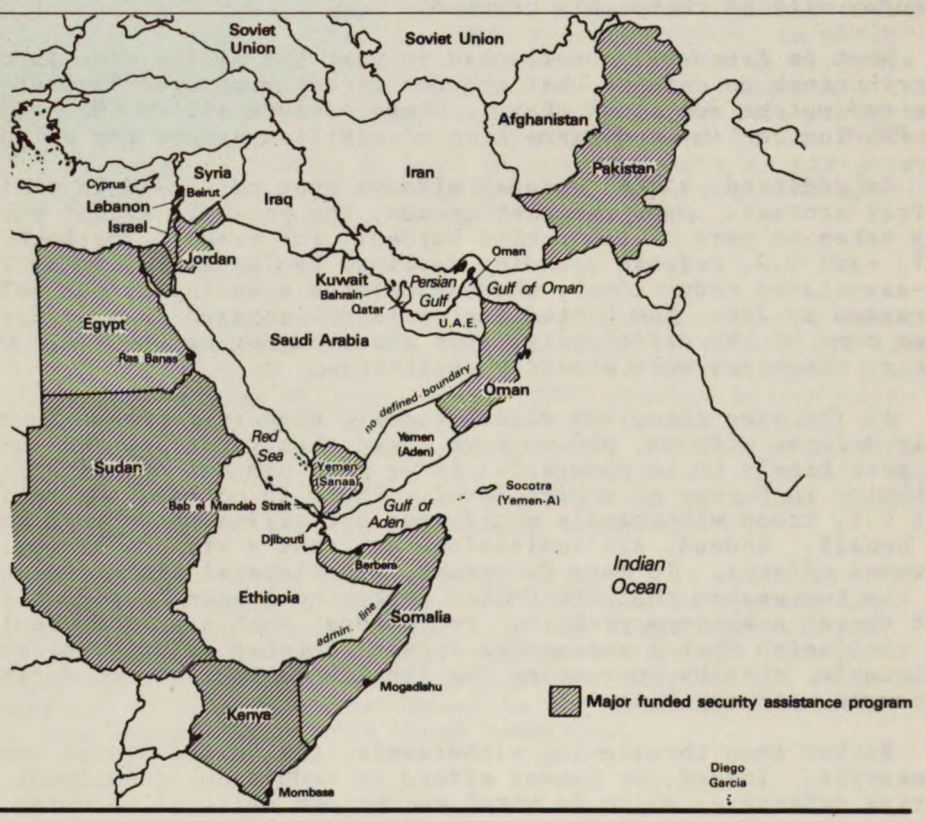
The political and military instabilities in SWA and the Middle East pose complex and dynamic challenges for U.S. defense planning. In response, President Reagan has steadfastly reaffirmed our commitment to protect U.S. and free world interests in the region, especially pursuit of a lasting Arab-Israeli peace and continued access to Persian Gulf oil.

In the past few years, we have dramatically improved our military capabilities for the region, primarily by enhancing the readiness and mobility of existing forces. Our programs for SWA and the Middle East continue to be the mainstay of a larger effort to revitalize our overall worldwide rapid-response capability.

a. The Region and Potential Conflicts

Chart III.F.2 depicts the general areas we refer to as SWA 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 of Soviet domination. In addition to our interest in the security of several friendly countries in the region, the fact that one-third of the free world's oil supply is produced in SWA makes the area vital to the interests of the United States and its allies.

Although SWA is the focus of our rapid deployment planning, we presently 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 communication influence the availability of transit facilities needed to support our rapid deployment strategy. As a result, many of our programs emphasize mobility and achieving access to countries en route to or near SWA.

Some of our programs for SWA have been completed, and many more are beginning to take effect. They have been very timely, for we have needed to use some of our new capabilities in the last year. For example, we have deployed AWACS aircraft to Saudi Arabia, and we supported Sudan in response to threats emanating from Libya. More recently, in response to regional concerns about an escalation of the Iran-Iraq war, we have expanded our security cooperation with the governments of several Persian Gulf states.

Our programs for the region must offer capabilities across a wide spectrum of potential conflicts. In most cases, we would provide only economic, technical, or security assistance. In other instances, we might provide 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 the forces of friends and allies.

(2) Middle East

We support the security and territorial integrity of Israel and other friendly nations in the Middle East region. In contrast to our SWA programs, which are focused on improving our capability to provide rapidly deployable combat forces to protect our interests in the region, our efforts for the Middle East are oriented more toward providing security assistance and economic support. This is especially true in the case of Israel, whose military forces are sufficient to provide for its own territorial defense.

Sometimes, however, it has been necessary for the United States to provide direct military assistance to countries in the Middle East. During the current crisis in Lebanon, we have deployed U.S. Marine Corps units as elements of the multinational peacekeeping forces there. Further, in order to protect our Marine positions ashore, the U.S. Navy has provided naval gunfire and tactical air support from the eastern Mediterranean.

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 region.

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. These units are shown in Table III.F.2. Later in the five-year planning period, as we improve our ability to move forces rapidly and provide adequate support, the number of ground units will be gradually expanded.

During peacetime, many of these combat units are assigned to the U.S. Readiness Command for purposes of training. Since they represent some of our most mobile and ready forces, they are available on a

priority basis to the Commander-in-Chief, USCENTCOM (USCINCCENT) for his SWA mission. They are also available for rapid deployment missions in other regions.

Table III.F.2
Combat Forces 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
1⅓ Marine Amphibious Forces[a]	

[a] A Marine Amphibious Force Typically Consists of a Reinforced Marine Division and a Marine Aircraft Wing (Containing Roughly Three TImes as Many Tactical Fighter/Attack Aircraft as an Air Force TFW).

[b] Includes Support Forces, Does Not Include 3½ TFWs Available as Attrition Fillers.

[c] These Bombers and Associated Reconnaissance, Command and Control, and Refueling Aircraft Make Up the Air Force's Strategic Projection Force.

We recently established a small forward headquarters element (FHE) afloat with our naval Mideast Force in the Persian Gulf. As regional countries increase their interaction with USCENTCOM, we would expect to transfer more functions to the FHE.

c. SWA Regional Requirements

No matter where outside Europe we might send our rapid deployment forces, the problems they would face are likely to be quite different from those posed by a NATO/Warsaw Pact contingency. The forces would probably have to operate in distant theaters characterized by little or no regional U.S. presence, an inadequate infrastructure (e.g., limited road, rail, air transport, and communications networks), and a harsh climate or difficult terrain. Requirements for SWA are prime examples of the types of considerations we must incorporate into our rapid deployment strategy and programs.

Today, our peacetime presence in SWA is limited primarily to sea-based forces in or near the Persian Gulf. Therefore, we must be able to project additional forces very rapidly to this distant region and adequately sustain them in combat. Meeting these objectives will require:

-- Responding promptly to warning signals;

-- Developing mobility capabilities to deploy forces rapidly to and within SWA over extended air and sea lines of communication and to sustain them 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 communication to sustain combat operations;

-- Obtaining access to and improving selected airfields and seaports in the theater;

-- Obtaining additional host nation support agreements with countries en route to and in SWA;

-- Improving our cargo loading and unloading 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.

The FY 1985-89 program responds to each of these challenges.

d. Key FY 1985-89 Program Initiatives

We have made an impressive start toward accomplishing our goals in SWA. The FY 1985-89 program supports and builds on existing efforts -- and in some cases adds critical new capabilities for the region. We must continue to give these programs high priority if we are to sustain our momentum and capitalize on the success of our earlier efforts.

(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, given the enormous area for which USCINCCENT is responsible. Communications facilities in SWA -- unlike those in other, more "mature" theaters -- are practically nonexistent, except in a few urban areas. We must procure communications equipment that is capable of operating over long distances, resistant to jamming, and easily transportable -- a formidable and costly task. We are requesting $240 million over the next five years to procure mobile, deployable C^3I equipment that will initially be stored in the United States, ready for rapid deployment to the region if needed.

Our plans call for establishing three major communications "nodes" at appropriate locations over FY 1985-89. In the interim, we will rely on our Joint Communications Support Element (JCSE) capability (which must also support other unified commands) and the C^3 capability provided by a Deployable Field Headquarters (DFH) to be operational in the next few years.

(2) Access and Improvements to Regional Facilities

We have reached formal agreement with several nations, and are pursuing negotiations with others, for permission to preposition materiel, to use regional facilities during crises, and to conduct routine training exercises during peacetime. In some cases, it has been necessary to improve existing facilities and other infrastructure. Construction at these sites was initially funded in FY 1980-81,

and most of the programs are scheduled to be completed by the end of FY 1987.

Table III.F.3 shows our funding requirements for military construction projects in countries where we have, or expect to gain, access.

It is important to emphasize that we are not creating new U.S. bases, per se, in SWA. Rather, we are improving existing host nation facilities that we might use to support U.S. forces in the region and are arranging for prompt access when needed.

Table III.F.3

Military Construction Funding for SWA-Related Facilities a/
($ in Millions)

Location	FY 1980-84 Appropriated	FY 1985-89 Programmed
Egypt (Ras Banas)	55 b/	--
Kenya	58	--
Oman	253	198
Somalia	54	--
Other	451	54
Total	871	252

a/ Does not include planning and design costs.
b/ FY 1984 Supplement Request.

Egypt has offered access to its facilities, including the strategically located base at Ras Banas on the Red Sea. The Egyptians are upgrading the airfield and port at Ras Banas, and we expect to build more facilities that would be unique to potential U.S. operations at that location. Once construction is completed, access to Ras Banas in time of crisis, when mutually agreed to by Egypt and the United States, would allow us to deploy forces to SWA or the Middle East much sooner than if we had to wait until we could directly enter the affected country. Apart from participating in routine exercises with Egyptian forces, however, we will maintain no military presence in Egypt in peacetime.

We have reached an agreement with Oman permitting us to improve, subject to the prior approval of the Omani government, selected facilities in that country for our use, primarily during crises but also in peacetime. Planned improvements include upgrading runways, taxiways, and aprons; constructing support facilities for personnel and maintenance; and preparing some locations for possible prepositioning ashore. Omani facilities are very important for extending sea control, basing tactical aircraft, staging ground forces, and supporting naval forces.

We have relatively small but important construction projects nearing completion in Kenya and Somalia. Kenya has allowed us to use its airfield and port facilities at Mombasa. This port is useful for maintaining and refueling ships, including aircraft carriers, and offers one of the few locations in the region for crew rest and liberty. Somalia has allowed us to use its seaports and airfields at Mogadishu and Berbera.

(3) Exercises and Training

Our ability to conduct combat operations in SWA or elsewhere is enhanced by combat exercises in and outside the theater, as well as through communications and logistics exercises and wargaming. Through such activities, we have already learned critical lessons. 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 SWA region. Our exercise program has been well received by many SWA nations and, as a result, should enjoy wider participation in the future.

Our most recent SWA exercise was Bright Star 83. This exercise lasted about 30 days and involved some 5,500 U.S. troops operating in four countries. In Egypt, our tactical air and airborne forces conducted field training and air-defense maneuvers with Egyptian troops and air-defense forces. In Sudan, we airdropped Army rangers for combined operations with the Sudanese Army. Our Marines practiced amphibious operations in Somalia.

(4) Intertheater Mobility

The intertheater lift programs planned for FY 1985-89 will significantly improve our ability to project forces into all theaters, particularly Southwest Asia. Airlift enhancements will more than double our ability to move forces -- primarily air defense and light Army units -- rapidly to this area. The Maritime Prepositioning Ship program will provide our first rapid-response capability for a heavy, division-sized Marine force. Our increase in government-controlled shipping will add the capability to move a two-division corps by sea, with one of the divisions moving on fast sealift. The Force Projection chapter provides further details on these intertheater mobility enhancements.

e. Security Assistance

More than one-half of the $5.1 billion we are requesting for Foreign Military Sales (FMS) credits in FY 1985 will go to countries in the SWA/Middle East region, and all "forgiven" credits will be for Israel ($1.4 billion) and Egypt ($1.175 billion). More than half of the U.S.-provided Economic Support Funds (ESF) will be applied to further our economic and foreign policy objectives in the region. Table III.F.4 summarizes our major security assistance programs, by country and type of assistance.

The program for Israel will help that country defend itself against any combination of regional threats 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 increasingly obsolete 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 those governments cope with threats from neighboring states. Our substantial program with Pakistan contributes for the third year to a multiyear modernization plan necessitated by the Soviet invasion of neighboring 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 security assistance 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, to help modernize their armed forces through direct cash purchases of military equipment and services, including construction.

Table III.F.4

Major Funded Programs, FY 1985
($ in Millions)

Country	FMS Credits	MAP Grants	International Military Education and Training Program	Economic Support Funds
Egypt	1,175	--	2.00	750
Israel	1,400	--	--	850
Jordan	95	--	2.00	20
Kenya	--	23	1.80	55
Lebanon	15	--	0.80	20
Morocco	10	40	1.70	15
Oman	45	--	0.10	20
Pakistan	325	--	1.00	200
Somalia	--	40	1.25	35
Sudan	--	69	1.70	120
Tunisia	50	15	1.70	3
Yemen Arab Republic	--	10	1.50	--

f. Host Nation Support and Prepositioning Contingency Support

Our negotiations and plans for obtaining host nation support in SWA must consider the differing strategic priorities and perceptions of nations in that region; the absence of indigenous integrated command structures and common operational concepts; and the long lines of communications, large geographic barriers, political instabilities, economic uncertainties, and strong 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 prepositioning of U.S. materiel. We have achieved some successes in this area, and we will be continuing discussions in the future.

To the extent that host nation support and prepositioning can be provided by regional nations during a contingency, our limited intertheater lift assets could deliver more combat forces and equipment during the critical early days of a deployment.

g. Allied Support and Cooperation

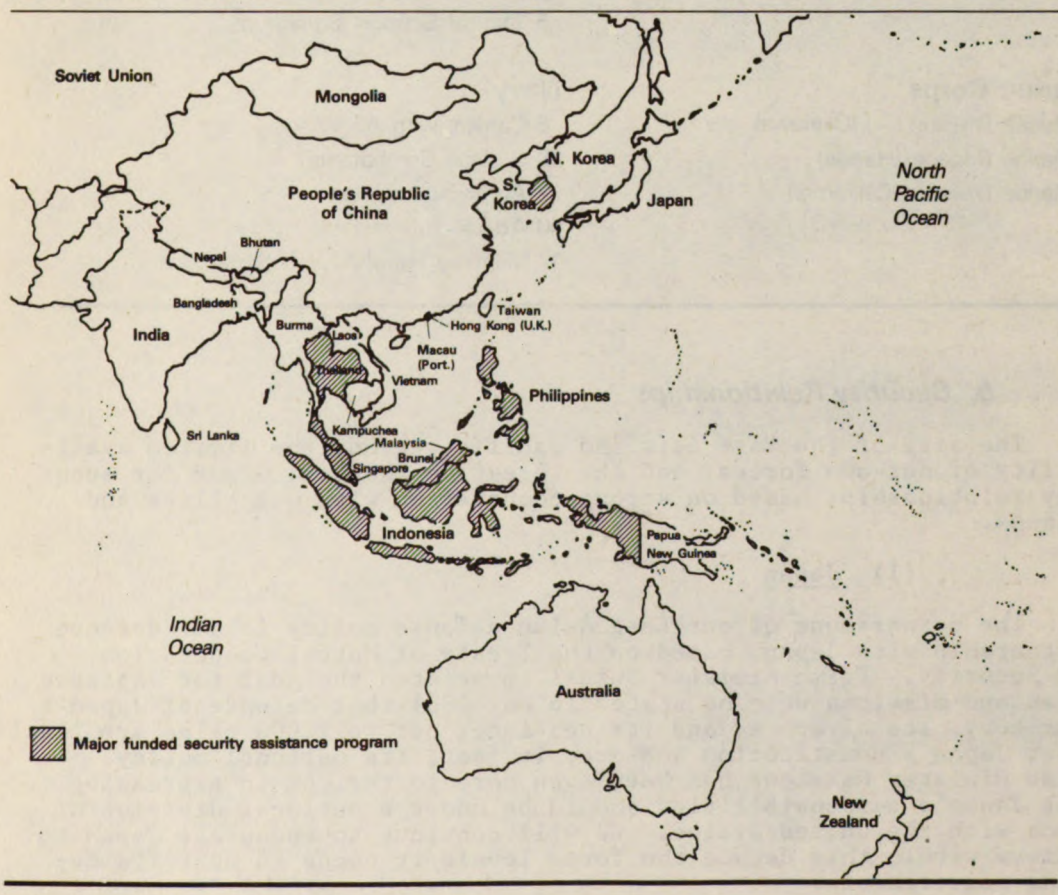
Many of our friends and allies have long experience -- and, in some cases, still maintain a presence -- in SWA. France, for example,

has naval and tactical aircraft 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. Furthermore, the United Kingdom and France routinely deploy forces to the region. Depending on the situation, allied support and cooperation could be helpful in the event of a contingency.

France, Italy, the United Kingdom, the Netherlands, and Norway have also participated in multinational peacekeeping forces in the Middle East. European allies have provided en route support to U.S. forces deploying to SWA for exercises or other missions. Finally, we and our NATO allies are studying ways for the allies to compensate in Europe for any diversion of U.S. NATO-oriented forces to SWA in the event of a serious crisis in that region.

4. East Asia and the Pacific

Chart III.F.3
East Asia and the Pacific Region



East Asia and the western Pacific have important economic and security ties to the United States. In 1982, foreign trade with the countries of the region amounted to 30% of the U.S. total. Concomitant with our economic interests are numerous military relationships that underscore the United States' commitment to preserving the security and political stability of countries in the region. These commitments must be buttressed by forces in the region strong enough to deter the Soviet Union, North Korea, and Vietnam from attempting to interfere with the stability and independence of our allies and friends.

a. Command Structure and Forces

From his headquarters in Hawaii, the U.S. Commander-in-Chief, Pacific (USCINCPAC) controls forces spread across the Pacific and Indian Oceans. Major units assigned to USCINCPAC are shown in Table III.F.5.

Table III.F.5
Forces Assigned 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**
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, the limited availability of our own forces, and the threat we face all argue for security relationships based on strong cooperation with our allies and friends.

(1) Japan

The cornerstone of our East Asian defense policy is our defense partnership with Japan, based on the Treaty of Mutual Cooperation and Security. Prime Minister Suzuki enunciated the goal for Japanese roles and missions when he stated in May 1981 that defense of Japan's territory, its airspace, and its sea-lanes out to 1,000 miles are legal under Japan's constitution and are, in fact, its national policy. Prime Minister Nakasone has been even more forthright in expressing what Japan's responsibilities should be under a national division of labor with the United States. We will continue to encourage Japan to achieve within this decade the force levels it needs to meet its defense requirements.

We plan to base F-16 aircraft at Misawa Air Base in Japan. Once deployed, these U.S. F-16s will provide improved air-to-surface capabilities to help redress the regional force imbalance in Northeast Asia.

(2) Republic of Korea (ROK)

On the Korean peninsula, U.S. and ROK forces face an adversary increasingly capable of offensive operations. Furthermore, North Korea has the capability to launch a massive attack with little advance warning. Together with the ROK and our United Nations partners, we must continue our efforts to strengthen U.S. and ROK capabilities. We will do so by helping ROK ground and air forces to modernize, and by achieving increased interoperability of air and ground support operations, improving C^3I systems, upgrading petroleum storage facilities, and improving contingency airfields. At the same time, we will continue efforts to reduce tensions and maintain peace in Korea.

(3) The Philippines

The United States and the Republic of the Philippines are bound together by the Mutual Defense Treaty of 1951 and the Military Bases Agreement (MBA) of 1947. U.S. military facilities in the Philippines play a key role in projecting American power in the western Pacific, East and Southeast Asia, and into the Indian Ocean. In June 1983, the United States and the Philippines successfully completed a review of the MBA, which will ensure the continued unhampered operation of U.S. facilities within the context of our long-standing defense relationship.

(4) Thailand

The preservation of Thailand's independence and territorial integrity is central to the stability of Southeast Asia. We will continue to provide Thailand with assistance to bolster its self-defense capability against Soviet-supplied hostile forces, primarily Vietnamese, on its borders.

(5) Australia and New Zealand

The ANZUS Treaty links two of our oldest and staunchest allies, Australia and New Zealand, with the United States in defense efforts that are the keystone of our defense policy in the South Pacific.

c. Security Assistance

Table III.F.6

Major Funded Programs, FY 1985
($ in Millions)

Country	FMS Credits	MAP Grants	International Military Education and Training Program	Economic Support Funds
Indonesia	40	--	2.7	--
Korea	230	--	2.0	--
Malaysia	10	--	1.0	--
Philippines	60	25	2.0	95
Thailand	98	5	2.4	5

More than half of the proposed FMS credits for East Asia and the Pacific region support the ROK Force Improvement Plan ($230M); much of the remaining FMS credit request for the region is directed to the Philippines ($60M). Other major recipients of FMS credits include Indonesia ($40M), which sits astride very important lines of communication, and Thailand ($98M), which faces persistent pressures from Vietnamese forces in neighboring Kampuchea.

d. Regional Exercises

Annually, we conduct five major exercises with the ROK, including Team Spirit, which is the largest combined field-training exercise in the world. We also participate in annual exercises with Japan, Thailand, and the Philippines. Again this year, we will participate in Rimpac, a naval exercise that includes forces from Japan, Canada, Australia, and New Zealand.

5. Western Hemisphere

The Rio Treaty embodies our long-standing commitment to the security of our Latin American neighbors. It is within the context of that treaty that we formulate our security policy for the region. Without a secure environment, there is little hope that we can achieve other regional objectives -- to promote democracy, economic development, and dialogue and negotiations both within and between regional states. In order to help create a secure environment:

-- We provide security assistance to those states in the region most vulnerable to externally supported internal subversion. Together with economic assistance, military assistance must be at levels that allow recipient countries to establish and maintain adequate internal security.

-- We attempt to counter Soviet and Cuban presence and influence through our military and economic aid programs. We seek to prevent the growth of contacts between the Soviet Union and hemispheric countries, since such contacts can directly threaten our collective security.

-- We maintain the security of important trade and sea-lanes in the Caribbean.

a. Command Structure and Forces

The Commander-in-Chief, U.S. Southern Command, with headquarters in Panama, has geographic responsibility for Central and South America. The Commander-in-Chief, U.S. Atlantic Command, with headquarters in Norfolk, Virginia, has responsibility for the Caribbean and the ocean areas surrounding the Central and South American land mass.

In Latin America, the United States maintains an Army infantry brigade in Panama together with small Air Force and Navy elements. These forces could be quickly reinforced by units from the United States, if required. The United States conducts frequent air, land, and naval exercises in the Caribbean Sea area, and maintains bases in Puerto Rico; Guantanamo Bay, Cuba; and Florida.

Chart III.F.4
Latin America

b. Programs

Under the terms of the Panama Canal Treaty, the United States will retain responsibility for defense of the Panama Canal through the year 1999. To maintain our capability to meet that commitment, we are proposing a program of modest improvements to U.S. bases and forces stationed in Panama. We will also continue a vigorous exercise program in Latin America and the Caribbean in order to provide necessary training for U.S. forces as well as demonstrate our ability to support friends and allies in the region.

c. Security Assistance

Latin American security assistance efforts have included providing training courses in the United States and in Panama, and assisting in the establishment of the new Regional Military Training Center in Honduras. This latter facility enables us to train the armed forces of Central American nations with greater efficiency. Training at this facility can be provided at less cost to regional states than comparable training in the United States.

In the Caribbean, we will continue support for the Caribbean Peacekeeping Force as it assists the interim government of Grenada in restoring democracy to that island. Other security assistance programs in the Caribbean are aimed at assisting the island governments in achieving adequate self-defense capabilities.

The major portion of our regional funding request is concentrated on El Salvador and Honduras. These programs seek a judicious balance between military and economic assistance to deal with interrelated economic, social, and national security problems.

Table III.F.7

Major Funded Programs, FY 1985
($ in Millions)

Country	FMS Credits	MAP Grants	International Military Education and Training Program	Economic Support Funds
Costa Rica	b/	b/	b/	b/
Dominican Republic	5	3	0.75	45
Eastern Caribbean	--	5	0.30	20
El Salvador	b/	b/	b/	b/
Guatemala	b/	b/	b/	b/
Honduras	b/	b/	b/	b/
Jamaica	--	5	0.25	70
Panama	b/	b/	b/	b/
Peru	10	--	0.85	--
PACAMS a/	--	--	6.00	--

a/ Military schools in Panama.
b/ To be determined.

d. Regional Exercises

One of the most successful programs for Western Hemisphere cooperation has been the Unitas cruise program. The 1983 cruise was the 24th to take place since the program's inception in 1960. Nine South American and Caribbean countries participated in this exercise and planning is under way for the Silver Jubilee Unitas cruise in 1984.

The Big Pine exercises in Honduras are the latest in a series of combined exercises that we began in 1965 with Latin American armed forces. These exercises have improved our ability to operate with the armed forces of Honduras and given us an opportunity to practice the deployment and operations of U.S. forces in the region.

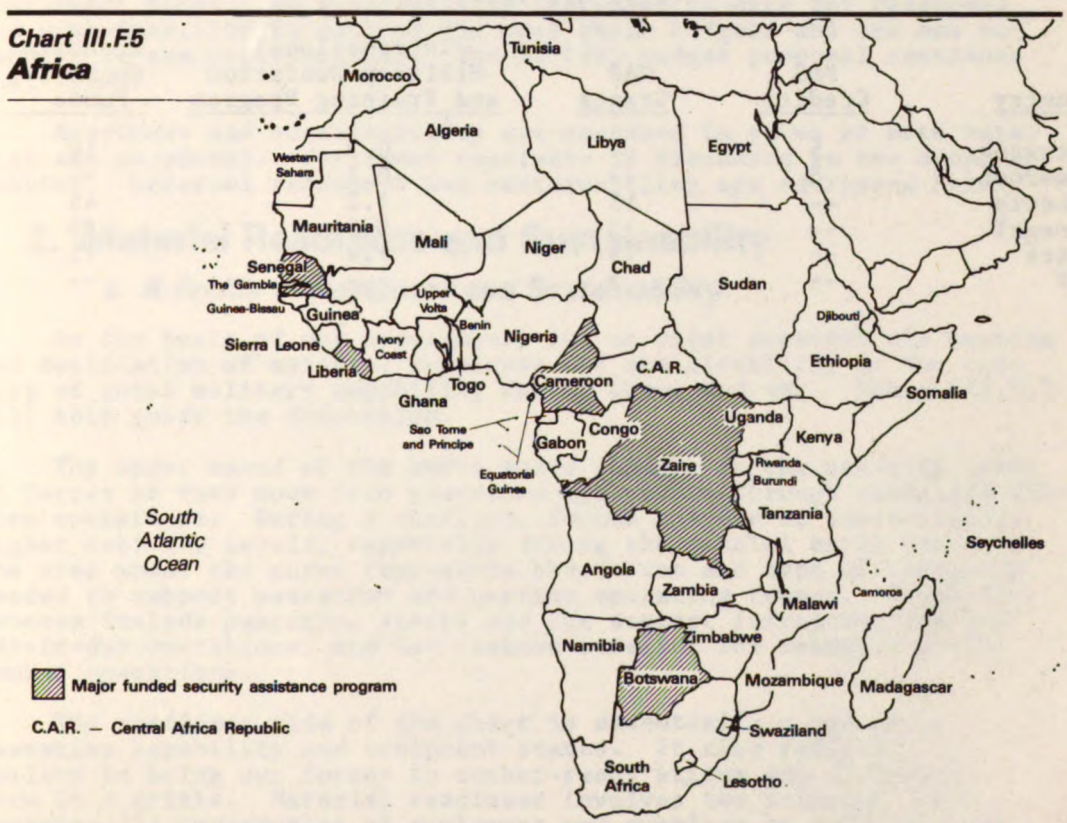
6. Africa

In Africa, we seek an environment in which nations can achieve political stability, territorial security, and economic well-being. Since 1978, the Soviets have created a virtual arsenal in North Africa by providing Libya supersonic fighter aircraft, surface-to-air missiles, field artillery units, tanks, and self-propelled

assault guns. Libyan aggression and plotting have directly threatened neighboring countries such as Tunisia, Egypt, Somalia, Sudan, and especially Chad, as well as countries farther away in sub-Saharan Africa. In addition, there are more than 8,000 Soviet advisors in Algeria.

The Soviets, in concert with Cuba and Eastern-bloc states, also supply large amounts of materiel and training in the sub-Saharan region. In addition to Soviet arms and advisory assistance, about 9,000 Cuban military personnel, many of them combat troops, were stationed in Ethiopia at the end of 1983. In Angola, more than 20,000 Cuban troops are attempting to protect the Marxist government there against a growing resistance, in part to help assure Soviet access to military facilities and to continue use of Angola as a base for supporting "liberation movements" in southern Africa. Elsewhere in sub-Saharan Africa, in such countries as Mozambique and the Congo, there are sizable contingents of Soviet, Cuban, and East German advisors.

U.S. efforts to deter Soviet-backed adventurism have included providing African countries, such as Chad, with equipment for their own defense, and deploying AWACS aircraft to Egypt to enable other countries of the region to counter Libyan military threats. By conducting military exercises with Sudanese and Somali forces and annual training visits by U.S. Navy units to several West African nations, we have also helped the nations of Africa increase their military forces' effectiveness.



a. Command Responsibilities

The U.S. Commander-in-Chief, Europe, has general responsibility for northern Africa, while the Commander-in-Chief, U.S. Central Command, has responsibility for eastern Africa.

b. Security Assistance

Very few friendly African nations can afford military purchases, and many therefore depend on U.S.-funded assistance to meet their security requirements.

Most of our security assistance request will enable recipient countries to maintain programs already under way. We anticipate few transfers of major systems, but significant efforts in training and follow-on support and spares are planned. The major country programs include Liberia in West Africa, especially to continue its military housing project, and Zaire in Central Africa. We are planning FMS guarantees for two African countries and MAP grants for 18; 15 countries would be recipients of Economic Support Funds. A major new initiative is the Civic Action Program (CAP), which will increase the capabilities of regional navies and coast guards to patrol territorial waters.

Table III.F.8

Major Funded Programs, FY 1985
($ in Millions)

Country	FMS Credits	MAP Grants	International Military Education and Training Program	Economic Support Funds
Botswana	5	4	0.3	10
Cameroon	5	--	0.2	--
Liberia	--	15	1.2	45
Senegal	--	3	0.5	15
Zaire	--	15	1.4	15
CAP	--	5	--	--

G. MATERIEL READINESS, SUSTAINABILITY, AND OTHER LOGISTICS

1. Introduction

Improving the readiness and sustainability of our combat forces continues to be a top priority of this Administration. We believe that if our forces, as well as the forces of our allies and friends, are well-equipped, combat ready, and capable of conducting sustained combat operations -- and are perceived as such -- we will be able to deter or, if necessary, defeat any aggression against our vital interests.

When the Reagan Administration took office in early 1981, the readiness and sustainability of our combat forces were alarmingly low. Equipment readiness and mission capable rates were at low points and heading lower; maintenance backlogs persisted at most repair facilities; and inventories of spares and repair parts were shrinking, with no near-term prospect for relief -- all due largely to a decade of underfunding. Also, war reserve inventories of munitions, spare parts, and secondary items were woefully inadequate to support a sustained conflict. Meeting peacetime supply needs by robbing from war reserve stocks and stripping parts from equipment had become the rule rather than the exception, degrading our forces' warfighting capability even further. The requirement to provide the logistics base and follow-on support for a modernized force compounded our logistics problems.

We immediately set about to redress these deficiencies. Our challenge was to reverse almost a decade of neglect in just three to four short years. We substantially increased funding for readiness and sustainability in each of the past three budgets and are now beginning to see real progress. The FY 1985 budget proposal continues that trend.

Readiness and sustainability are assessed in terms of both materiel and personnel. Personnel readiness is discussed in the Manpower chapter. Materiel readiness and sustainability are addressed here.

2. Materiel Readiness and Sustainability

a. A Profile of Readiness and Sustainability

As the basis of our assessment, let us first consider the meaning and application of materiel readiness and sustainability in the context of total military capability during peace and war. Chart III.G.1 will help guide the discussion.

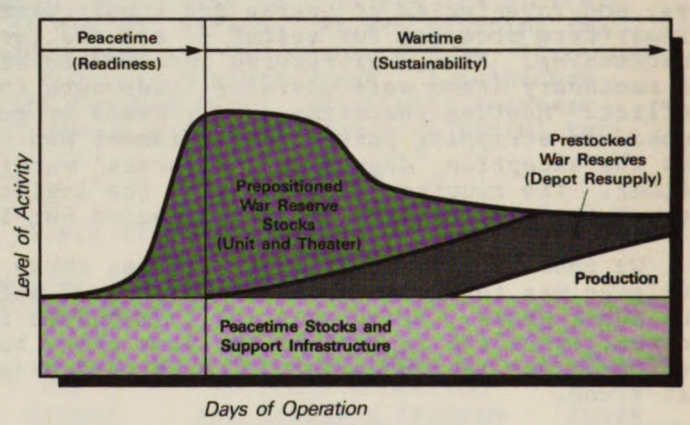
The upper bound of the curve shows changes in the activity level of forces as they move from peacetime operations through sustained wartime operations. During a conflict, forces operate at substantially higher activity levels, especially during the crucial early days. The area under the curve represents the amount and type of resources needed to support peacetime and wartime operating tempos. These resources include peacetime stocks and the support infrastructure for day-to-day operations, and war reserve materiel for resupply during combat operations.

The readiness side of the chart is essentially a measure of peacetime capability and equipment status. It also reflects our ability to bring our forces to combat-ready status and to deploy them in a crisis. Materiel readiness involves two principal components: (1) inventories of equipment and supplies on hand relative

to wartime requirements and (2) the ability of this equipment to perform its assigned tasks.

Sustainability is the "staying power" of the force during combat operations. It is usually measured in days. Materiel sustainability is our ability to replace those resources consumed or attrited during combat. It is a function of peacetime stocks, the support infrastructure, war reserve materiel, and industrial production.

Chart III.G.1
A Profile of Readiness and Sustainability



b. Readiness and Sustainability Resources

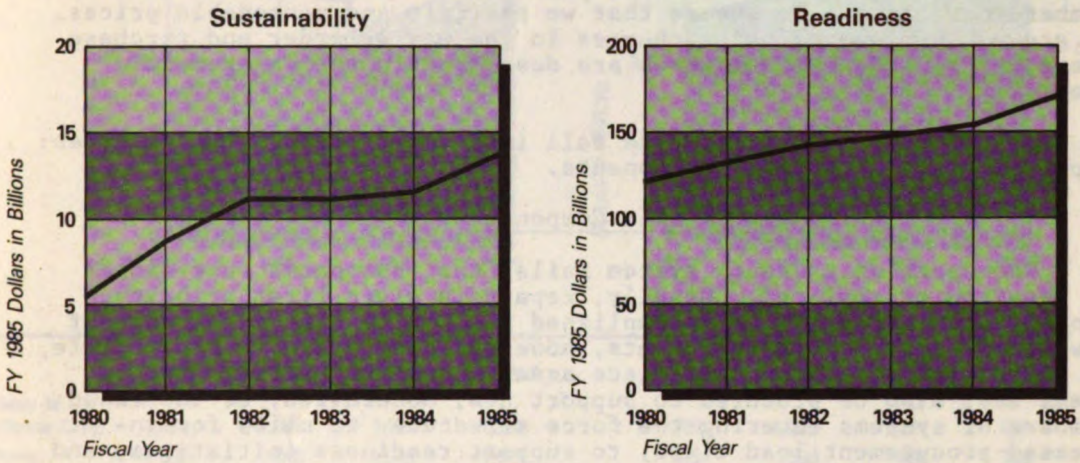
The primary logistics resources that influence materiel readiness and sustainability are shown in Table III.G.1.

Table III.G.1
Readiness and Sustainability Resources

Readiness	Sustainability
Peacetime Spare Parts	War Reserves of:
Depot-Level Repair	Munitions
Stock Fund Inventory Augmentation	Repair Parts
Weapons and Equipment Inventories	Petroleum, Oil, and Lubricants (POL)
Modifications	Weapons and Equipment
Support Infrastructure	Industrial Production
Installations	
Training Munitions	

Chart III.G.2 illustrates trends in total readiness and sustainability funding between FY 1980 and FY 1985. In real terms, funding for readiness has risen by 40% and sustainability funding by 155%.

Chart III.G.2
Total Readiness and Sustainability Funding



The following paragraphs describe selected logistics resources, explain their impact on readiness and sustainability, and review funding levels for FY 1981-85. The annual Force Readiness Report, sent to the Congress each February, provides additional information on readiness and sustainability funding, weapon systems inventories, actual and projected materiel readiness trends, and our efforts to improve our ability to relate resources to readiness and sustainability.

c. Funding-to-Readiness Lag

Real improvements in readiness and sustainability are paced by procurement lead times. (The term "lead time" refers to the period between the time funds are obligated and the time items are delivered.) For many items, lead times can run as long as two or three years. For example, funding appropriated for spare parts in FY 1985 will not produce increased inventories until FY 1987 or later. Conversely, funding for depot maintenance provides usable components within a few months, since repairing an item is faster than building a new one. Delivery time for repair parts bought through the stock fund averages about one year. The essential message is that today's peacetime readiness and wartime sustainability are largely a function of prior years' funding -- in some cases, dating as far back as FY 1980. Similarly, the FY 1985 budget will have a substantial -- and, in large measure, irreversible -- impact on future readiness and sustainability.

d. Materiel Readiness Resource Funding

The materiel readiness of weapon systems and equipment is influenced most dramatically by funding in three resource categories: spares and repair parts, depot maintenance, and weapon systems modifications.

(1) Spares and Repair Parts

Spares and repair parts are needed to keep equipment operationally ready and available both for peacetime training and for initial combat operations. To ensure that we pay fair and reasonable prices, we are making several major changes in the way we order and purchase spare parts. These initiatives are described in the Management chapter.

All spares and repair parts fall into one of two general classes: repairable and consumable components.

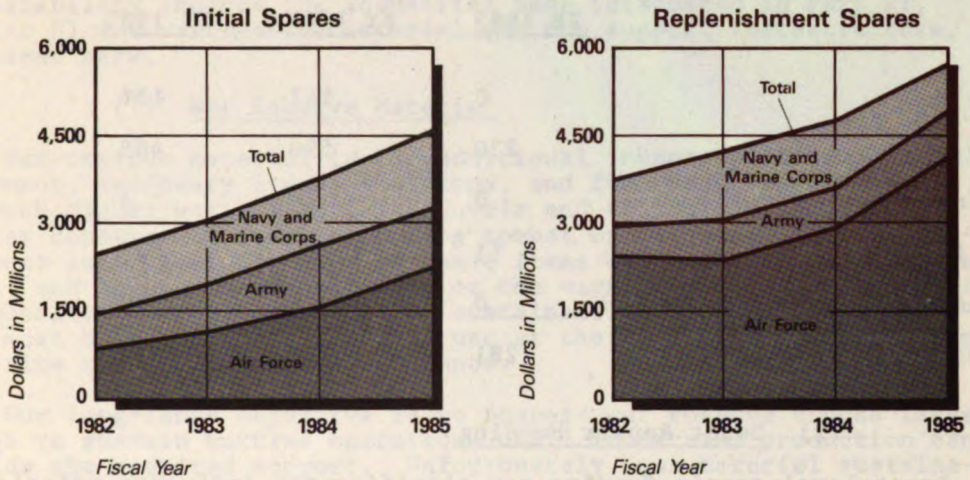
(a) Repairable Components

When part of a weapon system fails, that component must either be repaired or replaced. Usually, repair is given first priority, since it can generally be accomplished for 15% to 25% of the cost of new procurement. Most components, however, have a finite repair life, so items must be bought to replace assets condemned during repair. Items must also be procured to support new, modernized, or increased numbers of systems entering the force structure; to allow for increased procurement lead times; to support readiness initiatives; and to build war reserve inventories.

The repairable spares program consists of two distinct elements: initial spares and replenishment spares. Initial spares are associated exclusively with weapon systems being fielded for the first time or with modifications to equipment currently in the inventory. Replenishment spares provide continuing support over the life of a weapon system. Requirements for replenishment spares are usually based on engineering estimates or actual usage, which is then applied to programmed force activity.

Chart III.G.3 summarizes the trend in funding for peacetime repairable spares during FY 1982-85. The significant increases each year clearly demonstrate our emphasis on improving peacetime readiness. As the chart shows, the FY 1985 budget for peacetime repairable spare parts is $10.2 billion -- 37% higher in real terms than in FY 1982. These increases are urgently needed to satisfy not only those requirements generated by new and modernized equipment, increased force activity, and program changes, but also those requirements unfunded in prior years.

Chart III.G.3
Peacetime Repairable Spares Procurement



	FY 1982	FY 1983	FY 1984	FY 1985	FY 1982	FY 1983	FY 1984	FY 1985
Navy & Marine Corp	1,022	1,061	1,116	1,302	789	1,203	1,221	815
Army	598	815	1,049	1,014	513	599	686	768
Air Force	878	1,156	1,583	2,227	2,438	2,436	2,923	4,118
Total	***2,498***	***3,032***	***3,748***	***4,543***	***3,740***	***4,238***	***4,830***	***5,701***

(b) Consumable Spare Parts

Consumable spare parts are used at all levels of maintenance to fix faulty components and repair major systems. Shortages of these relatively inexpensive items can cause major weapon system downtime at field or depot locations. Funding consumable items is, therefore, as important as funding repairable spares and depot-level repair.

Most consumable spare parts are financed by DoD stock funds, which operate under a revolving fund concept. As such, the cash required to pay for materiel procured is generated from sales to maintenance organizations and operating activities. In the mid-1970s, as we withdrew from Vietnam and reduced the force structure, stock fund inventories were drawn down and converted to cash. As a result, the additional cash we needed for additional inventory was readily available. In recent years, the reverse has been true -- inventory requirements have grown due to force expansion and modernization, and we experienced higher-than-expected inflation. To ensure that the stock funds can finance the required buildup in inventories, the FY 1985 budget includes a cash augmentation of $1.3 billion, as shown in Table III.G.2.

Table III.G.2

Stock Fund Inventory Build Requirements
($ in Millions)

	FY 1983	FY 1984	FY 1985
Army	0	147	156
Navy	230	590	488
Marine Corps	0	0	4
Air Force	51	1,107	523
Defense Logistics Agency	0	0	99
DoD Total	281	1,844	1,270

(2) Depot Repair Funding

Depot-level repair funding can significantly influence materiel readiness. Repaired components are available faster, and are generally cheaper, than newly procured items and, therefore, have a more immediate influence on weapon system availability. Despite the funding increases provided last year and requested for this year, a depot maintenance backlog will remain at the end of FY 1985. Backlogs do not represent a departure from the Department's goal of fully funding depot maintenance requirements where feasible, but rather represent the impact of limited resources and the realities of the hard program choices that must be made within constrained resource levels.

(3) Modifications

Weapon systems are modified to correct problems identified during development or operational use. They include changes to enhance the capability of existing systems, improve their reliability and maintainability, incorporate operational and safety modifications, and extend their service lives. Procurement funding for modifications of weapon systems and related support equipment is shown by Service for FY 1983-85 in Table III.G.3.

Table III.G.3

Modification Funding a/
($ Millions)

	FY 1983	FY 1984	FY 1985
Army	799	1,171	1,484
Navy and Marine Corps	1,318	1,548	2,197
Air Force	2,558	2,764	3,544
Total	4,675	5,483	7,225

a/ Reflects procurement funding; installation costs are funded by the operations and maintenance accounts.

e. Materiel Sustainability Resource Funding

Beyond readiness, we are also concerned about sustainability -- the staying power of our forces in combat. The components of materiel sustainability include the industrial base (discussed in Part II, Chapter C) and war reserve materiel and the support infrastructure, discussed here.

(1) War Reserve Materiel

War reserve materiel is the additional inventory of weapons, equipment, secondary items, munitions, and fuel procured to support the much higher wartime activity levels and to replace those resources consumed or attrited during combat operations. Because procurement lead times for many of these items often exceed two or three years, and because we cannot predict the warning time or duration of any conflict, we must provide for sustainability in advance -- materiel must be on hand and ready to use at the time we transition from peacetime to wartime operating tempos.

Our long-range objective is to possess war reserve stocks large enough to sustain wartime operations until industrial production can provide the required support. Unfortunately, our materiel sustainability posture has been constrained over many years, leaving us far short of the level possessed by the Soviets. While we strongly desire to correct this imbalance as soon as possible, we know this objective may not be fully attainable in the mid-term. Accordingly, we have established two sustainability objectives (days of wartime support) for forces programmed for combat in each major theater. These objectives include a high-risk level, to be funded by FY 1988, and a more prudent level, to be funded by FY 1991.

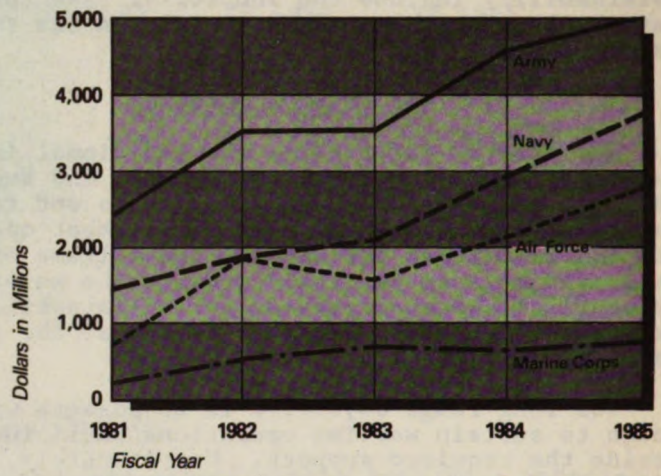
The following paragraphs identify selected categories of war reserve materiel that contribute to combat sustainability, and discuss current and projected funding levels in each area.

(a) Munitions

Our stockpile of war reserve munitions remains in transition from older, Vietnam-era types to a new generation of much more effective munitions necessary to help offset the numerical superiority of our potential adversaries.

Requirements for munitions are computed annually considering U.S., allied, and enemy forces; weapons effectiveness; and cost. The types and amounts of munitions we are proposing to buy represent the most cost-effective mix projected to be available during the five-year program period. The more than $12 billion we have budgeted for munitions in FY 1985 will help achieve our mid-term sustainability levels by the FY 1988 funded delivery period. The munitions procurement program for FY 1985 and the four prior years is shown in Chart III.G.4.

Chart III.G.4
Munitions Procurement[a]



	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
Army	2,403	3,533	3,568	4,592	5,013
Navy	1,471	1,864	2,088	2,943	3,716
Air Force	713	1,857	1,595	2,136	2,773
Marine Corps	183	454	602	571	688

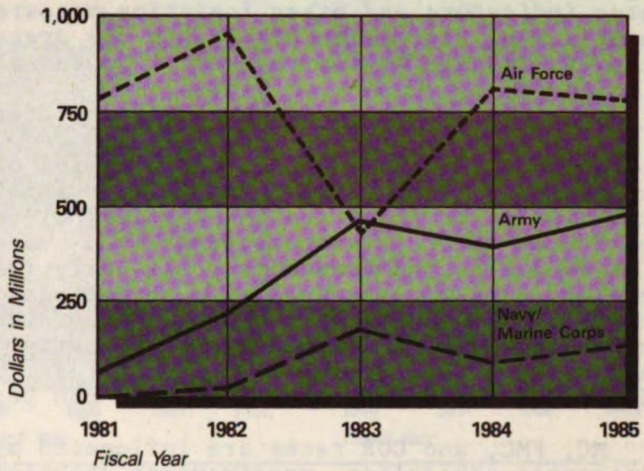
[a] Includes WRM and training ammunition and tactical missiles.

(b) Secondary Items

Secondary items include repairable components, consumable repair parts, personnel support items (e.g., uniforms and combat rations), and a large number of low-cost consumable items. The vast majority of the approximately 3.8 million types of items in the DoD supply system are classified as secondary items. Of those, about 200,000 have been designated crucial enough to our combat capability to justify maintaining war reserve inventories of them. Although secondary items account for a relatively small portion of the dollar value of our total war reserves, shortages of them can severely degrade our combat capability and can be as important as shortfalls in major equipment and munitions.

Chart III.G.5 illustrates trends in funding levels for war reserve secondary items during FY 1981-85. The $1.4 billion we have budgeted for these items in FY 1985 represents an increase of 28% in real terms over the amount expended in FY 1981.

Chart III.G.5
War Reserve
Secondary Items Funding[1]
(Dollars in Millions)



	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
Air Force	781	954	432	803	779
Army	62	214	464	392	476
Navy/Marine Corps	0	25	173	85	134
Defense Logistics Agency	0	0	5	0	0
Total	***843***	***1,193***	***1,074***	***1,280***	***1,389***

[1]Includes stock fund (excluding fuel) and procurement accounts.

(c) Fuel

Inventories of prepositioned fuel continue to fall short of our objectives. During the past year, we validated our requirements and refined our strategies for obtaining additional fuel and storage facilities. The program satisfies our requirements at the lowest possible cost commensurate with an acceptable degree of risk. Our major challenge is to ensure that enough fuel would be available for our forces to operate in areas of the world where we maintain no peacetime military presence or have no logistic infrastructure in place. In such cases, we rely on host nation support or commercially leased petroleum storage facilities and equipment.

(2) Weapon Systems and Equipment

Both the Army and the Marine Corps continue to procure combat attrition replacement parts for major items of ground force equipment such as tanks, armored personnel carriers, and artillery. The Air Force has undertaken an extensive program to preposition war reserve materiel in Southwest Asia and Europe. These programs are covered in detail in the Land and Tactical Air Forces and Force Projection chapters.

f. The Results of Materiel Readiness and Sustainability Funding

Our commitment over the past three years to increasing funding for readiness and sustainability resources is beginning to pay handsome dividends. Much of the materiel purchased in FY 1981-82 is now beginning to arrive in the field in significant amounts, and materiel status indicators and other logistics measures show positive trends. The following discussion highlights six areas showing the impact of increased investment for readiness and sustainability.

(1) Weapon System Condition Status

An important measure of the condition of weapon systems and equipment operated by our land forces is the fully mission capable (FMC) rate. Air forces use mission capable (MC) rates to indicate the operating status of their systems, whereas a comparable measure for naval ships is called the command operationally ready (COR) rate. Each of these measures is expressed as a percentage of the weapons and equipment in the inventory that are capable of performing their mission. A system or item of equipment is considered mission capable when it can safely perform at least one of its assigned missions. It is considered fully mission capable when it can perform all of its missions.

MC, FMC, and COR rates are influenced by many factors such as maintenance scheduling, repair parts shortages, special inspection or overhaul requirements, equipment activity levels, steaming and flying hour requirements, inventory levels of equipment and systems, and the skill levels and manning status of maintenance and support personnel. Some of these factors, such as scheduled maintenance, can be managed; others, such as equipment failures, are random events and cannot be predicted.

A certain percentage of weapons and equipment in the inventory will always be in a non-mission-capable status. During regularly scheduled maintenance periods, for example, an aircraft or item of equipment is considered to be non-mission-ready, yet this maintenance is vital to the continued safe operation of the system.

The Services have established mission capability goals, which represent the optimum balance between scheduled maintenance "downtime" and operationally ready requirements. These goals vary for each weapon system depending on special maintenance and support requirements and on other management considerations. The FY 1984 Force Readiness Report, discussed earlier, provides details of historical and projected MC and FMC rates, by weapon system and by Service. A brief summary of these data is presented in Charts III.G.6, III.G.7, and III.G.8.

Chart III.G.6
Average Aircraft Mission-Capable Rates

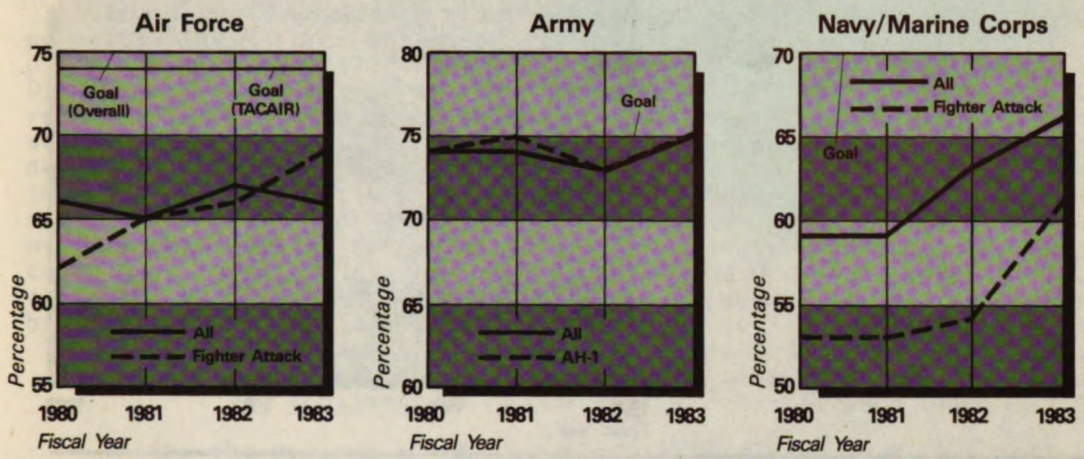


Chart III.G.7
FMC Rates for Ground Forces Equipment

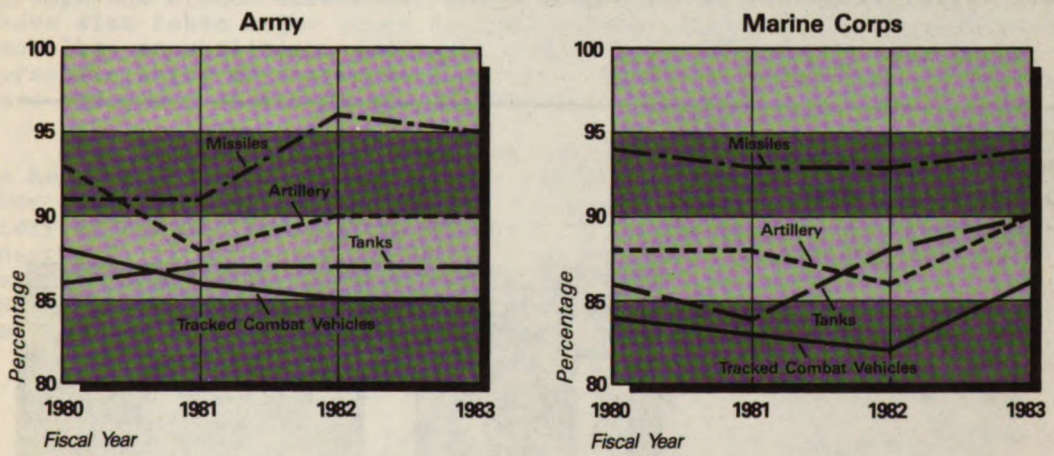
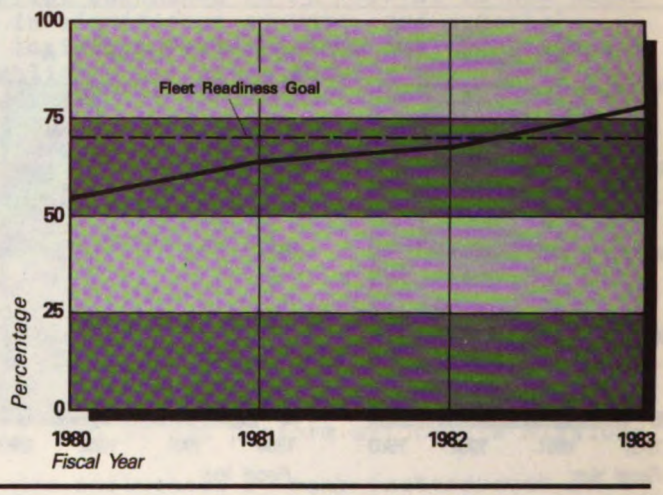


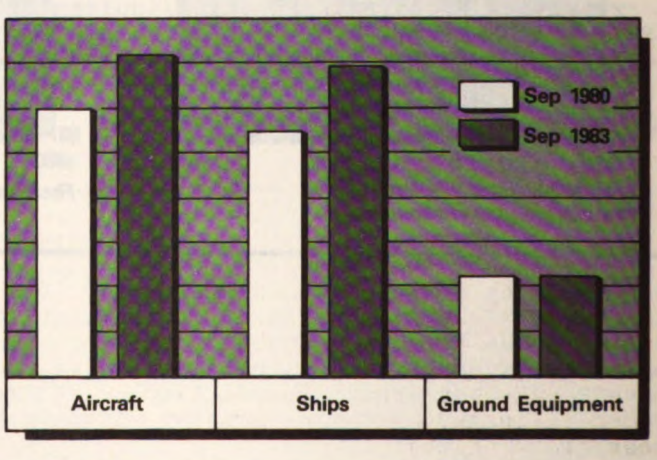
Chart III.G.8
Ship Command Operationally Ready Rates



(2) Unit Combat Readiness Status

The combat readiness status of our aircraft, ground equipment, and ships, as reported through the Unit Status and Identity Report, also reflects the impact of increased spending for readiness resources. Chart III.G.9 illustrates the improvements since September 1980 in the

Chart III.G.9
Equipment Readiness
Combat Ready Units



number of units reporting a combat-ready (C-1 or C-2) status for equipment readiness. Between September 1980 and September 1983, this number increased by 20%.

(3) Spares and Repair Parts Inventories

Increased funding for readiness resources has helped rebuild our peacetime inventories of spares and repair parts, which had been depleted in the late 1970s because of long periods of underfunding. Dividends from this investment are apparent in several areas: less reliance on war reserves and cannibalization as a normal source of supply; better stockage effectiveness and customer support at supply depots; and more efficient use of maintenance man-hours. For example, the materiel availability of the Navy's aviation and ship units increased from 73% in FY 1981 to more than 75% in FY 1983, while the average waiting time for spare parts dropped from 60 days in FY 1982 to 44 days in FY 1983, a 14% improvement. The monthly average of casualty reports from Navy ships requiring spare parts has declined by almost 10% since FY 1982.

(4) Support for New and Modernized Weapons and Equipment

Unlike the program of the late 1970s, this Administration's defense program reflects a commitment to provide the logistics resources necessary to support a modernized and expanding force structure. During the past three years, we have embarked on an extensive modernization of our conventional forces, enhancing the firepower, tactical mobility, and survivability of our ground combat forces and placing heavy emphasis on upgrading our sea- and land-based tactical air forces. Perhaps the most significant force expansion centers on the naval forces, where we are increasing the number of carrier battle groups and attack submarines and modernizing our amphibious fleet. We have also taken major steps to modernize and expand our intertheater mobility capabilities, adding to our airlift and sealift forces and prepositioning more equipment abroad. Similar modernization programs are under way in the strategic offensive and defensive and C^3I areas.

But this significant force modernization and expansion requires a heavy investment in logistics resources. We have met that challenge. Our investment in initial spares has kept pace with the growing inventory of new and modified equipment. Since FY 1981, we have allocated nearly $11.2 billion for initial spares for new and modified weapon systems and, in FY 1985, we have budgeted an additional $4.5 billion. We do not intend to field these systems without the needed logistics support.

(5) Support for Increased Operations and Crew Training

At the same time we were improving the readiness of our weapon systems, replenishing supply inventories, and supporting initial stockage requirements for new and modified weapon systems, support requirements were growing due to the increased tempo of operations and training. Over the past few years, the Air Force has embarked on an urgently needed program to increase the flying hours of its air crews. Similarly, the number of steaming days for general purpose naval units has been growing at an average annual rate of approximately 6% since 1980. The FY 1985 budget for spare parts supports these increased operating tempos, which in turn increase the readiness of our combat forces.

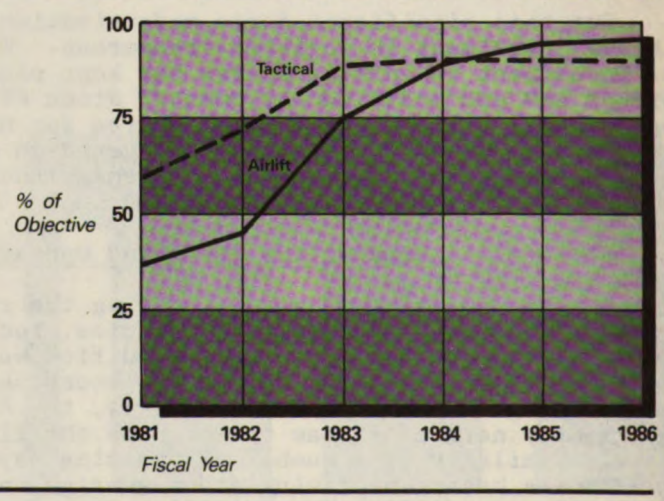
(6) Warfighting Capability

The Reagan defense program has gone a long way toward improving the warfighting capability of our military forces. By the time the items to be procured in FY 1985 are delivered, the war reserve stockpiles of munitions and spares will have increased by about 50% over the level funded in FY 1981. By the end of the FY 1988 funded delivery period, these stockpiles will have increased by another 40-50%.

(a) War Reserve Spares and Repair Parts

The increase in spending for war reserve spares and repair parts has significantly improved the ability of our airlift and tactical fighter aircraft to achieve their planned wartime utilization rates. The capabilities of existing airlift aircraft (C-5s, C-141s, and C-130s) to haul cargo, forces, and equipment in support of our most demanding conflict scenario has almost doubled over the utilization rates we faced in FY 1981. Similar improvements were made in the wartime sortie capability of the Air Force's tactical fighter aircraft. In FY 1981, the sortie capability of the average tactical air unit had declined dangerously because of spares and repair part shortages -- a result of several years of underfunding. As a result of the additional funds we allocated for repair parts purchases in FY 1981-83, the sortie generation capability of the force has improved by more than 50%. The additional funding we are programming for repair parts support for tactical and airlift aircraft in FY 1985-88 will move us toward our sustainability goals by FY 1990. Chart III.G.10 illustrates the improvement in sustainability for the Air Force's airlift and tactical fighter forces from FY 1981-86.

Chart III.G.10
Air Force Tactical and Airlift Forces Sustainability



(b) War Reserve Munitions

Similar sustainability improvements have resulted from our increased investments in war reserve munitions. Since FY 1981, the Services' ordnance inventories have grown substantially. While shortages remain, especially when compared against our long-term inventory objectives, progress is being made in this vitally important area.

g. Support Infrastructure

(1) European Distribution System (EDS)

The Air Force's European Distribution System (EDS) provides for the timely distribution of critical logistics assets needed to return grounded aircraft to service. In wartime, the system would make up to 300 additional fighter aircraft available each day. In FY 1983, we began implementing the EDS. The FY 1985 budget requests funds for the equipment and associated support facilities needed to complete the system.

(2) Deployable Hospitals

Our emphasis on repairing equipment must be matched by an equal effort to achieve an adequate wartime medical capability. The deployable hospitals that the Services have on hand today could provide care for no more than one in five of our wounded in the event of a conventional war in Europe, and for fewer than one in ten wounded in the event of war in Southwest Asia or Korea. The first large procurement of deployable hospitals was funded by the Congress in FY 1983 and FY 1984. The funds requested in FY 1985 will move us significantly closer to achieving an adequate theater medical capability by the end of FY 1991.

(3) Host Nation Support

Host nation support (HNS) is critically important to improving our conventional warfighting capability in Europe, Southwest Asia, East Asia, the Pacific, and Central and South America. HNS is necessary because of the severe shortages we face in combat service support units. These units give our forward-deployed and early reinforcing combat units sustained combat capability. The principle underlying HNS is that our allies can provide needed support from their civil sectors and military establishments at a small fraction of the cost of the United States' providing comparable service. Our host nation support arrangements with our European allies are discussed in the NATO section of the chapter on Regional Security. The Republic of Korea and Japan also provide host nation support for U.S. combat forces. All such programs enable us to improve the readiness and deployability of our forces, while reducing costs and manpower requirements for logistics functions that can be provided by host nations.

3. Installations

a. General

Our new "Excellent Installations" program underscores the importance we place on facilities as an essential ingredient of a strong defense. Support for these installations includes maintenance and repair of existing facilities; replacement and modernization of obsolete

facilities; construction of new facilities; and compliance with environmental, safety, and occupational health standards.

We have made significant progress in making excellent installations a reality. Our direction is clear -- to construct, manage, maintain, and repair defense installations and provide acceptable working and living conditions for our personnel. Between FY 1981 and FY 1985, funding for military construction and real property maintenance has increased by 30% in real terms. Our job is far from finished, however. Many of our people still work and live in old, crowded, and obsolete buildings. This impairs readiness, lowers morale, and detracts from our efforts to retain valuable personnel.

b. Improving Working and Living Conditions

(1) Military Construction

The FY 1985 military construction program, including family housing, continues our efforts to replace or upgrade deteriorated facilities. Table III.G.4 summarizes our military construction program for FY 1980-85. The shares of military construction in the United States and overseas are depicted in Chart III.G.11. A breakout of the program by type of facility is provided by Chart III.G.12.

Table III.G.4

Military Construction Funding
($ in Millions)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
Army	781	987	1,084	2,066	2,545	3,464
Navy	603	827	1,487	1,841	1,880	2,569
Air Force	622	1,049	1,700	2,519	2,512	3,367
Defense Agencies	1,816	2,596	2,829	582	603	922
DoD Total	3,822	5,459	7,100	7,008	7,540	10,322

Chart III.G.11
Military Construction by Geographic Area

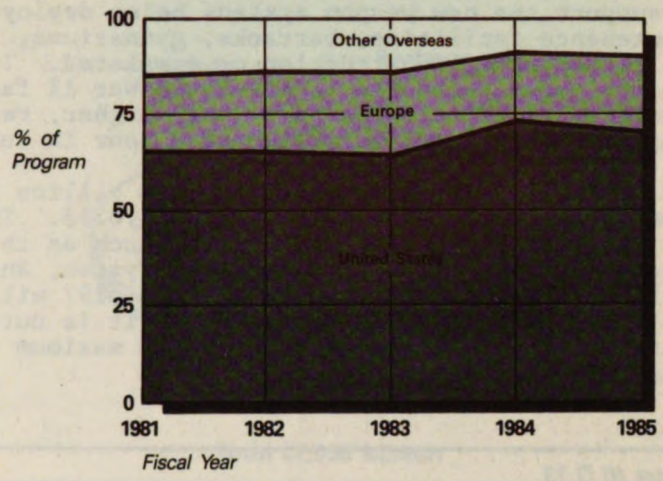
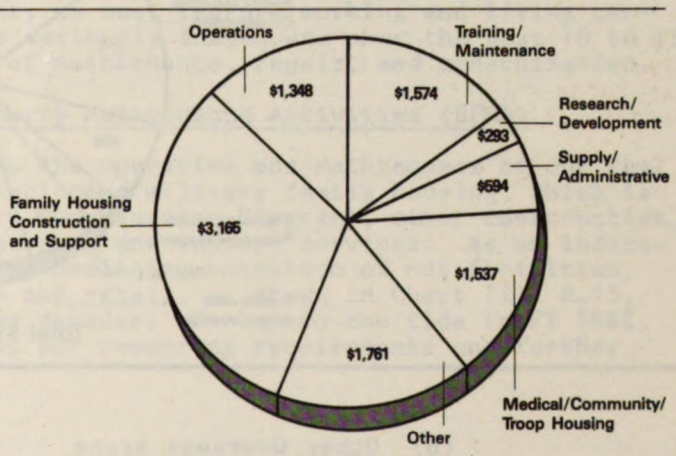


Chart III.G.12
FY 1985 Military Construction Program (Dollars in Millions)



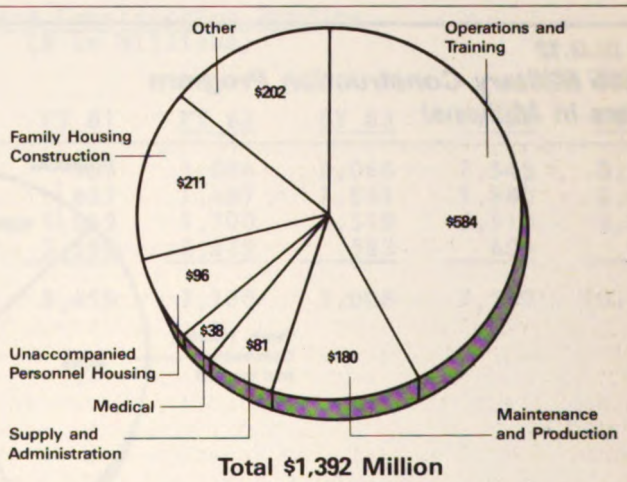
Total $10,322 Million

(a) Europe

Improving the working and living conditions of our troops stationed in Europe remains a high priority of this Administration. We have been able to do this while also providing the facilities needed to support the new weapon systems being deployed there. Many new maintenance facilities, barracks, gymnasiums, and family housing units are either under construction or completed. Troops and their families are no longer relegated to pre-World War II facilities, and they appreciate it. Morale has never been higher, reenlistments are up, and people are now looking forward to a tour in Europe.

The FY 1985 budget includes $1.4 billion for military construction in Europe, as shown in Chart III.G.13. The request includes facilities required for new weapons such as the Ground-Launched Cruise Missile, the Multiple Launch Rocket System, and the Sgt. York gun and Patriot systems. We are also seeking $297 million for the U.S. share of the NATO Infrastructure program. It is our policy to use this multinationally funded program to the maximum extent possible to satisfy our facility requirements.

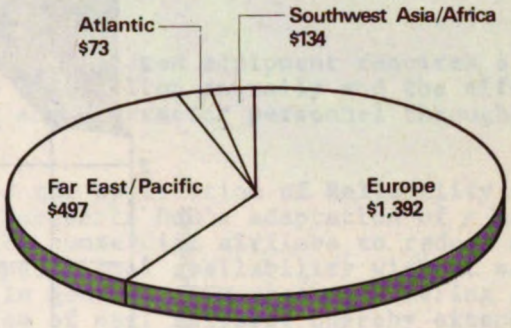
Chart III.G.13
European Military Construction
(Dollars in Millions)



(b) Other Overseas Areas

In addition to the $1.4 billion proposed for military construction in Europe, the FY 1985 budget also includes about $700 million for other overseas areas. Chart III.G.14 shows the distribution of all military construction funding for overseas areas.

Chart III.G.14
Overseas Military Construction
(Dollars in Millions)



Total $2,096 Million

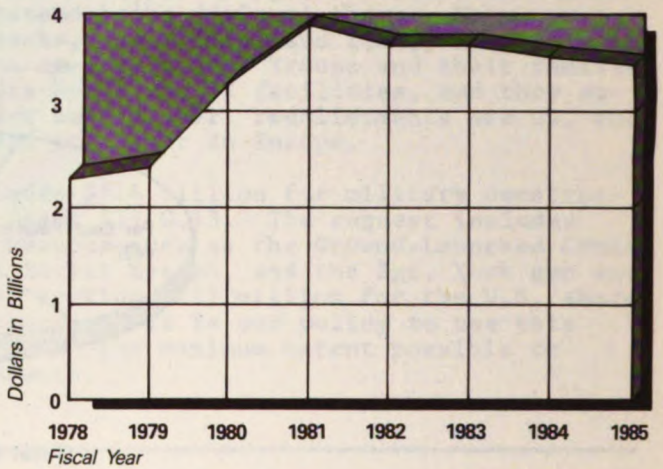
(c) United States

Although our facility support requirements are less severe in the United States than overseas, we must improve working and living conditions, which have become seriously inadequate over the past 10 to 15 years due to underfunding of maintenance, repair, and modernization.

(2) Real Property Maintenance Activities (RPMA)

The RPMA program funds the operation and maintenance of our real property facilities (not including military family housing, which is funded through the Military Construction Program), minor construction, utilities, and other engineering and support services. As an indication of the age and steadily declining condition of our facilities, the backlog of maintenance and repair, as shown in Chart III. G.15, had grown over the past two decades. We turned the tide in FY 1982, and in FY 1985 plan to meet our recurring requirements and further reduce the backlog.

Chart III.G.15
Backlog of Maintenance and Repair



(3) Pollution Abatement

DoD's pollution abatement program continues to set the example for complying with environmental laws. Two major efforts initiated in FY 1984, the Defense Environmental Restoration Program and the Defense Environmental Leadership Project, will work together to solve today's problems while looking for better ways to do the job in the future.

The Defense Environmental Restoration program is a major effort to accelerate the cleanup of hazardous waste and resolve other environmental problems at current and former military installations. The $313 million budgeted for this program in FY 1985 reflects an increase of $163 million over the amount appropriated for FY 1984.

While our restoration program corrects environmental problems using current technology, we are developing improved methods through the Defense Environmental Leadership Project. This project focuses on innovative ways to reduce the costs of compliance and cleanup. For example, we are establishing a program that will, by FY 1986, essentially eliminate the disposal of used solvents as waste at our installations. We are sharing the knowledge we gain from our program with the Environmental Protection Agency (EPA) for nationwide application.

4. Logistics Support Management

a. Supply Programs

We have established a Supply Management Policy Group within DoD to develop logistics management policies and procedures that will allow us to measure supply performance on the basis of weapon system

availability. Each DoD component is preparing a comprehensive plan outlining the policies, procedures, and automatic data processing equipment (ADPE) modifications required to implement a weapon-system-oriented supply system. This concept will help us meet our targets for operational availability of weapon systems while keeping inventories of spares at the minimum acceptable level.

b. Maintenance Programs

Maintaining weapon systems and related equipment requires significant resources -- more than $24 billion annually and the efforts of more than 900,000 government and contractor personnel throughout the world.

DoD is continuing to expand the application of Reliability Centered Maintenance (RCM). RCM represents DoD's adaptation of a maintenance strategy developed by the commercial airlines to reduce maintenance expenses and increase operational availability without sacrificing safety or reliability. In general, RCM uses engineering analysis to project the probable time of next failure, thereby extending the time between visits to the repair shop. RCM has been successfully applied to ships, aircraft, engines, and combat vehicles, as well as to various subsystems, avionics systems, and ground support equipment.

c. Transportation and Traffic Management

We have included an extensive review of transportation programs in the Force Projection chapter. The following management initiatives explain important programs not covered there.

The use of competitive negotiations for freight and passenger traffic that is regularly conveyed in large volumes has significantly reduced costs and simplified administration. We are drafting, with the help of industry, a new National Airlift Policy to establish the proper balance between the peacetime use of commercial airlift needed to meet defense emergency requirements and an expanding military fleet of intertheater airlift aircraft. In the sealift area, our policies promote development of the privately owned merchant marine. The DoD operates only those dry cargo ships needed to meet requirements that cannot be satisfied by commercial operators. To manage travel more effectively for DoD personnel, we are expanding the use of commercial reservation and ticketing services, and maximizing the use of discount fares for travel, hotels, and rental cars.

A new unified Military Transportation Command (MTC) will soon be established under the Joint Chiefs of Staff. This new command, with the Army's Military Traffic Management Command as its nucleus, will improve coordination of surface transportation in peacetime and will enhance our ability to deploy combat forces rapidly in wartime. (More than 90% of our transportation requirements in any major conflict must be met by surface systems.) In addition, we have appealed to the Congress for an early repeal of language contained in the FY 1983 Authorization Act prohibiting the consolidation of transportation functions. This would permit us to consolidate certain Military Sealift Command (MSC) responsibilities with like functions in the MTC to achieve additional efficiencies.

d. Integrated Logistics Support

Comprehensive logistics support planning during the systems acquisition and post-production phases will improve the readiness

of our weapon systems. Our increased emphasis in this area includes designing new systems with readiness requirements in mind, increasing the visibility of initial logistics support resources in POM and budget submissions, and establishing a new R&D program in which we are studying how new technology can be used to solve weapons support and other logistics problems.

e. Energy Conservation

DoD actively supports the National Energy Conservation Policy Act, which requires that energy-saving modifications be made to existing facilities when cost-effective. A major benefit of permanent modifications is long-term savings in energy costs.

Since FY 1976, the Congress has appropriated more than $1 billion for this program. To date, we have saved over $1 billion from this investment, and project a $200 million annual cost avoidance in the years ahead. The $160 million we are proposing to invest in energy-conservation measures in FY 1985 will result in an additional annual cost avoidance of approximately $40 million. Nonetheless, energy consumption has increased slightly in the past few years due to a significantly higher operational tempo. The increase would have been much greater, however, without energy conservation measures. The best illustration of improved energy efficiency in DoD is the steadily decreasing consumption of energy as a percentage of operation and maintenance costs in constant dollars. Compared to FY 1975, this ratio was 20% lower during FY 1981 and 29% lower in FY 1982.

f. Productivity Enhancement

DoD fosters a wide range of programs to improve productivity. In 1983, we began purchasing modern labor-saving equipment through the industrial fund to modernize depot maintenance activities. This new equipment will reduce repair costs. In other areas, we financed capital equipment and facilities to improve the productivity of support operations. One of these investments, LOGMARS, employing state-of-the-art, machine-readable symbology (or bar-coding), is expected to return almost $17 in supply, maintenance, and base operations savings for each dollar invested over its economic life. The LOGMARS program will save DoD $8 million in FY 1984, with projected savings of $112 million during FY 1984-88.

5. Conclusion

The emphasis we have placed since FY 1981 on materiel readiness and sustainability has improved significantly the combat capability and real deterrent strength of our forces. Readiness rates are climbing, our ability to sustain our forces during a prolonged conflict has improved, and our program for "Excellent Installations" is becoming a reality. While we continue to make progress, we still have not reached our goals in several areas. Some readiness deficiencies remain, and several sustainability requirements will not be fully funded until FY 1987-89. This does not mean we have lessened our resolve to build a strong and effective logistics support posture. Rather, it reflects the difficulty of coping with increasingly complex support requirements, while pursuing high standards in both capability and efficiency.

H. MOBILIZATION

1. Introduction

For many years, mobilization planning and preparedness did not receive a great deal of attention. When this Administration took office, we discovered that plans and procedures were 20 years out-of-date and that we had major shortfalls in mobilization manpower and materiel. This situation contributed to the difficulties that the United States faced in fulfilling its role as leader of the free world.

The capability of the United States to mobilize its vast resources in support of the armed forces contributes to the effectiveness of our deterrence policy. The Reagan Administration has undertaken numerous initiatives to improve that capability. This chapter addresses those aspects of that capability that are enhanced by better planning and by having tested procedures in place. The small commitment of resources to these planning and exercise activities has a potentially large pay-off in preparedness for an actual mobilization.

2. Federal Mobilization Initiatives

a. Presidential Emphasis

From the outset of his Administration, President Reagan has emphasized his personal commitment to improving America's mobilization preparedness. In July 1982, he signed a new National Security Decision Directive, NSDD 47, on emergency mobilization preparedness. The Directive is amplified by hundreds of specific planning initiatives and has received continued presidential support.

"It is the policy of the United States to develop systems and plans that will ensure that sufficient manpower and materiel are available to guarantee the nation's ability to mobilize . . ."

— NSDD 47

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b. Emergency Mobilization Preparedness Board (EMPB)

The President established the EMPB to develop a credible and effective capability to harness 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

agencies having mobilization preparedness responsibilities. It oversees progress on the planning initiatives and is charged with establishing national policy in the mobilization area. The Department of Defense actively participates in all of the Board's working groups and chairs the two discussed below.

The Military Mobilization Working Group (MMWG) is chaired by the Assistant Secretary of Defense for Manpower, Installations, and Logistics and includes members from 10 other federal agencies. The MMWG has already:

-- Developed the basic mobilization scenarios to be used for planning by all federal departments and agencies; and

-- Prepared and staffed standby legislation for drafting health professionals into the military, should the number of volunteers in a crisis not be adequate.

To complement the mobilization plans and procedures that are continually under development and review in DoD, the MMWG is developing a number of plans to ensure the availability of resources controlled by other federal agencies. The Working Group is developing deployment support plans and estimating requirements for interagency support for deployment of military forces. In addition, the MMWG is working on an improved system for military support to civil authorities so that all appropriate agencies will be aware of how to request support and what kinds of support they may be able to secure from DoD in either a national security crisis or a domestic emergency.

The Emergency Communications Working Group (ECWG) was established to ensure that communications resources are available and adequate to respond to the nation's needs across a broad spectrum of emergency mobilization situations. Because emergency communications cut across many functional areas, the ECWG comprises representatives from 18 federal agencies, departments, and offices. In addition to its work in the communications arena, the ECWG identified three broader issues that have been integrated into the EMPB effort: the nation's dependence on Automated Information Processing (AIP) in times of crisis and the need for survivability of critical AIP; the need to enhance the availability of scientific, engineering, technical, and other human resources in support of both military and industrial mobilization needs; and the need for reliable electric power during and following a major natural disaster or nuclear war.

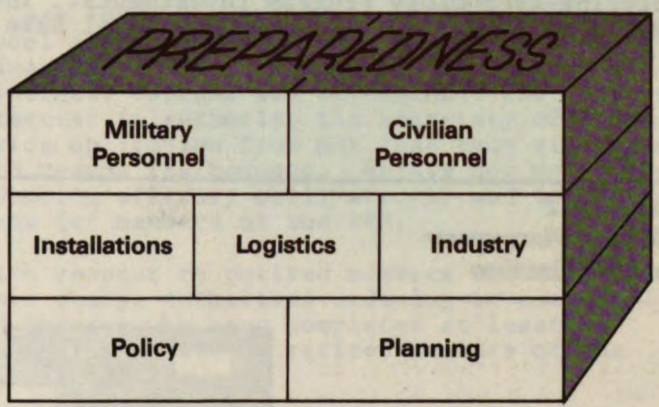
3. DoD Mobilization Initiatives

a. Planning and Policy

Our initial emphasis has been on improving planning and reestablishing emergency mobilization preparedness as both a policy and a fact in DoD. We have ensured that strategy and resource guidance emphasizes the need for conventional mobilization preparedness and, for the first time, we have involved the Joint Chiefs of Staff, the Unified and Specified Commands, the Military Services, the Defense Agencies, and the OSD staff collectively in its development.

Our improved mobilization planning was highlighted by the publication of the DoD Master Mobilization Plan (MMP) in June 1982. The MMP provides broad planning guidance for DoD, a framework for decision-making, and specific responsibilities and tasks. Recent exercises have shown the need to refine and update the MMP, and we have begun doing

Chart III.H.1
Building Blocks of Mobilization Preparedness



so. We also intend to add sections on exercise guidance and information planning, as well as a glossary.

We have revitalized the existing Mobilization and Deployment Steering Group as a mechanism for developing mobilization policy guidance and for resolving major mobilization issues. Chaired by the Under Secretary of Defense for Policy, this Steering Group meets monthly and ensures continued senior-level attention to mobilization matters. In response to its impetus, preparation of an up-to-date program-budget structure for full mobilization is under way.

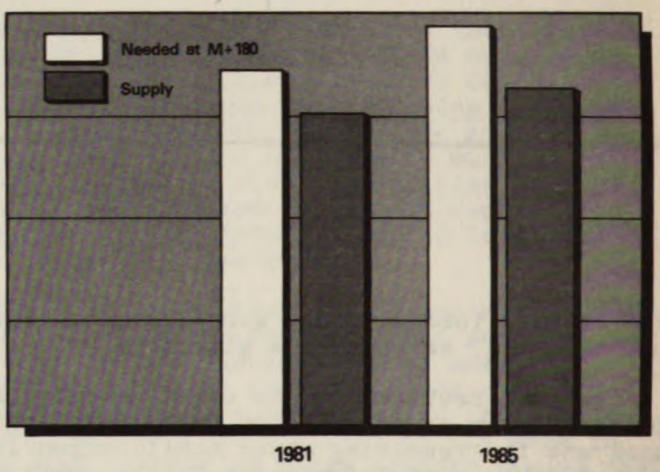
Concurrently with the invigoration of emergency mobilization preparedness policies and planning, we have made significant strides in developing the capability for OSD to perform effectively in its crisis or wartime role. An OSD Crisis Management System (CMS) has been established and tested in three major exercises. This system permits rapid action on issues, provides OSD principals with the information essential to informed decisionmaking, and helps resolve issues at the lowest appropriate levels. This focuses the Secretary of Defense's attention on those matters requiring his personal decision or a recommendation to the President. OSD has been increasingly active in planning, organizing, and participating in major mobilization and crisis-response exercises. In addition to training the OSD staff in its crisis-related functions, this participation has improved the overall effectiveness of the JCS-sponsored exercise program.

The responsiveness of the nation's industrial base will directly influence our capability to sustain our armed forces in a crisis. To increase this responsiveness, we established an industrial task force, headed by a former chief executive officer from a major defense industrial firm, to develop and oversee policies and plans for industrial

surge and mobilization. Some other initiatives taken to improve responsiveness include: improved planning and programming for industrial base actions; production surge analyses and investments for reduction of lead times for critical items; Defense Production Act Title III investments to improve domestic manufacturing capability; and DoD Manufacturing-Technology Program investments. These initiatives are covered in more detail in the Industrial Base chapter.

b. Manpower Initiatives

Chart III.H.2
Military Manpower for Mobilization



We have made substantial improvements in manpower preparedness. Previous mobilization manpower planning assumed a NATO-only conflict. In view of the uncertainties of the present international situation, our planning now takes into account the possibility of a multitheater war. This has increased our requirements for wartime military manpower. At the same time, we have successfully increased our potential supply of active, reserve, and pretrained military manpower, thus avoiding an aggravation of our actual shortfall. We have also done a better job of identifying wartime needs for additional civilian employees, particularly with regard to their occupations and employment locations.

Initial wartime demands for military manpower would be filled by active and reserve forces. Since these forces alone cannot meet the total requirement, the Department of Defense also relies on pretrained individual manpower. The Individual Ready Reserve (IRR) and retired military personnel subject to recall constitute the largest part of the pretrained manpower pool. Current estimates of the number of people in these categories available for mobilization indicate that there will be significant manpower shortfalls in wartime, especially in critical skill areas.

As a result of a number of legislative and policy initiatives, IRR strength has grown from a low point of 356,000 in 1978 to 417,000 by the end of FY 1983. Any further significant strength increases will require retaining members for longer periods and providing new sources of entry.

The Military Manpower Task Force recognized the need to increase the mobilization manpower pool and recommended that the Congress authorize longer service obligations. Also, as an interim measure, it recommended incentives to increase current IRR strengths. The Congress approved the Department's request to authorize the Secretary of Defense to extend the military service obligation from not less than six to no more than eight years and to resume IRR bonuses. We are now working on related issues such as preventing military skill atrophy and increasing proficiency training programs for members of the IRR.

A major achievement with respect to retired members was also passed by the Congress. This change authorizes ordering to active duty members of the Retired Reserve who have completed at least 20 years of active service on the same basis as retired members of the Regular Components of the Services.

The Congress also provided the President emergency authority to suspend certain laws relating to promotion, retirement, and separation. This authority, normally referred to as "stop-loss" authority, allows the retention on active duty of personnel who might otherwise be released or retired until the President determines the need for their services no longer exists.

To ensure the rapid notification of individual Reserve members and military retirees in the event of mobilization, the Department will use "mailgrams" consisting of an order to active duty and an emergency travel warrant. The travel warrant has been standardized to expedite processing by commercial carriers. We plan a full technical analysis of the mailgram system to determine its surge capacity in the early days of a mobilization. Backup systems such as computer-generated mail and direct mail are being improved.

Chart III.H.3
Congressional Support of Mobilization Manpower Preparedness

- Military Service Obligation Extension
- Stop-Loss Authority
- Reserve Retiree Recall

Since 1980, the Wartime Manpower Planning System (WARMAPS) has become an important source of wartime manpower demand and supply planning data. We have expanded WARMAPS to include additional military occupational categories. In this way, our plans can be based on a

more realistic estimate of supply that recognizes, for example, that cooks cannot satisfy a demand for mechanics. The Services are also developing automated support capabilities for WARMAPS so that increased emphasis can be placed on trying to fix wartime shortfalls and skill imbalances. In addition, we have expanded WARMAPS coverage to DoD civilian employees. With this data, we can make plans in peacetime to fill our expanded wartime civilian hiring needs.

During the Proud Saber exercise in late 1982, DoD tested, for the first time in many years, procedures for mobilizing its civilian work force. We are now addressing several problems revealed by that test. Our chief difficulty clearly will be recruiting additional workers, particularly those in skilled blue-collar occupations, such as machinists. We are working with a national employers' association as well as with labor unions to plan how to recruit the additional skilled manpower necessary to provide expanded support during a mobilization. We also plan to survey DoD civilian retirees about their willingness to return to work during a national crisis.

The exercise also revealed that the Department of Labor's national network of Job Service Offices would be handicapped in helping us in mobilization recruitment because DoD and these offices use different occupational codes. We are developing a "crosswalk" between the two coding systems so that DoD installations can request workers using the codes employed by the Job Service.

As discussed in the Manpower chapter, we plan to hire in peacetime additional base-support civilians to reduce our military presence overseas. These people will continue to work for us in the same or similar jobs under host-nation support agreements in wartime, thus giving us increased military manpower flexibility.

Previous mobilization exercises also identified problems and unresolved issues associated with the management of the emergency flow of manpower into the Military Services. The Manpower Accession Policy Steering Committee assumed responsibility for this management task. It also makes recommendations on volunteer policy and procedures; quality control and allocation of inductees among the Services; and standards for enlistment and induction. Specific issues currently being addressed include allocation of conscientious objectors, quality distribution of manpower among the Services, and industrial deferments.

In addition, we have worked with the Selective Service System to enhance its ability to provide draftees quickly. Selective Service has recently attained high registration compliance rates.

Under the sponsorship of the Mobilization and Deployment Steering Group, we have begun planning for an expansion beyond the current size of our military forces should the crisis situation call for it. We have made a first cut at defining the constraints associated with a major force expansion in terms of time, materiel, and manpower. We are continuing to refine and enlarge our analysis and plan to work with other federal agencies through the EMPB structure.

c. Logistics and Installations Initiatives

The mobilization exercises conducted in the past did not adequately test DoD's logistics system. Consequently, we incorporated events into the scenario for Exercise Proud Saber designed to stress

DoD's complete logistics infrastructure and we arranged for an independent assessment of this aspect of the exercise.

The evaluation identified a number of unsuspected shortcomings. This led us to create a Mobilization Materiel Management Task Force (MMMTF) to address deficiencies in the Master Mobilization Plan and the Crisis Management Structure. While the MMMTF has not completed its work, actions to implement many of its recommendations are already under way.

An adequate supply of petroleum is critical to successful mobilization. DoD initiatives in this area include an analysis of the senior-level decisionmaking process for meeting mobilization energy requirements, delineation of decision options and alternatives, and development of specific petroleum energy supply procedures under disrupted conditions. FUELEX 84 -- a political/military simulation of a petroleum supply disruption -- is projected for spring of this year. The exercise will permit DoD and the Department of Energy (DOE) to test current procedures. DoD, with DOE, has almost finished the Federal Energy Resource Claimancy Manual, which implements the provisions of the Defense Production Act for mobilization-related petroleum requirements.

We have been working to enhance the military utility of the U.S.-flag merchant fleet. Pursuant to a recent Navy-Maritime Administration (MARAD) agreement, the Navy has accepted responsibility for funding selected sealift support enhancement features to be installed in merchant ships upon mobilization, while MARAD will pursue the incorporation of fixed defense features in merchant ships under construction as well as those undergoing conversion or major overhaul. Additionally, in coordination with the Department of Transportation, we are continuing to survey the readiness of the National Defense Reserve Fleet in terms of manpower and materiel requirements, logistical support, and shipyard capabilities.

During the past year, DoD's transportation mobilization preparedness posture has significantly improved as a result of Contingency Response (CORE) Program enhancements. The CORE Program provides DoD transportation service support and priority prior to and during contingencies and emergencies. CORE quick-reaction procedures significantly reduce the time required to muster the various transportation assets needed to meet DoD priority requirements. The National Level Program, which is structured around a CORE team made up of key members from DoD, other federal agencies, and the transportation industry, is a prime example of the application of the current Administration's "Mobilization Preparedness: Government-Private Sector Partnership" theme inherent in NSDD 47. This CORE-team concept has been expanded to the Military Traffic Management Command's area commands and ocean ports throughout the world. The expansion of the program's CORE-team concept to regional and local levels enhances mobilization planning significantly by bringing more private-sector industry personnel into the process. To ensure operational preparedness, team members are assembled periodically to participate in and support mobilization CORE workshops, command-post exercises, and field training exercises.

Much effort has been devoted to planning the timely acquisition of facilities needed during a mobilization. As a result of a DoD-industry-labor construction mobilization conference, DoD developed a plan to: (1) identify mobilization facilities required; (2) develop facility acquisition schedules; (3) pre-design and construct facilities that cannot be completed during a mobilization period; and (4)

work with FEMA to examine all mobilization construction requirements (including those in private industry, civil defense, and DoD) to ensure that the capability and resources will be available to accomplish the construction. The early steps in this process have been taken. Construction requirements have been identified for a full mobilization, and acquisition schedules have been reviewed. As a result, the Army Corps of Engineers and the Naval Facilities Engineering Command are now developing standard designs for selected mobilization facilities.

4. Conclusion

Our planning and policymaking activities have set the stage for the improvements we seek in mobilization preparedness. We will continue to build on the work already accomplished, particularly in regard to refining our estimates of required resources and working to ensure that they are made available in time of need.

I. SPECIAL INTEREST PROGRAMS

1. Command, Control, Communications, and Intelligence (C^3I)

a. Introduction

Our weapon systems and forces can be used effectively only if we have a means to communicate with and direct them. Command, control, communications, and intelligence systems give us that capability. Broadly speaking, the C^3I system comprises a network of command centers, sensors, computers, communications links, and other supporting systems. These systems serve our civilian and military commanders in a number of ways: they assist decisionmakers in gathering and evaluating intelligence information on enemy forces; they enable commanders to assess the status and disposition of friendly forces; they provide communications links over which orders and information can be transmitted; and they give our leaders a means of redirecting their forces as necessary in response to changing conditions.

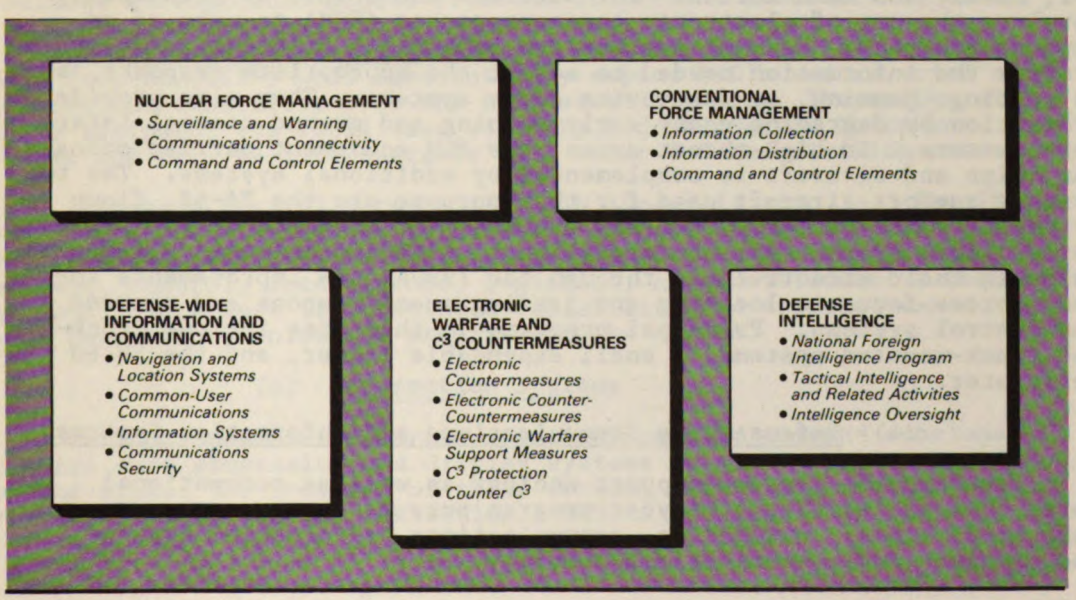
Given the central role they play in our overall defense strategy, we seek to ensure that our C^3I systems are as survivable, endurable, and effective as the weapons they support. We cannot afford to let C^3I become the weak link in the force structure. Interoperability of C^3I systems among the Services and between U.S. and allied forces is another key consideration. The FY 1985-89 C^3I program will give us the ability to respond to ambiguous warning or sudden attack and to manage our forces over the course of a conflict -- a key factor in our commitment to the defensive use of military power.

b. FY 1985-89 Programs

For purposes of this discussion, C^3I programs are grouped into five broad areas, shown in Chart III.I.1. At the top of the chart are

Chart III.I.1

C^3I Mission Area Structure



those functions that are performed in direct support of nuclear and conventional forces. Programs related to the areas on the bottom of the chart are more general in nature and support the entire force structure.

The FY 1985 program includes approximately $36 billion for C^3I programs. The following sections describe major efforts in each area, with particular emphasis on initiatives that support cross-mission or cross-Service needs.

(1) Nuclear Force Management

The President's strategic modernization program is designed to redress the imbalance between U.S. and Soviet nuclear forces. The C^3 portion of the program emphasizes the areas of surveillance and warning, connectivity, and command and control. The Nuclear Forces chapter provides details on these efforts.

(2) Conventional Force Management

The five-year program also gives high priority to enhancing C^3I support for conventional forces. The program focuses on improvements in three broad areas: information collection, information distribution, and command and control. Programs in those areas are discussed in the Land, Naval, Tactical Air, and Projection Forces chapters.

(3) Electronic Warfare (EW) and C^3 Countermeasures

Electronic warfare involves the use of electronic measures to deny or impair the enemy use of his weapons and command and control systems. C^3 countermeasures involve the application of similar techniques coupled with offensive weapons to disrupt or destroy enemy systems that might be used against our command and control network. We are making progress in developing EW equipment to counter the Soviet threat, which continues to grow both in numbers of systems and in the level of its technological sophistication.

The FY 1985-89 program will improve the EW capabilities of our air, naval, and land forces. For aircraft and ships, EW principally involves the use of electronic countermeasures (ECM) to warn of an impending attack. Warning systems are especially critical, since they provide the information needed to select the appropriate response, such as evading, jamming, or destroying enemy systems. They also provide protection by degrading enemy early warning and ground control intercept sensors. In high-threat areas, the ECM equipment carried onboard our ships and aircraft is complemented by additional systems. The two primary support aircraft used for this purpose are the EA-6B, flown by the Navy and Marine Corps, and the EF-111A, operated by the Air Force. Both systems are now operational, with improvements planned to maintain their effectiveness through the 1990s. EW improvements for land forces focus on locating and jamming enemy weapons and command and control systems. Principal programs in this area include truck- and track-mounted systems, a small expendable jammer, and the EH-60 helicopter.

(4) Defense-wide Communications and Information Systems

Defense-wide systems support nuclear as well as conventional force management. The five-year program pursues improvements in four broad areas: navigation, communications, information systems, and computer and communications security.

(a) Navigation and Location

The worldwide operation of our forces in peacetime or during a conflict requires accurate navigation and location information. The principal program to improve our capabilities in this area is the 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. During FY 1983, we awarded a multi-year contract to procure GPS satellites and began ground terminal testing. Deployment of the full 18-satellite network will be completed by FY 1988, thereby providing us a worldwide three-dimensional capability.

(b) Common-User Communications

The Defense Communication System (DCS), consisting of both government and commercial facilities, provides global telecommunications service to the Department of Defense. Our goal is to make the DCS more useful under wartime conditions, while reducing current operating costs. In this regard, we have completed the plan for an improved system and are pursuing the major programs discussed below.

Defense Switched Network -- The existing AUTOVON and other telephone systems will gradually be converted into a new system called the Defense Switched Network (DSN). The DSN will be more survivable than the obsolete, manpower-intensive facilities it will replace, while also offering more flexible and responsive service. We are placing special emphasis on providing timely and reliable secure telecommunication service to key command and control facilities.

Defense Data Network -- Under the Defense Data Network (DDN) program, we will replace the Worldwide Military Command and Control System (WWMCCS) Intercomputer Network hardware with improved data communications switches, thereby achieving an eight-fold increase in the system's capacity. These improvements will make the network fully responsive to the National Command Authorities (NCA) in a crisis. Additional network components have been installed in Korea and Hawaii, and the European testbed network is nearing completion. DDN also includes strengthened access controls to prevent unauthorized use.

Secure Voice Improvement Program -- The Secure Voice Improvement Program (SVIP) will substantially expand DoD's secure voice communications capability over the next several years. The system will share equipment and facilities with the Federal Secure Telephone System and will be interoperable with other DoD and civilian networks.

Automatic Digital Network (AUTODIN) Modernization -- The 20-year-old AUTODIN continues to be DoD's primary system for transmitting secure messages. Types of message traffic the system handles include command, control, intelligence, logistics, and administrative communications. To ensure its continued reliability and responsiveness, we have begun a modernization program for the system.

(c) Information Systems

National Command Authorities and subordinate command echelons require data processing and display systems to give them information on the status and location of their forces, and on the availability of support materiel and facilities. WWMCCS provides this capability.

The WWMCCS Information System (WIS) program includes near-term enhancements for WMMCCS Automatic Data Processing (ADP) computers and facilities, and provides for an extensive and evolutionary modernization of the total system. The FY 1985 budget includes funds for the continued modernization of the current WWMCCS standard ADP hardware and software. The NORAD - Cheyenne Mountain Complex ADP equipment is being modernized to satisfy C^3I requirements unique to operations in space.

(d) Computer and Communications Security

Computer and communications security programs are designed to ensure that our computer assets cannot be disrupted or used by anyone not properly authorized. To prevent these problems, we have defined technical criteria for inclusion in our design specifications. We are also continuing our effort to deny illegal access to security-related information by providing additional communications security devices on telecommunications systems.

(5) Intelligence Programs

Defense Department intelligence programs obtain military information on foreign activities and furnish it to national, departmental, and tactical users. Signals intelligence, photography, and other technical collection capabilities allow decisionmakers to respond to near-term military, diplomatic, and economic developments in foreign countries. In addition, information about foreign weapons and tactics enable weapon designers, planners, and operators to develop countermeasures, improve equipment, and adjust battle plans. Except for tactical intelligence activities in lower-echelon units of operational forces, which are fully integrated with their units, all DoD intelligence activities are accounted for in one of two aggregations: the National Foreign Intelligence Program (NFIP) or Tactical Intelligence and Related Activities (TIARA).

As directed by the President, the Director of Central Intelligence provides program guidance and develops the NFIP budget. Most of the peacetime intelligence activities of the Defense Department are included in the NFIP. TIARA programs, on the other hand, are managed by the Services and the Defense Agencies to respond to operational commanders' requirements to gather and interpret time-sensitive intelligence. To ensure greater recognition of cross-program considerations, TIARA programs are under the cognizance of the Assistant Deputy Under Secretary of Defense (Intelligence).

Independent oversight of all DoD intelligence and counterintelligence activities is accomplished by the Assistant to the Secretary of Defense (Intelligence Oversight). His office ensures compliance with Executive Order 12333, and governs reports on such matters to the Secretary of Defense and the President's Intelligence Oversight Board.

c. Conclusion

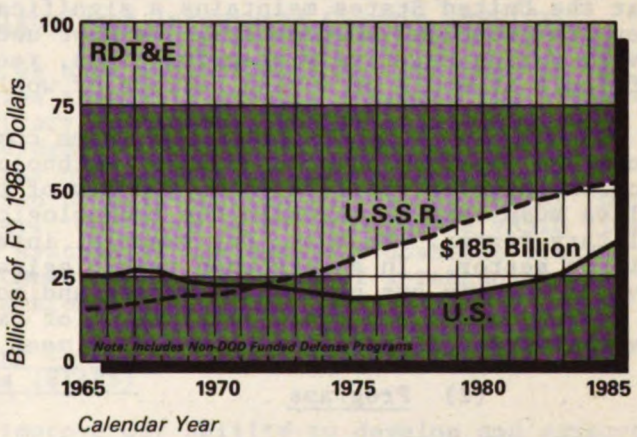
During the past year, we have made substantial progress in providing all echelons of our command structure with more reliable, more survivable, and more effective force management capabilities. We have used evolutionary development to meet our immediate requirements, while structuring long-term programs to overcome weaknesses in current systems, most of which were designed to satisfy peacetime only requirements.

2. Research, Development, Test, and Evaluation (RDT&E)

RDT&E programs lay the groundwork that allows us to field affordable and reliable weapons and support equipment capable of meeting the threat today and in the future. Today, this challenge is especially great since our potential adversaries have continued to improve their combat capability in essentially every mission area.

Since 1971, annual Soviet RDT&E investments, measured in U.S. dollar equivalents, have far exceeded U.S. RDT&E expenditures (see Chart III.I.2). Over the past ten years, the cost of Soviet R&D activities has exceeded the cost of U.S. activities by $185 billion in real terms. As a result, we are now in the position of having to increase our investment in R&D activities to ensure our ability to meet the future threat. Our goal is not to match Soviet R&D spending, but the great disparity between our levels of effort is indicative of the challenge we face.

Chart III.I.2
Military RDT&E Comparison



Since we cannot match our opponents man for man or system for system, our focus is on maintaining our forces' technological edge -- and on using it to our best advantage. For example, technologies are in hand that can increase the capability and effectiveness of our conventional forces to such a degree that we may be able to reduce significantly our reliance on nonstrategic nuclear weapons.

In the past, we emphasized improving the performance of individual weapon systems. We are now focusing on improving our capability across total mission areas. In this way, technology offers new opportunities for substantially increasing the combined effectiveness of our forces. Consequently, our RDT&E programs are now

designed to relate to our overall management approach -- they support our strategy in an integrated fashion.

The objectives and status of RDT&E activities in the strategic, tactical, chemical, and C^3I mission areas are discussed in detail in the appropriate sections of this report. Therefore, we will describe here the cross-cutting mission areas of science and technology, nuclear weapons development, test and evaluation, space, the strategic defensive initiative, and international cooperative programs.

a. Science and Technology (S&T) Program

The Science and Technology program provides the technological foundation for maintaining military forces that are capable not only of deterring conflict, but also of bringing armed conflict to a successful conclusion if such circumstances arise. This investment in the future is necessary if we are to have the means to maintain strong and effective forces for national security.

(1) Objectives

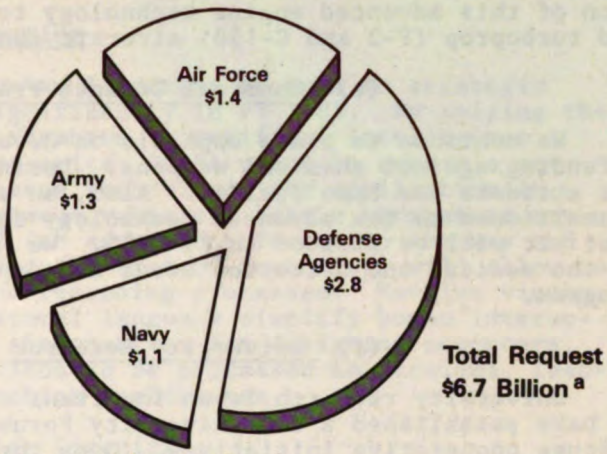
The Soviets have made substantial investments in military research and development. As a result, the technological quality of their systems has moved substantially closer to that of our own. This qualitative advance, coupled with their overwhelming numerical superiority, underscores our need to rely on technology as a counterpoint to numbers. The primary goal of the S&T program is to ensure that the United States maintains a significant technological lead over its principal adversaries. We must undertake this task aggressively during relatively peaceful times, recognizing how much more difficult it would be during periods of world tension.

DoD's S&T program consists of three components: research, exploratory development, and advanced technology development. The program, however, represents only a few of the steps we and our allies must take to maintain the technological superiority of our military forces. We must, for example, interact closely with the private sector. In an era when technological leadership plays such a vital role in our national security and economic well-being, only by making use of the broad combination of talent and know-how in both government and private industry can we meet our technology needs.

(2) Programs

The S&T program encompasses a broad spectrum of projects in all the technical disciplines of interest to DoD. The projects range from laboratory research to technology demonstrations in realistic operational environments. The Services manage approximately 58% of the programs, with the Defense Agencies administering the rest (see Chart III.I.3).

Chart III.I.3
FY 1985 Science and Technology Program
(Dollars in Billions)



[a] Total does not add due to rounding.

The following paragraphs present highlights of the S&T program for FY 1985-89.

(a) Very-High-Speed Integrated Circuit (VHSIC)

Under the VHSIC program we have made significant progress in developing prototype microchips that will greatly increase the signal-processing capability of military equipment. During the past year, for example, we developed and demonstrated 1.25 micrometer circuitry that will provide the basis for new generations of equipment. Several systems have been selected by each Service for demonstrating the application of this technology. Our goal is to incorporate VHSIC circuit technology into defense systems at the earliest possible stage, thereby reducing the time between the development of a technology and its application in deployed systems.

(b) Software Technology for Adaptable Reliable Systems (STARS)

The STARS program will improve our ability to develop and support software for mission-critical systems. This tri-Service effort, built upon the solid foundation of the successful Ada (DoD's high-order computer language) program, will address critical problems in the cost, transportability, reliability, and survivability of computer software in weapon systems.

(c) Advanced Materials Program

The Advanced Materials Program continues to provide high payoffs by reducing the weight and improving the performance of weapon systems, while conserving strategic materiels through the application of carbon/carbon composites and metal-matrix composites. We are demonstrating the use of such composites in turbine engines, shipboard antennas, tank-tread components, long-life submarine batteries, aircraft wings, and helicopter transmission cases. In FY 1985, we will begin a program using metal-matrix composites both to develop large space structures and to enhance the survivability of spacecraft.

(d) Modern Technology Demonstration Engine

The Modern Technology Demonstration Engine Program is proceeding on schedule. This program is expected to reduce fuel consumption by 20-25% compared with similar engines currently in use. The application of this advanced engine technology to turboshaft (JVX, CH-47), and turboprop (P-3 and C-130) aircraft could offer large payoffs.

(e) Chemical Defense Program

We continue to place emphasis on developing new technologies for defending against chemical weapons. During the past year, a new nerve gas antidote has been fielded. Also, an area chemical agent alarm has transitioned to the advanced technology development phase, and a water test kit will be fielded in FY 1985. We will continue RDT&E efforts in the medical and detection areas and expand the decontamination program.

(f) University Research

University research is an important component of DoD's S&T program. We have established a DoD-University Forum to help resolve problems and discuss cooperative initiatives. Over the past year, the forum has been helpful in ensuring both that academic institutions are provided the information they need to carry out their research programs and, that information that might compromise our national security is protected. We remain committed to improving the research capability of the nation's universities. Our emphasis in this area is on continuing the growth in funding for basic research and on upgrading the instrumentation used in university research.

(g) Environmental Science and Services

The organizations involved in environmental sciences (geophysics) and services (military meteorological and oceanographic support) continue to emphasize the development of advanced techniques to support our latest weapon systems. Efforts to upgrade tactical support capabilities include a new hand-held, eye-safe laser radar that will accurately measure visibility and cloud cover; the shipboard Tactical Environment Support System, which will integrate environmental support for antisubmarine warfare and all other naval tactical operations; and under the Defense Meteorological Satellite Program, improvements to the satellites' survivability and tactical readout capability. Also, the Next-Generation Weather Radar program, being conducted jointly by the Departments of Defense, Commerce, and Transportation, has moved into the validation phase, and a joint U.S.-Canadian program to develop an Automated Weather Distribution System is under way.

b. The Defense Advanced Research Projects Agency (DARPA)

DARPA is DoD's central research organization. Its focus is on "high-risk/high-payoff" projects that are generally long-range and multi-Service in nature. As technology areas mature, the agency conducts feasibility demonstrations in conjunction with the Services, who then can move the technology rapidly through the development process. DARPA's research programs cover a broad spectrum of technologies; some of its major efforts are discussed below.

(1) Directed-Energy Technology

DARPA's research in the area of directed-energy technology, described below, constitutes a major portion of DoD's directed-energy program.

(2) Strategic Computing

During FY 1984, DARPA began an important program in strategic computing, which will expand significantly in FY 1985. By seizing the opportunity to leverage recent advances in artifical intelligence, computer science, and microelectronics, DARPA plans to create a new generation of "machine intelligence technology" for application in defense programs, such as autonomous vehicles, battle management systems, and a "pilot's associate" (an advanced information summary and display system). Advances in "expert system" technology will allow us to mechanize human knowledge and reasoning processes. Machine vision, speech, and understanding of natural language simplify human interaction with computers, offer new alternatives for designing computers, and allow the multiple computations to be processed in parallel, leading to large improvements in machine performance.

(3) Gallium Arsenide Circuits

The survivability of electronic equipment in hostile environments will be enhanced by advances in radiation-hardened gallium arsenide circuits. Gallium arsenide technology has progressed beyond the laboratory stage to a pilot line fabrication facility that produces up to 100 wafers per week. This technology has important potential applications for space-based systems.

c. Directed-Energy Technology Program

DoD's directed-energy technology program is a coordinated effort among the three Services and DARPA to develop high-energy laser, particle-beam, and high-power microwave technology for application in a variety of missions.

One of the more important elements in the program is the Strategic Laser System Technology initiative. This effort focuses on high-energy laser and particle-beam research, which provides the foundation for implementing both space-based and ground-based directed-energy weapons. These weapons could perform a variety of missions, such as antisatellite or ballistic missile defense. DARPA's effort to demonstrate the technology for space-based beam weapons will progress into the design and fabrication phase in FY 1985. Known as the DARPA TRIAD, the experiments include precision acquisition and pointing, high-energy cylindrical lasers operating at mid-infrared wavelengths, and large optics and beam control. These efforts are complemented by Air Force projects that examine laser lethality, target-hardening, survivability, and other issues that must be understood before decisions are made to proceed with systems development. The Strategic Defense Laser, initiated in FY 1984, is a joint Air Force/DARPA program to develop and demonstrate short-wavelength laser technology and associated beam control and compensation for ground-based lasers.

d. Defense Nuclear Agency (DNA)

DNA conducts DoD's nuclear weapons effects research program. Its mission is to assess the survivability of our military systems in a nuclear environment, to predict destruction thresholds of enemy systems,

and to develop the technology to enhance the survivability and security of our forces. Their program includes underground nuclear and above ground high explosives testing, nuclear effects simulators, computer models, exoatmospheric experiments, evaluating the results of tests and simulations, and analyzing U.S. versus enemy nuclear warfighting capabilities, including the advanced concept directed-energy vulnerability assessment.

DNA's history as an innovator in the area of force survivability led the President's Commission on Strategic Forces to recommend that this agency lead the effort to resolve the uncertainties regarding the hardness of strategic missile silos, shelters, and mobile systems. Initial research on existing structures using state-of-the-art technologies demonstrated that DNA's continued involvement would reduce the risk of failure to achieve survivability goals and avoid costly design and implementation due to over-conservatism.

Given the diversity and continued growth of the Soviet nuclear threat, a substantial and sustained survivability program is required if we are to assure meaningful deterrence in the future. Assessing system survivability is a fundamental ingredient in our decisions on strategic systems like B-1B, Trident, Peacekeeper, and their supporting C^3. We must ensure that our forces will survive an attack in adequate numbers and that deployed systems will be effective in placing enemy forces at risk. A broad initiative is also well under way to improve and standardize the acquisition process for electromagnetic pulse hardening of C^3 systems. This effort will reduce costs substantially in acquiring new C^3 systems.

e. Nuclear Weapons Programs

The DoD and the DoE share statutory responsibilities, under the provisions of the Atomic Energy Act of 1954, as amended, for managing the U.S. nuclear weapons program. The DoE is fully supporting our programs to modernize strategic nuclear forces and to replace many outdated nonstrategic nuclear warheads. The goal of our nuclear weapons program is to improve military effectiveness, safety, security, survivability, and endurance in all environments. Each year the President issues a Nuclear Weapons Stockpile Memorandum authorizing the number and types of nuclear weapons that DoE will produce and transfer to DoD. The President also annually authorizes DoD to deploy nuclear weapons and authorizes DoD and DoE to conduct nuclear tests.

In support of our modernization programs, the DoE has produced a number of nuclear warheads for DoD's systems. These new weapons are essential to support our force structure modernization and to assure future effectiveness and survivability. Strengthening and broadening of the nuclear weapons technology base in both DoD and DoE are also essential to support future strategic and nonstrategic nuclear force modernization programs and especially to support the President's strategic defensive initiative. Developing and acquiring nuclear weapons involves long-lead times and requires sustained support to "see-through-to-completion" the modernization initiatives begun during the past two years. In the area of defensive technology research, several efforts show early promise, but sustained support over a period of several years is needed to demonstrate the feasibility of these concepts.

While we are making steady progress in most areas, the real payoff -- possessing adequate quantities of effective systems in the field -- remains ahead. Achieving our goals depends on continued

congressional support, and we intend to work closely with the DoE and cognizant congressional committees and their staffs to ensure that our nuclear modernization programs are adequately explained and justified.

f. Test and Evaluation (T&E)

Test and evaluation (T&E) activities within the Department are carefully managed to ensure that testing is thoroughly planned, adequately funded, properly conducted, and independently evaluated. In conjunction with other management initiatives to improve the acquisition process, we are emphasizing the early involvement of the test community, maximum use of test data from all sources, and continuity of testing from early development stages through final operational deployment. We are now estimating the number of required test articles and test support resources earlier in the program so that sufficient numbers of them will be available when needed. Realism in test and evaluation is being enhanced by programs to develop accurate simulators of enemy systems which can duplicate the combat challenge as closely as possible within the practical limitations of funding constraints. We are also improving our testing techniques and instrumentation to field systems that work properly and reliably. Several efforts to improve our T&E capability are discussed below.

(1) Enhancing Our Test Capabilities

We have organized a tri-Service program to develop threat radar simulators that will represent the most capable potential enemy air defense systems. We have established agreements with Canada and other countries to permit testing in climates and terrains that closely represent the areas of the world where we face the greatest threat. Additionally, we are fielding an interim high-speed, low-altitude target capability while accelerating our program to develop an air-launched, supersonic, low-altitude aerial target which represents the latest potential threat.

Our ability to evaluate the performance and suitability of computer-intensive defense systems will be enhanced by an on-going program to develop better techniques for software test and evaluation. Modern electronic network technology is being assessed for its ability to tie together a number of geographically dispersed test resources and test data bases. This effort will conserve both time and resources during the testing of new weapon systems.

(2) Stressing Our Systems in the Joint Arena

We have six joint test programs under way to explore the capability of developmental and deployed systems to perform their intended missions in a joint operational environment. These tests involve C^3 countermeasures; electro-optical guided weapons countermeasures and counter-countermeasures; identification, friend, or foe; forward area air defense; and joint logistics over-the-shore. Each test is expected to provide important information on system effectiveness in situations where two or more Services must integrate their equipment and operations.

(3) Modernizing Our Test Ranges

Modernizing our test ranges reduces the time it takes to develop systems that meet the current threat. Our emphasis in this area has achieved results. For example, this year, the Army's High Energy

Laser Systems Test Facility, the Navy's Extended Area Test System, and the Air Force's Integration Facility for Avionics Systems Testing will become operational.

(4) Looking at International Alternatives

DoD's Foreign Weapons Evaluation Program, established in FY 1980, has begun to pay significant dividends. Under this program, the Services obtain existing equipment that meets their operational requirements, while saving time and money. To date, they have selected thirteen items of equipment, munitions, and weapons for procurement. The program also supports our NATO standardization initiatives.

g. Space Systems Operations

In July 1982, the President issued a new National Space Policy directing a balanced civil and national security space program. As part of this program, both the Air Force and the Navy have established space commands to centralize space activities and focus management attention on them. Our objectives in space include: pursuing a vigorous R&D program to give us future options in space; placing in space those functions that can be accomplished there better or at a lower cost; and developing an antisatellite system to assure our free access to space and to deter Soviet attacks against our satellites.

Our space programs include: making our space systems less vulnerable to attack; improving, through evolutionary changes, the surveillance, communications, and navigational capabilities of our space systems; increasing the flexibility of our space systems network by removing single nodes, procuring backup satellites, and reducing our dependency on overseas ground stations; and deploying satellites with multiple missions and with much longer operational life.

The NASA-developed Manned Space Shuttle will provide opportunities for increased payload weight and volume, on-orbit checkout and servicing of payloads, and eventually, retrieval of systems from low earth orbit. The first DoD use of the Shuttle to deploy an operational payload will occur later this year. An important element in this program is the inertial upper stage (IUS), a booster vehicle that allows spacecraft released from the Shuttle to be placed in higher altitude orbits. Although the IUS had successfully boosted two DoD communications satellites into orbit from a Titan missile in 1982, a flight problem was encountered last year during its first use aboard the Shuttle. After an intensive review, we are confident that problem causes have been identified and corrective action is under way. We expect to resume operations with the IUS by mid-year. Construction of Shuttle facilities at Vandenberg Air Force Base is proceeding well toward its scheduled completion in October, 1985. In addition, NASA facilities are being modified to protect classified DoD operations. Until these modifications are complete, special security procedures will be used to protect classified data. Although we are pleased with the overall success of the Shuttle program, we are concerned with the reliance on the Shuttle as our sole access to space. As a result, we are evaluating commercially available launch vehicles to complement the Shuttle.

We have also begun work on the Consolidated Space Operations Center (CSOC) to augment existing satellite command and control capabilities as the volume of assets in space increases significantly in the late 1980s and to conduct DoD's planning and operations for the

Shuttle program. The CSOC control capability will be developed incrementally to match increasing operational requirements. We expect to conduct initial satellite control operations at this facility by late 1986, and to conduct initial Shuttle planning and operations during 1987.

h. Strategic Defense Initiative

When President Reagan called for a research program for a defense against ballistic missiles, he noted that such a program would be a tremendous challenge to our scientific and technical capability. Even so, preliminary studies have concluded that an effective defense against ballistic missiles is potentially feasible provided major research efforts in directed-energy weapons, conventional weapons, surveillance and target acquisition, and associated technologies are undertaken.

Directed-energy concepts offer the possibility of space-based defensive weapons that could be effective over thousands of miles, at or near the speed of light, to attack missiles in their boost or post-boost phases. The directed-energy research program will determine the feasibility of laser and particle-beam weapons.

Kinetic-energy weapon systems, which destroy their targets by direct impact, have considerable potential for intercepting reentry vehicles during the mid-course and terminal portions of their flight. They also could be particularly effective at destroying ballistic missiles during their boost phase. The program provides for research on both rocket and hypervelocity projectile technologies.

Solving the complex surveillance and acquisition problem and the associated battle management is the key to developing an effective multilayered ballistic missile defense. A comprehensive system must be able to warn of attacks; detect and track missiles, post-boost vehicles, and reentry vehicles throughout their trajectories; distinguish targets from decoys; and pass target location information to the defending weapon systems. To accomplish those functions, we plan to investigate infrared sensors and radars, laser designators, and high-capacity supporting computer systems.

By the end of the decade, we will have conducted ground, airborne, and space experiments to assess the feasibility of infrared-sensing and imaging-radar technologies. We also will have determined whether lasers and particle-beams can achieve sufficient lethality to destroy attacking missiles. The knowledge gained from these tests will help to identify those technologies that appear most promising and support decisions in the early 1990s on whether to proceed with development of ballistic missile defenses.

i. International Programs

(1) Policy Objectives

The basic objective of our international cooperation and technology transfer policy is for U.S., allied, and friendly nations' forces to attain, through equitable burdensharing, the necessary military readiness, sustainability, standardization, and interoperability to defend our common interests and preserve peace throughout the world. Our intent is to help allied and friendly nations strengthen their military and defense industrial base capabilities, which in turn enhances our mutual efforts to establish a formidable

defense posture to deter aggression. Although we are interested in enhancing armaments cooperation with our allies, we are also exercising proper control of technology transfer to prevent Soviet theft of critical technologies, which would further erode our technolog. advantage.

(2) Current Programs and Initiatives within NATO

With regard to NATO, the Conference of National Armaments Directors (CNAD) is making considerable progress in three major areas: armaments cooperation, emerging technologies, and the restriction of Warsaw Pact access to militarily relevant technologies.

Our armaments cooperation initiatives conducted both within and outside the NATO forum have established an environment that supports the application of Alliance-wide technological and industrial capabilities to provide NATO forces with the best available defense equipment at the least cost. Examples of programs now under way include: the coproduction and installation of the NATO Seasparrow Point Defense Missile System on ships of nine NATO allies, the cooperative development by four NATO countries of a terminal guidance warhead for the multiple launch rocket system to attack enemy armor, the codevelopment and coproduction by the United States and the United Kingdom of the Harrier vertical takeoff and launching aircraft, and the French and U.S. development and production of a new engine for the KC-135 tanker fleet.

The term "emerging technologies" encompasses our efforts within the framework of armaments cooperation to focus the highest priority on fielding new weapon systems, based on near-term technology, that could improve significantly the conventional-force capabilities of the Alliance. The initiative is currently in a preliminary phase, wherein we expect to reach agreement on projects for emphasis.

The CNAD is also exchanging and summarizing data to facilitate decisionmaking in the Coordinating Committee for Multilateral Export Control (COCOM) on the restriction of Warsaw Pact access to militarily relevant technology. This area is covered in detail later in this chapter.

The Defense Science Board (DSB) Task Force on "International Industry-to-Industry Armaments Cooperation" has completed its report on Phase I -- NATO Europe. As noted in the report, considerable progress has been made by individual NATO nations toward maintaining technological superiority over potential adversaries. This includes an understanding of the importance of COCOM measures to safeguard and manage this technology in a manner that advances collective NATO security interests. DoD, in cooperation with the Departments of State and Commerce, has made considerable progress in maintaining the balance between the proper control and release of technologies, consistent with U.S. national security policies and security interests. The DSB report also indicated that armament codevelopment and coproduction programs with our NATO allies continue to strengthen NATO capabilities. The report specifically emphasizes the importance of establishing U.S. and allied industrial cooperation in a manner that provides reciprocity in the areas of technology sharing, distribution of work, and sales with our allies when it enhances NATO collective security interests.

The North Atlantic Assembly (NAA) also spoke out in favor of arms cooperation in their Resolution 126. Their action reinforced

the congressional initiative embodied in the Roth-Glenn-Nunn Amendment to the 1983 Defense Authorization Act -- NATO Defense Industrial Cooperation. In particular, the NAA emphasized the importance of establishing the type of defense trade structure necessary for effective armaments cooperation. This structure will evolve through consultations and negotiations.

(3) 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 arrangements. Our objectives with these nations are to further mutual security interests, primarily by assisting them in developing a self-sufficient defense capability.

We continue our armaments cooperation activities with friendly Middle East nations and the Republic of Korea. Cooperation with Israel, through the 1979 Memorandum of Agreement (MOA), has provided U.S. Military Services with essential information learned during the 1982 Israeli conflict in Lebanon. This exchange of information, as well as efforts to codevelop new systems, is expected to continue. We have begun several coproduction programs with Egypt under the auspices of our Defense Production Assistance Agreement with that country. We plan to amend this agreement to provide for data exchanges, which should further our cooperative efforts. We will begin a program of defense industrial cooperation with Pakistan that will improve their ability to support major purchases of U.S. equipment. Real progress is evident in our armaments cooperation with the Republic of Korea, where programs in tanks, communications, and missiles are helping to strengthen that country's defense capabilities.

We have also made gains in establishing a balanced armaments cooperation program with Japan. Japan has agreed to sharing their military technologies with the United States. This represents an exception to their normal policy which prohibits the export of Japanese arms or arms technologies. The United States will continue to encourage Japan to share arms technologies as a part of the overall objective of establishing a balanced armaments cooperation program.

In line with U.S. policy to contribute to China's modernization, including defense modernization, we have expanded the number of dual-use technologies available for sale to them. In addition, we are engaged in consultations with the Chinese to determine mutually agreeable levels of military technological cooperation. If the Chinese decide that it will be helpful to them, we are prepared to offer them certain U.S. defensive weapons and technical assistance that do not threaten our own security or that of our allies and friends.

Additionally, we are increasing defense technological and industrial cooperation with selected industrialized nations in Latin America. In particular, we are making good progress with Brazil.

Our efforts with non-NATO allies and other friendly nations continue to be conducted on the basis of enhancing mutual national security interests. We have approved the sale of defense equipment, with appropriate safeguards regarding technology transfer, to those nations whose policies are in consonance with U.S. and Alliance policies.

j. Conventional Initiatives

We have undertaken a new program to enhance our conventional deterrence and warfighting capabilities through a number of initiatives involving new technologies and systems. The program focuses on improving our conventional capability in order to reduce our reliance on nonstrategic nuclear weapons. This effort is in response to the Soviet/Warsaw Pact forces' improved capability to mass and maneuver rapidly, their continued upgrading of weapons (in particular conventional munitions on tactical ballistic missiles), and their dramatic increases in nonstrategic nuclear missiles.

These conventional initiatives have been integrated into an interdiction program involving both systems development and acquisition as well as joint program oversight and management. The two core programs in this area are the Joint Tactical Missile System (evolved from the Assault Breaker program), and the Joint Surveillance and Target Acquisition Radar System (Joint STARS) (evolved from the Pave Mover Standoff Target Acquisition System (SOTAS) and Moving Target Indicator (MTIR) programs). Other initiatives include the Joint Tactical Fusion Program and the Joint Suppression of Enemy Air Defenses. The conventional initiatives program represents the convergence of technologies into weapons accuracy, munitions lethality, target acquisition sensors, digital processing, and high-volume communications. Operational application of these technologies will improve our ability to reduce the number of reinforcements reaching the main combat area.

An Interdiction Executive Board has been formed to ensure that Army and Air Force programs are integrated into a total interdiction system. The Board consists of key members of the OSD, JCS, Services, and Unified and Specified Command staffs. Their focus is to ensure that acquisition is expedited and that a complete system is fielded at the earliest date possible within cost and schedule constraints. The SACEUR has stated that he needs a conventional alternative to attack Warsaw Pact follow-on forces in the event of a conflict in Europe. The interdiction program is the center of the conventional alternative.

A Munitions Council has been formed to develop comprehensive plans for conventional munitions modernization and procurement. This group's efforts should lead to acquiring a more affordable and effective mix of modern munitions.

3. Technology Transfer and Export Control Initiatives and Achievements

DoD has taken the following steps to implement the technology transfer policy described in Part I.

a. Automation of Case Processing

A computerized information system called the Foreign Disclosure and Technical Information System is a dedicated secure computer network and data base that includes U.S. and COCOM export cases, critical technology data, and other relevant information. The network links DoD's newly established Technology Security Center with similar functions within the Services and Defense Agencies. This network will soon be extended to the U.S. COCOM delegation in Paris and other Departments in the Washington area.

b. Technology Security Center

DoD has established a Technology Security Center to focus and coordinate the DoD export control process. This center serves as the focal point for coordination with industry, the Military Services, and other DoD and governmental agencies involved in case processing.

c. Export Control Guidelines

During the past year, we achieved interagency agreement on the list of military items that will be offered for export to the Peoples' Republic of China. In other areas, we developed technical guidelines for the export of computer hardware and software to Eastern Europe, and are providing the Department of Commerce with an extensive list of DoD Delegations of Authority (DOAs) for export control. Among other things, this review will benefit U.S. manufacturers through the relaxation of export controls over selected medical equipment and laboratory instruments.

The Department of Defense has long recognized the need to rewrite the Technical Data Regulations (administered by the Department of Commerce) in order to improve the control of critical technology identified in the Military Critical Technology List. While the regulations control direct technology transfers to potential adversaries, there is a 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, therefore, provided the Department of Commerce with a proposal that balances tightening certain technical data transfers to all destinations with appropriate reductions on the control of products. When implemented, these initiatives will lead to tighter controls in critical technology exports to all destinations but decreased controls in the exports of noncritical technology to many destinations.

d. Military Technology Transfers

We have under way several initiatives to transfer selected advanced military technologies to our allies. Such transfers are made in the context of cooperative defense efforts and security assistance when mutual benefits can be derived. Examples include the Multiple Launch Rocket System (MLRS) and the AV-8B V/STOL Light Attack Aircraft. These two examples illustrate the thrust of our armaments cooperation programs, which are based on politically and economically acceptable arrangements of codevelopment and coproduction through industrial teaming. These joint efforts strengthen bilateral ties among allied nations, promote the two-way transfer of industrial technology, and increase NATO's military capability.

e. Multilateral Coordinating Committee (COCOM)

The COCOM (comprising representatives from Japan and the NATO countries, except Iceland and Spain) has developed an agreed list of restricted items to control the transfer of products and technology to the Warsaw Pact. Following the first high-level meeting of the COCOM in nearly 30 years (January 1982), the United States proposed several major initiatives to strengthen multilateral controls over the export of strategic technologies and equipment to the Warsaw Pact countries. DoD has been in the forefront of this effort, preparing well over a hundred technical proposals to be used in the COCOM list

review. We have also provided most of the technical support at the negotiating table. Our efforts in this area have been very successful inasmuch as the COCOM has agreed to provide new coverage in many areas that were previously uncontrolled.

f. Interaction with Industry and Academia

In addition to interacting closely with industry on specific export cases and participating in the interagency "Public Awareness Program," we are also working to improve industry's understanding of critical technology issues. The Defense Policy Advisory Committee (DPAC), the Defense Science Board (DSB), and the American Defense Preparedness Association (ADPA) are good examples of fora for discussing technology transfer issues.

We have established a DoD/University forum to consider the question of technology export control. Our objective here is to identify and define those sensitive areas of technology where some control, short of security classification, is warranted, while providing for traditional open international scientific communications. We share the National Academy of Sciences' view that protecting the free exchange of basic scientific information is imperative.

g. Conclusion

The defense program in export control and technology transfer has enhanced our operating policies and procedures so that export license applications are now being processed more expeditiously, consistently, and systematically. 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 significantly superior numbers of weapons and troops available to potential adversaries.

4. Deterrence of Chemical Warfare

a. Introduction

Responding to the threat of chemical warfare has been a particularly difficult issue for our nation to face. While all forms of warfare are terrible, chemical warfare particularly outrages civilized people because of the human suffering it can inflict. 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.

In accordance with our international treaty obligations, the United States does not and will not possess biological or toxin weapons. With respect to chemical warfare, our goal is to eliminate the threat of chemical warfare by obtaining a complete, verifiable ban on the development, production, stockpiling, and transfer of chemical weapons. Negotiations to achieve this goal are under way now at the Conference on Disarmament in Geneva, where the United States is leading the effort to negotiate a complete, verifiable ban on chemical weapons. In 1983, major U.S. initiatives included the Vice President's speech to the Conference on Disarmament, in which he urged all members to join with the United States in intensifying efforts towards achieving an effective chemical weapons ban; the submission of our detailed views on the contents of a ban; introduction of a proposal for the verification of stockpile destruction; and the hosting of an international workshop on chemical stockpile destruction and verification at

our chemical weapons destruction facility in Utah. A ban remains elusive, however, despite many years of effort and more than fourteen years of unilateral U.S. restraint in chemical weapons production, primarily due to Soviet unwillingness to address seriously the crucial issues of verification and compliance.

Chemical weapons 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 conventional conflicts. 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 as damaging to military operations as direct casualties. 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 which are demanding under "normal" battlefield circumstances -- repairing runways and other facilities, rescuing and treating casualties, flying aircraft, and defending against armored attacks -- become much more difficult in a chemically contaminated environment.

The United States and its allies are investing billions of dollars in conventional forces to have the capability to turn back a Soviet conventional attack. Our lack of an effective retaliatory chemical capability, however, could provide the Soviets with a powerful incentive to use chemical weapons to negate these conventional force improvements. If we do not restore a credible chemical retaliatory capability, nuclear weapons might be all we would have left to deny the Soviets victory. We want to decrease rather than increase our reliance on nuclear weapons to deter conventional conflict.

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 Hitler from using chemical weapons. However, our current aging stocks of chemical weapons, produced in the 1950s and 1960s, no longer constitute an adequate deterrent, primarily due to obsolete means of delivery. We must reestablish and maintain a credible chemical deterrent; our program is designed to do this and no more.

For an effective deterrence, we have no need to match the size and scope of either the Soviet chemical weapons or protection capabilities. We do, however, require an adequate chemical defense and a modest, but effective, chemical retaliatory capability. Most of the resources in our 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 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.

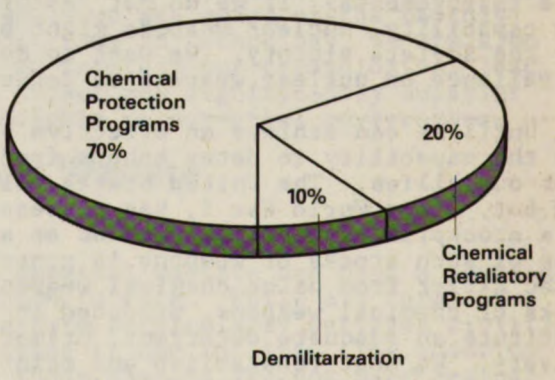
In addition to pursuing a chemical arms ban and reestablishing a chemical deterrent, our program includes plans for the disposal of obsolete and unusable stocks of chemical agents and munitions.

b. FY 1985-89 Programs

(1) Chemical Warfare Protection

Our chemical protective program, comprising more than 70% of the FY 1985-89 chemical funding (see Chart III.I.4), will 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.4
FY 1985-89 Funding for Chemical Programs



Although we are not yet where we need to be with regard to chemical protection, considerable progress has been made. Of most significance is the increased chemical-related training in all Services. We are increasing 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 improved detection equipment and will be acquiring collective protective equipment for fixed installations and mobile units.

(2) Chemical Retaliatory Capability

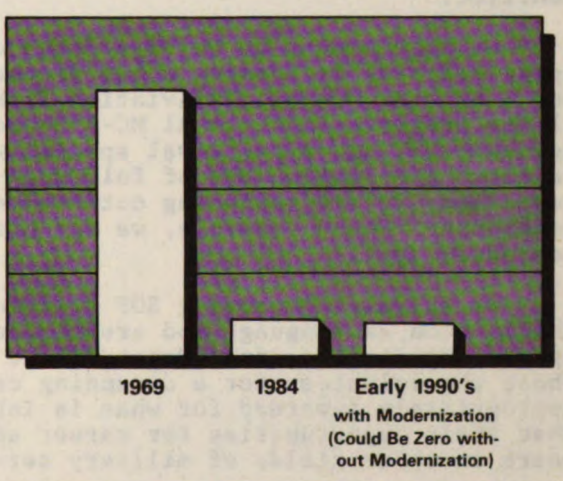
A chemical retaliatory capability, in conjunction with a strong protective posture, is essential to ensuring that the Soviets have no

incentive to use chemical weapons against us or our allies. Unfortunately, as shown in Chart III.I.5, the capabilities of our chemical stockpile have declined significantly since we last produced chemical weapons in 1969. This decline has been due primarily to the phasing out of compatible delivery systems such as the Honest John rocket, the 105mm howitzer, and obsolete rocket launchers.

Our proposed program will continue maintenance efforts to attempt to preserve the serviceability of the militarily useful portion of the current 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 or ease the logistical burdens associated with the current, highly toxic chemical munitions. Therefore, modernization of the stockpile is urgently required; it represents about 20% of our FY 1985-89 program.

Our FY 1985 program will provide some production facilities and begin procurement of long-lead items for the 155mm binary artillery projectile and the Bigeye bomb. The FY 1984 Defense Authorization Act proscribes assembly of chemical munitions prior to 1 October 1985. The Act permits assembly after that date only if the President certifies that production remains in the national interest. However, because the Congress did not appropriate FY 1984 funds, the earliest availability of the binary artillery projectile has slipped to 1986. Problems with the Bigeye bomb that caused us to withdraw our FY 1984 procurement request have been resolved, and we are requesting FY 1985 funding for industrial facilities and long-lead items for this highest priority chemical deterrent program.

Chart III.I.5
Number of Militarily Useful Chemical Weapons



(3) Demilitarization

About 10% 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. We are, at the same time, 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. In FY 1985, we are requesting funds to construct a demilitarization facility at Johnston Island. Future facilities are planned at other locations.

c. Conclusion

Improving our chemical deterrent capability is vital if we are to eliminate the Soviets' incentive to use chemical weapons and to provide an inducement for them to join us and the rest of the world in a comprehensive, verifiable chemical weapons ban. Both the protective and retaliatory components of the program are essential. The current imbalance invites the Soviets to use chemical weaponry and could give them a decisive edge in conventional conflict. 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.

5. Special Operations Forces

Revitalizing our Special Operations Forces (SOF) remains one of this Administration's highest priorities. And, over the last three 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 -- will pose the threat we are most likely to encounter throughout 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.

We have sought to build a force capable of meeting its global responsibilities by forming a new Special Forces Group, new SEAL Teams, and a Special Operations Aviation Task Force. Our program also includes procuring additional MC-130 Combat Talon aircraft and HH-60D helicopters, and a new naval special warfare craft. We have also begun research and development of follow-on naval and air systems. At the same time, we are replacing outdated equipment to increase near-term readiness. Where possible, we are procuring off-the-shelf equipment to reduce cost.

We are also improving SOF training, particularly in critical skills such as language and area orientation on which the success of special operations often depends. We are working to ensure that those who volunteer for a demanding career in special operations are appropriately rewarded for what is inherently a risky endeavor, and that their opportunities for career advancement are equal to their peers in other fields of military service.

Finally, we recognize that SOF effectiveness has, for too long, been degraded by command and control deficiencies. We are confident that the Joint Special Operations Agency, created on 1 January 1984, will help us develop truly effective joint special operations.

Appendix A

Table 1
Department of Defense — Budget Authority by Appropriation (Dollars in Millions)

	FY 1972	FY 1976	FY 1980	FY 1982	FY 1983	FY 1984	FY 1985
Current Dollars							
Military Personnel	22,964	25,430	31,014	42,875	45,688	48,574	70,535*
Retired Pay	3,901	7,326	11,965	14,986	16,155	16,552	
Operation & Maintenance	20,792	28,731	46,365	62,466	66,540	70,940	81,416
Procurement	17,777	20,991	35,283	64,462	80,355	85,996	107,608
Research, Development, Test & Evaluation	7,519	9,451	13,561	20,060	22,798	26,868	34,015
Special Foreign Currency Program	12	3	7	3	4	3	9
Military Construction	1,287	2,360	2,293	4,916	4,512	4,521	7,167
Family Housing & Homeowners Assistance Program	860	1,229	1,526	2,203	2,712	2,674	3,162
Revolving & Management Funds	—	135	1,336	2,494	1,075	2,525	1,762
Trust Funds, Receipts, & Deductions	-106	-146	-727	-714	-365	-503	-674
Total — Direct Program (B/A)	***75,006***	***95,508***	***142,621***	***213,751***	***239,474***	***258,151***	***305,000***
FY 1985 Dollars							
Military Personnel	58,647	48,569	45,948	48,419	49,603	51,146	70,535*
Retired Pay	10,288	13,106	15,491	16,372	16,682	16,811	
Operation & Maintenance	54,429	53,341	58,243	68,552	71,043	73,517	81,416
Procurement	46,571	42,797	48,713	75,892	89,480	90,647	107,608
Research, Development, Test & Evaluation	18,204	17,149	17,933	22,908	24,902	28,113	34,015
Special Foreign Currency Program	28	5	8	4	4	3	9
Military Construction	3,191	4,285	2,933	5,604	4,918	4,717	7,167
Family Housing & Homeowners Assistance Program	2,068	2,244	2,033	2,467	2,955	2,796	3,162
Revolving & Management Funds	—	254	1,824	2,862	1,176	2,648	1,762
Trust Funds, Receipts, & Deductions	-256	-276	-993	-820	-399	-527	-674
Total — Direct Program (B/A)	***193,170***	***181,475***	***192,133***	***242,230***	***260,365***	***269,872***	***305,000***

(NOTE: Totals may not add due to rounding.)
*Includes Retired Pay Accrual.

Table 2
Department of Defense — Budget Authority by Component (Dollars in Millions)

	FY 1972	FY 1976	FY 1980	FY 1982	FY 1983	FY 1984	FY 1985
Current Dollars							
Department of the Army	21,582	23,644	34,380	52,254	57,529	62,327	78,942*
Department of the Navy	23,602	31,302	47,225	69,569	81,854	81,872	102,302*
Department of the Air Force	23,245	28,444	41,720	64,821	74,074	86,119	109,367*
Defense Agencies/OSD/JCS	1,759	3,486	5,643	9,222	9,256	10,739	13,845
Defense-wide	4,818	8,632	13,653	17,885	16,761	17,095	544
Total — Direct Program (B/A)	***75,006***	***95,508***	***142,621***	***213,751***	***239,474***	***258,151***	***305,000***
FY 1985 Dollars							
Department of the Army	54,214	44,071	47,044	59,403	62,657	65,272	78,942*
Department of the Navy	60,703	60,352	63,632	79,251	89,490	85,756	102,302*
Department of the Air Force	61,519	55,251	56,338	73,453	80,839	90,268	109,367*
Defense Agencies/OSD/JCS	4,234	6,304	7,373	10,460	10,034	11,195	13,845
Defense-wide	12,500	15,498	17,745	19,663	17,345	17,381	544
Total — Direct Program (B/A)	***193,170***	***181,475***	***192,133***	***242,230***	***260,365***	***269,872***	***305,000***

(Note: Totals may not add due to rounding.)
*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	19.4	29.0	5.6	71.0	13.8	18.3
1975	21.9	26.2	5.7	73.8	16.2	16.8
1976	22.2	24.1	5.4	75.9	16.9	15.6
1977	21.5	23.9	5.1	76.1	16.4	15.8
1978	21.4	23.0	4.9	77.0	16.5	15.4
1979	20.8	23.4	4.9	76.6	16.0	15.6
1980	22.4	23.0	5.2	77.0	17.2	15.6
1981	22.8	23.8	5.4	76.2	17.4	16.1
1982	23.8	25.1	6.0	74.9	17.8	17.0
1983	24.7	25.8	6.3	74.2	18.3	17.6
1984	24.0	27.1	6.5	72.9	17.5	18.5

[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[1]	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	17.8	2.8	5.2	6.1	8.6	12.7
1984	64.0	18.0	2.8	5.5	6.3	8.8	12.7

[1]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
19TQ	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
Programmed		
1984	1,073	5.0
1985	1,073	5.0

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
19TQ	279	6.5
1977	275	6.5
1978	273	6.5
1979	273	6.4
1980	277	6.3
1981	282	6.3
1982	291	6.2
1983	299	6.1
Programmed		
1984	304	6.0
1985	310	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
Active Military									
Army	1,570	811	779	777	781	780	780	780	781
Navy	765	588	525	527	540	553	558	565	575
Marine Corps	307	198	192	188	191	192	194	197	200
Air Force	905	726	585	558	570	583	592	594	610
Total	***3,547***	***2,322***	***2,081***	***2,050***	***2,082***	***2,108***	***2,123***	***2,136***	***2,166***
Reserve Components (Selected Reserve)									
Army National Guard	389	388	362	367	389	408	417	433	447
Army Reserve	244	235	195	207	225	257	266	278	298
Naval Reserve	124	124	97	87	88	94	109	122	129
Marine Corps Reserve	47	41	30	35	37	40	43	44	46
Air National Guard	75	89	91	96	98	101	102	104	108
Air Force Reserve	43	48	48	59	62	64	67	70	75
Total	***922***	***925***	***823***	***851***	***899***	***963***	***1,005***	***1,051***	***1,104***
Direct Hire Civilian									
Army[b]	462	367	329	312	318	322	332	342*	342*
Navy	419	342	311	298	310	308	328	329*	329*
Air Force[b]	331	280	248	231	233	233	238	236*	240*
Defense Agencies	75	61	72	75	79	84	82	87*	88*
Total	***1,287***	***1,050***	***960***	***916***	***940***	***947***	***980***	***994****	***999****

[a] Numbers may not add to totals due to rounding.
[b] 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
Germany	225	210	213	239	244	248	256	254
Other Europe	66	62	61	61	65	64	67	70
Europe, Afloat	23	26	41	25	22	25	33	18
South Korea	67	41	39	39	39	38	39	39
Japan	79	64	45	46	46	46	51	49
Other Pacific	37	25	27	15	15	15	15	15
Pacific Afloat (Including Southeast Asia)	94	51	24	22	15	25	33	34
Miscellaneous Foreign	27	22	8	11	42	39	34	41
Total	***1,200***	***595***	***460***	***458***	***489***	***502***	***528***	***520***

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

Appendix C

Department of Defense Strategic Forces Highlights

	FY 1976	FY 1980	FY 1983	FY 1984	FY 1985
Strategic Offensive					
Land-Based ICBMs:					
TITAN	54	52	42	31	23
MINUTEMAN	1,000	1,000	1,000	1,000	1,000
Strategic Bombers (PAA)[a]					
B-52D	145	75	31	—	—
B-52G/H	241	241	241	241	241
FB-111	66	60	56	56	56
Fleet Ballistic Launchers (SLBMs):					
POLARIS	240	80	—	—	—
POSEIDON (C-3 and C-4)	416	496	496	496	496
TRIDENT	—	—	72	120	144
Strategic Defense					
Interceptors (PAA/Squadrons)[a]:					
Active	141/6	127/7	90/5	90/5	90/5
Air National Guard	262/15	165/10	162/10	162/10	180/11

Department of Defense General Purpose Forces Highlights

	FY 1976	FY 1980	FY 1983	FY 1984	FY 1985
Land Forces					
Army Divisions:					
Active	16	16	16	16	17
Reserve	8	8	8	9	9
Marine Corps Divisions:					
Active	3	3	3	3	3
Reserve	1	1	1	1	1
Tactical Air Forces (PAA/Squadrons)[a]					
Air Force Fighter/Attack:					
Active	1608/74	1680/79	1739/78	1752/78	1782/79
Reserve	758/36	792/39	840/43	852/43	864/43
Navy Fighter/Attack:					
Active	967/65	894/60	894/60	939/63	967/65
Reserve	120/10	120/10	120/10	120/10	120/10
Marine Corps Fighter/Attack:					
Active	422/25	422/25	401/24	401/24	422/24
Reserve	96/8	84/7	84/7	84/7	96/8
Naval Forces					
Strategic Forces Ships	50	48	41	41	43
Battle Forces Ships	367	384	420	426	434
Support Forces Ships	63	41	43	46	55
Reserve Forces Ships	4	6	9	12	14
Total Deployable Battle Forces	***484***	***479***	***513***	***525***	***546***
Reserve Forces Ships	57	44	26	24	18
Auxiliaries and Sealift Forces	14	15	28	35	43
Total Other Forces	***71***	***59***	***54***	***59***	***61***

[a] PAA = Primary Aircraft Authorized.

Department of Defense Airlift and Sealift Force Highlights

	FY 1976	FY 1980	FY 1983	FY 1984	FY 1985
Intertheater Airlift (PAA)[a]					
C-5A	70	70	70	70	70
C-141	234	234	234	234	234
KC-10A	—	—	18	25	35
Intratheater Airlift (PAA)[a]					
Air Force Active:					
C-130	234	218	218	218	216
Air Force Reserve & National Guard:					
C-130	262	264	294	302	302
C-123	64	64	—	—	—
C-7A	51	48	16	—	—
Active Navy & Marine Corps Tactical Support	40	45	47	47	38
Reserve Navy & Marine Corps Tactical Support	33	34	35	33	34
Sealift					
Ships, Active:					
Tankers	12	21	21	21	26
Cargo	19	14	14	14	14
Controlled Fleet Charters:					
Tankers	14	14	12	12	12
Cargo	21	23	28	30	40
National Defense Reserve Fleet[b]	144	164	186	202	214

[a]PAA = Primary Aircraft Authorized.
[b]Includes commercial dry cargo ships and the Ready Reserve Force.

Appendix D

ACRONYMS

AAA:	Antiaircraft Artillery
AAW:	Antiair Warfare
ABCCC:	Airborne Command and Control Center
ABM:	Antiballistic Missile
ACCS:	Air Command and Control System
ACDA:	Arms Control and Disarmament Agency
ACE:	Allied Command Europe
ACM:	Advanced Cruise Missile
ACS:	Artillery Computer System
ADCAP:	Advanced Capability (torpedo)
ADDS:	Army Data Distribution System
ADP:	Automatic Data Processing
ADPA:	American Defense Preparedness Association
ADPE:	Automatic Data Processing Equipment
AFATDS:	Advanced Field Artillery Tactical Data System
AFSATCOM:	Air Force Satellite Communications
AFQT:	Armed Forces Qualification Test
AGED:	Advisory Group for Electronic Devices
AIM:	Air Intercept Missile
AIP:	Acquisition Improvement Program, Automated Information Processing
ALCM:	Air-Launched Cruise Missile
ALOC:	Air Line of Communication
ALWT:	Advanced Lightweight Torpedo
AMRAAM:	Advanced Medium-Range Air-to-Air Missile
ANG:	Air National Guard
ANZUS:	Australia-New Zealand-U.S. (treaty)
AOE:	Multipurpose Stores Ship
AR:	Repair Ship
ASAT:	Antisatellite
ASCM:	Antiship Cruise Missiles
ASPJ:	Airborne Self-Protection Jammer
ASROC:	Antisubmarine Rocket
ASW:	Antisubmarine Warfare
ASW/SOW:	ASW Standoff Weapon
ATF:	Advanced Tactical Fighter
AUTODIN:	Automated Digital Network
AUTOVON:	Automatic Voice Network
AWACS:	Airborne Warning and Control System
BA:	Budget Authority
BB:	Battleship
BCS:	Battery Computer System
BDS:	Battlefield Data System
BETA:	Battlefield Exploitation and Target Acquisition
BFV:	Bradley Fighting Vehicle
BMAR:	Backlog of Maintenance and Repair
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
CAIG:	Cost Analysis Improvement Group

CAP:	Civil Action Program
CDE:	Conference on Disarmament in Europe
CEP:	Circular Error, Probable
CEWI:	Combat Electronic Warfare Intelligence
CG:	Guided-Missile Cruiser
CGN:	Nuclear-Powered Guided Missile Cruiser
CH:	Cargo Helicopter
CHAMPUS:	Civilian Health and Medical Program of the Uniformed Services
CINC:	Commander-in-Chief
CINCSAC:	Commander-in-Chief, Strategic Air Command
CIS:	Combat Identification System, Communication Industrial Services
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
COMINT:	Communications Intelligence
COMSEC:	Communications Security
CONUS:	Continental United States
COR:	Command Operationally Ready
CORE:	Contingency Response Program
CPI:	Consumer Price Index
CRAF:	Civil Reserve Air Fleet
CSOC:	Consolidated Space Operations Center
CV:	Aircraft Carrier
CVBG:	Aircraft Carrier Battle Group
CVN:	Aircraft Carrier, Nuclear-powered
CVV:	Aircraft Carrier, Medium-sized
CY:	Calendar Year or Current Year
CW:	Chemical Warfare

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
DEIMS:	Defense Economic Impact Modeling System
DEW:	Distant Early Warning (Line)
DFH:	Deployable Field Headquarters
DG:	Defense Guidance
DIA:	Defense Intelligence Agency
DIVAD:	Division Air Defense (gun)
DLA:	Defense Logistics Agency
DMSP:	Defense Meteorological Satellite Program
DNA:	Defense Nuclear Agency
DOA:	Delegation of Authority
DoD:	Department of Defense
DoDFCI:	Department of Defense Foreign Counterintelligence Program
DoE:	Department of Energy
DPAC:	Defense Policy Advisory Committee
DRB:	Defense Resources Board
DSB:	Defense Science Board
DSCS:	Defense Satellite Communication System
DSN:	Defense Switched Network

EAM:	Emergency Action Message
EC:	Electronic Combat
ECCM:	Electronic Counter-Countermeasures
ECM:	Electronic Countermeasures
ECWG:	Emergency Communications Working Group
EDS:	European Distribution System
EHF:	Extremely High Frequency
EJS:	Enhanced JTIDS System
ELF:	Extremely Low Frequency
EMP:	Electromagnetic Pulse
EMPB:	Emergency Mobilization Preparedness Board
EPA:	Environmental Protection Agency
ER/RB:	Enhanced Radiation/Reduced Blast
ESF:	Economic Support Fund
EW:	Electronic Warfare
FAASV:	Field Artillery Ammunition Support Vehicle
FFG:	Guided Missile Frigate
FFMIP:	Foreign Military Sales Financial Management Improvement Program
FHE:	Forward Headquarters Element
FLIR:	Forward-Looking Infrared
FLTSATCOM:	Fleet Satellite Communications System
FMC:	Fully Mission Capable
FMS:	Foreign Military Sales
FMSCR:	Foreign Military Sales Credit (Financing)
FORDTIS:	Foreign Disclosure and Technical Information System
FRG:	Federal Republic of Germany
FRR:	Force Readiness Report
FTS:	Fleet Training Squadron, Full-Time Support
FY:	Fiscal Year
FYDP:	Five-Year Defense Program
GLCM:	Ground-Launched Cruise Missile
GLLD:	Ground Laser Locator Designator
GME:	Greater Middle East
GMF:	Ground Mobile Forces
GNP:	Gross National Product
GPS:	Global Positioning System
GWEN:	Ground Wave Emergency Network
HARM:	High Speed Antiradiation Missile
HEMTT:	Heavy Expanded Mobility Tactical Truck
HF:	High Frequency
HLG:	High-Level Group
HMMWV:	High Mobility Multipurpose Wheeled Vehicle
HNS:	Host Nation Support
ICBM:	Intercontinental Ballistic Missile
ICM:	Improved Conventional Munition
IEB:	Interdiction Executive Board
IFF:	Identification, Friend or Foe
IG:	Inspector General

IMIP:	Industrial Modernization Incentives Program
INF:	Intermediate-Range Nuclear Forces
IRR:	Individual Ready Reserve
ITSS:	Integrated Tactical Surveillance System
IUS:	Inertial Upper Stage
JCS:	Joint Chiefs of Staff
JCSE:	Joint Communications Support Element
Joint STARS:	Joint Surveillance and Target Attack Radar System
JSEAD:	Joint Suppression of Enemy Air Defenses
JTACMS:	Joint Tactical Missile System
JTF:	Joint Tactical Fusion
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
LOC:	Line of Communication
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
MAC:	Military Airlift Command
MAF:	Marine Amphibious Force
MAP:	Military Assistance Program
MARAD:	Maritime Administration
MBA:	Military Bases Agreement
MBFR:	Mutual and Balanced Force Reductions
MC:	Mission Capable
MCS:	Maneuver Control System
MCTL:	Military Critical Technology List
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
MMP:	Master Mobilization Plan
MMWG:	Military Mobilization Working Group
MOA:	Memorandum of Agreement
MOB:	Main Operating Base
MPS:	Maritime Prepositioning Ship
MRP:	Master Restationing Plan
MRR:	Materiel Readiness Report
MSC:	Military Sealift Command
MTC:	Military Transportation Command
MTIR:	Moving Target Indicator
MULE:	Modular Universal Laser Equipment

NAA:	North Atlantic Assembly
NATO:	North Atlantic Treaty Organization
NAVSTAR:	Navigation Satellite Timing and Ranging
NCA:	National Command Authorities
NEARTIP:	Near-Term Improvement Program (for MK-46 torpedo)
NEXRAD:	Next Generation Weather Radar
NFIP:	National Foreign Intelligence Program
NMCC:	National Military Command Center
NORAD:	North American Aerospace Defense Command
NPG:	Nuclear Planning Group
NPS:	Non-Prior Service
NRF:	Naval Reserve Fleet
NTPF:	Near-Term Prepositioning Forces
NTU:	New Threat Upgrade
OJCS:	Organization of the Joint Chiefs of Staff
OMB:	Office of Management and Budget
OMG:	Operational Maneuver Group
OSD:	Office of the Secretary of Defense
OTH:	Over-the-Horizon
OTH-B:	Over-the-Horizon Backscatter (radar)
PAA:	Primary Aircraft Authorized
PACCS:	Post Attack Command Control System
PACOM:	Pacific Command
PARCS:	Perimeter Acquisition Radar Attack Characterization System
PAVE PAWS:	Phased-Array Radars
PCS:	Permanent Change of Station
PECI:	Productivity Enhancing Capital Investments
PEP:	Productivity Engineering and Planning
PIF:	Productivity Investment Fund
PIVADS:	Product Improvement Vulcan Air Defense System
PJK:	PLRS/JTIDS Hybrid System
PLSS:	Precision Location Strike System
POL:	Petroleum, Oil, and Lubricants
POMCUS:	Prepositioning of Materiel Configured to Unit Sets
PPBS:	Planning, Programming, and Budgeting System
PPS:	Post Production Support
PRC:	People's Republic of China
PRIMUS:	Physician Reservists in Medical Universities and Schools
R&D:	Research and Development
RAM:	Rolling Airframe Missile
RAP:	Rocket-Assisted Projectile
RCM:	Reliability Centered Maintenance
RDSS:	Rapidly Deployable Surveillance System
RDT&E:	Research, Development, Test, and Evaluation
REFLEX:	Reserve Flexibility
ROK:	Republic of Korea
ROPMA:	Reserve Officer Personnel Management Act
RPMA:	Real Property Maintenance Activities
RPV:	Remotely Piloted Vehicle
RRF:	Ready Reserve Force

S&T:	Science and Technology
SAC:	Strategic Air Command
SACEUR:	Supreme Allied Commander, Europe
SACLANT:	Supreme Allied Commander, Atlantic
SALT:	Strategic Arms Limitation Treaty
SAM:	Surface-to-Air Missile
SDI:	Strategic Defense Initiative
SEAD:	Suppression of Enemy Air Defenses
SHF:	Super High Frequency
SHORAD:	Short-Range Air Defense
SHORAD C^2:	Short-Range Air Defense Command and Control
SIGINT:	Signals Intelligence
SINCGARS:	Single-Channel Ground and Airborne System
SINCGARS-V:	Single-Channel Ground and Airborne System, VHF
SLBM:	Submarine-Launched Ballistic Missile
SLCM:	Sea-Launched Cruise Missile
SLEP:	Service Life Extension Program
SLMM:	Submarine-Launched Mobile Mine
SNF:	Short-Range Nuclear Forces
SOF:	Special Operations Forces
SOTAS:	Standoff Target Acquisition System
SPF:	Strategic Projection Force
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
SURTASS:	Surveillance Towed-Array Sonar System
SVIP:	Secure Voice Improvement Program
SWA:	Southwest Asia
T&E:	Test and Evaluation
TACAMO:	Airborne Strategic Communications System
TACS:	Auxiliary Crane Ship
TACTAS:	Tactical Towed-Array Sonar
TARPS:	Tactical Air Reconnaissance Pod System
TESS:	Tactical Environment Support System
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)
TRAM:	Target Recognition Attack Multi-Sensor
TRITAC:	Joint Tactical Communications Program
UHF:	Ultra-High Frequency
UNITREP:	Unit Status and Identify Report
USCENTCOM:	U.S. Central Command
USCINCCENT:	Commander-in-Chief, U.S. Central Command
USCINCEUR:	U.S. Commander-in-Chief, European Command
USCINCLANT:	Commander-in-Chief, U.S. Atlantic Command
USCINCPAC:	Commander-in-Chief, U.S. Pacific Command
USSR:	Union of Soviet Socialist Republics

VHF:	Very High Frequency
VHSIC:	Very High Speed Integrated Circuit
VLA:	Vertical Launch ASROC
VLF:	Very Low Frequency
VLS:	Vertical Launch System
V/STOL:	Vertical/Short Take-off and Landing
WAAM:	Wide Area Antiarmor Munition
WARMAPS:	Wartime Manpower Planning System
WIN:	WWMCCS Intercomputer Network
WIS:	WWMCCS Information Systems
WRM:	War Reserve Munitions

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WIS:	WWMCCS Information Systems
WRM:	War Reserve Munitions

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