

Report of Secretary of Defense ... to the Congress on the FY ... budget, FY ... authorization request, and FY ... defense programs

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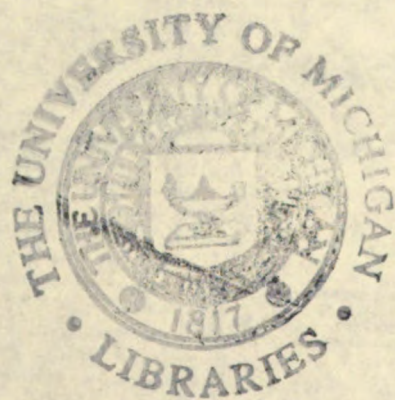
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ANNUAL REPORT TO THE CONGRESS

Caspar W. Weinberger
Secretary of Defense

FISCAL YEAR 1984

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

on the
FY 1984 Budget, FY 1985 Authorization Request
and
FY 1984-88 Defense Programs

February 1, 1983

This Report Reflects the FY 1984 Defense Budget
as of January 31, 1983

It is not enough, of course, simply to determine the nature and extent of the threats to our national security interests, to develop a strategy to deal with these threats, and then to achieve the strategy. The strategy must be put into effect within the constraints of our resources. This is our long-range plan. It is also the basis for this year's annual Defense Report.

Part I, the "Defense Policy" section, begins with a discussion of our basic foreign policy and national security objectives necessary to achieve our long-range plan. This section goes on to describe the very real and increasing threat, particularly the Soviet Union's increasing capability of nuclear deterrence, to project its power, and to attack swiftly with large, flexible forces in more than one place.

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

on the

FY 1984 Budget, FY 1985 Authorization Request

and
FY 1984 and 1985 Defense Programs

February 1, 1983

The report follows the FY 1984 Budget

and the FY 1985 Authorization Request. It contains information on the Department of Defense's budget and programs for fiscal years 1984 and 1985. The report is organized into several sections, including a summary of the budget, a description of the Department's programs, and a discussion of the Department's policies and priorities. The report is intended to provide the Congress with the information it needs to make informed decisions about the Department's budget and programs.

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TO THE CONGRESS OF THE UNITED STATES

Over the past two years the Congress, the President, and the Department of Defense together have undertaken the long, hard job of rebuilding America's defenses. We came to this common effort with what I believe is a fundamental consensus about the challenge facing our national security. For twenty years the Soviet Union steadily accumulated enormous military might, while the United States restrained its own military spending to the point where investment in defense actually declined in real terms during most of the 1970s. The result was a shift in the military balance that threatens our ability to deter aggression, and, if deterrence fails, threatens our ability to defeat aggression.

Congress and President Reagan, as a candidate, took the lead in sounding the warning about our inadequate defenses, and Congress began the rearmament effort when it appropriated funds above President Carter's defense budget requests for FY 1981. Since then, Congress has strongly supported President Reagan's defense plans, giving the President 95% of the outlays he requested for defense in the current fiscal year and 99% in FY 1982. The President deeply appreciates this continued bipartisan support for a stronger defense, and so do I.

It is not enough, of course, simply to devote more resources to defense. Our aim is not to outspend the Soviets. Rather, our aim is to determine the nature and extent of the threats to our vital national security interests, to develop a strategy to meet these threats, and then to achieve the capabilities needed to put that strategy into effect within the constraints of our resources. This is our long-range plan. It is also the structure of this year's Annual Defense Report.

Part I, the "Defense Policy" section of this Report, begins with a discussion of our basic foreign policy goals, and the national security objectives necessary to achieve these goals. This first section goes on to describe the very real threat we face, particularly the Soviet Union's increasing capability to upset the stability of nuclear deterrence, to project its power far beyond its borders, and to attack swiftly with larger, modernized, and increasingly flexible forces in more than one place at a time. Our strategy for

meeting this rapidly growing threat, like the strategy of preceding Administrations, is based on the principle of deterrence. But to maintain deterrence, and to provide an incentive for meaningful arms reduction, we must have a credible capability for responding to attack in the terrible event that deterrence fails. For this we need modern, combat-ready, flexible, and sustainable conventional forces, and nuclear forces that could survive a first strike and still pose a credible threat of effective retaliation.

Having formulated our defense policy with an honest look at the threats we face, we must budget to carry out that policy with an honest look at our available resources. Part II of the Annual Defense Report, "Defense Resources," begins with an overview of the defense budget and its relationship both to the entire federal budget and to the economy as a whole. In his FY 1984 defense budget, the President is proposing Total Obligational Authority of \$274.1 billion, which represents a 10% real increase over FY 1983. This brings defense spending to 28% of the total federal budget, and 6.8% of GNP.

The amount of defense we can secure depends not only on how many of the taxpayers' dollars are provided in the budget, but also on how carefully each one of them is spent. For this reason I have focused heavily in Part II on what might be called the "entrepreneurial" resources of the Department of Defense: our efforts to improve management efficiency through better planning and improved acquisition procedures, and to cut back on waste, fraud, and abuse through improved audits.

But fiscal resources are just part of the picture. Part II also addresses our plans in the area of manpower resources -- our need to recruit, train, and retain men and women for our armed forces in the face of a declining number of military-age youth, and heavy competition from the private sector for trained personnel with valuable technical skills. Finally, the section evaluates our capital resources, that is, the ability of the U.S. industrial base to meet new defense production needs, and the Department of Defense's efforts to enhance industrial capabilities.

The last section of the Annual Defense Report, "Defense Programs," offers a detailed account of just what capabilities the defense budget will buy, and why they are needed to implement our defense strategy.

Let me conclude by making just two points about the Reagan Administration's defense program. The first is that a decade of neglecting investment in defense has forced us, as it were, to accept "double-duty." First, we have had to act quickly to increase the basic readiness and sustainability of our forces, so that we could meet an immediate crisis if one arose. At the same time we must make up for lost years of investment by undertaking the research and development and force modernization needed to meet threats that may arise in the future. We simply cannot avoid fulfilling this double-duty, short of passing on to future Administrations and future Congresses the legacy of neglect we have inherited, and imperiling the nation by allowing our deterrent capability to weaken to the point of danger. The President is determined not to do that, and I believe the Congress shares his determination.

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Neither this Congress nor this Administration begins the defense program with a clean slate. Defense acquisition is a very long-term process. Not every weapon system or project for which we seek an appropriation (many of which were begun many years ago) meets all the specifications we would desire; some have cost more than they would have if developed more efficiently, or more quickly. But all of them respond to a real threat and fill what would otherwise be a gap in our defense capabilities. In the long run we are seeking to limit our losses from the past, and to improve the effectiveness of our acquisition programs for the future. In the short run we cannot face an adversary with weapons that are still on the drawing board. We need a great deal now if we are to preserve the peace today and set in motion the steps needed to preserve the peace tomorrow.

Over the past two years we have made great strides together in rebuilding America's defenses. Our readiness has improved substantially, and we have begun to regain the deterrent capability that can keep peace with freedom. Let us not falter now. Only by demonstrating that we will persevere and achieve sufficient strength to meet any adversary can we offer an incentive for genuine arms reduction, and preserve the deterrence which undergirds a lasting peace and freedom.

CASPAR W. WEINBERGER

...the defense... the budget... the strategy... the report...

...the picture... Part II... our resources... our strategy...

The last section of the report, "Defense Programs," offers a detailed analysis of the budget and our strategy.

Let me point out the following about the budget... the report... the strategy...

...the budget... the strategy... the report... the budget...

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A. FOUNDATIONS OF DEFENSE POLICY

In the First Report of the Secretary of Defense, presented to Congress in 1948, Secretary of Defense James Forrestal began his discussion of "National Security and Foreign Policy" with the observation that:

"It is our duty to see that our military potential conforms to the requirements of our national policy; in other words, that our policy does not outstrip our capability."

1. Foreign Policy

Matching the ability to carry out our foreign policy with the policy itself is a fundamental responsibility of the Reagan Administration, as it has been of every Administration preceding it. While the threats and circumstances facing the United States, and the strategies and capabilities needed to meet them, have changed over time, the nation's fundamental vital interests and its foreign policy needed to protect them have remained constant. They are:

- To preserve our political identity, and the institutions, forms of government, and the rule of law.
- To protect our national security from external attack.
- To foster an international order conducive of the interests of the United States through bilateral and cooperative relationships with friendly nations; and by encouraging democratic institutions, economic development, and self-determination throughout the world.
- To protect access to foreign markets and overseas resources in order to maintain and improve the United States' industrial, agricultural, and technological base, and the nation's economic well-being.

Our foreign policy naturally encompasses not only purely military concerns. Likewise, the ability to execute our foreign policy and protect our vital interests depends on our military power. It requires as well economic strength and technological advancement; the operation of our national economy; the flow of information about the United States abroad; and the moral will and patriotism of a free people. We must therefore coordinate all aspects of our national power with our foreign policy. We also recognize that our economic and political well-being, and if we lack the military strength to defend ourselves.

2. National Security Objectives

In assessing our ability to execute our foreign policy and conduct a successful foreign policy, the Reagan Administration, like previous Administrations, believes that the most serious and foreseeable future military threat to the United States, and the most serious threat to our interests may arise from other sources.

In the first part of the report, the Secretary of Defense has outlined the Department's vision for the future of the Department of Defense.

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A. FOUNDATIONS OF DEFENSE POLICY

In the First Report of the Secretary of Defense, presented to Congress in 1948, Secretary of Defense James Forrester began his discussion of "National Security and Foreign Policy" with the observation that:

"It is our duty to see that our military potential conforms to the requirements of our national policy; in other words, that our policy does not outstrip our power."

1. Foreign Policy

Matching the ability to carry out our foreign policy with the policy itself is a fundamental responsibility of the Reagan Administration, as it has been of every Administration preceding it. While the threats and circumstances facing the United States, and the strategies and capabilities needed to meet them, have changed over time, the nation's fundamental vital interests and the foreign policy needed to protect them have remained constant. They are:

- To preserve our freedom, our political identity, and the institutions that are their foundation -- the Constitution and the rule of law.
- To protect the territory of the United States, its citizens, and its vital interests abroad from armed attack.
- To foster an international order supportive of the interests of the United States through alliances and cooperative relationships with friendly nations; and by encouraging democratic institutions, economic development, and self-determination throughout the world.
- To protect access to foreign markets and overseas resources in order to maintain the strength of the United States' industrial, agricultural, and technological base and the nation's economic well-being.

Our foreign policy naturally encompasses far more than purely military concerns. Likewise, the ability to promote our foreign policy and protect our vital interests depends on more than military power. It requires as well economic strength and technological advancement; the operation of our diplomacy and the flow of information about the United States abroad; and the political will and patriotism of a free people. We seek to integrate all these aspects of our national power with our foreign policy. But we also recognize that our economic and political power are imperiled if we lack the military strength to defend our interests.

2. National Security Objectives

In assessing our ability to protect our vital interests and conduct a successful foreign policy, the Reagan Administration, like previous Administrations, believes that the Soviet Union poses, and for the foreseeable future will continue to pose, the most formidable military threat to the United States, and its interests. Threats to our interests may arise from other sources or circumstances, but

only the Soviet Union has the military power directly to inflict mortal damage on the United States. Given the interests we must protect, and the wide-ranging and rapidly growing military power of the Soviet Union, this Administration has formulated a series of overall national security objectives in support of its foreign policy. Many were established by previous Administrations; others are new or have been modified to respond to changes and emerging trends in the international situation. The highest-priority national security objectives of the Reagan Administration are:

- To deter military attack by the USSR and its allies against the United States, its allies, and other friendly countries; and to deter, or to counter, use of Soviet military power to coerce or intimidate our friends and allies.
- In the event of an attack, to deny the enemy his objectives and bring a rapid end to the conflict on terms favorable to our interests; and to maintain the political and territorial integrity of the United States and its allies.

When others know we are ready and able to respond to attack in ways that achieve this objective, we reinforce our ability to deter attack -- our first national objective.

- To promote meaningful and verifiable mutual reductions in nuclear and conventional forces through negotiations with the Soviet Union and the Warsaw Pact, respectively; and to discourage further proliferation of nuclear weapons throughout the world.

Our aim is to secure the strength needed to deter, or if necessary defend against, nuclear and conventional attack, as well as to discourage coercive use of Soviet military power. A sustained commitment to redress any significant imbalance will not only strengthen our deterrent capabilities but also will improve prospects for agreements on arms control and reductions.

- To inhibit further expansion of Soviet control and military presence, and to induce the Soviet Union to withdraw from those countries, such as Afghanistan, where it has imposed and maintains its presence and control by force of arms.
- To foster a reduction in the Soviet Union's overall capability to sustain a military buildup by preventing, in concert with our allies, the flow of militarily significant technologies and material to the Soviet Union, and by refraining from actions that serve to subsidize the Soviet economy.

3. Regional Objectives

Our position in the free world requires that we forge an effective and broad coalition, integrating the full range of capabilities of our allies and friends with our own. Therefore, we have a series of specific regional objectives to carry out our overall national security objectives.

The security of Western Europe is particularly vital to the security of the United States. This linkage is manifested in the Atlantic Alliance and our long-term deployment of major land, naval, and air forces in and around Western Europe, including the Sixth Fleet in the Mediterranean. Our objectives in Europe are:

- To strengthen NATO's and our own capability to deter or defeat the threat posed by dramatically improved Soviet and Warsaw Pact forces; to achieve major improvements in NATO's conventional land and sea-based capabilities in order to reduce the danger of conflict; to improve the nuclear deterrent balance in Europe; and to obtain increased allied contributions for the common defense in Europe, in Southwest Asia, or in other areas where the security of NATO countries may be threatened.

The importance to the United States of the security of East Asia and the Pacific is demonstrated by the bilateral treaties with Japan, Korea, and the Philippines; the Manila Pact, which adds Thailand to our treaty partners; and our treaty with Australia and New Zealand -- the ANZUS Treaty. It is further enhanced by the deployment of land and air forces in Korea and Japan, and the forward deployment of the Seventh Fleet in the Western Pacific. Our foremost regional objectives, in conjunction with our regional friends and allies, are:

- To maintain the security of our essential sea lanes and of the United States' interests in the region; to maintain the capability to fulfill our treaty commitments in the Pacific and East Asia; to prevent the Soviet Union, North Korea, and Vietnam from interfering in the affairs of others; to build toward a durable strategic relationship with the People's Republic of China; and to support the stability and independence of friendly countries.

The United States maintains vital interests and important relationships with friendly states in the Near East/Southwest Asia. In addition to the Sixth Fleet in the Mediterranean, we deploy naval forces in the Indian Ocean. Our objectives in this region are:

- To preserve and protect the independence of states in the region, including both Israel and friendly Arab nations, from aggression and subversion; to help secure a lasting peace for all the peoples of the Mideast; to prevent the spread of Soviet influence and the consequent loss of freedom and independence it entails; and to protect Western access to the energy resources of the area, and to maintain the security of key sea lanes to this region.

In the Western Hemisphere, the Rio Treaty confirms our long-standing commitment to the security of our Latin American neighbors. Our objectives are:

- To maintain the security of the North American continent, the Caribbean Basin, and the Panama Canal; to promote economic development and the strengthening of democratic institutions, and to support the independence and stability of friendly governments; to counter the projection of Soviet and Cuban military power and influence in the Caribbean Basin and South America;

and to strengthen U.S. political and defense relationships with friendly countries.

In Africa, our objectives are:

- To assist African countries that are the targets of subversion, and to support the independence and stability of friendly governments; to maintain and, as required, expand access and transit rights in pro-Western African states for the deployment of U.S. forces; to work to deny or reverse similar access and transit to the Soviets; and to preserve access to important mineral and petroleum resources.

The military dimension of U.S. national power is designed to support these regional objectives and our overall national security objectives. They in turn are derived from our foreign policy. To determine the size and structure of our armed forces, it is necessary first to assess the threats that could impede or prevent the successful conduct of our foreign policy and protection of our vital interests; second, to devise a strategy to cope with the threats; and finally, to determine the military capabilities required to implement that strategy.

B. THREATS TO U.S. SECURITY OBJECTIVES

Our defense effort, particularly over the last decade, has not taken sufficient account of the continuing increase in the military capabilities of the Soviet Union and of the Soviets' willingness to use superior military strength or the threat of it to further their foreign policy goals. Soviet power threatens us directly and poses obstacles to the successful conduct of our foreign policy.

We recognize that the successful conduct of our foreign policy also requires protection against other dangers, for some threats arise independently of the Soviet Union. But more often than not, the magnitude and persistence of these other threats and our difficulties in countering them are greatly aggravated by Soviet policies, backed by the expanding reach of Soviet military power.

Many people believe that, given the immense military power the United States and the Soviet Union command, changes in the ratio of forces have little consequence or can be easily corrected. They contend that the only danger to peace derives from the sheer accumulation of armaments on "both sides." They tend to overlook the fact that the critical point in deterring war and preventing aggression is maintaining a balance of forces. History has shown us all too often that conflicts occur when one state believes it has a sufficiently greater military capability than another and attempts to exploit that superior strength through intimidation or conflict with the weaker state.

Reducing military forces is, of course, desirable -- provided it can be done in a way that preserves or enhances U.S. security and diminishes the risk of war. This is precisely the purpose of President Reagan's arms control proposals to reduce conventional forces in Europe, to cut intercontinental nuclear forces drastically, and to eliminate U.S. and Soviet land-based intermediate-range nuclear missiles.

As a result of the 20-year Soviet arms buildup, however, and the collective failure of the United States and our allies to make a sufficient response, the global military balance has been shifting steadily against us; local threats against our allies and friends have increased as well. The deterrent strength of the Atlantic Alliance is increasingly threatened, offering opportunities for Soviet coercion in the event of crisis. Moreover, regions that once were free from the threat of Soviet armed forces have now come under the shadow of Soviet military power. Indeed, the Soviet empire has expanded through a chain of military outposts that threaten to outflank our traditional alliances. If these trends are allowed to continue unchecked, the result would be a fatal weakening of the Western alliances, and a drastic deterioration in the security of the United States.

Soviet military capabilities are augmented in Europe by their Warsaw Pact allies and in other key areas of the world by such client-states as Cuba, Libya, Vietnam, and North Korea. It is the Soviet Union, however, that produces the vast preponderance of the military materiel for the forces of its Eastern European and other allies and for its own forces. And it is the Soviet Union that influences to a large degree the policies and activities of those nations where it has stationed forces.

The United States also has strong allies, and it is important that we take their forces and capabilities into account. Their

contributions are substantial and go a long way toward redressing the balance of forces. But even so, careful assessment of global trends over the past two decades leads to the very disturbing conclusion that the military power of the Soviet bloc has increased steadily relative to that of the free world, and that the geographic reach of Soviet and surrogate forces has expanded significantly. While the Soviets were building up their own forces -- and those of their allies and clients -- in size and quality over the last 20 years, we and our allies made inadequate military efforts. In the United States, we seriously neglected our own force modernization as a result of the Vietnam war and the unrealized expectations of detente.

Consequently, we and our allies no longer confront -- as we did in the early 1960s -- a Soviet Union distinctly inferior in many measures of military power. Twenty years ago Soviet nuclear forces were clearly inferior to our own. Warsaw Pact ground forces, although large, had qualitatively poorer weapons, limited tactical mobility and sustaining power, and only marginally effective tactical air cover. Soviet forces in Southwest Asia were weak and were stationed at a considerable distance from the Persian Gulf, and a seemingly stable and friendly Iran was gradually upgrading its forces. Finally, the Soviet Navy had primarily self-defense capabilities, with limited potential for interdicting the vital sea lanes connecting us with our allies and with critical sources of raw materials.

By contrast, we are now faced with a Soviet Union that has deprived us of our advantage in nuclear arms. Warsaw Pact ground forces have been greatly modernized, are more mobile, and have more sustaining power; their air forces likewise have been modernized, and are becoming increasingly capable in air superiority, ground support, and interdiction missions. Soviet ground and air forces threatening Southwest Asia are being steadily improved, while our former ally Iran has collapsed into anarchical enmity and has become a potential target for the Soviets; and defense of the free world's access to vital Persian Gulf oil supplies now entails U.S. force projection over lengthy and vulnerable air and sea lines of communication, with limited reception facilities or support available on arrival. The Soviet Navy is now a genuinely "blue water" force with global missions. Its attack submarine and missile-equipped bomber forces in particular threaten interdiction of the free world's naval forces and vital shipping, while the growing numbers and sophistication of Soviet surface forces provide a new capability to project power. And finally, Soviet-bloc military forces now have access to a broader network of bases and facilities than ever before, expanding the range from which Soviet and Soviet-surrogate power might be applied. The Soviet Navy in particular has profited, gaining the use of bases in West Africa, Southwest Asia, and Southeast Asia.

1. Divergent Trends in Military Investment and Production

It is understandable that disagreements persist about the implications of the shift in the balance of military forces that has taken place over the last two decades. But the debate about the facts themselves is over: no serious observer can dispute the widely documented evidence on the size and scope of the Soviet buildup.

Despite their sluggish economic situation, and nationwide food shortages, the Soviets currently allocate an estimated 15% of their GNP to defense. If the annual growth rate of their economy slows, as expected, their defense allotment could reach as much as

20% of GNP in the not so distant future. The United States, on the other hand, annually spent an average of 5.9% of GNP on defense during the 1970s. Even with the defense program proposed by the Reagan Administration, we will still spend less than 8% of our GNP on defense.

Another useful way to measure U.S. and Soviet efforts is to compare military investment levels. It is a particularly meaningful measure because it gives us an indication of what capabilities both sides have now and what will be available to them in the future, and because it is unaffected by differences in military pay and benefits. Military investment has two major components: (1) the inventory of weapon systems and military installations -- the more tangible elements of defense assets; and (2) the technological improvements in weapons resulting from research and development (R&D) -- which represent the less tangible elements of military capital.

Looking just at the United States and the Soviet Union, total Soviet military investment was nearly double ours by the early 1980s (see Chart I.B.1). This aggregate comparison can also be viewed in its component parts. For strategic nuclear forces, Soviet investment was about three times higher during 1980-81 than ours; for general purpose forces, it was about 50% higher; and for R&D expenditures, it ran at approximately twice our rate. This is in stark contrast to the overall situation 15 years ago (see Chart I.B.2).

Adding in allied military investments on both sides yields a somewhat more favorable picture for the free world because our allies contribute more than do the Soviets' allies. In 1981, total military investment outlays of the NATO countries and Japan still did not match total Warsaw Pact military investment outlays (see Chart I.B.3). This contrasts to almost equal investment levels a decade ago, and the considerably higher Western investment in the mid-1960s. The shortcoming of an allied military investment comparison, however, is that it fails to take account of the Warsaw Pact's greater ability to achieve interoperability and significant economies of scale by having its production concentrated in and standardized by the Soviet Union.

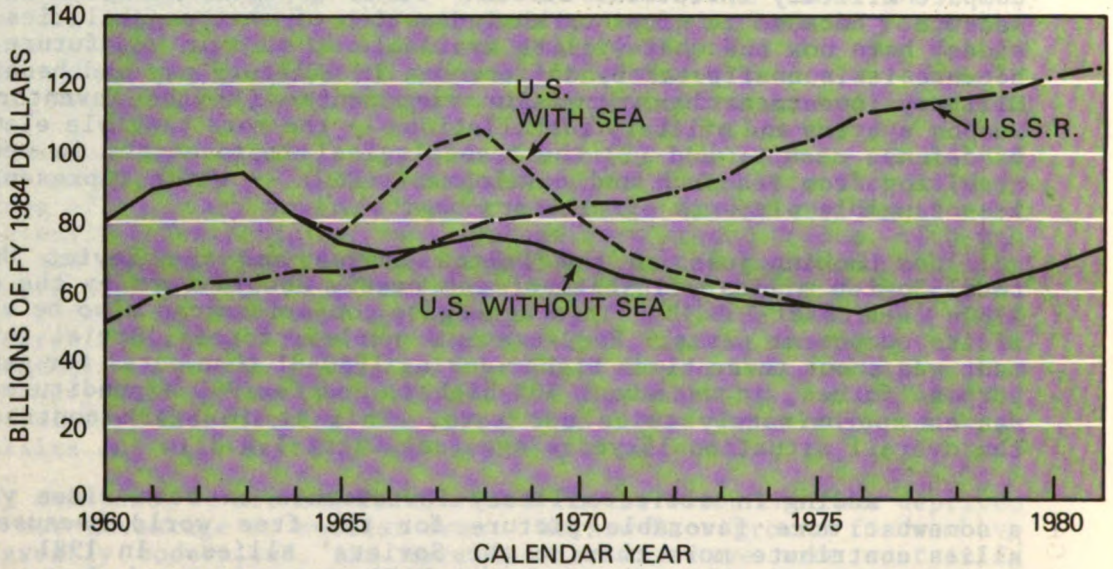
As a result of these divergent military investment trends, Warsaw Pact capabilities in each of the basic mission areas -- strategic, nuclear, ground, tactical air, and naval -- have improved markedly versus those of the free world.

In comparing U.S.-Soviet or NATO-Warsaw Pact military capabilities, it is also important to measure output, i.e., what weapon systems their military investment has allowed each side to produce (see Table I.B.1). Some of the more significant additions to the Soviet Union's inventory over the last nine years for which we have firm production data include approximately 2,000 ICBMs; 54,000 tanks and other armored vehicles; 6,000 tactical combat aircraft; 85 surface warships; and 61 attack submarines -- with much of this vast stockpile of materiel being comparable in quality to counterpart U.S. systems. Our own production over the same period was considerably less: roughly 350 ICBMs; 11,000 tanks and other armored vehicles; 3,000 tactical aircraft; 72 surface warships; and 27 attack submarines.

An alliance-to-alliance comparison of weapons production for the last nine years is also troubling: 2,000 ICBMs for the Warsaw Pact, versus 350 for NATO; nearly 67,000 Pact tanks and other armored vehicles, versus 24,000 for NATO; 6,900 Pact tactical combat aircraft, versus 5,700 for NATO. The Soviet Union and the Warsaw Pact have

Chart I.B.1

U.S. AND SOVIET MILITARY INVESTMENT TRENDS

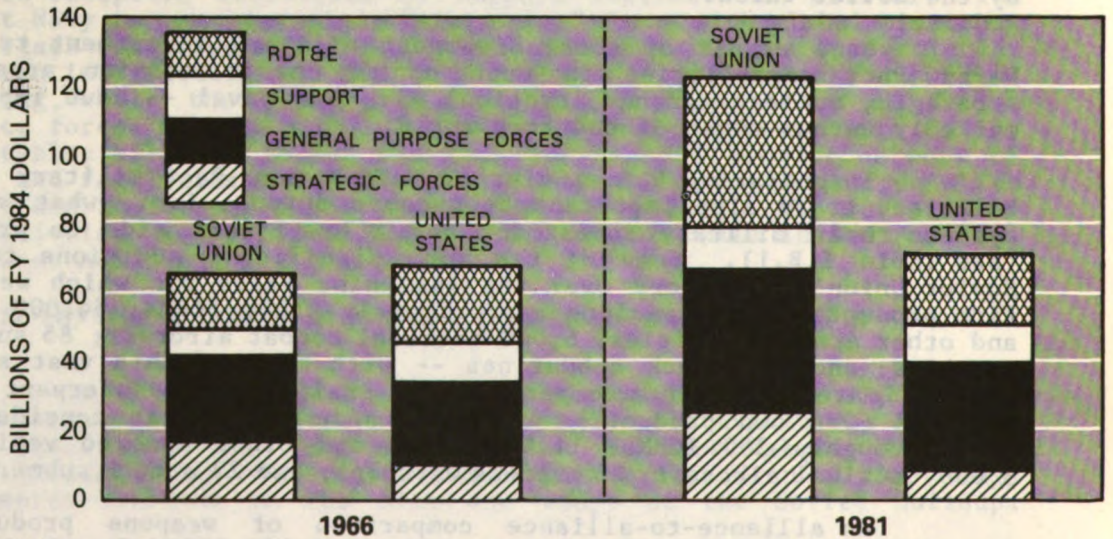


Notes:

- Investment Comprises Outlays for Procurement, Military Construction, and RDT&E
- U.S.S.R. Investment Is an Estimate of What It Would Cost the U.S. to Duplicate Soviet Investment Activities
- SEA: Southeast Asia (Vietnam War-Related) Investments

Chart I.B.2

U.S. AND SOVIET MILITARY INVESTMENT BY MISSION AREA



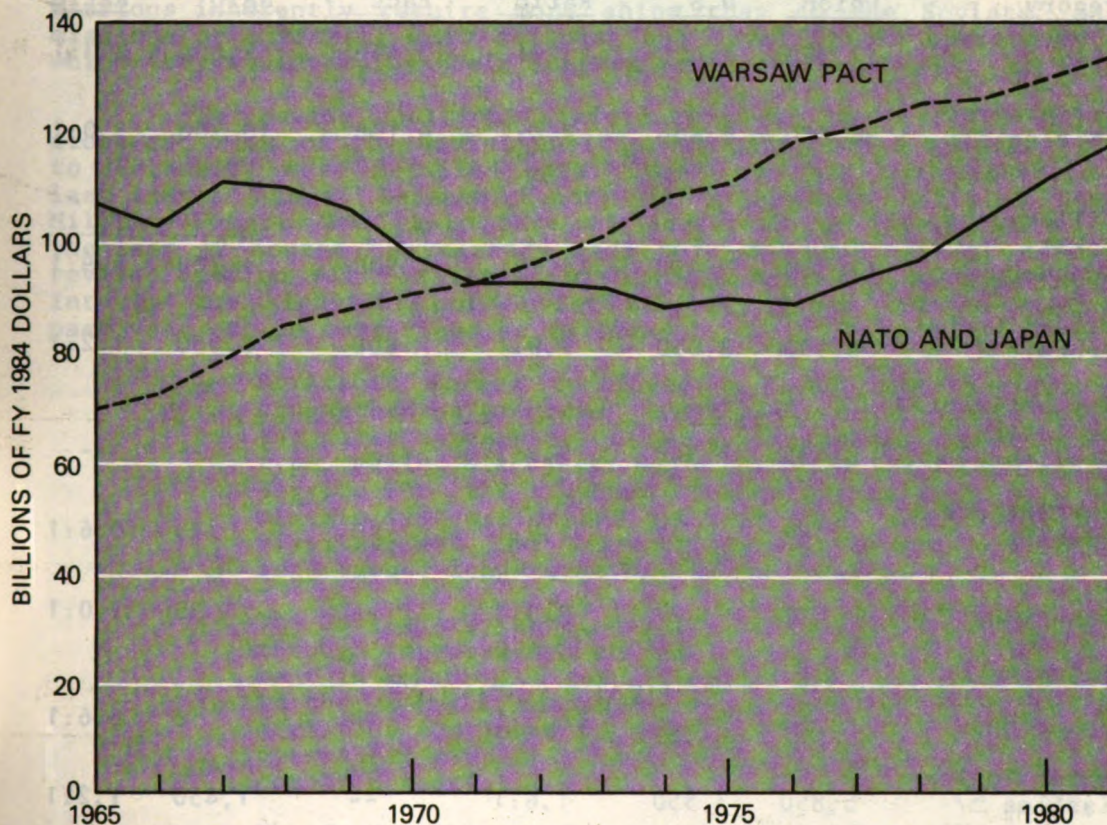
Notes:

- Mission Area Totals Include Outlays for Procurement and Military Construction
- RDT&E Is for All Mission Areas
- U.S. Investments for the Vietnam War Are Excluded
- Soviet Investment Is an Estimate of What It would Cost the U.S. to Duplicate Soviet Investment Activities

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Chart I.B.3

NATO PLUS JAPAN vs WARSAW PACT MILITARY INVESTMENT TRENDS



Notes:

Investment Comprises Outlays for Procurement, Military Construction, and RDT&E (NATO Figures Do Not Include U.S. Vietnam Investments). Warsaw Pact Investment Is an Estimate of What It Would Cost the U.S. to Duplicate Warsaw Pact Investment Activities.

TABLE I.B.1

Production of Selected Weapons ^{1/}
1974-82

<u>Category</u>	<u>Soviet Union</u>	<u>U.S.</u>	<u>Soviet to U.S. Ratio</u>	<u>Non-Soviet Warsaw Pact</u>	<u>Non-U.S. NATO</u>	<u>Pact to NATO Ratio</u>
Tanks	17,350	6,400	2.7:1	3,450	2,600	2.3:1
Other Armored Vehicles ^{2/}	36,650	4,800	7.6:1	9,100	10,300	3.0:1
Artillery and Rocket Launchers	13,350	950	14.1:1	1,300	700	8.9:1
Tactical Combat Aircraft ^{3/}	6,100	3,050	2.0:1	800	2,650	1.2:1
Intercontinental Ballistic Missiles	2,035	346	5.9:1	--	--	--
Major Surface Warships	85	72	1.2:1	10	79	0.6:1
Attack Submarines	61	27	2.3:1	--	33	1.0:1
Ballistic Missile Submarines	33	2	16.5:1	--	3	6.6:1
Theater Nuclear Missiles ^{4/}	5,850	3,550	1.6:1	--	1,450	1.2:1

^{1/} Totals represent that portion of a nation's production earmarked for its own military services plus imports, and excludes production for export.

^{2/} Includes light tanks; armored personnel carriers; infantry fighting vehicles; reconnaissance, fire support, and air defense vehicles.

^{3/} Includes fighter, attack, reconnaissance, electronic warfare, and all combat-capable tactical training aircraft.

^{4/} Includes ground- and sea-launched missiles, as well as intermediate- and medium-range ballistic missiles.

outproduced the West in all but one category of major weapons -- general purpose naval warships: 211 NATO surface combatants and attack submarines versus 156 for the Pact. NATO's narrow lead in naval construction is hardly reassuring, however, in view of our greater reliance on the seas for both commercial and military shipping. This is especially the case when one considers that most of the naval forces of our NATO allies are required and available only for regional defense tasks, leaving for U.S. naval forces the major role in carrying out our other major naval missions: control of vital ocean areas and projection of power ashore in distant areas. These missions inherently require more ships than do the Soviets' major missions of attacking NATO shipping and naval forces operations, in which they would employ their long-range aircraft as well.

To provide additional information for our citizens on the scope and size of the Soviet buildup, we undertook a special effort to declassify more detailed data. Much of this was presented in last year's Annual Defense Report in a document entitled Soviet Military Power. The rapid pace of Soviet force improvements over the last 12 months has already made this document out of date. A revised edition will be issued within the next few months. In the interim, the highlights of Soviet military force changes over the past year can be summarized as follows:

- Strategic forces continued a broad modernization and strengthening program. Significant developments include the first appearance of a new, long-range bomber prototype, called Blackjack; major progress toward operational service for the Typhoon submarine-launched ballistic missile system; further progress with long-range cruise missiles; and the first flight of a newly designed, land-based, long-range ballistic missile.
- The Soviet Army substantially increased its combat power through improvements in the numbers and types of equipment in existing units. There was also a gradual increase in the overall readiness of divisions, although many divisions continued to rely on substantial augmentation by readily available reserve personnel to achieve their combat potential.
- The Soviet Navy took delivery of several impressive new general-purpose ships, such as a third KIEV-class V/STOL aircraft carrier, new cruisers and destroyers, and several new classes of submarines.
- Soviet tactical air forces continued to undergo a major modernization, involving production of about 1,100 additional modern fighter and attack aircraft for air defense and tactical forces, as well as export purposes. The Soviets' rapid pace of modernization gives their aircraft a low average age, but qualitatively they remain behind us. Two new fighters now in the late stages of development are expected to narrow the gap in equipment quality as they enter large-scale use during the late 1980s.

2. Potential Capabilities of Today's Soviet Forces

The cumulative effect of the Soviet buildup has been to change the type of attack we might confront and the areas in which

we could be attacked, and to increase greatly the effectiveness of such an attack. It was not so long ago that the Soviet Army, although very large, was effectively limited to slow-moving offensives, which would allow the West the opportunity to exploit our air power and to mobilize our military strength. The Soviet Army had large numbers of tanks but was short of trucks; it had many and powerful guns, but lacked adequate communications equipment. Now the Soviet Army fields a comprehensive range of modern equipment. It is a fast-moving and highly flexible force, and hence far more difficult to contain than the ponderous Soviet Army of the past. In addition to being more extensively modernized, Warsaw Pact ground and air forces opposing NATO, and Soviet forces adjacent to Southwest Asia, have been expanded and "fleshed-out" in terms of logistic support units, transport, and supplies. These forces now seem capable of mounting roughly concurrent offensives against Western Europe and Southwest Asia, or they could attack in one theater while holding the other under immediate threat of attack. Further, if Soviet conventional forces attacked or tied down allied forces in these two critical theaters, North Korea might then take advantage of the situation and launch an offensive with its numerically superior ground and tactical air forces against our ally, the Republic of Korea.

The Soviet Union's greatly improved fleet gives it a capability to conduct an interdiction campaign against our shipping and naval forces in the Atlantic, Indian Ocean, and Northern Pacific. Soviet attack submarines and missile-equipped bombers would constitute the major threat in such a campaign, with missile-equipped bomber aircraft being particularly a threat in the Northern Atlantic, Arabian Sea, and Northern Pacific. While the Pact's overall production of major warships has lagged behind NATO's, both the submarine and naval aviation components of the Soviet Navy's open-ocean interdiction force have been extensively modernized and equipped with improved sensors and weaponry, particularly over the past decade.

The increased size and quality of its armed forces has enabled the Soviet Union to turn from its previous primarily defensive force posture to one that is increasingly structured for offensive use. For example, the Soviets have continued to build far greater numbers of ICBMs than would be necessary for a deterrent capability. Moreover, they have modified the design of these weapons and their launchers so that many of their land-based missiles are now more powerful than our deployed ICBMs. They have developed a refiring capability for some of their larger ICBMs, which could allow them to reload their delivery systems several times. They have greatly increased the accuracy of their missiles largely as a result of technologies they have taken from us. They now have the capability to destroy most of our land-based missile forces in a first strike. They have given us indications that they think they could fight a prolonged war by hardening their silos and protecting key targets with elaborate air defenses. Their writings, military doctrine, and exercises all emphasize a nuclear warfighting scenario.

At the same time, Soviet conventional forces have increased their offensive capabilities and developed additional concepts for employment of these forces offensively. Soviet tactical air and missile forces have shifted from their long-standing defensive orientation and are now rapidly acquiring more advanced systems designed to carry out large-scale air offensives. It appears also that Soviet ground force modernization, deployment, and training are oriented toward preparation for more sudden and sustained movements

from peacetime locations to objectives well beyond Soviet/Warsaw Pact borders. Soviet naval forces have adopted and implemented new concepts to deny opposing navies use of adjacent seas in support of continental neighbors whom the Soviets might want to cut off from reinforcements.

Failure of the United States and its key allies to keep pace with the Soviet bloc (primarily Soviet) military buildup has not only enabled the Soviet Union to turn to a more offensive force posture, but has also resulted in a shift in the military balance.

3. Geographic Expansion of Soviet Military Presence

In assessing the threat posed to U.S. and allied interests, we cannot focus on a comparison of U.S.-Soviet or NATO/Japan-Warsaw Pact forces in a vacuum. We must also take into account the considerable expansion of Soviet influence and presence on the periphery of the Soviet Union and in other areas over the past 20 years.

In the postwar years, the United States attempted to contain the military and political expansion of the Soviet Union by forming a system of alliances on the Soviet periphery. To a certain extent, this policy was successful: the Western European nations, Japan and South Korea, and many Pacific nations were free to recover from the ravages of the Second World War.

During the last two decades, however, the policy of containment failed to prevent the Soviet Union from establishing critical footholds in strategic locations throughout the world. Soviet influence and control, together with varying forms of Soviet military presence, spread to country after country, slowly but steadily, in regions that once seemed well outside the containment perimeter. During the 1960s and early 1970s, the Soviet Union exploited political opportunities in the Third World. In exchange for access and basing rights, the Soviets supported radical governments in their efforts to foment regional conflict or suppress their own people. To be sure, this expansion suffered occasional setbacks. Soviet forces were expelled from Egypt and Somalia, and -- of even greater consequence -- the once-close alliance with China was replaced with the Sino-Soviet military confrontation and intense political friction.

Yet over the last decade, the growing capability of Soviet armed forces to project power to great distances helped them sustain and consolidate many new Soviet-bloc military outposts. This geographic expansion of Soviet influence has important military implications. The basing facilities now available to Soviet naval forces, and to naval aviation forces in Cuba, Vietnam, South Yemen, Angola, and elsewhere, would multiply the interdiction capabilities of Soviet forces in any war involving naval combat. Granted, Soviet peacetime use of these bases might not translate automatically to wartime access. But their potential use of these bases in wartime places an added burden on U.S. capabilities.

This expanded access to basing facilities remote from the Soviet periphery also raises new possibilities for longer-range projection of Soviet power. The Soviets have traditionally maintained their marine and airborne forces at high levels of readiness. Since 1972, marine and airborne unit training, equipment, and deployments have also been matched by comparable enhancements to their airlift, sealift, and mobility infrastructure.

The trend of Soviet geographic expansion is especially apparent if one recognizes that most of the Soviet Union's new military outposts are countries that once supported the Western alliance system by providing transit rights or other facilities. In South Yemen, our British allies once had full use of the important port of Aden, which is now a Soviet base; in Ethiopia, the U.S. once had military facilities, and now the Soviets have forces and bases there; in Libya, the U.S. Air Force once had an important base, but now that country is, in effect, a potential forward depot for large amounts of Soviet military equipment. In Vietnam, the former U.S. air and sea facilities at Cam Ranh Bay are now used to extend the reach of Soviet armed forces into southern Asia. Several other nations in which Soviet forces or Soviet-proxy forces now operate were previously free of such military presence.

Central America and the Caribbean are now clearly the target of a concerted Soviet-inspired penetration effort. We recognize, of course, as we did in Europe and Japan just after World War II, that we must promote economic and social development, which will encourage political stability and diminish opportunities for subversion. The President has strengthened that effort with his Caribbean Basin initiative. Nevertheless, we cannot wait for the attainment of all possible social and political improvements in each of these countries. We must address the fact that many countries are now under attack by guerrilla forces that the Soviet Union sustains either directly or through its intermediaries.

If the trend of Soviet expansion we have witnessed over the last 20 years is permitted to continue, the long-term consequences for the United States would be disastrous. The further spread of Soviet military outposts throughout the world would increasingly threaten to cut into the lifelines of the Western alliances and make it even more difficult and costly to defend essential U.S. national interests.

4. Other Threats to World Stability

Quite apart from the Soviet Union, the diffusion of technology, industrial strength, and military skills is creating new military powers around the world. For example, new military technology, such as man-portable surface-to-air missiles, is increasingly available to, and sometimes even manufactured in, the less-developed world. The growing ability of the newly industrialized countries to acquire and operate sophisticated weaponry can have a major effect on conflicts outside of the traditional alliance systems. Particularly serious in its potential consequences is the continuing spread of the capabilities and special materials needed to manufacture nuclear weapons. At the same time, the spread of sophisticated weapons to subnational groups increases the threat of terrorism.

Potential conflicts among these military powers, or between them and our allies, would impose unexpected and increasingly difficult demands on both U.S. defense capabilities and diplomacy. Last year's conflict between the United Kingdom and Argentina illustrated the difficulty of maintaining adequate deterrent forces in traditional theaters while key allies are heavily diverted elsewhere. The United States and its allies could encounter similar difficulties were such conflicts suddenly to emerge in different parts of the world. Because of the diffusion of modern military power, effective responses to

these challenges could call for more substantial commitments of forces in the future than they have typically required in the past.

The decade of the 1980s is also likely to witness new sources of tension, instability, and conflict both within and among countries of the Third World that could affect U.S. interests. This is of particular concern because many of the strategic resources on which the modern industrial nations have become so dependent are found in Third World nations. Access to those resources could be disrupted by disputes over mineral resources in border areas, offshore oil deposits, and the right to transit inland waterways. Conflicts of this sort are already occurring among some of the countries around the Persian Gulf.

5. A Challenge to U.S. National Security Policy

It is important that we develop a responsible and balanced understanding of the real meaning of the threat we face. The detailed facts are clear enough. But there is great resistance to accepting the real meaning of these facts, because to do so is to accept the need for a major sustained response. Confronted as we are by all manner of other real or apparent needs, there is a temptation to argue away even the most overwhelming evidence, with misplaced hope that we can continue as usual, putting off or canceling unpopular military necessities, and increasing our spending on more politically popular domestic programs. Instead, the regrettable fact is that, in view of the threats posed to our national security, this course is no longer open to us.

The gradual shift in the global military balance in favor of the Soviet Union has facilitated, and helped to consolidate, the geographic expansion of Soviet influence and presence in many regions of the world. This expansion of Soviet dominion, in turn, has further strengthened Soviet military power and influence. Because these two fundamental trends are mutually reinforcing, our response is all the more difficult and more urgent. For example, the Soviets' increased ability to project power at a distance made easier their expansion into Afghanistan, South Yemen, and Ethiopia. This, in turn, has provided them with bases and ports strategically located near the world's major trade routes and mineral and energy resources.

If we permit the disparity between the Soviet arms build-up and our military investment to continue, we would be increasingly at a disadvantage in the event of a military confrontation. If we permitted the outflanking of our alliances to continue, not only would military confrontations be more likely, but, should they occur, we would be in a more vulnerable position to deal with them. In designing our strategy to cope with these threats we must not only consider the dangers confronting us today, but also anticipate the dangers we are likely to face in the future.

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5. A Challenge to U.S. National Security Policy

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C. U.S. DEFENSE STRATEGY

To develop our defense strategy, we must not only heed the dangers that confront us today, but must also recognize the long-term trends -- those in the past that help explain our present policy and forces, and those now emerging for which we must prepare.

In 1945, the United States expressed its hopes for the postwar world by helping to establish the United Nations; rapidly demobilizing our land, air, and naval forces; proposing the Baruch plan for nuclear disarmament; and inviting the Soviet Union to join in the Marshall plan. But the optimism these actions expressed -- optimism that the wartime alliance with the Soviet Union would form the basis for a stable, peaceful future -- quickly dissipated as Stalin's occupying divisions began to shape the Soviet empire in Eastern Europe. The violations of the Yalta and Potsdam agreements through the prevention of free elections in Poland and the destruction of democracy in Czechoslovakia, the Berlin blockade, and the invasion of South Korea destroyed our hopes. We revised our strategy to address these changed circumstances.

Since then, for more than 30 years, America's strategy has shown great continuity: at its center has been the need to contain the Soviet Union and deter it from establishing political and military primacy over friendly nations.

Yet, as the magnitude of Soviet military power has grown, the United States and its allies have found it necessary to adapt the underlying strategy of containment and deterrence to changing -- and increasingly demanding -- circumstances. Thus, the elements of change in the evolution of our strategy are no less notable than the elements of continuity.

In the 1950s the United States sought to deter Soviet attack against our European allies with a strategy of "massive retaliation." Especially in the early years of that decade, we relied on our superiority in strategic nuclear forces to offset the manifest conventional military advantage enjoyed by the Soviets. Thus, we sought to deter even a rather limited use of Soviet conventional forces against our allies by threatening to respond massively with nuclear weapons.

The transitory nature of our nuclear advantage became evident with the Soviets' acquisition of a nuclear stockpile and Soviet missile developments. And, as our advantage diminished, the threat to defend against Soviet conventional attack by resorting to the massive use of nuclear weapons became less credible.

In time, the strategy of "massive retaliation" gave way to a new strategy of "flexible response." We would no longer rely exclusively on an ever more doubtful threat to use nuclear weapons in response to a Soviet conventional attack. Beginning in the 1960s, we sought to build toward a conventional capability that would enable us, together with our allies, to respond flexibly to Soviet aggression at all points along the spectrum of violence.

Like the strategy of "massive retaliation," that of "flexible response" was aimed at deterring the Soviet Union from an attack on members of the NATO Alliance. Flexible response involved close coordination of American and allied forces in Europe, plans for rapid U.S. reinforcement of Europe, and a substantial augmentation of U.S. and allied conventional military capabilities.

Our strategy has been successful in Europe -- the Soviet Union has been deterred and peace preserved. Over the years, however, the Soviet Union has expanded the breadth of its military capabilities and influence. Soviet capability to project power has grown, and has been strengthened by their recruitment and use of surrogates for subversion around the world. Accordingly, while a strategy best suited for the center of Europe must be retained, we must now supplement it by developing more effective means to cope with Soviet expansion in the less-developed world.

Our strategy must evolve to respond to the dynamics of our time. While our most basic national interests are enduring, the task of defending them keeps changing as the threat changes. In the near term, strategy must guide our military plans and preparations to protect the peace today. It must also guide the long-term development of our defense plans and posture by anticipating future threats and new opportunities, taking care that today's preferences for weapon systems not prejudice the future evolution of our strategy.

1. An Overview of U.S. Defense Strategy

Our strategy consists of a series of discrete, but inter-related elements, some of which have endured for many years, others of which are more recent in origin. It incorporates three main principles:

- First, our strategy is defensive. It excludes the possibility that the United States would initiate a war or launch a pre-emptive strike against the forces or territories of other nations.
- Second, our strategy is to deter war. The deterrent nature of our strategy is closely related to our defensive stance. We maintain a nuclear and conventional force posture designed to convince any potential adversary that the cost of aggression would be too high to justify an attack.
- Third, should deterrence fail, our strategy is to restore peace on favorable terms. In responding to an enemy attack, we must defeat the attack and achieve our national objectives while limiting -- to the extent possible and practicable -- the scope of the conflict. We would seek to deny the enemy his political and military goals and to counterattack with sufficient strength to terminate hostilities at the lowest possible level of damage to the United States and its allies.

To achieve a successful defensive and deterrent strategy, we have emphasized three vital supporting policies. First, the United States remains part of, and contributes to, a collective defense posture that incorporates the strength of our allies. The North Atlantic Treaty, the Rio Treaty, the ANZUS Treaty, and our treaties with Korea, the Philippines, and Japan help provide for an effective common defense against external aggression. Second, to buttress our collective security posture, we maintain forward deployments that, combined with the forces of our allies, provide the first line of conventional defense in Western Europe, Japan, and Korea. In the event of war, we would reinforce these forward-deployed units, using forces capable of rapid deployment over long distances. Third, we seek a flexible force structure that builds upon our alliance

commitments and forward deployments and provides us a variety of options with which to respond in a timely fashion to unforeseen contingencies in any region in which we have vital interests to defend.

Needless to say, no brief summary can do justice to a strategy whose complexity necessarily reflects our worldwide interests and commitments. The following pages expand upon these major elements of our strategy, illustrating the relationship of that strategy to the programs necessary to implement it.

2. The Principles of Strategy

a. The Defensive Orientation

Our strategy excludes the possibility that the United States would initiate war. The United States would use its military strength only in response to aggression, not to pre-empt it. Once an aggressor has initiated an attack, however, the principle of non-aggression would not impose a purely defensive strategy in fighting back. This principle has governed American strategy since at least the beginning of this century.

Given our defensive orientation, we inevitably cede several advantages to a potential aggressor. He will have the choice of time, place, and method of attack. He can have a detailed plan for his operations, designed to culminate in a politically decisive outcome. Since we will be on the defensive initially, we may suffer the disadvantage of surprise, with all the attendant difficulties of carrying out a response coordinated with our allies. The aggressor may attempt the destruction of our forces and quick seizure of critical territory, so as to present us with a fait accompli.

The defensive orientation of our strategy imposes several requirements on our military posture: our forces must be maintained in a high state of readiness; our command, control, communications, and intelligence capabilities must be flexible and enduring so as to improve our warning and response to an attack; and our reserve forces must have the capability to mobilize rapidly.

To implement the defensive orientation of U.S. strategy, the Reagan Administration has given readiness improvements high priority. The budget allocations in FY 1981 and FY 1982 have gone a long way to remedy the serious deficiencies that previously existed in manning, training, spare parts, and other components of our force readiness.

b. Deterrence

Despite the change in threat and consequent evolution of U.S. strategy over the past four decades, the objective of deterring the outbreak of war has remained the key principle of U.S. military strategy.

The commitment to deterrence and defense is neither easy nor inexpensive. When it confronts an opposing coercive "offensive" strategy, it requires continued vigilance to maintain. When deterrence succeeds, it is easy to attribute the maintenance of peace not to the contribution of the defense that enforces the deterrent, but to a host of more facile assumptions -- some imagined new-found "peaceful intent" of the opponent, the spirit of detente, growing economic

interdependency, and so forth. When deterrence fails, however, and the opponent has deliberately weighed the risks and still decided to attack, the dividends of a viable warfighting defense are unquestionable. But unless such a defense is acquired, is in being, and is maintained at the ready, it is too late to try to regain it after a war starts.

For deterrence to be effective, several things are necessary:

- First, our forces must demonstrate that they could survive a first strike with sufficient strength to threaten losses that would outweigh any gains a potential adversary might expect from an attack.
- Second, our threatened response to the attack must be credible, that is, of such a nature that the potential aggressor believes we would carry it out.
- Third, the boundary between peace and aggression must be sharp and clear. Formal treaties and agreements between allies serve an important function of clearly defining those limits.

It is also important to recognize that while deterrence can avert a deliberate decision to attack, it cannot prevent all forms of conflict. For example, deterrence alone cannot prevent our adversaries from using ambiguous forms of aggression, such as subversion, or from distorting or concealing the origins of a conflict. Deterrence cannot prevent an unintended or accidental outbreak of hostilities. That is why President Reagan has proposed a series of confidence-building measures to reduce the possibility of miscalculation.

To deter Soviet strategic nuclear attack, we are modernizing and strengthening all three legs of the United States Triad, and improving our strategic command and control systems; to deter a Warsaw Pact attack in Europe, we, in conjunction with our Allies, are modernizing the NATO triad -- U.S. central strategic systems, non-strategic nuclear forces, and our general purpose land, air, and naval forces; to deter conflict in other areas where U.S. vital interests are involved, we are improving our ability to deploy rapidly our general purpose forces to the point where those interests could be threatened.

In the post-war era, nuclear deterrence has played a particularly dominant role. When the United States had a nuclear monopoly and the Soviet Union had conventional superiority, our nuclear weapons served as a deterrent to Soviet expansion into Western Europe. Once the Soviet Union began testing and deploying limited numbers of nuclear weapons, U.S. nuclear forces served as a deterrent to both Soviet conventional and nuclear attack.

But the sustained Soviet buildup has changed all this over the past decade. The Soviets have acquired a margin of nuclear superiority in most important categories, while still maintaining superiority in their conventional forces. Consequently, for the United States to have a strong and credible deterrent capability, we must strengthen both our nuclear and conventional force posture as quickly as possible.

c. Restoring the Peace

Should deterrence fail, we must be able to halt the attack and to restore the peace. In employing military force to restore the peace, the Reagan Administration seeks to limit the scope, duration, and intensity of conflict.

In seeking to limit the scope of the conflict, our objective would be to deny enemy war aims in the theater in which the attack occurred. However, we must recognize that the Soviet Union has enough active forces and reserves to conduct simultaneous campaigns in more than one theater. As a result, we must understand that war could spread to other regions. Access to overseas combat theaters will be a critical factor in denying enemy war aims. Consequently, the Reagan Administration has sought and will allocate resources to provide us with sufficient naval power and air and sealift capability to assure our success in a single or multitheater conflict.

Also, we must recognize that, in a conventional war in a region like Southwest Asia, the geographic limits of combat cannot be taken for granted. For example, the requirements for maritime access to that region may well require us to respond to naval attacks not necessarily limited to the geographical boundaries of that theater.

We seek to limit the duration of conflict. However, given the Soviet Union's increased ability to sustain a prolonged war, we would be imprudent to prejudge the duration of such a U.S.-Soviet conflict. Preparing only for a "short war" would not only weaken the credibility of our deterrent, it would also be imprudent because it would limit the ability of U.S. military forces to restore the peace should deterrence fail. Therefore, the Reagan Administration has allocated resources to improve the sustainability of U.S. forces and has initiated programs to provide for a more rapid expansion of defense production during an emergency, all as part of our effort to maintain a credible deterrent in the face of increasing Soviet capabilities.

We also seek to limit the intensity of conflict. We have therefore undertaken a series of initiatives to improve our ability to end a conventional war in a way that would not only safeguard our national interests and those of our allies, but would also greatly reduce the possibility of nuclear escalation. We are exploring with our NATO allies ways to take full advantage of new techniques and technologies to improve conventional defense.

To achieve these aims requires strong conventional forces. In fact, by far the major part of our defense budget is expended on maintaining and improving our conventional forces. We are upgrading the capability of the Army's combat units by acquiring the Abrams tank, the Bradley fighting vehicle, the Apache and Blackhawk helicopters, and the Patriot air defense system. We are expanding our naval forces, especially those that provide us with force projection capability -- the carrier battle group, the battleships, and the amphibious ships. We are continuing to modernize the Air Force's aircraft inventory with F-15s and F-16s, while increasing the number of tactical wings in the force. With the continued support of the Congress for the Administration's defense program, the nation's conventional capabilities will be dramatically improved within this decade.

We recognize, however, the necessity to husband our limited resources. Therefore, in planning for the possibility that war cannot be deterred, we must concentrate our military preparations on those contingencies that are most threatening to the national interest of the U.S. and our allies. Of course, we cannot neglect, or be unprepared for, a wide range of lesser threats.

3. Supporting Policies

a. Alliances for Collective Defense

The United States continues to place great emphasis on collective security; and the contributions and requirements of our alliance systems remain a fundamental aspect of U.S. strategy. The United States maintains long-standing commitments to the common defense in both the conventional and nuclear spheres.

As in the past, Western Europe remains a most vital region for U.S. security interests. Moreover, deterring Soviet aggression outside of Europe will depend in large measure on the cohesiveness of the Atlantic Alliance. Correspondingly, U.S. and allied strength and determination in other regions affect the security of NATO. Assured Western access to critical raw materials and energy resources in Africa and the Middle East, secure transit through the North and South Atlantic Oceans and the Caribbean, and confidence that Asian nations will participate in countering Soviet global ambitions are supportive of continued European security. While our allies can and must contribute to meeting these common security requirements, we recognize that the U.S. possesses certain unique capabilities -- diplomatic, economic, and military -- necessary to their successful fulfillment.

We are pursuing a long-term program, including prepositioning of equipment (POMCUS) and reliance on host nation support (HNS), designed to provide more realistic and reliable ways for the United States to meet its NATO commitments. Increases in readiness, sustainability, and mobility improve the prospects for a successful forward defense based on conventional arms. The President's program for long-term improvements in strategic nuclear forces, together with the NATO decision on intermediate-range nuclear missiles, will enhance and preserve the essential U.S. nuclear guarantee for the Alliance.

To enable certain friendly nations to defend themselves, we have requested substantial increases in security assistance compared with the levels of assistance provided by the previous Administration. We believe that a carefully designed expansion of security assistance will encourage improvements in the forces of allies and friendly nations whose economies could not support the acquisition of the necessary armaments. In addition, our assistance for expanding the military infrastructure in certain vital regions will allow U.S. and allied forces to complement each other more efficiently. Against some critical threats, a strategically spent dollar for security assistance can produce a much larger return than that same dollar spent for our own forces.

b. Forward-Deployed Forces

For the Atlantic Alliance, and for the bilateral security treaties with the Republic of Korea, the Philippines, and Japan, deterrence of aggression is strengthened by the strategy of forward

defense. To that end, we deploy ground and air forces in Europe, Japan, and Korea, and naval carrier battle groups and amphibious forces in the Western Pacific, the Mediterranean Sea, and the Indian Ocean.

The proximity of Soviet forces to our allies imposes severe demands on the timeliness of a response, since territory once lost would be difficult to regain. The forward deployment of our forces makes them immediately available for combat in coalition with our allies, it permits integration with allied forces in peacetime, and it represents a visible manifestation of the U.S. commitment to the common defense. In essence, forward deployment gives unmistakable credibility as well as increased capability to the participation of the United States in the defense of allied territory.

The strength of our conventional deterrent posture is enhanced by the integration of allied command structures in NATO and Korea; by the U.S.-based strategic reserve of general purpose forces; and by periodic exercises, which demonstrate our rapid deployment capability and help to coordinate U.S. and allied forces. For these reasons, forward deployment has been a consistent and substantial component of our deterrent strategy for more than three decades.

c. Providing Flexibility

It would be a grave mistake for our strategy to focus only on what seemed the most dangerous threats, or the most plausible ones. Our armed forces need to be prepared for a wide spectrum of contingencies. History teaches that it is often the unanticipated conflict, or aggression in unanticipated places, that poses the most difficult challenges. Who would have thought a year ago that the United Kingdom would have to marshal major maritime forces to fight a conflict near Antarctica?

In structuring our forces, it is important to recognize that the United States must be prepared to cope with threats across the entire spectrum of conflict:

- First, we need to support our allies and friends against the coercive threat of unused military strength, the "shadow" of military power that can be used implicitly or explicitly to intimidate.
- Second, we must be able to cope with acts of terrorism, and provide assistance against insurgent attacks on the political and economic institutions of friendly countries that are designed to destroy the functioning of a government and to frustrate democratic development.
- Third, our armed forces, together with those of our allies, must be prepared and equipped to deter or, if need be, defeat armed attack using conventional weapons.
- Fourth, of course, we must deter nuclear attack.

The Reagan Administration recognizes the increased need to respond to threats at the lower end of the spectrum and to conduct peacekeeping operations. Our revitalization program includes important force structure increases, including steps to reverse a

decade of neglect of our Special Operations Forces (SOF). We also plan major improvements in the readiness of existing forces, and a series of enhancements in the command and control of these forces. Nonetheless, we recognize that a great deal remains to be done to rebuild and maintain the needed capability.

Another critical element of a flexible force structure is mobility. The new Soviet outposts in many regions of the world make it possible for the Soviet Union to interfere with or threaten friendly nations, either directly or through its surrogates, in regions where we have no shield of land-based forward deployment. Even in areas where we do have forward deployments, airlift and sealift forces are essential to our ability to reinforce our units, and to sustain them.

The effects of the global spread of Soviet military outposts are aggravated by the improved Soviet capabilities for projecting power, particularly with respect to regions close to the Soviet Union. For example, in the Persian Gulf region, the Soviet military now has a new, encircling ring of bases (or facilities) in Ethiopia, Aden, and Afghanistan. In addition, the reach of Soviet airlift forces and the Backfire bomber permit the Soviets to project military power to every part of the Middle East, to critical regions of the Pacific, and elsewhere.

Events in Iran since the fall of the Shah and the Soviet invasion of Afghanistan have rendered previous U.S. plans and assumptions for Southwest Asia obsolete. They were based upon the presence of a very supportive government in Iran. Clearly, the massive changes in the geostrategic situation there demand that we add to our forces for that theater, and improve our prepositioning support facilities and ability to move forces into the region quickly. One step in this direction is the creation of the new U.S. Central Command.

The Reagan Administration has therefore accelerated the effort to improve support facilities and access arrangements for deploying U.S. forces there and elsewhere. We have already nearly tripled the amount of maritime prepositioning we inherited at Diego Garcia, and have begun converting eight fast cargo ships (SL-7s) to roll-on/roll-off configuration for movement of forces based in the United States. These sealift improvements, coupled with the purchase of 50 more C-5 and 44 more KC-10 wide-bodied aircraft proposed by this Administration, will increase our deployment rate to Southwest Asia or other distant theaters significantly. Other improvements in our capability to defend vital U.S. interests include major improvements of facilities to which our forces have access (provided that Congress grants approval); a gradual strengthening of Army logistics units needed to support rapid deployment forces in the many highly demanding climates and terrains where they may have to operate; and a fifteen-fold increase in the level of our rapidly deployable medical support capability.

Another important element of a flexible force structure is the capability to respond to different types of warning. For example, if we are to make use of intelligence warnings of enemy attack, we must increase our options for prudent and effective responses. Our previous lack of flexibility, which focused on a fixed hypothetical timetable outlined below, has tended to aggravate the effects of the previous low state of readiness of our forces. Assumptions about the earliness of warning we would receive, or its

unequivocal character, or the speed with which such warning would be followed by the political decisions to respond, must not be unrealistically specific, providing enemy planners with dangerous opportunities to mask preparations for attack by deception and disinformation measures.

For example, many of the preparations for reinforcing our forces in Europe have long been based too exclusively on a rigid timetable that assumed a certain period of advance warning, prompt political decisions to initiate the reinforcement, and sufficient days before the outbreak of hostilities to complete reinforcements. For some of the most likely contingencies, however, this timetable would not be realistic. Therefore, we have initiated a NATO study and follow-up measures to ensure that our planning recognizes that warning is usually ambiguous, and that this would probably impede the difficult political decision to assemble and move large forces. For regions other than Europe we also need effective responses to ambiguous warning -- responses whose costs and consequences make it acceptable to carry them out repeatedly, if necessary.

There is a direct correlation between the ability to respond to ambiguous warning and force readiness. If a potential enemy perceives that our defenses are ready -- that we have forward-deployed forces in a high state of readiness and have made effective preparations for reinforcement -- he would, if bent upon an attack in any event, recognize the need to mobilize stronger forces before attacking. That effort would provide us with better opportunities to obtain warning signals and to alert our own forces so as to further increase their readiness.

4. Building Toward Long-Term Improvement

In addition to keeping the peace today, our strategy must also look to the future. It must promote long-term initiatives that will contribute to a fundamental improvement of our nation's security in the years to come. Much as our military strategy must be supportive of our foreign policy, our foreign policy must help with the task that our defense effort seeks to accomplish. As President Reagan has said:

The Soviet Union faces serious economic problems. But we, and I mean all of the nations of the free world, have helped the Soviets avoid some hard economic choices by providing preferential terms of trade, by allowing them to acquire militarily relevant technology, and by providing them a market for their energy resources even though this creates an excessive dependence on them. By giving such preferential treatment, we have added to our own problems -- creating a situation where we have to spend more money on our defense to keep up with Soviet capabilities which we helped create. Since taking office, I have emphasized to our allies the importance of our economic, as well as our political, relationship with the Soviet Union.

We must work vigorously with our allies to forge an effective, united policy that will discontinue subsidizing the Soviet war machine by the Western democracies.

Our longer-term strategy must also look beyond the present arms confrontation with the Soviet Union to the challenges of the future. Industrialization will continue to expand throughout the world and, with it, the ability to produce more advanced weaponry. The ability to manufacture nuclear explosives could no doubt be within reach of more nations than it is today. With few exceptions, the "nuclear-capable" countries have so far chosen to forgo the effort and accompanying risks that would occur were they to transform this latent capability into the actual manufacture of nuclear weapons. Nonetheless, we cannot safely assume that this trend will necessarily continue or that other countries, as they become nuclear-capable, will also refrain from developing nuclear weapons. Our efforts to prevent, control, and cope with the spread of nuclear weapons deserve high priority both now and in the future.

During the past two decades, we had high hopes for the contribution that arms control would make to our security. We have since been sadly disappointed, particularly by recent evidence of Soviet violation of two major arms control agreements governing chemical and biological weapons. Although these violations add to the realization of the immense difficulties we are facing in our quest for genuine and verifiable agreements, President Reagan is determined to press ahead in our search for genuine arms control, which must mean arms reduction, and not empty formulas that permit expansion of arms.

Success in arms reduction depends, however, on a sustained commitment to improving our force posture. Strengthening our defenses will not only provide the Soviet Union with incentives necessary to reach meaningful agreements, but it will also improve our ability to deter war. To implement the Reagan Administration's defense strategy, we have designed a comprehensive program to improve the readiness and sustainability of our conventional forces and to modernize our conventional and nuclear forces.

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D. CONVENTIONAL CAPABILITIES REQUIRED TO IMPLEMENT OUR MILITARY STRATEGY

Our military strategy requires strong conventional forces, able to help deter attack on ourselves and our principal allies and to help defeat an attack, should deterrence fail.

In the European theater, our strategy is one of collective defense. To implement that strategy, European nations provide a majority of the forces. The U.S. contribution provides for sufficient in-place ground and air units in Europe to deal with immediately available Warsaw Pact forces, and substantial reinforcing units to contain follow-on Pact forces. In NATO's Central Region, the United States augments European and Canadian contributions with four in-place Army divisions and seven Air Force fighter wings. Our objective is to provide six reinforcing Army divisions and 20 Air Force tactical fighter wings within ten days of a decision to deploy. On NATO's flanks, forces from the nations involved would have principal responsibility for conducting a defense, but would be supported by forces from the U.S. and other allied nations.

Our objective in the Persian Gulf area is to help those states maintain their independence and territorial integrity, to preserve Western access to Persian Gulf oil, and to assist in the forward defense of NATO's flanks. Our strategy is to be prepared to insert sufficient forces rapidly enough to deter a Soviet invasion of the region. To implement that strategy, we must have combat-ready forces and the means to move them quickly to the region. We must also be able to maintain maritime forces in the Gulf and Arabian Sea. We must also help Israel maintain the strength of its military forces and at the same time do everything we can to help secure the execution of the President's Middle East peace initiatives.

To implement our strategy in the Northwest Pacific, we rely principally on the self-defense effort of our allies to meet regional security requirements. In addition, the U.S. maintains forward-deployed forces in Korea (one Army division and limited tactical air forces) and in Japan (one Marine amphibious force, tactical air forces, and one homeported carrier). Our ability to deploy reinforcements in the Northwest Pacific, as well as in Europe and Southwest Asia, will be improved by the additional airlift and sealift capabilities planned in the Reagan Administration's defense program. The nature of the threats to regional security demands that our allies, particularly Japan, devote the resources necessary to carry out their self-defense roles.

Our naval force requirements are potentially worldwide, because, in conjunction with our allies, we must be able to defend the sea lines of communication along which critical U.S. reinforcements and resupply travel to forward theaters. We must also be able to conduct offensive operations against enemy naval forces and facilities, should that be required after attacks are launched by them.

In order to meet commitments for the forward deployment of naval forces with existing and planned resources, while maintaining personnel and fleet readiness, we have adopted a policy of "flexible operations." We continue to emphasize deployments to those areas where we have always maintained significant naval forces (the Mediterranean, the Western Pacific -- and, more recently, the Indian Ocean). But in addition we will conduct preplanned operations in other areas

as circumstances warrant, thus improving both the training for our fleet and our ability to deal with fast-breaking events.

Unfortunately, the limited defense budgets of the last decade left us with serious deficiencies in our conventional force posture and in our ability to meet the requirements outlined above. Moreover, the conventional force plans we inherited for the next decade were inadequate for the rebuilding task we confronted. The FY 1982 budget and associated five-year plan of the previous Administration were not only inadequate, but were also grossly underfunded and could not have been carried out as planned. A host of much-needed modernization programs had been stretched in order to fit within the fiscal constraints imposed on defense. Many procurement programs were budgeted at extremely inefficient rates, and some production lines were even scheduled for temporary shutdown, to be followed by a costly restart in later years. Weapon development programs had also been stretched, often delaying scheduled deployment dates by years. Funding for operations and maintenance likewise had declined to levels that were insufficient to support our planned forces at reasonable tempos of operation. Finally, military compensation had fallen far behind private sector pay levels, threatening to weaken seriously the all-volunteer force.

1. Readiness

In correcting these inherited deficiencies, we must strike a careful balance between the need to make long-term improvements in our defense posture and strategy, and the need to be prepared to deter aggression in the immediate future. Should deterrence fail, our armed forces must be able to fight immediately. If we have -- and are perceived to have -- this capability, deterrence will be strengthened, making aggression less likely. Therefore, our highest priority is to improve the readiness of our existing forces.

When this Administration took office, we found that the prolonged period of inadequate defense budgets had led to a cumulative underfunding of those elements that determine the readiness of our armed forces -- adequate manning and training, maintenance, supplies of spare parts, and ammunition. We immediately recommended to the Congress, and received, substantial increases in the funds devoted to the readiness of our forces. Readiness funding was increased by \$3 billion for FY 1981 and by \$9 billion for FY 1982. Total readiness funding, defined in the broadest sense to include materiel readiness, manpower, facilities, and other support, increased in real terms (constant FY 1983 dollars) by 8.9% in FY 1981, by 9.1% in FY 1982, and will continue to grow in FY 1983 and FY 1984. We made similar requests to increase funding for peacetime materiel readiness (including equipment maintenance and modification, spares, force operations, and other logistic support). We requested from Congress and received increases of 14.5% in FY 1981 and 14.1% in FY 1982, and funding for materiel readiness will be further increased in FY 1983 and FY 1984. As we make real progress toward achieving our first priority of improving readiness, we can also reduce the rate of funding increases for this priority.

Qualified personnel are another essential element of readiness. Upon entering office, we found the U.S. ability to attract and retain qualified men and women had suffered severely because of past military pay practices. Not only were our service members being called upon to make difficult sacrifices in pay, but the other

benefits available to them -- cost-of-living allowances for personnel stationed overseas, for example, and compensation for duty-related travel -- had failed to keep pace with rising costs. As a result, we were faced with declining recruiting rates for the high-quality people we needed and an alarming exodus of our more competent and experienced personnel. In FY 1980, for example, only 55% of all eligible service members chose to reenlist -- and our experienced technical personnel were leaving at even higher rates.

Therefore, compensation improvements for our military personnel were one of the principal elements in our requests for the FY 1981 Supplemental and the FY 1982 Budget Amendment. This additional funding allowed an average 14.3% pay raise for military personnel in FY 1982.

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, and 86% of our non-prior-service recruits were high school graduates, up from 68% in FY 1980. Retention showed similar gains, with almost 70% of all eligible personnel choosing to reenlist in FY 1982, compared to only 55% two years earlier. Indeed, the revitalization of our all-volunteer force is one of the earliest and best successes of the Reagan defense program, a reflection not just of better pay and benefits, but also of recognition by our servicemen and women that it is once again an honor to wear a uniform.

It is this success that makes it feasible to ask our military personnel to join all other recipients of government payment in a common sacrifice by forgoing the annual cost-of-living pay raise in FY 1984. By doing so, they contribute along with all other government employees and beneficiaries to the important national goal of reducing near-term budget deficits.

We know that this may cause recruiting and retention to suffer. Our analytical models tell us this may be the case. If recruiting and retention become adversely affected to the point that the readiness of our forces will suffer, I will immediately seek to increase military pay to offset that effect. In any event, I will seek to repay this sacrifice to our military with a catch-up pay raise in the FY 1985 budget. The Administration remains fully committed to fair and equitable military pay that will, in the long run, be competitive with pay levels in the private sector.

The FY 1981 Supplemental and FY 1982 Budget Amendment requests also permitted us to acquire a wide variety of equipment and supplies that could be deployed quickly. Examples include ammunition and spare parts, new camouflage uniforms and gear, trucks and other vehicles, chemical-protection clothing, and medical equipment. These items will be entering the inventory over the next year.

As a result of our efforts, the readiness of our forces has already improved across the board. The number of fully or substantially ready major active units has increased by almost one-third during the term of this Administration. The Air Force tactical fighter and attack force has increased its proportion of "mission-capable" aircraft from 62% in FY 1980 to 66% in FY 1982. Navy ship and aircraft readiness is also improving. The number of ships considered "command-operationally ready" grew significantly from

November 1980 to 1982, while naval aviation squadron readiness showed a similar pattern of improvement.

We are also realizing good results from major maintenance activities. For example, the Navy is progressing with new procedures for efficient ship overhaul and maintenance. By performing some additional work during brief in-port periods between deployments, the Navy is significantly extending the interval between major overhauls.

If we are to take advantage of the equipment and people in the force, training is essential; and we are making important improvements here as well. For example, the aircrews for Air Force tactical fighter and attack aircraft will average about 20 hours' training per month in FY 1984, compared to an average of just over 17 hours per month in FY 1982 and only 13 hours per month in FY 1978. We consider that a force-wide average of 20 hours is close to satisfactory (although the actual rate achieved will vary by aircraft type, mission assigned, and other factors). If peacetime training is to be effective, we must simulate a realistic combat environment. To do so, we are installing modern instrumentation and support equipment on our training ranges. The National Training Center at Fort Irwin, California, is but one example of a much-needed capability for conducting realistic, large-scale, two-sided combat training exercises.

Finally, the history of warfare has shown us that the nation that can most rapidly generate its military power, bring it to bear effectively, and then fully sustain it, stands the best chance of winning. Credible deterrence or successful war prosecution is therefore inextricably linked to the readiness of not only our Active, but also our Reserve Component forces. Adequately manned, equipped, and trained Reserve Component units are important to the revitalization of our conventional might. We have taken steps to raise the readiness of our Reserve Components so that we can now plan to include reserve units -- combat, combat support, and combat service support -- in our earliest deployments.

2. Sustainability

Another major problem inherited from the last decade was the deterioration in sustainability -- the ability of our forces to continue fighting in the event of a prolonged conventional war. Stocks of spare parts and munitions had been at precariously low levels for years. The dangers of this situation became all the more apparent as evidence mounted of the Warsaw Pact's ability to conduct high-intensity, non-nuclear warfare beyond the first weeks of combat.

Therefore, in addition to budgeting for improvements in readiness, we also had to increase the sustainability of our forces. Sustainability depends on replacement equipment, spare parts, ammunition, fuel, and other essential consumables; but it also requires manpower to maintain combat strength in the course of a campaign.

We have come to grips with the dangerous deficiencies we inherited in the level of stocks of supplies and ammunition needed to sustain our forces in combat. During the past two years, we have taken the first steps toward a goal of matching the Soviets' ability to conduct sustained combat. Our FY 1982 Budget Amendment contained \$3 billion in additional funding for these accounts, representing roughly a 30% increase over the Carter Administration's FY 1982 request for sustainability funding. The FY 1983 budget continued

that emphasis, requesting 50% more funding, in real terms, than the previous Administration had planned. Thanks largely to these increases, the number of days of munitions supply in 1983 will be about 10% higher than under the plan of the previous Administration and supplies of spares and other consumables will also be greater.

The FY 1984 budget contains about \$12 billion to support major sustainability improvements. When the materiel funded by the FY 1984 budget is delivered -- about two years after it is funded -- we will have increased our ability to sustain combat by about 25% over the level we inherited.

3. Modernization

When this Administration took office, we found that the capability of our conventional forces to adapt to the demands of modern warfare had been badly neglected, calling into doubt our ability to protect critical U.S. interests around the world now and in the future. An independent estimate indicated that our defense "capital stock" -- the value of all our equipment and supplies on hand -- had fallen by one-sixth during the decade of the 1970s. Many of our combat units suffered from severe equipment shortfalls -- in armored personnel carriers, aircraft, and ships -- or were equipped with obsolete hardware. The Joint Chiefs of Staff and other authorities warned of a "hollow" Army, a shrinking Navy, and an aging Air Force. Our deteriorating equipment situation was compounded by the Soviet Union's emphasis on building greater numbers of increasingly more capable modern weapons.

During the past two years we have taken steps to reverse that trend, and we are beginning to see more, and newer, equipment come into our forces. During our first year in office, we moved promptly to restore funding for several needed systems that would, in effect, have been terminated under the plan of the previous Administration, including the Army's M88 recovery vehicle, the Air Force's KC-10 aircraft, and the Navy's amphibious lift ships. We also found it necessary to increase funding for several other procurement programs that had been budgeted at low and inefficient (and thus more expensive) rates: the Army's M-1 tank and AH-64 attack helicopter, the Navy's EA-6B and F-14 aircraft, and the Air Force's F-15 aircraft.

We have begun to procure additional quantities of weapon systems and support equipment for our ground forces, which were particularly hard hit by the diversion of resources in the 1960s and by the spending cuts of the 1970s. For example, the Army has embarked on the most extensive modernization and equipping effort in its history. Compared to the last plan of the Carter Administration, ground forces will get about 50% more Bradley fighting vehicles and 25% more attack helicopters, to cite only two cogent examples. Although these procurement plans will not expand Army force levels, they will go a long way toward eradicating the most serious of the Army's equipment problems.

We have also placed heavy emphasis on bolstering the capabilities of our sea- and land-based tactical air forces. These forces are an integral component of our forward defense strategy, providing a means to react flexibly to ambiguous warning, deploy rapidly to distant regions, and deliver considerable firepower in support of outnumbered ground forces. They have an ability to respond rapidly across a combat theater to sudden changes in the ground

battle situation, further enhancing the flexibility of our forces. To ensure the continued effectiveness of our sea- and land-based tactical air forces in the face of the growing Soviet threat, we found it necessary both to accelerate the pace of previous modernization plans and to make a modest increase in force levels. Compared to the previous Administration's projections, our modernization program will procure approximately 60% more tactical aircraft during the next five years. This will permit about a 15% increase in the Air Force's fighter attack aircraft inventory, while reducing the average age of our force below the previously planned levels. We have also provided for about a 10% increase in Navy and Marine corps fighter/attack forces, while reducing the average age of the aircraft inventories by more than half a year from the planned level. Thus, our program will not only accommodate a modest force expansion but, equally important, will prevent a disturbing increase in the age of our air forces.

We have likewise taken major steps to modernize and expand our strategic mobility capability -- adding to our airlift and sea-lift forces, and prepositioning more equipment and supplies abroad. These improvements are aimed at providing a credible capability to meet our widespread overseas commitments. One of our major initiatives has been a decision to increase our outsized strategic airlift capability by procuring additional C-5 aircraft. Other initiatives include programs to provide fast sealift capabilities through the acquisition and conversion of SL-7 fast container ships, and to expand maritime prepositioning levels through the construction and conversion of maritime prepositioning ships (TAKX).

The most significant force expansion we propose centers on the Navy. We requested in the FY 1983 budget -- and the Congress has now voted -- funds for two new nuclear-powered carriers, which will allow us to replace aging MIDWAY-class carriers by the early 1990s. By ordering the two new carriers together, we can save \$750 million from what they would have cost us separately, and we can expect delivery about two years sooner. Without these additions, for which the Carter Administration had no plan, the Navy could not have sustained a force any larger than the 12 deployable carrier battle groups we inherited.

Our plans will also more than double the previous Administration's planned production rate for attack submarines, permitting both the replacement of aging vessels and a small force increase.

We have also developed a plan and committed the necessary funding for a program to modernize our amphibious fleet. Without this additional ship procurement, our capability to lift amphibious forces would actually have started to decline in the early 1990s. Our program gives us a good start toward countering the block obsolescence problem that threatens our amphibious lift shipping in the next decade.

These initiatives have put us back on the road to restoring our conventional force strength by modernizing our non-nuclear general purpose forces -- ground, naval, and air. Because of the need to maintain a balance in overall capability, however, the pace of our procurement effort must necessarily be slower than would otherwise be desirable, given the substantial demands our military forces must be prepared to meet in the near term. But modernization also means making better use of what we have to adapt to current and future threats. Product improvement, fitting older platforms with new

munitions, and advancing the most promising technologies are all important aspects of building a force that is truly modern, as opposed to just being "new."

4. Role of New Technology in Modernization

To ensure that we get the best return from our scarce modernization dollars, we must exploit all the cost-effective technology available to us. Today, we and our allies stand at the threshold of substantial improvements in the capabilities of our conventional forces and weapon systems -- if we can develop weapons that prove reliable in "real world" conditions, and if we can develop innovative tactics to take advantage of new or improved technology.

The various technologies have not all reached equal levels of maturity, so the actual improvement in capabilities is likely to be gradual. To make progress during this decade, therefore, we must overcome the penchant to forgo the acquisition of currently available capabilities in search of even better technological advances in the distant future.

Much remains to be done in the realm of modernization, especially in regard to ordnance in the broadest sense of the term -- that is to say, the "payloads" (the missiles, bombs, and ammunition) that ultimately justify our investment in the "platforms" (the aircraft, ships, and tanks available now). Although the failure to procure modern ordnance resulted largely from the extremely tight budgets of the 1970s, there may also have been an institutional bias favoring the acquisition of "platforms" at the expense of ordnance. To promote a more rapid adaptation and fielding of modern ordnance, two senior-level units have been set up in the Office of the Secretary of Defense to work actively with the Services.

Improved types of munitions can bring movable and mobile targets under more effective attack at extended ranges. Area-distributed submunition warheads under development can provide improved capabilities for attacking discrete targets such as personnel, trucks and other light vehicles, armored tracked vehicles, surface-to-air missile sites, and mobile command posts. In addition, a number of area-distributed mines are becoming available for use in restricting the enemy's maneuver or channeling his movement.

While we may be able to field an increasing number of weapons with these unguided submunitions within the decade, we must also continue to explore technologies using standoff target acquisition sensors and autonomous guidance capabilities. Together with the development of specially designed conventional warheads, this could permit the early targeting of important chokepoints along an enemy's line of communications, such as bridges, tunnels, and railheads. Such interdiction can lead to the bunching up of major forces, creating more vulnerable targets for area-coverage munitions, and disrupting the enemy's timetable for his advance. At the same time, we may be able to improve our ability to attack mobile targets with new sensors that can locate and identify targets at significantly greater distances (100km or more).

Our strategy for coping with future developments in conventional warfare, however, must not rely on technical means alone. We must seek to encourage our combat personnel to take the initiative in developing new concepts to employ our forces as skillfully as

possible. We are developing improved procedures for cooperation between land-based airborne warning and surveillance systems and land-based fighter aircraft and naval forces. In addition, we seek to strengthen our cooperation with allied and friendly forces.

5. Recent Military Events and Our Defense Program

The conflict in the South Atlantic between the United Kingdom and Argentina, and the recent combat in Lebanon, could have some significant implications for defense policy and the defense program. A number of lessons have begun to emerge from our examination of these conflicts.

One larger lesson of the war in the Falklands should not be lost. We have been taught again that an adequate deterrent is far less costly than the war the failure to deter might cause.

The British had stationed very small forces in the South Atlantic for a number of years, including an ice-patrol ship with limited military capability. The events of 1982 showed that these force levels, while perhaps adequate to deter low-level incidents, were insufficient to deter full-scale invasions. From hindsight, it is now recognized that an adequate deterrent would have been far less expensive -- even if kept up for decades -- than the war caused by the failure to deter. It goes without saying that the value of the human lives saved by successfully deterring conflict is incalculable.

In addition to this broader policy lesson, several lessons for military tactics and weapon systems begin to emerge from the recent conflicts in the South Atlantic and in Lebanon.

Human Factors -- The military success of the Israelis in Lebanon and the British in the Falklands must be accounted for on a much broader basis than just equipment performance. The Israelis and the British prevailed because of the quality of their manpower and leadership at all levels; through their thorough planning, superior training, and high-quality intelligence capabilities; and through their ability to conduct coordinated and cohesive combined operations.

We believe the results of the South Atlantic and Lebanon fighting confirm our emphasis on high peacetime activity levels (e.g., flying hours and steaming days) and realistic training. In contrast, the Soviets and their allies operate at well below the U.S. activity level. We believe we retain potential critical advantages over the Warsaw Pact in these areas.

The importance, too, of the morale and motivation of individual combatants cannot be overestimated. Many examples remind us of the central nature of the human element in combat. They suggest that no matter how modern the technology, the most important single factor for the future, as it always has been in the past, is the men and women who will bear the brunt of the action, their training, the strength of their leaders, and the morale of the nation they defend.

Early Warning of Air Attack -- The battles in the South Atlantic and in Lebanon proved the importance of early warning of air attack. The British lacked such warning and were forced to use picket ships in a defense warning role. Of the six ships that the United Kingdom lost, several were lost as a direct result of their picket duties.

Israel's use of airborne early warning aircraft contributed significantly to its spectacular successes against Syrian air defenses.

Logistics -- Few factors affect the outcome of combat quite as dramatically as the ability to move forces into the battle area and to sustain them once engaged. Although the Israelis were not troubled by the long supply lines with which the British had to contend, both nations used far more war consumables -- food, fuel, tires, ammunition -- than they had planned. Argentina, too, was fighting at the limits of the combat radius of its fighter aircraft and had to resupply troops under difficult conditions. At least part of the British success resulted from the ability to requisition (or charter), convert as necessary, crew, and load over 50 merchant ships in a very short time. We must ensure that the U.S. has a similar maritime support capability.

Weapons Performance and Tactics -- These limited conflicts demonstrated the decisive effectiveness of high-technology weapons. The success of the Israeli Air Force in defeating Syrian MiG-21s and MiG-23s with F-15s and F-16s, and the performance of the AIM-9 series of air-to-air missiles in both conflicts, has confirmed the design concepts of these systems. The British also demonstrated the flexibility of V/STOL aircraft in combat as the FRS-1 Sea Harriers and GR-3 Ground Attack Harriers flew over 1,300 sorties and had an availability rate of 80 to 90%.

Equally striking is the importance of real-time reconnaissance capabilities in support of combat operations. The Israelis, for example, using remotely piloted vehicles to spoof and photograph Syrian SAM concentrations and to provide real-time intelligence, succeeded in destroying most Syrian SAM sites. We hope to improve our SAM suppression capabilities through greater understanding of such tactics.

Arms Transfer and Proliferation of Technology -- The apparent success of many high-technology weapons in both conflicts can be expected to heighten the demand for such arms in less-industrialized countries. This could result in more situations in which combatants face one another with the same weapons, or it could create situations in which we and our allies face Soviet as well as Western weaponry. For example, in the South Atlantic, the Exocet, SeaCat, SeaDart, and Blowpipe missiles, as well as some infantry weapons, were used by both the British and the Argentine forces.

A Note of Caution -- In looking at the conflicts in the South Atlantic and in Lebanon, we must recognize that the scale of conflict, weapon technology, training of combatants, and force employment concepts will in all likelihood not be replicated at another time and place. We are particularly conscious of the fact that the battle in the South Atlantic did not resemble at all what our NATO navies would have to expect from the more sophisticated Soviet threat. Similarly, in Lebanon, although the Syrians possessed much modern equipment, they were neither equipped, trained, nor led as well as we would expect Warsaw Pact troops to be in a Central European conflict. For these reasons we have exercised caution in drawing lessons for our defense policies and programs.

E. THE ROLE OF NUCLEAR WEAPONS IN STRATEGY

1. A Viable Deterrence Policy: Lessening Dependence on Nuclear Weapons

In the wake of World War II, the United States and the Western democracies developed a policy intended to prevent any recurrence of the tremendous carnage and devastation which the war had caused. To that end, the United States made clear that it would use its atomic weapons not for conquest or coercion, but for discouraging -- for detering -- aggression and attack against ourselves and our allies.

Today, deterrence remains -- as it has for the past 37 years -- the cornerstone of our strategic nuclear policy. To deter successfully, we must be able -- and must be seen to be able -- to respond to any potential aggression in such a manner that the costs we will exact will substantially exceed any gains the aggressor might hope to achieve. We, for our part, are under no illusions about the dangers of a nuclear war between the major powers; we believe that neither side could win such a war. But this recognition on our part is not sufficient to prevent the outbreak of nuclear war; it is essential that the Soviet leadership understand this as well. We must make sure that the Soviet leadership, in calculating the risks of aggression, recognizes that because of our retaliatory capability, there can be no circumstance in which it could benefit by beginning a nuclear war at any level or of any duration. If the Soviets recognize that our forces can and will deny them their objectives at whatever level of nuclear conflict they contemplate and, in addition, that such a conflict could lead to the destruction of those political, military, and economic assets that they value most highly, then deterrence is effective and the risk of war diminished. It is this outcome we seek to achieve.

2. The Evolution of U.S. Nuclear Policy

During the late 1940s and early 1950s, America's virtual monopoly of intercontinental nuclear systems meant that our requirements for conventional war were relatively small. The Soviet Union understood that, under our policy of "massive retaliation," we might respond to a Soviet conventional attack on the U.S. or our allies with an atomic attack on the USSR. As the 1950s ended, however, the Soviets began developing and acquiring long-range nuclear capabilities. As their 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 not a stable deterrent. Accordingly, in the 1960s the U.S. and the NATO allies adopted the concept of "flexible response." This concept had two goals: first, U.S. nuclear planning was modified in order to provide the President with the option of using nuclear forces selectively (rather than massively), thereby restoring credibility and stability to our nuclear deterrent. Additionally, the United States and the allies hoped that by improving conventional forces, they would reduce reliance on nuclear weapons to deter or cope with non-nuclear attack. Unfortunately, neither we nor our allies ever fully met this key goal. Thus, with our present effort to increase our conventional strength, the Reagan Administration is essentially trying to secure a long-established but elusive goal of American policy.

The greater urgency with which we have approached this long-standing policy goal stems from two incontrovertible facts. First, despite the improved conventional force posture that the flexible response doctrine prompted NATO to undertake, the Alliance has continued to rely heavily on a nuclear response. Second, the Warsaw Pact has meanwhile strengthened its non-nuclear as well as its nuclear forces to a far greater extent than has NATO, even after "flexible response" was accepted as our doctrine.

Even if we ignored the direct and indirect role of nuclear forces in deterring conventional offense (for example, by compelling the dispersal of the enemy's forces and thus reducing their effectiveness), the United States would still have to maintain nuclear forces to deter nuclear attack on itself. We must also deter nuclear attack on our allies, most of whom have no nuclear weapons of their own.

While we work toward ensuring deterrence, we need to think about and plan against possible failures of deterrence. If deterrence should fail, we cannot predict the nature of a Soviet nuclear strike nor assure with any certainty that what may have started out as a limited Soviet attack would remain confined at that level. Nevertheless, we must plan for flexibility in our forces and in our response options so that there will be the possibility of terminating the conflict and re-establishing 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. Appendix A contains excerpts from Annual Defense Reports over the past 20 years that demonstrate clearly the continuity in the doctrine of "flexible response."

The past decades have taught us two central lessons with regard to implementing our nuclear policy, lessons that we must continue to take into account in the years ahead:

- First, for our retaliatory threat to be seen as credible, we must be able -- and be seen to have the means -- to respond appropriately to a wide range of aggressive actions. If our threatened response is perceived as inadequate or contrary to our national interest, it will be judged to be a bluff;
- Second, deterrence is a dynamic effort, not a static one. In order to continue to deter successfully, our capabilities must change as the threat changes.

It is useful to recall how the nuclear forces have changed over time:

By the early 1960s, the U.S. had over 7,000 strategic nuclear weapons, most of which were carried by B-47s and the then-new B-52s. The Soviet Union had fewer than 500 strategic warheads. Throughout the 1960s, our nuclear posture presented the Soviet Union with a compelling deterrent if it considered launching a nuclear strike against the United States: because of the relatively small number of weapons the Soviet Union possessed and their ineffectiveness against any U.S. strategic forces, such an attack was impossible to

execute successfully. If the Soviet planner targeted our missile silos and alert bomber bases with the systems he then possessed, he found that he would deplete his nuclear arsenal while not significantly reducing U.S. retaliatory forces. In other words, his ability to limit the certain, massive retaliatory destruction of his own forces and assets was rather small. If, on the other hand, the Soviet planner targeted U.S. cities, he would have to expect a U.S. retaliatory strike against his own cities, a strike by a U.S. arsenal considerably larger and much more capable than his own, by any measure. Again, he was deterred.

During the course of the 1970s the Soviet arsenal grew both in quantity and in quality (although the U.S. qualitative edge remained). The Soviets expanded their land-based missile force and hardened their protective silos, and continued the improvement of their defenses against air attack. At the same time, the United States made a choice to restrict its improvements to the yield and accuracy of its own missile forces so as not to threaten the Soviet Union with a sudden, disarming first strike. The net result of this was to allow the Soviet Union a "sanctuary" for its ICBM force, since U.S. forces by now could not attack them effectively. The Soviets, however, did not follow our self-imposed restraint. They developed a new generation of ICBMs specifically designed to destroy U.S. missile silos, which were hardened far less than Soviet silos, and the B-52 bases. By the late 1970s, this combination of vulnerable U.S. missiles and a Soviet missile "sanctuary" had reduced the effectiveness of our earlier deterrent and eased the problems of the Soviet war planners. Now, the Soviets could 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.

Keeping our strategic missiles and bombers adequately protected in the face of changing enemy offensive and defensive capabilities has, therefore, required continuing adaptation, as was recognized in practice by previous Administrations. For example, previous Presidents and Secretaries of Defense began programs to equip the B-52 with cruise missiles to aid in the problem of penetrating the increasingly formidable Soviet air defenses. This Administration, recognizing that an improved penetration capability is vital to the bomber leg of the Triad, reversed the previous Administration's decision to cancel the B-1, and successfully urged the Congress to authorize the B-1B bomber, which will be able to penetrate Soviet air defenses after the B-52 cannot. We are also pursuing development of a Stealth Bomber, which will be even more effective long after the useful life of the B-1B.

The B-1B will be able to escape from its bases quickly and so be far less vulnerable to destruction on the ground than the B-52. It will also be able to penetrate the vastly improved Soviet air defenses, which soon will be able to deny reliable penetration to the B-52s. The Stealth bomber should be able to continue this penetration even more effectively and for a far longer period.

To take advantage of the current ability of the sea-based leg of the Triad, our submarine systems, to elude attack, we will be deploying the Trident II submarine-launched ballistic missile and the Tomahawk sea-launched cruise missile. The Trident II will give us both increased payload and improved accuracy, substantially strengthening the sea-based portion of our nuclear forces. The deployment of cruise missiles on selected attack submarines and

selected surface forces will add to the strategic reserve force, further diversifying our strategic capabilities.

The Minuteman and the Titan II land-based missiles were designed in the 1950s and installed in the 1960s, an era when our fixed missile bases, hardened by the standards of 20 years ago, were relatively safe from attack by the imprecise Soviet ballistic missiles of the time. Today, our ground-based missiles are the most vulnerable of our retaliatory forces, and we have decided to phase out the Titan II. Four Presidents, six Secretaries of Defense, and a majority of Members in many sessions of Congress have reached the conclusion that an MX missile should be deployed to modernize our ICBM force. Because of the newly developed accuracy of the Soviet missiles, largely gained by technologies they have acquired legally and illegally from us, all have had difficulty achieving the necessary consensus on a reasonably survivable mode of basing the MX ICBM. In its last session, the Congress agreed to provide R&D funds and to reserve the decision on providing production money until a basing mode has been approved.

Protecting a command, control, and communications system for nuclear forces is particularly difficult. Yet stability of deterrence in a crisis and the effective and responsible use of our nuclear forces depend on it. The Reagan Administration has therefore given highest priority to increasing the ability of our strategic force management systems not only to survive but to remain capable of performing their basic functions throughout a sustained sequence of Soviet attacks. We are also improving the performance, coverage, and endurance of our warning and attack assessment systems. These improvements, together with the strengthening of air defenses, should help remove any misperceptions in the mind of Soviet leaders that the United States could not retaliate effectively after a Soviet nuclear attack.

We cannot overemphasize the importance of a multiplicity of survivable strategic forces. Over the last 20 years, we have maintained a Triad of land-based ICBMs, manned bombers, and submarine-launched ballistic missiles as an effective means of preserving a stable deterrent. The unique characteristics of the independent and separate strategic components that make up the Triad bolster deterrence by acting in concert to complicate severely Soviet attack planning, making it more difficult, on the one hand, for them to plan and execute a successful attack on all these components and, on the other hand, to defend against their combined and complementary retaliatory effects. The Triad also acts as a hedge against a possible technological breakthrough that the Soviets might develop or obtain that could threaten the viability of any single strategic system. The importance of the Triad to deterrence is no more apparent than today, when each leg is in need of modernization.

3. Nuclear Weapons Issues

What has been said so far illustrates the complexity of the continuing task of maintaining an American nuclear force capable of surviving a Soviet attack that is aimed at destroying it. However, the maintenance of a persuasive capability to deter a Soviet nuclear attack directed solely at an ally is even more demanding. It should be most obvious in this connection that we need to be able to use force responsibly and discriminately, in a manner appropriate to the nature of a nuclear attack.

Yet, some believe that we must threaten explicitly, even solely, the mass destruction of civilians on the adversary side, thus inviting a corresponding destruction of civilian populations on our side, and that such a posture will achieve stability in deterrence. This is incorrect. Such a threat is neither moral nor prudent. The Reagan Administration's policy is that under no circumstances may such weapons be used deliberately for the purpose of destroying populations.

For this reason, we disagree with those who hold that deterrence should be based on nuclear weapons designed to destroy cities rather than military targets. Deliberately designing weapons aimed at populations is neither necessary nor sufficient for deterrence. If we are forced to retaliate and can only respond by destroying population centers, we invite the destruction of our own population. Such a deterrent strategy is hardly likely to carry conviction as a deterrent, particularly as a deterrent to nuclear -- let alone conventional -- attack on an ally.

To maintain a sound deterrent, we must make clear to our adversary that we would decisively and effectively answer his attack. To talk of actions that the U.S. Government could not, in good conscience, and in prudence, undertake tends to defeat the goal of deterrence.

Some of the same ambiguities cloud recent proposals that we abandon long-standing Alliance policy and pledge "No First Use" of nuclear weapons in response to Soviet conventional attacks in Europe. Indeed, if the Soviets thought that we would be so constrained, they might mass forces more heavily for offensive actions and gain a unilateral conventional advantage. To reduce further the prospects of nuclear war, we must strengthen NATO's conventional forces -- not exchange unenforceable and unverifiable pledges. The danger of a "No First Use" pledge remains that it could increase the chances of war and thus increase the chances of nuclear conflict.

a. A Prudent Approach to Nuclear Weapons

If we are to maintain a responsible nuclear deterrent against nuclear attacks on our allies, as well as against nuclear attacks on the United States, we will need to continue to exploit our comparative advantage in technology. The movement for a nuclear freeze has been inspired in part by the mistaken belief that the United States has been steadily piling up more and more nuclear weapons. In fact, the United States has not been accumulating more weapons. The number in our stockpile was one-third higher in 1967 than in 1980. Nor have we been accumulating more destructive weapons. The average number of kilotons per weapon has declined since the late 1950s, and the total number of megatons in our stockpile was four times as high in 1960 than in 1980. With the retirement of the Titans, this total will decline even further. Moreover, the United States has had an intensive and consistent program to improve the safety of the nuclear weapons in its stockpile against accidental detonation and its consequences, as well as to improve the security of these weapons against seizure and use by terrorists or other unauthorized persons. The weapons in our stockpile today have an average age of about 13 years. It is essential that we continue to replace them with new, safer, more secure, and less vulnerable weapons.

The various proposals for a nuclear freeze would prevent us from carrying out these programs and thus improving the safety

and the security of our weapons, reducing the vulnerability of our delivery systems in the face of increasing threats, and replacing systems as they reach the end of their service life due simply to their age. Such proposals, hence, would reduce the stability of our deterrent against both "accidents" and deliberate destruction.

b. Linkage Between "Strategic" and "Non-Strategic" Nuclear Forces

To enhance deterrence of Soviet conventional and nuclear attack against our NATO allies, we have for many years stationed substantial nuclear forces in Europe. Many of the delivery systems are equipped with dual-capable systems, which can use both conventional and -- with proper authorization from the President and in consultation with the allies -- nuclear weapons. These forces deter by providing both a significant combat potential (thereby denying potential Soviet hopes of a quick victory) and a clear linkage of the American strategic nuclear systems, which are NATO's ultimate deterrent force, to the defense of Europe.

The purpose of our non-strategic nuclear forces in Europe is to deter Soviet nuclear and major conventional attack on our NATO allies. This deterrence is founded on NATO's ability to retaliate against the Soviet Union from Europe, and on a clear Soviet understanding of the certainty that a conventional/nuclear war in Europe risks engagement of the central nuclear systems of the United States. All of our nuclear forces are governed by a single coherent policy that governs the linkage among our conventional, non-strategic nuclear, and strategic nuclear forces. There is no separate U.S. policy for non-strategic nuclear weapons.

In the past five years, Soviet deployments of SS-20 missiles targeted on Europe have posed a grave threat to the credibility of NATO's deterrent posture in the context of the overall Soviet force buildup. The SS-20 missile force, along with other Soviet intermediate-range nuclear forces that can reach Europe but not the United States, could give the Soviet Union meaningful coercive power in peace or in a crisis, and preclude the Alliance from achieving its objectives in the event of war.

Over the past decades the Soviet Union has sought, through both propaganda and diplomacy, to shatter the strategic unity of the NATO Alliance. A primary purpose of this effort has been to force the removal of U.S. forces, nuclear and conventional, from Europe. This would leave our European allies exposed to threats by forces of the Soviet Union, both those based in Eastern Europe and those based on Soviet territory; it would also break the linkage between the U.S. strategic deterrent force and the defense of the European members of NATO. In fact, the purpose of the close relationship between U.S. "strategic" forces and the U.S. nuclear forces deployed in Europe is to dissuade the Soviets from believing that they might be able to conduct a nuclear war in Europe from a sanctuary in the USSR.

One of the principal ploys used by the Soviet leadership in its propaganda campaign is turning facts on their head and asserting that the U.S. intends to fight a "limited nuclear war" in Europe. Nothing could be further from the truth. We recognize that the use of any nuclear weapon -- whether "tactical" or intercontinental -- would represent a most fundamental change in the nature of warfare.

The very purpose of our effort to strengthen conventional forces is to prevent a situation in which it would become necessary to use nuclear weapons to stop a conventional attack. If it is clear to the Soviets that a conventional assault by them cannot produce a victory, either through a quick campaign or by outlasting NATO in a conventional conflict they would try to prolong, then no rational Soviet planner would launch such an assault in the first place. But we cannot allow our security to rest entirely on the calculations of a Soviet planner as to whether he can successfully attack and invade NATO Europe with his conventional military power. As a result, in addition to our conventional modernization and sustainability programs, the nuclear option remains an important element in deterring Soviet attack. If the Soviet leadership is aware that NATO, if attacked, will employ, if required, all means necessary to defend itself and prevent the USSR from achieving its war aims, then deterrence is strengthened and the chances of both conventional and nuclear war are reduced.

c. Nuclear Arms Control

It is the objective of the United States to maintain the lowest level of armaments compatible with the preservation of our, and our allies', security. While President Reagan is forced by the Soviet threat to pursue a force augmentation and modernization program, he has also undertaken a serious effort designed to reduce armaments through negotiation. In the nuclear area, the Reagan Administration took two important new arms control initiatives, on intermediate-range and strategic nuclear forces.

On intermediate-range missiles, President Reagan offered to terminate our plan to deploy ground-based cruise missiles and the Pershing II ballistic missile, if the Soviets would eliminate their SS-20, SS-4, and SS-5 missiles. In START (Strategic Arms Reduction Talks), the President proposed first-phase reductions in the most destabilizing nuclear weapons -- ballistic missiles -- by seeking ballistic missile warhead reductions to equal ceilings about one-third below current levels, and by reducing ballistic missiles to about one-half the current level. To enhance stability, he proposed that no more than one-half of those warheads be on land-based ballistic missiles. He also announced that we would seek equal ceilings on other elements of strategic nuclear forces in a second phase, including limits on aggregate ballistic missile throw-weight below current American levels. Since the Intermediate-Range Nuclear Forces (INF) and START negotiations began, the President has offered additional proposals for confidence-building measures, which aim primarily at reducing the risk that misinterpretation of the other side's activities could heighten tensions or even lead to conflict.

In seeking INF and START agreements that significantly limit nuclear arms, we will not repeat the mistakes of past negotiations. Our experience with the effects of some previous arms control agreements has not been positive. They had the effect of limiting our own forces while enabling the Soviets to continue a massive arms build-up. Despite the SALT accords, the Soviet Union has steadily increased its nuclear arsenal, making our missile forces much more vulnerable and our deterrent capability less stable and secure. ⑨

We need to emphasize that this Administration is not developing the Peacekeeper (MX) or any other weapon as a "bargaining chip." In its current loose usage, the term "bargaining chip" weapon has come to mean a weapon that is developed -- often at great cost -- for the

sole purpose of then negotiating away that very weapon. That, obviously, would be an absurd procedure.

What is true, however, is that arms control negotiations must reflect the balance of power, including the forthcoming power obtainable from weapons under development. To the extent that we do make progress in modernizing our forces, the Soviet Union has a stronger incentive to negotiate in good faith, and we thus have a better opportunity to reach agreement on the control of arms. If, as we desire, the outcome of such negotiations is an outright reduction in arms, then it might be said that we build some newer weapons only to be able to withdraw more older weapons. But that is not at all the same thing as to build costly new weapons as expendable bargaining chips. Rather, we seek to have the proper mix of modern forces to ensure a stable deterrence at reduced levels and permit arms control to complement and enhance national security.

We can never, much as we would desire it, return to the kind of world that existed before the secrets of the atom were unlocked. But we can work to ensure that nuclear weapons are never used, by maintaining the forces necessary to convince any adversary that the cost of aggression would be far higher than any possible benefit. The United States has pursued this strategy of deterrence since the dawn of the nuclear age; and since that time deterrence has preserved the peace.

The primacy of deterrence has not changed, but the conditions for ensuring it have. The Reagan Administration's strategic modernization program is designed to preserve deterrence, in the face of an evolving threat, by increasing the survivability, accuracy, and credibility of our nuclear forces, and to offer the Soviet Union an incentive for genuine arms reduction, by demonstrating our commitment to maintaining a strategic balance.

A. THE DEFENSE BUDGET

1. Introduction

The President's FY 1984 Defense Budget reflects our continued commitment to maintaining and enhancing the combat effectiveness of our military and our ability to meet the challenges of the future. The budget is based on a sound and balanced approach to the development of our military and our ability to meet the challenges of the future. The budget provides for a high priority program of research and development and for the acquisition of new weapons and equipment. The budget also provides for the maintenance and modernization of our existing weapons and equipment. The budget is a high priority program of research and development and for the acquisition of new weapons and equipment. The budget also provides for the maintenance and modernization of our existing weapons and equipment.

PART II DEFENSE RESOURCES

Current Year Dollars
 Total Obligational Authority (TOA) \$127.4 billion
 Budget Authority (BA) \$127.4 billion
 Outlays \$127.4 billion

Fiscal Year 1984 Dollars
 Total Obligational Authority (TOA) \$127.4 billion
 Budget Authority (BA) \$127.4 billion
 Outlays \$127.4 billion

- 1/ TOA represents the value of the total amount of authority available for each fiscal year, regardless of whether the authority is used. TOA could include balances available from previous fiscal years, authority, or resources available from other sources.
- 2/ BA represents the authorization of appropriations that is, to hire personnel or enter into contracts, or to purchase resources of funds from the Treasury. BA is the amount of authority available for obligation for use in a fiscal year. BA is provided by Congress.
- 3/ Outlays represent expenditures for the fiscal year. Outlays are charged three-quarters of FY 1984 and one-quarter of FY 1985. Budget authority, the remainder of the TOA, is provided in FY 1983 and 1984. Outlays for a given year may not become outlays until the following year.

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A. THE DEFENSE BUDGET

1. Introduction

The President's FY 1984 defense budget reflects our continued commitment to maintaining and enhancing the current operating forces of the military and to ensuring this Nation's future security. It has been developed based on an honest and realistic reassessment of our existing and long-term military capabilities in the face of a growing threat. The costs are stated clearly. It is economically productive and provides for a controlled growth rate. The management initiatives undertaken during the first two years of this Administration to ensure the efficient execution of defense plans and programs are continued and considerably strengthened. The achievement and maintenance of improved levels of readiness and sustainability continue to receive a high priority. Force modernization and expansion programs are planned to meet the ever-present and growing Soviet challenge.

This budget, shown in Table II.A.1, proposes Total Obligational Authority (TOA) of \$274.1 billion for FY 1984. The tables in Appendix B provide budget data by appropriation title and by mission area in current and constant FY 1984 dollars. The chapters in Part III of this report provide details on specific programs.

TABLE II.A.1

Department of Defense - Military Functions
(\$ Billions)

	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>
<u>Current Year Dollars</u>			
Total Obligational Authority (TOA) ^{1/}	211.4	240.5	274.1
Budget Authority (BA) ^{2/}	213.8	239.4	273.4
Outlays ^{3/}	182.9	208.9	238.6
<u>Constant FY 1984 Dollars</u>			
Total Obligational Authority (TOA)	229.2	249.3	274.1
Budget Authority (BA)	231.8	248.2	273.4
Outlays	197.6	216.4	238.6

- ^{1/} TOA represents the value of the direct defense program for each fiscal year, regardless of the sources of financing, which could include balances available from prior years, budget authority, or resources available from sale of inventory items.
- ^{2/} BA represents the authorization to incur new obligations, that is, to hire personnel or enter into contracts involving expenditures of funds from the Treasury within a specified period of time. In most cases, budget authority is provided by appropriation, but there are some exceptions. Budget authority may be available for obligation for one or several years, as specified by Congress.
- ^{3/} Outlays represent expenditures or net checks issued. Less than three-quarters of FY 1984 outlays will result from FY 1984 budget authority; the remainder will come from budget authority provided in FY 1983 and earlier years. Funds obligated in a given year may not become outlays until later years.

This request represents an increase of \$33.6 billion over FY 1983. About 25% of the increase will go to pay for inflation -- a significant component of any program cost growth. The remaining 75% of the increase will provide a balanced approach to the already established goals for strategic force modernization, readiness and sustainability, airlift and sealift enhancement, and tactical force expansion.

Operating costs represent about 52% of the DoD budget in FY 1984. This category includes our payments to military and civilian personnel and military retirees as well as allocations for maintenance and repair of equipment and for utilities, medical costs, training, petroleum and lubricants, and spare parts.

The remainder of the budget largely represents funds for investment in research and development, procurement of weapon systems, and military construction and family housing. These are the programs that suffered the most neglect following the end of the Vietnam war. Throughout the decade of the 1970s, the cumulative decline in DoD investment was more than 30% in real terms.

2. Budget Trends

Defense budgets have fluctuated significantly over time. Charts II.A.1 and II.A.2 present the trends in TOA and outlays from FY 1964 to FY 1984. In current dollars, TOA moved up sharply between FY 1965 and FY 1968 due to the war in Vietnam. This level was maintained until FY 1974, when inflation and program increases caused a modest upturn that accelerated in FY 1981.

Chart II.A.2, the constant dollar trend chart, shows quite a different picture. From the FY 1968 Vietnam peak, constant-dollar TOA declined throughout the 1970s except for a brief upturn in FY 1976 and FY 1977. The turnaround began in FY 1980 and increased appreciably from FY 1981 to FY 1984, reflecting the Administration's commitment to the revitalization of our military strength. The FY 1980-84 period marks the only time in more than 30 years that defense constant-dollar TOA has increased for more than three consecutive years.

Chart II.A.3 compares total federal outlays and DoD outlays for the last three decades. This chart presents very dramatically the shift that has occurred in the composition of the federal budget away from defense and toward non-defense activities.

Table II.A.2 shows the DoD and non-DoD shares of the federal budget as well as their relationship to the GNP for the same period. As can be seen, not only has the defense share of the total budget declined, but defense demands on the GNP have also dropped -- from the 9% level in the 1950s to a projected 6.5% in FY 1983. At the same time, the federal non-defense share of the GNP has nearly doubled.

Defense shares of selected economic aggregates, displayed in Table II.A.3, reflect the same trends.

Chart II.A.1
DEPARTMENT OF DEFENSE BUDGET TRENDS
 (CURRENT \$)

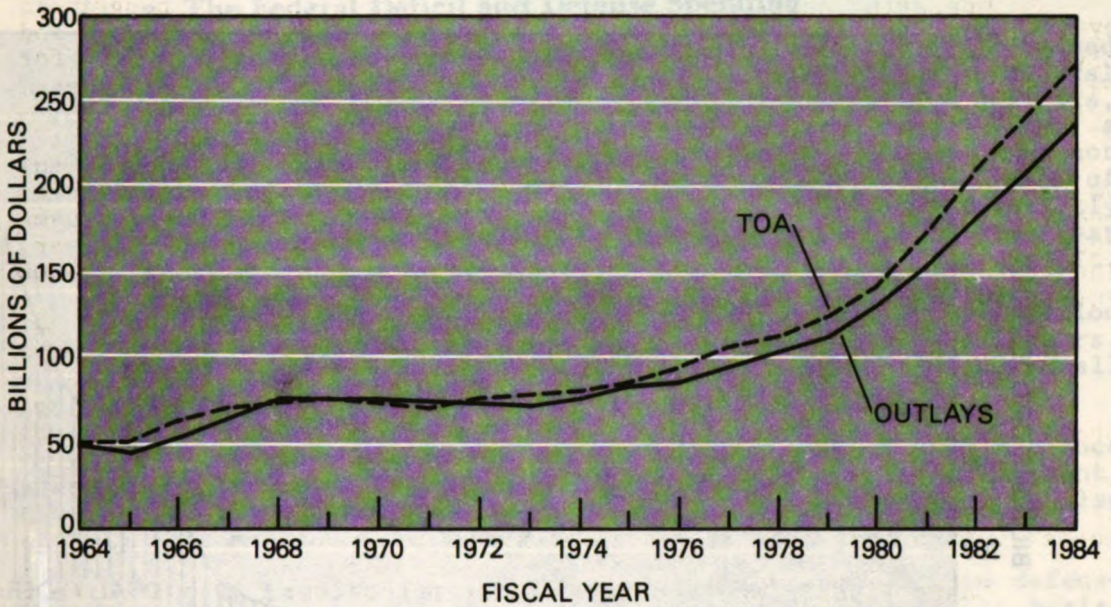
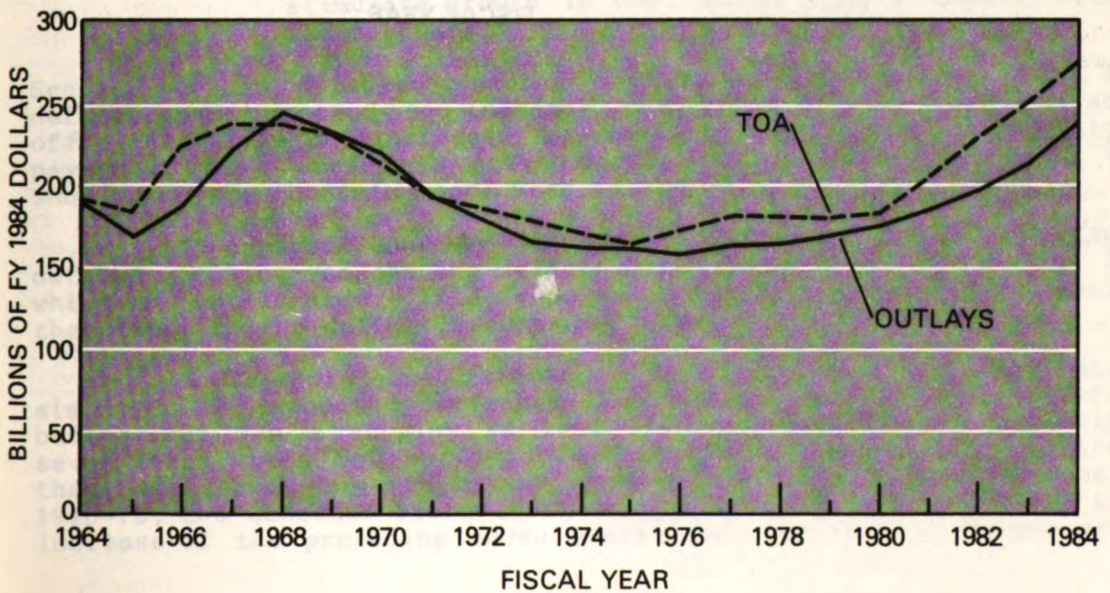
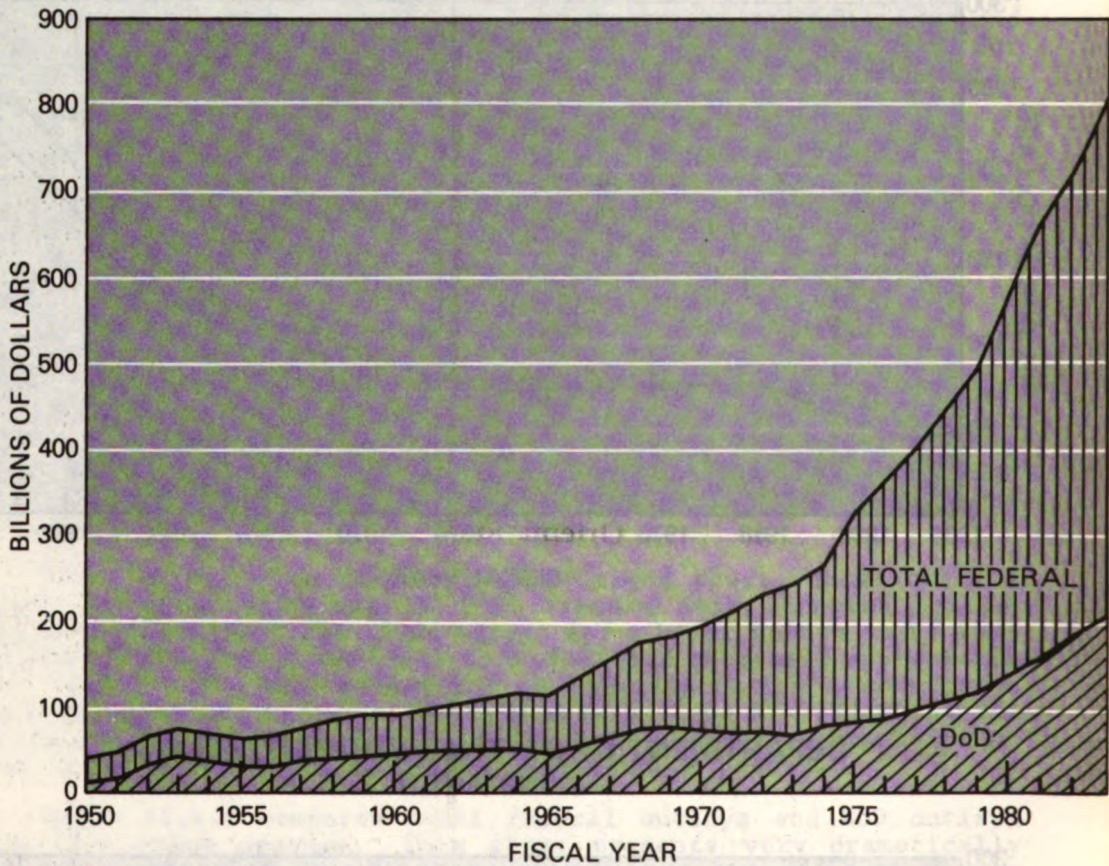


Chart II.A.2
DEPARTMENT OF DEFENSE BUDGET TRENDS
 (CONSTANT \$)



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Chart II.A.3
DoD AND TOTAL FEDERAL OUTLAYS
 (CURRENT \$)



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3. Economic Effects of Defense Spending

During the past year, DoD has used commercially available models of the U.S. economy to study economic effects of changes in the level of defense spending. The comments made here reflect the results of that work and results obtained by leading private economists.

a. The Federal Deficit and Defense Spending

Proposed defense budgets have been increasingly discussed in terms of the large federal deficits projected for the next several years. It has been argued that the size of the projected deficits, and the implications of these deficits for the economy, present a strong case for cutting defense spending. This argument does not consider the national security concerns that justify the levels of defense spending proposed by the Administration. Moreover, strictly on economic grounds, even drastic cuts in the proposed Five-Year Defense Program would not produce dramatic reductions in the deficit.

The total obligational authority (TOA) for acquisition of major weapon systems is paid out over a period of several years. Consequently, large cuts in TOA would produce only relatively small reductions in outlays in the current budget year.

Monies appropriated for pay, operations, and maintenance are paid out much more rapidly than are appropriations for procurement. But the costs of cuts in terms of readiness of our forces are also quickly felt and could be severe.

It is also important to recognize that cuts in defense spending would not reduce the deficit on a dollar-for-dollar basis. They do not for two reasons. First, and most important, cuts in defense spending tend to reduce revenues because:

- A large part of DoD expenditures becomes income to firms and individuals, some of which comes back to the government in taxes; and
- The ripple effects from defense spending tend to stimulate growth in GNP, which also increases total tax revenues.

Second, because defense spending stimulates the economy, cuts in defense spending tend to increase unemployment and therefore are offset partially by increased government unemployment compensation payments. This effect is quite small, but still large enough to show up on the economic model used in the DoD analysis.

Analysis done by DoD shows that each dollar cut from defense spending reduces the deficit by about 50 cents in the year in which the cut is made. If defense spending remains at a lower level, the effect on the deficit becomes even smaller over time.

The projected federal deficits cannot be attributed simply to the proposed increases in defense spending. The federal budget last ran a surplus in 1969. During each of the following seven years, real DoD outlays declined and by 1976 were lower than they had been in any other year since 1951. During the seven years 1970-76, the Consumer Price Index increased 47% (more than twice the increase of the preceding seven years) and the federal budget went

from a surplus of \$3.2 billion in 1969 to a \$66.4 billion deficit in 1976. In real terms, DoD outlays will be less in FY 1983 than they were in FY 1969, the year of the last budget surplus.

b. Employment Effects of Defense and Non-Defense Government Purchases

The budgets proposed by the Administration imply significant shifts in the composition of federal spending. In real terms, transfer payments remain constant over the FY 1981-85 period, while defense spending increases and "all other" spending decreases. Because of these compositional changes, there has been substantial attention paid to the question of whether DoD outlays create more -- or fewer -- civilian jobs than other forms of government spending.

Critics have argued that other government programs create more jobs per \$1 billion of outlays than does defense spending. One study has even claimed that defense spending reduces employment.

In March 1982 DoD estimated that each \$1 billion in DoD non-pay outlays creates 35,000 civilian jobs. This estimate is an average effect across different DoD budget accounts (excluding military and civilian pay and retired pay). The estimate includes:

- Direct employment by DoD prime contractors;
- Employment, below the prime contractor level, involved in production of goods and services used in production of defense goods;
- Employment involved in production of added demands for consumer goods (and their inputs) that stem from wages and salaries of individuals directly and indirectly employed in defense production.

Some parts of DoD outlays have larger employment effects than do others. For example, each \$1 billion in military pay goes to about 49,000 servicemen and women. The same is true of other major categories of government spending. Consequently, comparisons of employment multipliers for narrowly defined categories have little significance.

DoD has examined the employment effects of DoD purchases of goods and services and the employment effects of non-defense federal purchases of goods and services using the models of three leading economic forecasting firms. Each of these models projects that, in current economic circumstances, increases in defense purchases outlays increase civilian employment. Furthermore, there does not seem to be much difference in the employment effects of defense procurements and other federal government purchases. It is also worth noting that transfer payments tend to create fewer jobs than either defense or non-defense procurement since they are less stimulative to the economy than purchases of goods and services.

c. Bottlenecks

Bottlenecks are not currently a serious problem for defense production and there is a consensus among those who have studied the matter that significant bottlenecks are unlikely to occur over the next two or three years. However, some commentators have

suggested that there is a serious question as to whether substantial bottlenecks will occur in the second half of the decade.

These suggestions do not reflect detailed studies of projected defense and non-defense demands in comparison to capacity. Instead, they are grounded on a few broad considerations:

- Planned DoD procurement outlays increase more rapidly than the defense budget as a whole over the period FY 1982-87;
- There will be rapid growth in defense purchases from a relatively small number of industries in the durable goods sector; and
- By 1986, the economy will have rebounded from the current recession and will be growing.

Expressions of concern about bottlenecks that proceed from these points often imply interest in a detailed list of projected defense and non-defense demands and projected capacity to meet those demands. Assembling such a list would be a truly monumental task, but much of the information is available on a decentralized basis. In fact, it is used by decisionmakers to ensure that defense production plans are consistent with available capacity.

This is especially true of the prime and major subcontractor level of defense production. At this level, consideration of capacity is an explicit part of the acquisition and budget planning process. For example, the decision to proceed with the B-1B program involved both the establishment of a production schedule and provision (partly funded by DoD) for construction of a new plant and refurbishment of an older plant in which the B-1B will be assembled.

Those who move from the general points listed above to a concern about bottlenecks often tacitly assume that defense and non-defense demand compete for the same capacity. But this is generally not true at the prime contractor level. For example, almost all military aircraft are produced in facilities that are not used to produce civilian aircraft and that could not readily be converted to production of civilian passenger and transport aircraft. There are some examples (jet engines, for one) of final products produced for both military and civilian markets in the same plants. But these examples are distinctly exceptions, not the rule. For the more typical items of military hardware -- tanks, artillery, missiles -- the question of an overlap with civilian markets hardly arises.

Viewed against this background, it is clear that shortages of capacity at the prime contractor and major subcontractor level would be unusual.

The situation below the prime contractor level is more problematical. A detailed, exhaustive search for potential bottlenecks is not a practical possibility, as the lower tiers of the defense production process involve tens of thousands of firms and millions of products.

But we can approach the question indirectly, by recognizing the distinction between lower-tier firms that produce specialized defense goods, and industries that sell substantially the same products for defense and civilian applications. Examples of products in the

first category are some very large castings, such as ships' propellers and specialized electrical connectors. The metals industries provide characteristic examples of the second category (e.g., the same grades of refined zinc are used in defense and non-defense production).

Most industries fall into this second "non-specialized" category. Furthermore, defense demands are a small part of total sales for most of these industries. Even for the metals industries, defense and defense-related demands are characteristically only 4 to 6% of total demand. In many of these industries, the level of defense demand is projected to increase substantially over the next few years, but in view of the small share of defense demands these industries are very unlikely to be bottlenecks.

The exceptions to this statement are lower-tier producers of specialized defense goods and producers of non-specialized goods of which defense production takes a substantial share. It is only in these cases that it would be sensible to look for bottlenecks. Therefore, it is evidence on a fairly small number of industries -- and not just overall rates of growth in defense demand -- that is relevant to an evaluation of whether the defense buildup is likely to produce bottlenecks. We will continue to examine capacity and demand in these industries. While it is obviously impossible to ensure that problems will not arise in some parts of the defense production process, the information currently available does not indicate that the defense buildup will encounter or create widespread bottlenecks.

4. Price-Level Assumptions

The level of funding required to accomplish programs in FY 1984 and later is dependent on the course of inflation in the intervening years. Estimates of the future impact of inflation are prepared on the basis of guidance furnished by the Office of Management and Budget (OMB). The OMB guidance establishes aggregate inflation rates for the purchase of goods and services and the Consumer Price Index (CPI). The CPI is used for the retired pay accounts; and planned comparability pay increases, unless capped, are used for the military and civilian pay accounts. The estimated rates of inflation are applied to the required TOA on the basis of expenditure profiles characteristic of each account (e.g., Aircraft Procurement, Navy). These expenditure profiles are used to estimate the years in which the incurred obligations will be paid.

Special weapon system commodity inflation estimates were introduced in the FY 1983 budget. Data collected and published by the Department of Commerce's Bureau of Economic Analysis (BEA), as part of the official GNP statistics, indicate that inflation in nine of the commodity accounts normally exceeds inflation in the general economy. As a result, the purchasing power of those accounts had been less than intended by the Executive Branch and the Congress, and program management had been extremely difficult. The use of more accurate inflation estimates should improve program management and the execution of defense policy by moderating the too-frequent necessity to adjust planned acquisition levels in response to unanticipated cost increases.

5. Outyear Projections

Two years ago, this Administration presented a multiyear defense program based on a thorough assessment of our national security requirements. That program represented a balanced approach

for significant improvement in the readiness, sustainability, and modernization of our forces. The \$1.5 trillion budgeted for the period FY 1982-86 represented a significant increase in the allocation of budgetary resources to the national defense. This program has been adjusted several times. These adjustments, however, have been made principally due to federal fiscal constraints rather than to changes in our future needs or the threat.

The FY 1984-88 defense program, shown in Table II.A.4, represents a continuing commitment to the strengthening of our defense capabilities. This program, which totals \$1.8 trillion, is based on the inflation and pay raise assumptions discussed above.

TABLE II.A.4

DoD Military Functions
(\$ Billions)

<u>Fiscal Year</u>	<u>TOA</u>	<u>Outlays</u>
1984	274.1	238.6
1985	322.4	277.5
1986	357.2	314.9
1987	389.2	345.6
1988	425.2	377.0

This program is large, and we are well aware that it is being proposed during a period when economic conditions require constrained or reduced federal spending. However, we must not lose sight of the fact that the defense budget is most appropriately measured against the reality of the threat to our national security and our fundamental obligation to protect our basic values and institutions. That principle must govern the allocation of resources to this basic national requirement of providing for the common defense.

2. Major Management Systems Improvements
a. Strategy and Policy Formulation

We have redesigned and improved our strategic planning process to provide increased clarity in the structure and budget decisions and to ensure that our interests and objectives are fully reflected in the threat, an understanding of the current and future appraisal of our present capabilities, and the consideration of the target force. In the first year, we measured major program needs and needs, long-term cost projections, and the strategies adopted during the first year of the program.

To assist the strategic planning process, we established a Strategic Concepts Development Center at the University of Michigan. The Center performs research on a wide range of strategic issues and provides advisory services to the Secretary of Defense, the Joint Chiefs of Staff, and the Department of Defense.

B. MANAGEMENT

1. Introduction

Our continuing emphasis on major management improvements reflects our commitment to restoring our defense capabilities, for it is only through a strict adherence to sound principles of effective and efficient management that we can maximize those capabilities at an affordable cost -- one that will provide a dollar's worth of defense for each tax dollar so allocated.

The continuing foundation for attaining the goal of improved management comprises a series of programs and initiatives set in motion at the outset of this Administration, including:

- Strengthening and emphasizing long-range planning and strategic thinking in order to relate military policy and strategy more closely to the long-term and changing threat while taking full advantage of our intellectual and scientific capabilities.
- Reforming the defense planning, programming, and budgeting process to stress planning, reduce paperwork, clarify the role of central staffs and the Services, and enhance the role of the Defense Resources Board.
- Streamlining the weapon systems acquisition process by reducing costs, shortening lead times, reducing paperwork and regulations, providing more stability in long-term procurement, and strengthening our defense industries.
- Focusing high-level attention on a number of major program efforts throughout the Department to reduce costs; eliminate fraud, waste, and abuse; reduce duplication and overlap of functions; and develop better management practices.

Other actions include continuing organizational improvements, improving program efficiencies, and implementing Department-wide cost reduction actions.

2. Major Management Systems Improvements

a. Strategy and Policy Formulation

We have redesigned and greatly strengthened the strategic planning process to provide increased assurance that our major force structure and budget decisions are driven by a clear understanding of our interests and objectives, an accurate appreciation of the threat, an understanding of the world situation, and an accurate appraisal of our present capability. Expanding our perspective beyond the consideration of the funds available in any single budget year, we measure major program decisions against long-term threats and needs, long-term cost projections, and the acquisition principles adopted during the first year of this Administration.

To assist the strategic planning process, we have established a Strategic Concepts Development Center at the National Defense University. The Center performs conceptual work and provides advice on a wide range of strategic issues to the Secretary and Deputy Secretary of Defense, the Joint Chiefs of Staff (JCS), and other interested

federal officials, thereby contributing to the intellectual foundation for defense policy and strategy. We plan to continue to draw upon this resource for independent reviews, long-range planning initiatives, and special projects dealing with military strategy.

b. The Planning, Programming, and Budgeting Process

We have made significant progress in improving the DoD planning, programming, and budgeting process (PPBS) -- the major decisionmaking system in the Department. The new approach to PPBS enhances the participation of top DoD officials and Service line managers, and ensures that the military advice of the Joint Chiefs of Staff and the Commanders of the Unified and Specified Commands is heard and fully considered. Throughout the process, we emphasize centralized control of policy development and decentralized policy execution. Under this arrangement, the Service Secretaries and senior staff can concentrate on major policy questions in offering their advice and recommendations to the Deputy Secretary and me. The Services have been given greater responsibility for the day-to-day management of the resources under their control. The OSD staff provides overall technical support and major mission-oriented analyses necessary to coordinate the capabilities of all the Services and to meet the objectives identified by the President and Congress.

A major change has been the strengthening of the Defense Resources Board (DRB), the principal advisory body for the Department's program review process. We are now using the full capability of the Department to formulate policy and design programs. The DRB now includes the Service Secretaries and the Chairman of the JCS as full-time members and has direct access to the views of the Unified and Specified Commanders, which was not the case in the past. Additional professional military advice is provided by the four Service Chiefs, who are invited to all meetings at which important policy issues are to be discussed.

In the last nine months of 1981, this reconstituted DRB met 31 times to review and decide on defense policy, strategy, planning, programs, and the budget. During 1982, the DRB met on 28 separate occasions to address critical national defense issues. We are convinced that the reinvigorated DRB provides a more effective and integrated capability for formulating policy and strengthening programs.

c. Weapons Acquisition Management

Soon after taking office, we conducted a comprehensive review of the Defense Acquisition Process, with a view toward the reform of its management. The review sought to identify specific ways to reduce costs, to make the acquisition process more efficient and time-sensitive, to increase the stability of our programs, and to revitalize our defense industrial base. In April 1981, we incorporated our findings and recommendations into the DoD Acquisition Improvement Program, which was described in my report last year. This year I would like to comment on the status of initiatives in several key areas.

(1) Increasing Program Stability

(a) Topline Stability

Program instability has undermined both our modernization efforts and the long-range planning conducted by industry. Our guidance to the Services now emphasizes the need to cancel lower-priority programs in order to provide funding stability for our highest-priority programs, particularly in the outyears. Accordingly, we have established a stable program list to provide certain major production programs an extra degree of protection against fluctuations in the budget.

In addition, we have developed mechanisms to ensure that stability and other management initiatives are prominently considered in the planning, programming, and budgeting process as well as in our major system milestone reviews. One of these initiatives is designed to screen major systems new start proposals from the Services. Only 10 new starts were accepted this year, down from the 15 accepted for FY 1983.

The Department has lived with topline instability for too long. Although we are now making an effort to achieve program stability within the existing budget, it will take some time for this new way of approaching the problem to be fully implemented in our planning process.

(b) Multiyear Contracting

Multiyear contracting reduces the cost of low-risk programs already in production by providing funding for larger, more economical lot buys rather than smaller buys on an annual basis. As can be seen on Chart II.B.1, this type of contracting can produce significant dollar savings when compared to year-to-year contracting. It also can mean decreased financial borrowing costs, better use of industrial facilities, and a reduction in the effort required to place and administer contracts.

Progress has been made in implementing multiyear procurements for many of our major programs, and we may have opportunities to implement them more effectively in the future.

(2) Cost Growth Control

Another major objective of the improvement program has been to control the substantial cost growth that has occurred in our major programs. Since this kind of growth emanates from a variety of sources, a comprehensive set of solutions was required. These include:

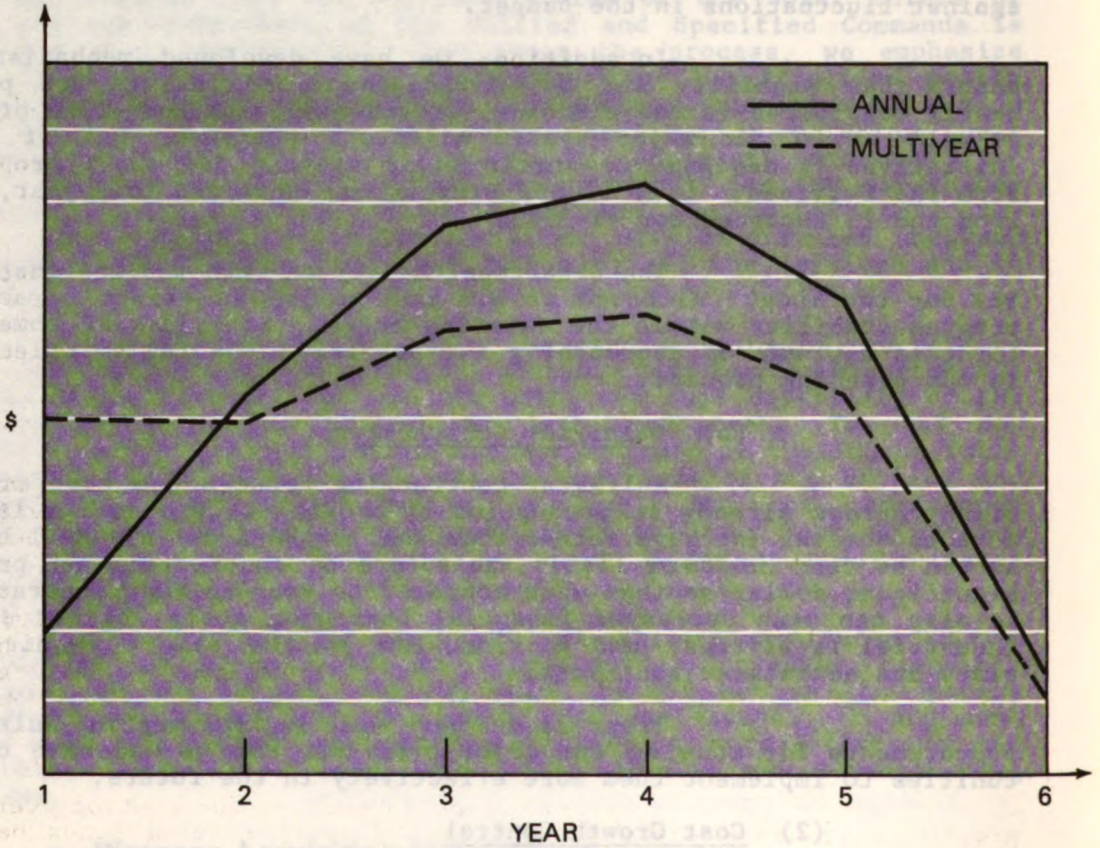
(a) Realistic Budgeting

The most significant cost growth problem we have experienced in recent years has been related to unpredicted inflation. As part of the acquisition initiatives, agreement was reached with the Office of Management and Budget to improve inflation projections for DoD acquisition programs. This initiative is described in the Budget chapter of this report.

Another contributor to the cost growth problem has been the tendency for both industry and the buyer to submit

Chart II.B.1

COMPARISON OF TYPICAL MULTIYEAR AND ANNUAL OUTLAYS FUNDING PROFILES



optimistic cost estimates for their programs. Realistic cost estimates, which take into consideration technological risk, are required before the cost growth problem can be brought under control. A major step toward this goal was taken by the DRB when it decided that the Services should use independent cost estimates in developing their program budget projections and required them either to budget the higher of the independent cost estimate or the program manager's cost estimate, or to explain their rationale for not selecting the higher estimate. This new policy will be phased in this year by each of the Services. We also routinely require the Services to provide an independent cost estimate, which is reviewed by the OSD Cost Analysis Improvement Group at each DSARC milestone.

(b) Competition

One of the most effective means to control cost growth is through competition. Accordingly, greater attention is being paid to obtaining competition in our contracting. The benefits to be derived from this practice have been recognized by all. The advantages of competition, however, should not be viewed only in terms of statistics, which can be misleading. For instance, funds placed with a second contractor can encourage the original source to resolve program problems. This was the case with funds spent to develop a potential alternative to the existing power plant in the Air Force's first-line tactical aircraft. That action is credited with having accelerated corrections to problems with the existing engine.

(c) Preplanned Product Improvement (P³I)

In making our acquisition decisions, we are often faced with a choice of deploying a system early with available technology or waiting until more advanced technology is at hand to achieve improved performance. In the former case, we court the danger of early obsolescence; in the latter, we delay the equipping of our forces in the field. Under the P³I initiative, we are striving to achieve early system deployment at an acceptable level of capability and technical risk, while retaining the growth potential to extend the system's life cycle through subsequent technological improvements.

(d) Funding Flexibility

I believe we could improve our control over cost growth if we had greater flexibility in reprogramming funds between procurement and research and development accounts. Last year, we asked Congress to grant us permission to transfer funds in a given fiscal year from the procurement to the research and development accounts, as long as the money remained within the same weapon system. Congress denied the request in our appropriations bill for FY 1983. We believe that with this authority, we could remove one of the more constraining elements in the acquisition process and will again request that this flexibility be granted. On the other hand, we have had more success in allowing for the transfer of funds. As a result of our efforts to obtain an increase in this authority, Congress agreed to raise the general transfer ceiling from \$750 million to \$1.2 billion for FY 1983. In addition, Congress has already granted us authority to increase the reprogramming threshold in military personnel and procurement appropriations from \$5 to \$10 million and in the RDT&E account from \$2 to \$4 million, which allows for greatly increased flexibility for reprogramming within the Services. This last initiative will simplify the administrative aspect of changes to programs.

(3) Improving Relations With Industry

Without the understanding and active participation of industry in the planning and implementation of the Acquisition Improvement Program, real progress will be limited. Consequently, consultation with representatives from industry has characterized the acquisition improvement process since its inception.

Many actions are currently under way or are planned to revitalize interest in doing business with DoD and to make doing business with us less burdensome and less complicated. Through a combination of positive incentives and simplified procedures, the Department can establish a more productive relationship with industry and revitalize interest in defense business.

Specific actions have also been taken to encourage capital investment by industry. For example, increased progress payments to contractors have improved the cash flow situation for business and are an important prerequisite for increased investment. We are also supporting legislation to transfer to the Office of Management and Budget the authority to revise and modify cost accounting standards. Additionally, we are developing a plan to enable more rapid depreciation of certain contractor assets under our contracts.

It is important that the Department encourage modernization of our industrial base through capital investment. This can best be achieved by providing the climate and motivation that encourage a personal and capital commitment by corporate management. To that end, we have established the Industrial Modernization Incentive Program to encourage and support industrial modernization and productivity-enhancing investments. The program will provide a focus for productivity improvement efforts by industry and government and will integrate DoD actions in areas affecting productivity.

(4) Improving Support and Readiness

This part of the Acquisition Improvement Program is designed to address the low state of readiness and sustainability of our weapons. Barriers to improving readiness and support reflect the tendency to establish priorities solely on the basis of cost, schedule, and performance objectives.

Implementation of specific initiatives to improve support and readiness has already begun. The first step is to work toward the assignment of readiness goals as design objectives in all major acquisition programs, and all three Services have made solid progress in that direction. There is a remaining need to strengthen the organizations and procedures for test and evaluation of support and for providing independent readiness assessments as inputs to acquisition reviews. These goals are being incorporated in revisions to our directives and instructions. In addition, to ensure equal emphasis with other program objectives, contract awards will also consider prior contractor performance in these areas.

(5) Implementation

During the first year of our Acquisition Improvement Program, the focus was on policy development and implementation of that policy through such means as directives and instructions. Now, it is time to move these policies down to the appropriate decisionmaking level for each initiative. In so doing, we will rely

heavily on the Service acquisition commanders who, serving as focal points for the Acquisition Improvement Program, will oversee acquisition improvement initiatives within the Services and will assist in pushing policy decisions down to the working level.

While a great deal has been accomplished during the past year and a half in improving the acquisition process, complete success in this endeavor will take time and require the continued support of industry, the Services, and Congress.

d. Secretary of Defense Performance Reviews

In June 1981, we instituted weekly performance review sessions to focus senior-level management attention on key programs and related management issues. These reviews, conducted in an informal setting, serve to apprise the Deputy Secretary and me of problems in sufficient time to let us act on them and provide timely feedback to the responsible Defense officials.

During 1982, performance reviews focused on selected major weapon systems as well as ongoing programs. Representative of the programs covered during these reviews were shipbuilding, security assistance, the cruise missile program, host nation support, and manpower planning for improved readiness.

In order to monitor the progress of two exceptionally critical programs, the Deputy Secretary and I receive biweekly reports on the B-1 bomber and the Peacekeeper missile.

e. DoD Efforts to Eliminate Waste and to Prevent and Detect Fraud and Abuse

During the past year, we have continued to strengthen the Department's audit, inspection, and investigative capabilities to eliminate waste and to prevent and detect fraud and abuse.

The position of Assistant to the Secretary of Defense for Review and Oversight (ATSD(R&O)) was created in April 1981 to coordinate the efforts of the Department's auditors, inspectors, and investigators. Since its establishment, the ATSD(R&O) has been instrumental in the following:

(1) Establishment of the Defense Criminal Investigative Service, an agency that will concentrate on the detection and prevention of fraud and other crimes within the Office of the Secretary of Defense, the Joint Chiefs of Staff, the Unified and Specified Commands, and the Defense Agencies, and those crimes that involve more than one Military Service.

(2) Development and initial testing of the Defense Investigative Management Information System for tracking significant criminal investigations by DoD as well as those referred to the Justice Department.

(3) Initiation of an oversight and review function relating to all criminal investigation matters within DoD.

(4) Revitalization of the Defense Hotline through consistent publicity and strong management support.

(5) Establishment of a unit to investigate and prosecute major fraud and corruption cases affecting procurement in the Department. The unit will initially be staffed by attorneys from the Department of Justice who will work with their counterparts from the Department of Defense.

(6) Direction of Defense Audit Service (DAS) activities. The 143 reports issued during FY 1982 contained recommendations with a potential monetary benefit of over \$760.6 million, or about \$43 for every dollar spent on audit resources. Audits of areas susceptible to fraud, waste, and mismanagement were given high priority in the planning of FY 1983 audits.

(7) Initiation of the concept of DoD-wide audits to complement existing interservice audits. These audits are performed jointly by the Defense Audit Service and the Military Service audit organizations. The DoD-wide survey of excess Defense Department real property is an example of such a joint audit effort accomplished during 1982.

(8) Direction of government-wide audits of payroll operations and government equipment in the possession of contractors, under the auspices of the President's Council on Integrity and Efficiency.

(9) Establishment of new audit resolution and follow-up procedures. During the six-month period ending 30 September 1982, 211 disputed internal audit recommendations were resolved under the system and corrective actions were completed on almost 31,000 agreed-upon audit and internal review recommendations, with savings of \$338 million.

(10) Establishment by each of the Military Services, as well as relevant Defense Agencies, of a contract audit follow-up system.

(11) Development of new procedures to emphasize the audit findings, conclusions, and recommendations in General Accounting Office reports and thereby ensure that the Department obtains maximum possible monetary and management benefits from these reports.

The role performed by the ATSD(R&O) will be assumed by the Defense Inspector General, a position created in September 1982 by Public Law 97-252.

f. Defense Council on Integrity and Management Improvement

In September 1981, we established the Defense Council on Integrity and Management Improvement. The high priority we place on the Council's work is reflected in its membership, which includes the Under Secretaries of the Army, Navy, and Air Force; the Under Secretary of Defense for Policy; the Under Secretary of Defense for Research and Engineering; the Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics; the Assistant to the Secretary of Defense for Review and Oversight; and the Executive Secretary. The Department's General Counsel and the Assistant Secretaries of Defense (Comptroller, Legislative Affairs, and Public Affairs) serve as advisors to the Council.

The Council has three primary missions:

- To identify and pursue management improvements in DoD;
- To stimulate and act as a forum for innovative ideas; and
- To ensure follow-up of the results of audit, inspection, and investigative activities.

We consider the Council to be one of our most effective vehicles for generating and sharing new ideas to improve Departmental management and for ensuring that decisions made by top management are implemented throughout the Department. In effect, the Council serves as the conduit through which we can disseminate cost-cutting recommendations to every echelon within the Department.

The Council has initiated a DoD-wide Management Improvement Program. The program is designed to:

- Encourage managers at all levels to develop, suggest, and implement innovative ideas;
- Capture the benefits of innovative ideas in existing programs; and
- Emphasize the positive steps DoD managers are taking to improve management.

During the first phase of its existence, the Council addressed topics such as the economy and efficiency programs initiated by each Military Department, the status of the Acquisition Improvement Program, management initiatives undertaken by the Defense Agencies, and improvement of our automated information systems.

During 1982, the Council entered a second and more aggressive phase when it initiated major reviews of several key management areas including:

- Material inventory accuracy;
- Disposal of surplus Defense Department property;
- Consolidation of base support activities at neighboring installations;
- Government-owned equipment and material currently in the possession of private contractors; and
- DoD health care delivery systems.

The Council's emphasis on management improvements has already led to renewed efforts in existing programs and to more rapid development of innovations in the Services and the Defense Agencies. We are confident that the climate of support for innovative management fostered by the DoD-wide management improvement effort will increasingly produce results that will benefit the entire Defense Department.

g. Organization of the Office of the Secretary of Defense

(1) Additional Assistant Secretary Positions

In 1981, we requested legislation to restore the five Assistant Secretary positions eliminated by the previous Administration in 1977. Experience has demonstrated that the elimination of those positions substantially reduced the flexibility of the Department in adapting the Office of the Secretary of Defense to this Administration's defense priorities, policies, and program emphasis. If the proposed legislation is enacted by Congress, three of the new Assistant Secretary positions will be used to strengthen the Office of the Under Secretary of Defense for Research and Engineering.

- An Assistant Secretary of Defense (Development and Support) will be established to provide increased management attention to the development of those military capabilities represented by deployed systems and equipment, and to provide an improved focus on acquisition objectives.
- An Assistant Secretary of Defense (Research and Technology) will be established to improve our approach in selecting the best technology programs to achieve and maintain a qualitative lead in deployed systems.
- The position of Deputy Under Secretary of Defense (Communications, Command, Control, and Intelligence) will be upgraded to Assistant Secretary status in response to Congress' concern that the position be afforded increased visibility and status.

The remaining two positions will be used to strengthen the Army and Navy Secretariats.

(2) Office of Management Policy

In February 1982, we established an Office of Management Policy whose Director reports directly to the Deputy Secretary and me. The office concentrates on maintaining the momentum of the management actions that we have already undertaken in the Department, working with the Services and the central staffs. By focusing on the critical problems in implementing the principles and policies of our management initiatives, the Office of Management Policy will enhance the development of new efforts and reinvigorate existing actions.

3. Other Management and Program Improvements

a. Command, Control, Communications, and Intelligence (C³I)

During the past year, we have continued a number of management initiatives to focus attention on the careful integration of weapon systems and C³I systems within a cohesive framework.

(1) In an effort to provide a comprehensive review of Service programs, OSD undertook a series of mission area assessments to identify mid-term and long-term resources required for correcting existing deficiencies and responding to the evolving threat. As a

result, program deliberations were supported by a balanced perspective of the various weapon systems and C³I systems which contribute to specific mission capabilities.

(2) To provide a long-range perspective on total system architecture, DoD has developed a number of specific master plans for system acquisition. These plans include the North American Air Defense Master Plan, the DoD Plan for Intelligence Support to Operational Commanders, and various plans for electronic warfare and other capabilities applicable to C³ countermeasures and non-strategic nuclear forces C³.

(3) These efforts were complemented by several OSD-sponsored studies (involving both industry and government participants) that addressed a wide range of issues, including NATO air defense operations, cruise missile survivability, and battlefield surveillance/target acquisition. These studies have proved useful for establishing research and development objectives, as well as for consolidating certain acquisition programs.

(4) DoD has revised its directives regarding the development of electronic warfare systems. Specifically, we have improved our approach to considering projected threats in the development cycle -- a step that will streamline our acquisition process and result in the fielding of more responsive electronic warfare systems.

(5) We have established an Executive Committee for the oversight of high-priority C³ programs. This committee consists of the Deputy Secretary of Defense and the Chairman of the Joint Chiefs of Staff, with the Under Secretary of Defense for Research and Engineering serving as secretary.

(6) We are strengthening the capability of the Organization of the Joint Chiefs of Staff (OJCS) to manage strategic and joint tactical C³ systems by improving long-range planning documents, by including comprehensive C³ guidance in the Defense Guidance, by issuing specific guidance for high-priority joint and cross-service programs, and by having the OJCS monitor Service compliance with the guidance.

(7) C³ systems management organizations are being reviewed and actions have been taken to consolidate guidance, planning, and user requirements at top management levels and to decentralize detailed program management. For example, an office has been established in the C³ Systems Directorate of the OJCS to coordinate requirements for data processing support for functions such as resources and unit monitoring and conventional planning and execution. Meanwhile, the Air Force has been designated as Executive Agent for the development of the WWMCCS Information System (WIS). The OJCS will coordinate and validate the information processing requirements of the Unified and Specified Commands. The Services and the WIS Joint Program Manager, under the Air Force, will be responsible for system development.

Other organizational realignments are under review to improve management effectiveness and efficiency and to make the organization responsible for C³ systems management more responsive to the users.

(8) In an effort to increase the influence of the operator during the early phases of our acquisition programs, we have asked the Joint Chiefs of Staff to task unified and specified commands to

work with our joint development and acquisition offices to begin early development of joint doctrine. This will ensure that, through operational evaluation, full definition of joint tactics, techniques, and procedures will be available for effective training when systems are fielded for operational use.

b. Health and Medical Activities

To make the military health care system as responsive and cost effective as possible, we have recently implemented a long-range plan to address mobilization, individual physical and mental well-being, resources management, quality assurance, and information systems. We have designed the following management systems to contain costs and to improve our capabilities to evaluate and plan for the delivery of care.

(1) The Defense Enrollment Eligibility Reporting Systems (DEERS) Program Office has completed enrollment of over nine million people in the continental United States. The data that it provides on beneficiaries will significantly improve planning for the use of resources. The program will be integrated with other key defense programs, including the new personnel identification card and the Tri-Service Medical Information System (TRIMIS).

(2) The Uniform Chart of Accounts (UCA) system collects data on workload and costs of the direct care system worldwide. This information is available for analysis and the development of a new measure of health care resource management called the "Health Care Unit (HCU)."

(3) Implementation of Uniform Staffing Methodologies (USM) began in FY 1982 and will be completed in FY 1983. The USM will provide for uniform manpower requirements determination and allocation procedures.

(4) The Data Management Information System (DMIS) integrates data from the Military Departments and defense agencies and provides a single source for the development of analyses to support health care management. The current stage of DMIS development will be completed in FY 1983, including selection and use of state-of-the-art data base management techniques.

c. Chemical Matters

The Office of the Assistant to the Secretary of Defense (Atomic Energy) has been designated the focal point for chemical matters. A deputy for chemical matters has been designated to provide overall guidance and direction for the DoD chemical warfare program. The new arrangement will ensure an integrated DoD-wide program to counter the substantial Soviet chemical warfare threat.

d. Materiel Disposal Practices

We have revised our directives and procedures to limit the premature disposal of surplus materiel. Actions have been taken to improve surplus sales and scrap operations, shipment controls, precious metals recovery and reuse, automated disposal systems, pricing of excess items for foreign military sales, and the disposal of unneeded government-owned materiel used by contractors. We have met with prospective bidders interested in buying and demilitarizing obsolete conventional ammunition and selling the residue for scrap.

This would reduce required covered storage space, and government resources would not have to be expended to demilitarize this ammunition. Cost avoidances in this area would range from \$10-\$100 million.

e. Sale of Unneeded Defense Real Estate

The Department of Defense contributes about half the excess real estate properties that the government disposes of each year. This year, we submitted lists to the Federal Property Review Board and the General Services Administration that identified 93,000 acres with an estimated value of \$740 million. Subsequently, the Board released a list of defense properties amounting to 44,500 acres that were potentially available for quick sale.

f. Management of Conventional Ammunition

We have recently strengthened the role and functions of the Single Manager for Conventional Ammunition to maximize the timely availability and ready state of conventional ammunition assets. While this change was made to enhance readiness, over \$600 million in cost avoidances have been reported through single manager initiatives during 1978-82. We are reviewing these functions further to determine if additional dollars could be saved and readiness improved by further strengthening the roles of the Single Manager for Conventional Ammunition in the acquisition, production, distribution, maintenance, and disposal of ammunition items.

g. Energy Conservation

Since the 1973 oil embargo, we have developed and funded programs to reduce the rate of growth of our energy consumption and costs. To date, over \$1 billion have been invested in facility energy conservation projects alone, resulting in almost \$400 million annual savings in energy and maintenance costs. We are reviewing projects and creating incentives which, if implemented, could save us an additional \$500 million per year.

h. Personal Property Shipping Office Consolidations

During the past year, we completed the consolidation of Personal Property Shipping Offices in the continental United States, thereby enhancing opportunities for savings and improved service in shipping the personal property of military members. Next year, we will complete plans for overseas shipping office consolidations.

i. Travel Management

We have taken several actions to reduce travel and its costs. Approximately 70% of DoD travelers are currently using discount air fares as a result of the improved visibility given these costs through the use of management reports. We have projected economies of approximately \$27.7 million through the use of the GSA/DoD Contract Air Service Program, which provides reduced air fares to government travelers on official business. In FY 1982, 18 air carriers participated in this program over 153 routes. We anticipate that the program will be expanded to cover over 400 routes in FY 1983. Also, during this next year, we plan to conduct a test of the use of travel agents at three military installations to determine if additional economies can be realized through application of their expertise in making rental car and hotel reservations and other travel arrangements.

j. Information Resources Management

We have undertaken several management initiatives intended to improve the integration of previously fragmented information resource management activities. The functions of information resources technology management, data element standardization, forms management, information analysis reports management, paperwork management, and statistical analysis have been combined into a single organization under the Assistant Secretary of Defense (Comptroller).

This organizational structure supports evolutionary transition from traditional and often disparate information resource management functions to a more integrated approach. Better coordination and integration of these functions will result in more consistent DoD information plans, policies, and procedures; improved effectiveness of information; increased information sharing, and, therefore, decreased cost of collecting and maintaining information.

4. Economies and Efficiencies

In previous announcements and in testimony before the Congress, we have indicated the increases requested for essential improvements in our Defense capabilities would be offset in part by savings resulting from our acquisition initiatives and improvements in our operations. Last March we projected savings in FY 1981-87 totaling \$52 billion. The FY 1984 budget reflects further savings from our efforts in these areas.

The largest economies are in the area of acquisition efficiencies. The largest potential for even greater economies appears to be in this area, where savings are dependent upon spending more up front in order to save more through economies of scale. These savings are only possible with the cooperation of the Congress, since Congress must authorize and appropriate the up-front funds required to achieve these projected savings.

In the area of operating economies, we estimate our greatest contribution to Defense economies and efficiencies to be in the category of administrative overhead. Savings include curtailment of administrative travel, audiovisual activities, and consulting and management support contracts. Additional operations savings and cost avoidances are projected through improvements in logistical support, productivity enhancements, and the consolidation of base support functions on a geographical basis.

5. Conclusion

We will continue to take those actions necessary to enhance the management of the Department of Defense because we are convinced that this is required if we are to earn the trust and confidence of the American taxpayer. The taxpayers will bear the cost of a sound defense establishment because they realize, as well as we, the inherent need for it. But those taxpayers rightly insist that their money be wisely and well spent, and that increases in defense funds be translated into more and better equipment, at lower unit cost.

The Services and other organizational activities in DoD have fully supported these initiatives and are moving ahead with us. I ask Congress for its full support of our efforts to improve the management of our defense establishment. The improvements we make in managing defense resources contribute directly to enhancing our national security.

Our recent success in recruiting and retaining the best and brightest of the necessary quality and quantity in our armed services has demonstrated the viability of the AVF. Through both FY 1981 and FY 1982 our armed forces have been very successful in attracting and retaining sufficient numbers of personnel; but more important than their numbers is the fact that they have been doing the most competent and well-qualified servicemen and women in the world. This success has increased Congressional support and the improved attitude toward military service, have made these gains possible. Although the current economic environment has also contributed to that success, we believe that the AVF will continue to work. For this to occur, however, it is essential that we maintain a proper level of pay, incentives, including bonuses and special pay, attention to quality of life issues, and sufficient recruiting resources.

The success our AVF has enjoyed in the past two years enables us to look to military compensation as one way to help reduce the large federal deficit and at the same time continue our program of improved military capability. Accordingly, we have asked our military people to join with all other federal employees to consider a share of this burden by forgoing a pay raise this year. It is realistic that we are asking for a substantial sacrifice from our military people and that we accept some risk that recruiting and retention may suffer. But the need to reduce federal spending is so great that we must monitor the progress of recruiting and retention. If the viability of our forces or the viability of the AVF becomes seriously threatened, we will seek a military pay raise in an amount commensurate with prevailing wage trends; if and when they appear to be warranted, we will look to redress this situation in FY 1983.

A major objective of this Administration's agenda is the AVF is to improve further our military readiness. We will continue to emphasize on military training, weapons research and development, and the skill balance of the force, and a programmatic commitment to make more efficient use of our existing resources. We are committed to protecting and enhancing our personnel in peace.

The remainder of this chapter discusses the Department's manpower program. Detailed discussion of the program is in the Defense Manpower Requirements Report, as well as in the Defense Manpower Training Report and the Force Readiness Report, which were published in support of the FY 1982 President's Budget.

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C. MANPOWER

1. Introduction

This Administration remains committed to the All-Volunteer Force (AVF) as a means of meeting our peacetime military manpower requirements. Our recent success in recruiting and retaining men and women of the necessary quality and quantity in our armed services has demonstrated the viability of the AVF. Through both FY 1981 and FY 1982 our armed forces have been very successful in attracting and retaining sufficient numbers of personnel; but more important than their numbers is the fact that they have been among the most competent and well-qualified servicemembers to have worn the uniform during the AVF era. Increased Congressional support and the improved public attitude toward military service have made these gains possible. Although the current economic environment has also contributed to that success, we believe that the AVF will continue to work. For this to occur, however, it is essential that we maintain a proper level of pay; incentives, including bonuses and special pays; attention to quality of life issues; and sufficient recruiting resources.

The success our AVF has enjoyed in the past two years enabled us to look to military compensation as one way to help reduce the large federal deficit and at the same time continue our program of improved military capability. Accordingly, we have asked our military people to join with all other federal employees to shoulder a share of this burden by forgoing a pay raise this year. We realize that we are asking for a substantial sacrifice from our military people and that we accept some risk that recruiting and retention may suffer. But the need to reduce federal spending is clear. We will monitor the progress of recruiting and retention. If the readiness of our forces or the viability of the AVF becomes seriously threatened, we will seek a military pay raise in an amount sufficient to reverse those trends, if and when they appear. In any event, we will seek to redress this situation in FY 1985.

A major objective of this Administration related to the AVF is to improve further our military readiness through such means as a continued emphasis on military training, renewed efforts to improve the skill balance of the force, and a strengthened commitment to make more efficient use of our entire workforce, military and civilian. We are committed to protecting and enhancing our investment in people.

The remainder of this chapter discusses the Department's manpower program. Detailed discussions of the program are in the Defense Manpower Requirements Report, as well as in the Military Manpower Training Report and the Force Readiness Report, which will be submitted in support of the FY 1984 President's Budget.

TABLE II.C.1

Defense Manpower Strengths
(End Strengths in Thousands)

	<u>FY 1982 Actual</u>	<u>FY 1983</u>	<u>FY 1984</u>
Active Military	2,108.6	2,127.4	2,164.7
Selected Reserve	963.7	1,002.3	1,030.4
Individual Ready Reserve/ Inactive National Guard	395.7	429.8	460.8
Standby Reserve	52.0	52.4	51.6
Military Retirees ^{1/}	268.0	287.0	305.0
Civilian ^{2/}	1,029.9	1,056.2	1,072.2

^{1/} Only those retirees who would be mobilized.

^{2/} Excludes civil functions.

2. The Manpower Program

a. Active Force

(1) Current End Strengths

The following table presents current and projected active duty manpower end strengths. We plan to increase the number of active military personnel at the end of FY 1984 by 56,100 over end-FY 1982 levels.

TABLE II.C.2

Active Military Manpower
(End Strengths in Thousands)

	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>
Army	780.4	780.0	782.6
Navy ^{1/}	553.0	560.3	572.2
Marine Corps	192.4	194.6	197.3
Air Force	<u>582.8</u>	<u>592.5</u>	<u>612.6</u>
DoD Total	2,108.6	2,127.4	2,164.7

^{1/} In FY 1983 and beyond, reserve personnel on active duty for Training and Administration of Reserves (TARs) are categorized as Selected Reservists (SELRES); prior to FY 1983, TARs were included in Active Military strengths. FY 1982 TAR strength was 11,000.

(2) Recruiting

FY 1982 was an excellent recruiting year in terms of both quality and quantity. As in FY 1981, all four Services met or exceeded their recruiting goals. Table II.C.3 shows the actual Service enlisted accessions for FY 1982 and planned recruiting levels through FY 1984.

TABLE II.C.3.

Actual and Planned Enlisted Active Duty Accessions
(Numbers in Thousands)

	<u>Actual</u>		<u>Planned</u>	
	<u>FY 1982</u>		<u>FY 1983</u>	<u>FY 1984</u>
	<u>Number</u>	<u>Per cent of Objective</u>	<u>Number</u>	<u>Number</u>
Army	130.2	104	142.5	134.6
Navy ^{1/}	92.8	100	95.3	94.1
Marine Corps	41.6	103	43.7	44.8
Air Force	<u>73.6</u>	<u>100</u>	<u>65.0</u>	<u>76.1</u>
DoD Total	338.2	102	346.5	349.6

^{1/} In FY 1983 and beyond, TARs are categorized as SELRES; prior to FY 1983, TARs were included in Active Military strengths. FY 1982 TAR active duty accessions were 6,000.

Table II.C.4 depicts high school graduate recruiting achieved by the Services for FY 1982 and the levels planned for FY 1983 and FY 1984.

TABLE II.C.4

Non-Prior Service (NPS) Active Duty Accessions
High School Diploma Graduates
Male and Female*

	<u>Actual</u>		<u>Planned</u>			
	<u>FY 1982</u>		<u>FY 1983</u>		<u>FY 1984</u>	
	<u>Number</u>	<u>Per cent</u>	<u>Number</u>	<u>Per cent</u>	<u>Number</u>	<u>Per cent</u>
Army	103.6	86	111.0	84	114.0	92
Navy	62.8	79	66.4	80	66.5	81
Marine Corps	32.4	85	30.9	76	31.7	76
Air Force	<u>63.3</u>	<u>94</u>	<u>56.0</u>	<u>92</u>	<u>61.7</u>	<u>88</u>
DoD Total	262.0	86	264.3	83	273.9	86

* Numbers may not add to totals due to rounding.

Congressional restrictions enacted in FY 1980 as part of the FY 1981 DoD Authorization Act limit the proportion of recruits from the lowest scoring pool of eligibles (Category IV) that can be accepted and establish a floor on the high school graduate content of male accessions entering the Army. These restrictions were continued in the FY 1982 and FY 1983 DoD Authorization Acts. Table II.C.5 summarizes these restrictions.

TABLE II.C.5

Congressional Controls on Recruiting 1/

<u>Fiscal Year</u>	<u>Maximum Category IVs</u>	<u>Minimum High School Graduates</u>
1981	25% DoD Average	Army Males - 65%
1982	25% Each Service	Army Males - 65%
1983	20% Each Service	Army Males - 65%
1984+	20% Each Service	No Restrictions

1/ Congress has added the provision that, beginning in FY 1982, the Services not enlist non-high school graduate Category IV Recruits.

Table II.C.6 shows that in FY 1982 the Services achieved quality levels mandated by the Congress. The more stringent limitations on Category IV accessions that are in effect for FY 1983 may present a challenge for the Army.

TABLE II.C.6

FY 1982 Non-Prior Service (NPS) Active Duty Accessions

<u>Service</u>	<u>Category IV as Percentage of NPS 1/</u>	<u>High School Diploma Graduates as Percentage of Male NPS</u>
Army	19	84
Navy	11	77
Marine Corps	9	84
Air Force	6	93
DoD Total	13	84

1/ Males and females

The Congressional recruiting constraints, expected improvements in the economy, and a continuing decline in the youth market size will make recruiting in FY 1984 and beyond an extremely challenging task. We believe the Services must have the recruiting resources and incentives to attract quality young men and women if they are to meet this challenge successfully. We will continue to make every effort to enhance both the attractiveness of military

service and its competitiveness in the youth labor market. We will continue to monitor the effects of all of our recruiting incentives.

(3) Retention and Career Manning

(a) Enlisted

Career force objectives for each of the Services have either been recently revised or are presently undergoing review. As a result of changing mission requirements, recommendations of external studies, the projected decline in the eligible youth population, and, especially, increased retention, the Services are moving toward a force that will be richer in career content, even as end strengths increase. Driven largely by recent gains in first term reenlistments, the growth in career force size is likely to continue into FY 1983 and FY 1984. These favorable trends may not hold up in view of the decision to forgo the annual pay raise in FY 1984.

Enlisted retention remains at a high level in all segments of the force. Although we are pleased with the overall success, we are aware that the enlisted force still suffers from chronic shortages in some skills -- particularly in those career fields that are highly marketable in the civilian sector of the economy and those that involve arduous duties. A large portion of the shortages are in the mid-career levels. These shortages can be expected to persist as military strength increases to meet mission requirements. In last year's report we indicated that it would take approximately five to six years of consistent reenlistment success to solve the shortfall of experienced personnel in our chronically short skills, and we still adhere to that projection.

It should be emphasized that we are not counting on monetary incentives alone to meet our needs in shortfall skills. Without a doubt, the Enlistment and Selective Reenlistment Bonuses remain the primary incentives and have been most effective in attracting and retaining members in shortage skills. However, we also make maximum use of non-monetary management initiatives to improve retention. These initiatives cover the full range of the personnel life cycle involving policies in such areas as reclassification and retraining, promotion, reenlistment, and separation. Quality of life programs and job enrichment efforts under way are aimed at making military jobs more challenging and rewarding. In general, we will be making full use of all tools at our disposal to meet our retention goals.

(b) Officers

Our retention of officers has improved overall and can be described as exceptionally good. Some reasons for this are the comparability pay raise in FY 1982, the general state of the economy, and the improvement in public attitudes toward a military career.

We are particularly gratified by improved retention in several problem areas. More aviation people are being retained, although we have not yet made up the experience and numerical shortages caused by low retention in previous years. The improvement in retention has been strongly influenced by the slowdown of airline hiring, two significant increases in Aviation Career Incentive Pay (ACIP), and the continuation bonus in the Navy, as well as increases in bonuses and special pays targeted to specific officer shortages.

Retention of nuclear submariners has also improved because of increased financial incentives, but experience gaps will remain because of poor retention in earlier years. We are optimistic that the Air Force will be able to improve retention of engineers with the recent institution of a continuation bonus.

(4) Compensation

During FY 1981 and FY 1982, there were significant increases in military compensation. In addition to an 11.7% pay increase in October 1980 and an average increase of 14.3% in October 1981, substantial improvements were made in special and incentive pays, enlistment and reenlistment bonuses, and reimbursement for moving expenses. These actions restored military compensation to levels comparable with the private sector and were in large measure responsible for the dramatic turnaround in the accession and retention of military personnel over the past two years. We remain committed to providing our men and women in uniform a level of pay that is equitable and recognizes the rigors and sacrifices inherent in military service and allows us to meet our force objectives.

As part of a joint effort by the Administration and the Congress to reduce the federal budget deficit and restore long-term economic growth, the FY 1983 military pay raise was limited to 4%. In addition, because of the unacceptably large budget deficit projected for FY 1984, it has become necessary to remove from the President's budget the military pay raise previously planned for October 1983. Despite these pay caps, we believe we can continue to meet our manpower needs on an all-volunteer basis through FY 1984. However, we will closely monitor the effect of the deletion of the FY 1984 pay raise and, if it appears that it is or will become a serious detriment to force readiness, or endanger the viability of the AVF, we will recommend a military pay raise. Additionally, in our current planning for the FY 1985 budget, we are including provisions for repaying our military people for their sacrifice in FY 1984.

The Fifth Quadrennial Review of Military Compensation was begun in October 1982. The objective of the review is to assess the system of military retirement and special pays. The review has been further directed by the President's Task Force on Military Manpower to evaluate the capability of the military compensation system to attract and retain technical specialists. A report is scheduled for release in late 1983.

(5) Education Incentive Program

Education incentives have proven to be effective means of attracting high quality personnel to military service. The Veteran's Educational Assistance Program is designed to satisfy the needs of the different Services. It allows a basic benefit which can be supplemented by DoD for particular skills, as required. While supporting continuation of the existing program, DoD may need to request more comprehensive programs in the future.

At the same time, we are concerned about the effects of the delimiting 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 delimiting date.

(6) Quality of Life

Quality of life is a synthesis of many individual DoD programs that recognizes the importance of the people who make up the Armed Forces and acknowledges their contributions to the Defense effort. We have built on efforts begun early in this Administration to improve existing programs and have also generated new programs to help compensate for the demanding aspects of military life. Medical care, family and unaccompanied personnel housing, child care programs, exchanges, commissaries, recreation and community activities, institutional benefits, education, postal services, banking services, credit unions, and religious programs all fall under the broad umbrella of "quality of life." Quality of life also addresses issues such as tour lengths, assignments, housing allocations, and other non-pay compensation. It includes activities such as family support centers, financial counseling, lending closets, family services programs, and off-post housing referrals.

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. Sixteen schools for dependent children in overseas areas will be built or remodeled during FY 1983. Fourteen new child care facilities will be constructed, as will eight physical fitness centers, ten family service centers, and three multipurpose recreational facilities. We plan to increase the number of family service centers on Defense installations from 214 to 266 over the next two years. To meet the growing demand for child care, the Department operates over 500 child care facilities on some 400 military installations worldwide. Family day care programs are also being expanded to provide more capacity.

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 abuse and neglect and spouse abuse.

We recognize that service people are making career decisions based on family issues and their quality of life. 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 two 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 dependents with compassion, concern, and consideration.

(7) Training

One of our foremost objectives is to continue the progress the military services have made toward making training more effective for individual service members and military units. Sound training is essential to the improvements we seek in combat readiness.

(a) Individual Training

The improvements previously noted in accession quality and retention of experienced service members have important side benefits for training operations. Higher-scoring enlistees are more likely to complete their courses successfully. In addition, better retention holds down the number of new entrants that must be trained.

The main emphasis proposed for individual training in FY 1984 is on continuation of improvements previously begun. For example, the Air Force is continuing to implement incremental increases in the length of selected skill training courses, with emphasis on maintenance skills. The increases are applied where analysis has shown the need for more thorough training to improve job performance and raise the quality of maintenance.

(b) Unit Training

We continue to place a high priority on obtaining the funding and facilities needed to give operational units adequate training. A number of these efforts are now bearing fruit by producing a degree of realism in training much higher than has previously been available. A prime example is the progress the Army has made with its National Training Center (NTC) at Fort Irwin, California.

The NTC concept grew out of the realization that maneuver and live-fire areas at the home bases of combat battalions are not large enough to accommodate realistic live-fire exercises for battalion-sized units. Beyond this, realism in terms of knowing what the real outcome would be in an opposing forces maneuver has never been attainable except through subjective judgments. The NTC, through the use of laser emitters and receivers that simulate live fire, computer tracking of player units, and other uses of advanced technology, provides this sorely needed element of realism. Units that rotate to the NTC for training typically demonstrate significant improvement in tactical proficiency as the lessons of realistic training are absorbed. Much can and is being done in each of the Military Services through ingenuity and the application of advanced technology to get the greatest possible benefit from investments in training.

b. Active Force Personnel Readiness

This section addresses recent improvements in the personnel readiness of our active duty forces. It is retrospective and does not address nor attempt to justify the FY 1984 budget for the Department of Defense, but rather reviews our personnel readiness performance over the period FY 1980-82. Additional material is presented in the Defense Manpower Requirements Report and the Force Readiness Report.

Personnel readiness measures the current capability of our service members to perform the missions that they are assigned. While the readiness of an individual unit is based on the status of its equipment and supplies as well as its personnel, in this section we examine four aggregate indicators of our personnel readiness levels:

-- Strength -- the size of our personnel inventory,

- Experience -- the grade and experience mix of our personnel,
- Skills -- occupational qualifications that match the requirements of the job to be done, and
- Turnover -- the rate at which the population flows through the system. Turnover captures the net effect of gains and losses of all types, as well as retention.

These will be discussed in turn in the remainder of this section.

(1) Strength

Although there are differences among the Services in readiness reporting, total strength is the most important determinant of unit personnel readiness for all Services. From FY 1980 to FY 1982 active duty end strength increased by 58,500 personnel, or almost 3%. The Navy and Air Force have experienced the greatest growth, both in absolute and relative terms. For these Services, this is the result of both fuller manning of existing force structure units and the addition of new units to the force structure. The Army and Marines generally have held their force structure constant while increasing their manning. Both existing and new force structure units are better manned than in past practice.

TABLE II.C.7

Active Duty End Strength Growth
(FY 1980-82)

	<u>FY 1980</u> <u>(Thousands)</u>	<u>FY 1982</u> <u>(Thousands)</u>	<u>Change</u> <u>(Thousands)</u>	<u>Change</u> <u>(%)</u>
Army	776.5	780.4	+3.9	+0.5
Navy	527.2	553.0	+25.8	+4.9
Air Force	558.0	582.8	+24.8	+4.4
Marine Corps	<u>188.5</u>	<u>192.4</u>	<u>+3.9</u>	<u>+2.1</u>
DoD Total	2,050.1	2,108.6	+58.5	+2.9

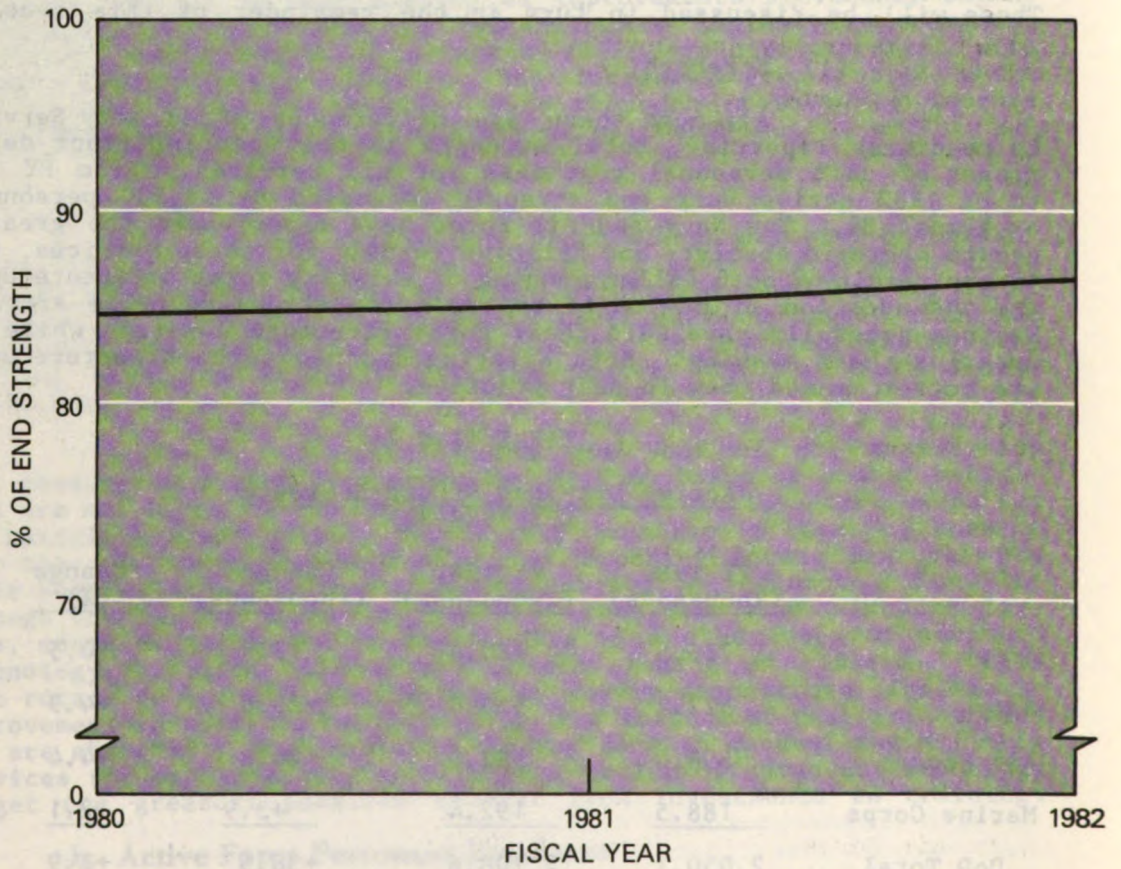
Our increase of 58,500 personnel "faces" supports a total increase of 86,000 new personnel "spaces." In other words, we have gained about 5% in force structure at the same time our end strength has risen by only 3% (see Chart II.C.1). Because of our success in reducing personnel overhead (transients, trainees, etc.), we can now use a larger proportion of our end strength to fill force structure billets.

(2) Experience

Defined as the year-of-service and grade mix of the military population, experience also contributes to readiness. As the following discussion points out, we have observed improvements in the experience of both officer and enlisted personnel.

Chart II.C.1

ACTIVE DUTY FORCE STRUCTURE AS A PERCENTAGE OF END STRENGTH FY 1980-82



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(a) Officer

Since FY 1980, the total officer population has increased nearly 14,000, or over 5%. Two-thirds of this net increase (9,100) was among officers with more than four years of service, reflecting an improvement in retention. The career content (over four years of service) of our active duty officer corps is up by 4.8%. (See Chart II.C.2.)

The bulk of our growth in total officer population has been in the captain and major grades, indicating that more officers are electing to stay in the service at their career decision points (generally the fourth or fifth year of service). Furthermore, the number of senior officers is growing at a slower rate than is the total number of officers. The average grade of our officer population has remained unchanged for two years at roughly 0-3 (captain or, in the Navy, lieutenant). This means that officers have more years of service in grade.

(b) Enlisted

Similar trends are occurring in the enlisted force. The career force (more than four years of service) is increasing at a faster rate than the growth of the total enlisted population. Our inventory of non-commissioned officers (NCOs are grades E-5 through E-9) has increased by almost 38,000, or 5%. The break-out by Service in Table II.C.8 reflects dramatic gains in the Navy and Marine Corps, and lesser but substantial growth in the Army and Air Force.

TABLE II.C.8

Increase in NCO Inventory by Service
FY 1980-82

<u>Service</u>	<u>Number Increase</u>	<u>Per cent Increase</u>
Army	10,500	4.1
Navy	13,700	7.3
Marine Corps	6,900	14.5
Air Force	<u>6,600</u>	<u>3.3</u>
Total DoD	37,800	5.5

There are four major factors contributing to our enlisted gains:

- First, as discussed earlier, all Services are meeting or exceeding the accession goals for non-prior service service (NPS) recruits.
- Second, we regained some of the experience lost in the middle and late 1970s by enlisting more prior service personnel. Our prior service gains in FY 1982 totalled 32,500, exceeding our goal by nearly 14%.

Chart II.C.2

**OFFICER CAREER FORCE
(OVER FOUR YEARS OF SERVICE)
FY 1980-82**

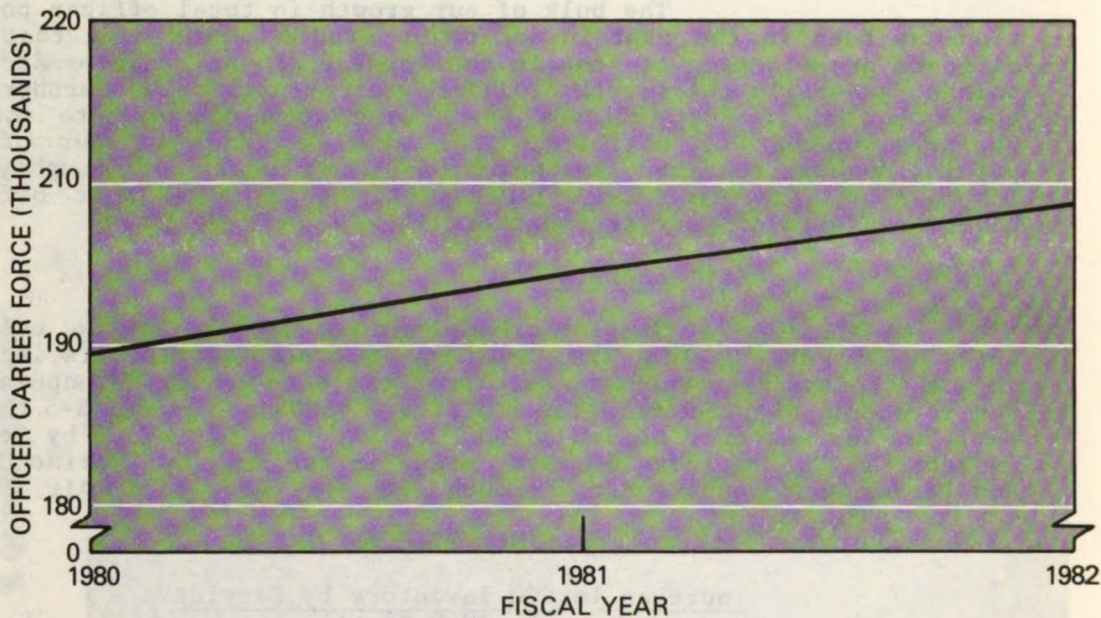
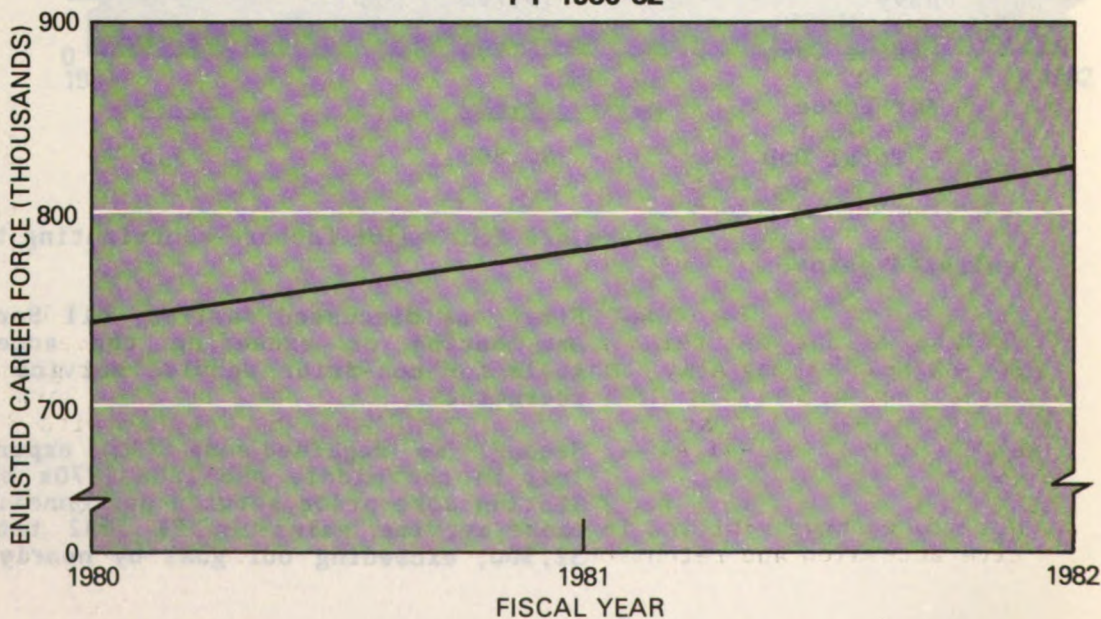


Chart II.C.3

**ENLISTED CAREER FORCE
(OVER 4 YEARS OF SERVICE)
FY 1980-82**



- Third, reenlistment rates are improving. Defined here as immediate continuous reenlistments as a percentage of eligibles, our reenlistment rate increased from 55% (190,000 reenlistments) in FY 1980 to 68% (224,000 reenlistments) in FY 1982.
- Finally, we have reduced our attrition losses, evidenced by a 16% reduction in the three-year projected loss rates for the FY 1980 and FY 1982 enlisted non-prior service cohorts. Leading in this improvement are the Army, where the loss rate has been reduced from 40% to 31%, and the Navy, which has lowered its loss rate from 26% to 24%.

(3) Skills

Personnel readiness is also affected by the availability of personnel in needed skills at the unit level. Analysis shows recent gains in four skill areas that have contributed to degraded readiness in the past: pilots, combat arms personnel, electronics repairmen, and electrical/mechanical equipment repairmen. Table II.C.9 highlights these improvements in manning our most critical skills.

TABLE II.C.9

More Personnel in Needed Skills
(To Nearest 100)

<u>OFFICER</u>	<u>FY 1980</u>	<u>FY 1982*</u>	<u>GROWTH</u>
<u>Pilots</u>			
Navy/Marine Corps	12,600	13,600	8%
Air Force	16,900	17,500	3%
<u>ENLISTED (E1-E9)</u>			
<u>Combat Arms</u>			
Army	156,200	165,600	6%
Marine Corps	39,700	41,100	3%
Electronics Equipment Repairmen	154,700	161,900	5%
Electrical/Mechanical Equipment Repairmen	348,500	370,900	6%

*Data are as of 30 June 1982.

In addition to our improved manning of critical skills, we are maintaining high quality personnel in these skills. For example, among Army combat arms NCOs, 96% are high school graduates and above, with 40% in AFQT Categories I-III A; among Marine Corps combat arms NCOs, 93% are high school graduates and above, with 34% in AFQT Categories I-III A.

Four factors are responsible for the growth and quality we have achieved in these enlisted skills. First are the positive accession and retention trends previously cited. Second, our use

of enlistment bonuses imposes an effective quality screen. This results in greater quality recruits entering training; in FY 1982, nearly 86% of all NPS accessions were high school diploma graduates. Third, we are offering more training in areas of greatest need. Since FY 1980, skill-related training man-years have increased by nearly 5,000 (4%). Since in this period the level of NPS accessions has declined, this means we are training people more intensively before assigning them to units. And finally, attrition during the first six months of service has dropped from 11.1% in FY 1980 to 10.6% in FY 1982. Because people who now start training are more likely to finish, our training resources can be used more efficiently.

(4) Personnel Turnover

There are a number of reasons why reductions in personnel turnover contribute to improved readiness. Among these are:

- Cost avoidance: As turnover is reduced, fewer PCS moves are required to replace losses. 12,000 fewer individual moves in FY 1982 allowed a cost avoidance of about \$26 million.
- Unit cohesion: Lower turnover means individuals stay together longer in units, improving their teamwork and mutual confidence.
- Operational benefits: Crew/team proficiency is increased, tactical competency is improved, the need for retraining is minimized, and operational efficiency and safety are enhanced.

Chart II.C.4 shows the reduction in the turnover rate of our active duty personnel during FY 1980-82, measured annually. Over this two-year period, the trend has clearly been toward greater stability.

Measured annually, turnover in the overall Service population has declined by 4.2%, with the following reductions reflected according to Service:

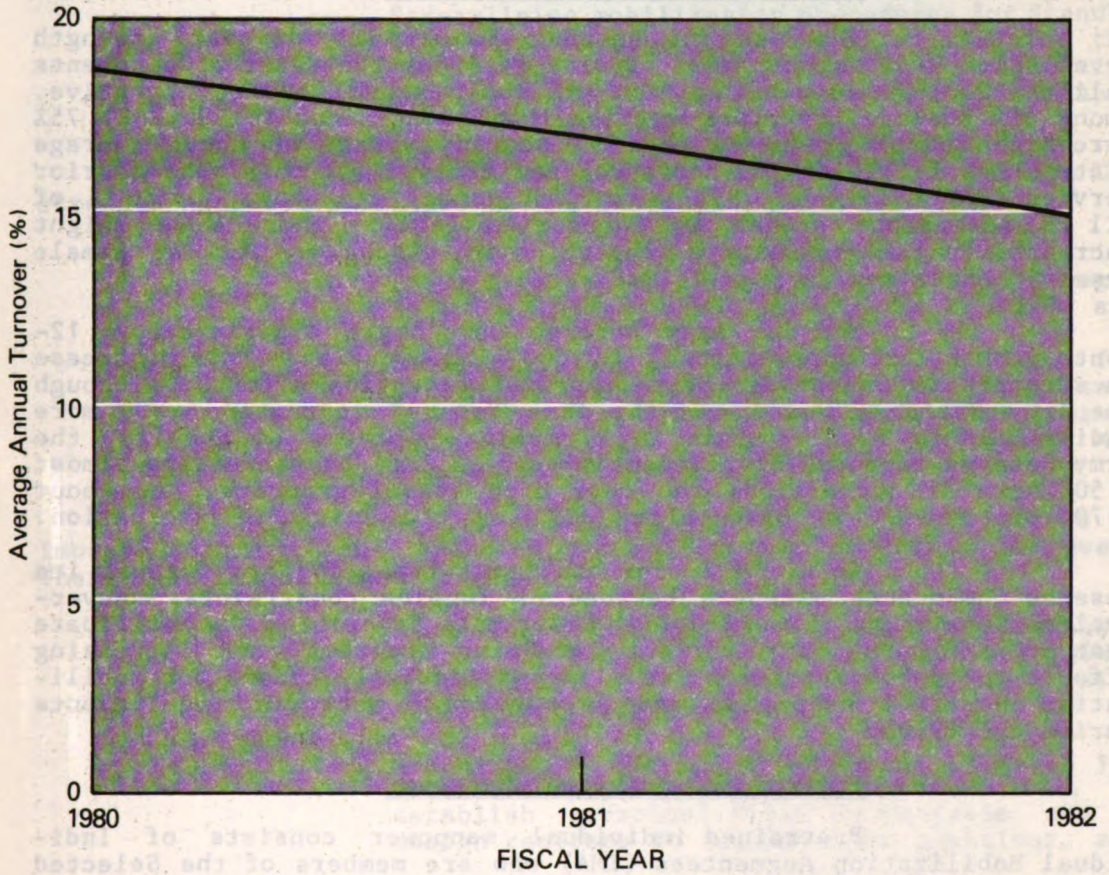
Army	5.8%
Navy	1.6%
Marine Corps	6.5%
Air Force	3.9%

Especially important is turnover of personnel in the combat arms skills, which has been reduced by 7.6% since FY 1980 compared to the overall reduction of 4.2%.

Among the factors contributing to lower turnover are fewer accessions, less attrition, and greater retention overall; Service management discipline; more personnel of higher quality, who are more likely to complete an enlistment and/or reenlist; and greater job satisfaction among our servicemembers.

Chart II.C.4

PERSONNEL TURNOVER FY 1980-82



(5) Summary

In the past two years we have seen improvements in every dimension of personnel readiness: strength, experience, skill, and turnover. The management emphasis by the Services and the Department of Defense has translated Congressional support for our personnel programs into increased military readiness.

c. Reserve Components

(1) Selected Reserve Unit Manpower

The Selected Reserve is at its highest strength level since 31 December 1967. During FY 1982, the Reserve Components enlisted 240,900 people, or 104% of their annual budget objective. Among all Reserve non-prior service (NPS) accessions in FY 1982, 75% were high school graduates and 89% scored average or above average (Categories I-III) on the entrance examination. Of this year's prior service (PS) enlistees, 89% were high school graduates, and 92% of all PS accessions scored in Categories I-III. There were slight increases in the number and proportion of blacks as well as female Reserve accessions during FY 1982.

The two Army Reserve Components experienced a 12-month growth of approximately 50,000 individuals. This increase in strength is due primarily to improved retention efforts, although the Army National Guard and the Army Reserve recruited 6,200 more individuals in FY 1982 than in FY 1981. In terms of quality, the Army Reserve improved significantly over FY 1981 by recruiting almost 5,500 more NPS accessions who were high school graduates and about 7,700 who scored in Categories I-III on the entrance examination.

In FY 1982, for the first time, the Army capped its Reserve Components strength because of funding constraints. Nevertheless, the trend in the Selected Reserve is favorable. We anticipate that by continuing our current incentive programs, and increasing efforts to combat attrition, we will substantially reduce our mobilization shortfall over time and be manned to meet our requirements during the 1980s.

(2) Pretrained Individual Manpower

Pretrained individual manpower consists of Individual Mobilization Augmentees (IMA) who are members of the Selected Reserve, members of the Individual Ready Reserve (IRR), members of the Inactive National Guard (ING), members of the Standby Reserve, and retired military personnel. Currently not enough manpower is available to meet the pretrained individual manpower mobilization requirement, and this continues to be an area of great concern. As members of the Selected Reserve, IMAs provide an immediate source of highly qualified pretrained manpower. The IMA program will expand from 7,800 in FY 1982 to a programmed strength of 10,700 in FY 1984. The IRR, the largest group within the pretrained individual manpower category, has increased from its low point of 342,000 in June 1978 to 395,796 as of September 1982. The decrease from the FY 1981 strength of 419,000 is attributable to improved active force retention and dramatic growth in the Selected Reserve. We anticipate further increases in the IRR, but they will not be enough to meet Army mobilization requirements. We are continuing a number of low cost or no cost initiatives that have had a positive effect. Some of these are:

- Screening of individuals leaving active duty and the Selected Reserve before the end of their obligated service to ensure that we transfer to the IRR those members who could be valuable mobilization assets and whose service has been honorable, with the remainder being discharged,
- Continuing the Army program for a two-year active duty enlistment that results in people spending more time in the IRR, and
- Streamlining mobilization procedures for Standby Reservists through legislation eliminating the requirement that the Director of Selective Service declare Standby Reservists available before DoD can mobilize them.

A comprehensive legislative package to improve IRR strength has been submitted to the Congress. It includes:

- Extension of the Military Service Obligation (MSO) from six to eight years, which will begin to solve the shortfall problem in FY 1990, and
- Enlistment and reenlistment incentives for joining or reenlisting in the IRR/ING. These incentives are designed to improve pretrained manpower strength until the eight-year MSO becomes effective.

We are also continuing the following initiatives to improve the management, training, and readiness of pretrained manpower. These initiatives are as follows:

- Extension to the other Services during FY 1982 of the Air Force's program of preassigning IMAs in peacetime to mobilization positions with active force organizations,
- Expansion of Service programs to identify the mobilization positions retirees can fill, to establish personnel files on retirees, and to assign retirees to mobilization positions, and
- Proposed legislation to extend full-time Servicemen's Group Life Insurance (SGLI) eligibility to the entire Ready Reserve, including the IRR. Currently, only members of the Selected Reserve are eligible for SGLI coverage.

d. Civilians in the Department of Defense

(1) Overview of Civilian Requirements

There has been a tendency to perceive the Department's civilian workers as performing primarily bureaucratic overhead services. This perception is not founded in fact. Our requirements for civilian manpower are determined by our military capability objectives, our basic policies governing the use of uniformed personnel, and our programs for achieving efficient operations.

Basic government policy is to set the size of the uniformed services no larger than necessary to meet military contingencies and to support uniformed rotation and promotion requirements. DoD civilians perform administrative functions and we rely on either civilian employees or the private sector for commercial and industrial support functions. The choice depends on how critical the function is to mobilization and the comparative cost to the government of in-house versus contract provision of the services.

The majority of DoD civilian employment can be directly related to two of the major pillars of defense -- readiness and modernization. With regard to readiness, civilians are the primary resource in support of depot level maintenance of ships, aircraft, and weapon systems; full-time manning of the Reserve Forces; supply and distribution systems to support the logistics base; and base operations support. Civilians also contribute to readiness in the areas of medical care, communications, intelligence, and training. The thrust to modernize the Armed Forces relies heavily on those civilians employed in research and development functions and in procurement activities. The Department's civilians are truly an integral part of our total force defense posture.

(2) Current End Strengths

In FY 1984, the DoD will employ 986,500 civilians directly and 85,700 indirectly for a total civilian workforce of 1,072,200. Indirect hire personnel are foreign nationals employed by their own country in support of U.S. forces in accordance with status of forces agreements. We reimburse the hiring country for their support.

Of the direct hire workforce, about 35% are Federal Wage System employees. These "blue collar" employees perform depot level maintenance, support supply and distribution operations, and maintain our installations. The remainder of the direct hire workforce are General Schedule employees who provide necessary scientific, engineering, professional, technical, administrative, and clerical support.

Our plan is to maintain a relatively constant civilian employment level in FY 1984. Table 3 in Appendix C of this report shows that we have increased the employment level above that maintained during the previous Administration. This is a reflection of our efforts to improve the national defense capability, and in particular, our emphasis on readiness. Between June 1970 and September 1980, the number of civilian direct hire employees declined greatly in response to reduced expenditures, employment ceilings, and hiring freezes. The resulting backlogs in depot, shipyard, and installation maintenance and increasing reliance on uniformed personnel to perform jobs that should have been performed by civilians reduced readiness and adversely affected the morale of the uniformed forces.

The FY 1981 budget supplement submitted by this Administration resulted in a 14,000 increase in FY 1981 direct hire civilian end strength employment. These civilian personnel increases were dedicated to reducing unacceptable backlogs in depot maintenance and to augmenting procurement, supply, and contract administration functions. An additional 5,600 indirect hires were employed to reduce the level of borrowed military manpower. In FY 1982 we used about half of the 2% flexibility granted to us by Congress to meet an increased workload in logistics and mapping, and to reduce unacceptable

backlogs in investigations. During FY 1983, we anticipate growth in total employment. The actual end strength will depend on the actions of the industrially funded activities which, at the direction of Congress, are free of ceilings for this fiscal year.

(3) Management Initiatives

(a) Commercial Activities

The Defense Department has been a government leader in reducing costs and manpower through the implementation of OMB Circular A-76. This allows the private sector to provide support services to the military if it can do so at a lower cost. During the period FY 1979 through FY 1981, we conducted over 400 bidding competitions and converted to contract the work performed by approximately 11,700 DoD employees. In 1983, we plan to complete cost comparison studies involving an additional 15,000 civilian and military positions to determine if the private sector can perform the services more cost efficiently. A lesser level of conversion effort is anticipated in the following years due to Congressional restrictions imposed in the FY 1983 Defense Authorization Act. For FY 1983, Congress has eliminated some of the burdensome reporting requirements. We recognize Congressional concerns about the programs and we have stopped the practice of deleting manpower spaces from the budget in anticipation of conversion to contract.

Our experience with the A-76 program indicates that over \$14 million has been saved each year when facilities remained in-house after completion of an A-76 study. This is due to the institution of streamlined organizations or procedures developed during the cost comparison study. As a consequence, we have instituted the Efficiency Review Program which will be applied to activities that are not contractable.

(b) Improving Productivity

We are aware of the continuing need for productivity improvement to realize the full potential of the DoD workforce. Productivity has been increasing at a rate of 2.1% annually since 1972. We expect to sustain this level through continuing successful programs, developing new initiatives, and sustaining management attention.

Productivity improvement efforts have focused on major productivity enhancing investments that release resources for high priority tasks. Under the Productivity Investment Fund (PIF), \$129 million has been earmarked in FY 1984 for productivity enhancing capital investments (PECI) that we expect to produce a lifetime return on investment of approximately \$11 for each \$1 invested. Previous PIF projects for FY 1981-83 totaled \$275 million and are anticipated to generate annual savings equivalent to 8,800 manpower spaces during the period FY 1982-88. We have structured 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 to support PECI in their planning for FY 1985-89.

We also anticipate productivity growth to result from other productivity improvement initiatives. These include a DoD-wide Efficiency Review Program, increased use of computer-aided

work measurement in developing labor standards, and broader application of various workforce motivation strategies.

(c) Efficiency Reviews

The Services will be conducting reviews of those commercial activities that must remain in-house for national defense reasons. The objective is to determine if these defense activities can be performed more efficiently. This program uses the review process now employed in the A-76 Commercial Activities program, including the development of a Performance Work Statement (PWS) that clearly describes the work to be accomplished and the performance standards to be met. After the PWS is written and accepted, review and analysis of the operation can increase productivity and reduce operating costs by eliminating unnecessary and inefficient work practices. It is estimated that it will take approximately six or seven years to review all commercial activities. Combat activities designed for deployment are exempt from these reviews. We envision savings of over 3,000 spaces resulting from this program in FY 1984.

(d) Inter-Service Support

DoD Components are also ascertaining if duplication of services can be eliminated and economies realized through inter-service and intra-service support agreements. These agreements establish single managers to perform specific base operating support functions to meet the requirements of each military installation in a particular geographic area. Our goal is to save \$30 million in each of the next five years beginning in FY 1983.

(e) Management Incentives

We also plan to experiment with several management incentive ideas to encourage defense managers to be more efficient and cost-effective. These will include differentially allocating civilian end strengths to reward those components that do a superior job in achieving more efficient operations. In addition, we plan to coordinate the introduction of new legislation with the Office of Personnel Management. This will be done after we complete our review of the Navy's personnel management demonstration project to extend the benefits of this Civil Service Reform Act project into a permanent performance-based compensation program.

e. Health and Medical Resources

(1) Wartime Medical Posture

(a) Personnel

The number and types of medical personnel in the Active and Reserve Components fall far short of the total projected wartime requirements. We have embarked on aggressive programs to increase the wartime availability of pretrained medical personnel for both our continental United States and our overseas medical treatment facilities.

Among the initiatives under consideration is pre-contracting with civilian health care personnel in peacetime to serve in stateside hospitals in wartime. Success with this initiative would free more Active and Reserve medical personnel for deployment to the operational theater. Contract personnel would remain at

the stateside facilities until relieved by military health care personnel acquired through voluntary accession or induction.

We have also been working on a proposal to amend the Military Selective Service Act to allow for the specific registration, classification, and induction of health care personnel in a declared national emergency. Enactment of the proposal would provide an incentive for voluntary enlistments as well as a backup if the voluntary programs are unsuccessful.

Since the Reserve Components can be expected to provide up to two-thirds of military medical manpower subsequent to mobilization, we have been actively involved in medical readiness enhancement initiatives in this vital area.

(b) Hospital Ship

A hospital ship capability is an absolutely essential component of medical support for rapid deployment forces, because it alone can ensure that care will be available for our casualties from the beginning of combat operations. Last year, the minimum capability required for this mission was identified as 24 operating rooms and 2,000 hospital beds, and funds were budgeted in FY 1983 and programmed in FY 1984 to procure that capability. In FY 1983, a final contract will be awarded for conversion of one ship, which will provide half of the capability by 1985. A second ship will subsequently be procured, and will become available by mid-to-late 1986.

(c) Civilian-Military Contingency Hospital System

The Civilian-Military Contingency Hospital System has been implemented in 48 areas of the continental United States. To date, over 50,000 beds have been committed by civilian hospitals as backup medical support to DoD. The Veterans Administration has begun planning to incorporate its stateside medical centers into the contingency hospital system. This joint effort of military, Veterans Administration, and civilian hospitals will ensure medical care is readily available to military patients returning from any future overseas conflict.

(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 during mobilization and to provide a source of quality medical care to active duty and retired personnel and their dependents. Health care for people is an integral component of military personnel compensation policy and 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).

Our goal is to make this system as cost-effective as possible, while still satisfying both mobilization and compensation requirements.

f. Personnel Management

(1) Composition and Distribution of the Active and Selected Reserve Forces

(a) Active Forces

In FY 1982, 30.3% of the enlisted force were minority personnel (22.0% black, 4.0% Hispanic and 4.2% others). The Army (41.2%) has historically had the highest minority content, and the Navy (21.4%) has had the lowest. Chart II.C.5 shows the percentage of minorities in the active duty enlisted force by Service during the period FY 1971-82. The increase since 1972 is a product of both increasing accession rates and higher than average reenlistment rates. During this eleven-year period, minority enlisted women increased from 0.2% to approximately 3.1% of the total enlisted force and from 18.7% of the total number of enlisted women in FY 1971 to 34.4% in FY 1982.

In FY 1982, 10.1% of the officer force were minority personnel (5.6% black, 1.3% Hispanic, and 3.2% other). As with the enlisted strength, the Army (14.4%) has historically had the highest minority content. Chart II.C.6 shows the percentage of minorities in the officer force by Service during the period FY 1971-82. The number of minority women in the total active officer force increased from 0.2% in 1971 to approximately 1.6% in FY 1982; and from 5.5% of the total number of active women officers in FY 1971 to 17.7% in FY 1982. The significant minority strength increases over the eleven-year period reflect the intensive procurement and equal opportunity efforts by all Services. The percentage of all active duty officers who are black has more than doubled since 1971, when it was 2.2% (now 5.6%).

(b) Selected Reserve Forces

The proportion of enlisted minorities in the Selected Reserve has continued to increase. In FY 1971, the enlisted minority content was less than 4%. In FY 1982, the content reached 26.6%, of which 18.5% were blacks, 5.7% were Hispanic, and 2.4% other. The Army Reserve has the highest minority content (33.7%); the Naval Reserve, the lowest with 13.3%. Approximately 3.5% of the total Selected Reserve enlisted force are minority women; however, minority women make up 37% of all females in the enlisted force.

Minority officers make up 7.7% of the Selected Reserve officer force (blacks, 4.3%; Hispanics, 1.7%; and other, 1.7%). The Army National Guard has the highest percentage of minorities (10.1%). The Naval Reserve has the lowest minority content of 2.4% (1.3% black, 0.2% Hispanic, and 0.9% other). Minority women make up 1.4% of all officers in the Selected Reserve Force and 16.7% of all female officers. The percentage of minority officers in the Selected Reserve forces has significantly increased since FY 1971, but still remains below our desired levels.

(2) Women in the Military

Military women in all Services are fulfilling vital military requirements with the same high degree of competence as military men. Today, over 190,000 women -- officer and enlisted -- account for about 9% of the active force compared to 1972 when

Chart II.C.5

MINORITIES AS A PERCENTAGE OF ACTIVE DUTY ENLISTED END STRENGTHS

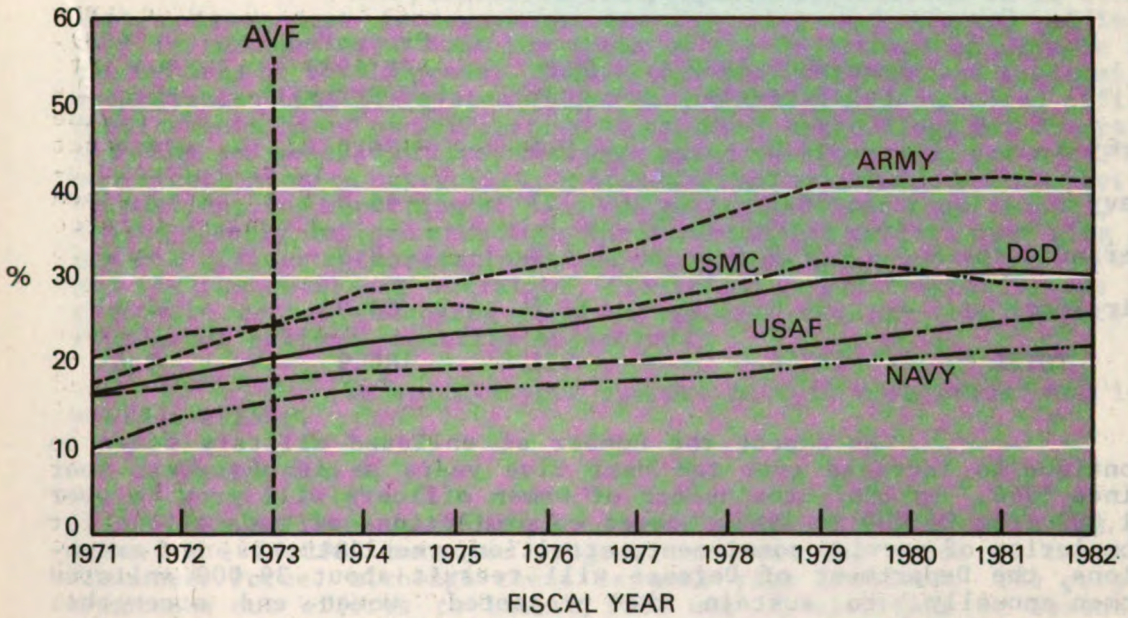
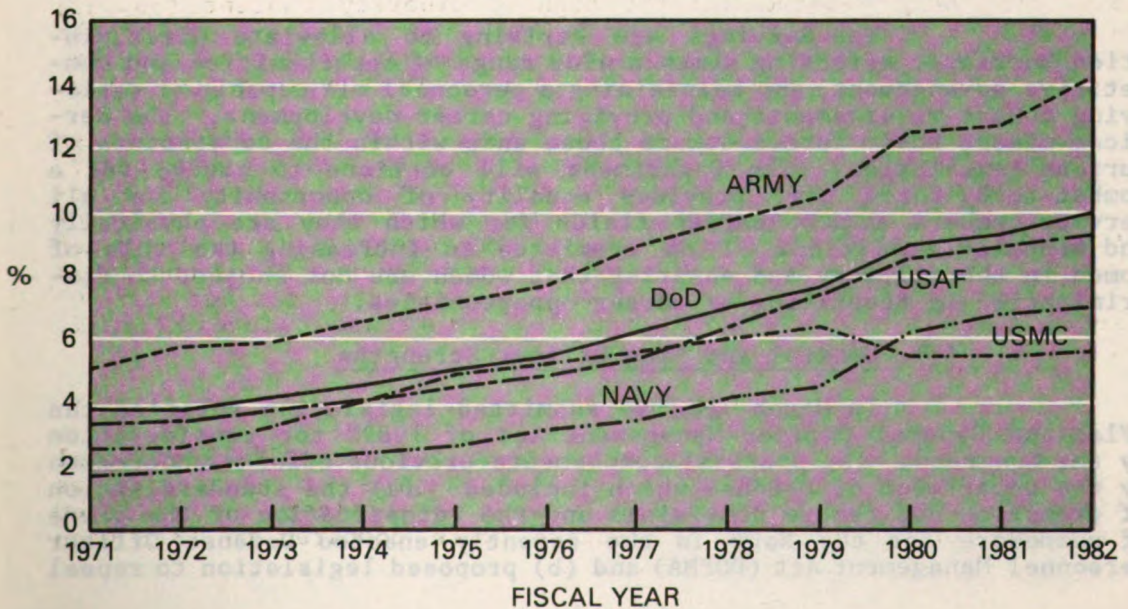


Chart II.C.6

MINORITIES AS A PERCENTAGE OF ACTIVE DUTY OFFICER END STRENGTHS



45,000 women made up 1.5% of the active force. Current enlisted women strengths and a projection are given below:

TABLE II.C.10

Active Duty Enlisted Women
(End Strength in Thousands)

	<u>September 1982</u> <u>End Strength</u>	<u>Per</u> <u>cent</u>	<u>Projected</u> <u>FY 1987</u> <u>End Strength</u>	<u>Per</u> <u>cent</u>
Army	63.6	9.5	70.0	10.0
Navy	37.1	7.7	45.0	8.7
Marine Corps	7.9	4.5	8.9	4.5
Air Force	54.0	11.3	63.0	11.4
TOTAL	162.6	9.1	186.9	9.6

We expect the number of enlisted military women to continue to increase over the next five years as it has every year since 1964. By 1987, the number of women officers will grow to over 31,000 from 25,000 in 1982. Based on projections of separations for completion of service commitment, attrition, reenlistments, and extensions, the Department of Defense will recruit about 39,000 enlisted women annually to sustain the projected women end strengths.

As a result of past rapid growth, 95% of all military women have less than ten years of service and about 71% less than five years. Comparable figures for men are 70% and 53%, respectively. Our planned rate of increase over the next five years will permit the experience distribution of military women to approximate more nearly that of military men. During this period more women will enter senior officer and enlisted leadership and management positions, facilitating the integration of women into the military.

The Services are striving to alleviate discrimination barriers, affording women a wide range of opportunities and competitive advancement, and maintaining a personnel mix capable of satisfying combat requirements and providing career development. The Services manage their forces toward these ends within the constraints of current legislation. The Department will continue to strive for a combat-ready force that provides equality of opportunity for all service members within career fields for which they are physically and mentally qualified. I am committed to increasing the role of women in the military and ensuring that women are not subject to discrimination in recruiting or career opportunities.

(3) General and Flag Officer Strengths

In March 1982 we submitted legislation entitled the "Flag and General Officer Management Act of 1982" for consideration by the Congress. The proposal complements previous efforts undertaken by the Department of Defense which included: (a) the standardization of promotion and tenure provisions and the reinstatement of the grade of commodore for the Navy in the recently enacted Defense Officer Personnel Management Act (DOPMA) and (b) proposed legislation to repeal

minimum grade requirements for certain general and flag officers (S.1906), currently pending floor action in the Senate. It is the final piece of comprehensive legislation required of the Department of Defense to comply fully with guidelines established in section 1003 of the Defense Appropriations Authorization Act for FY 1981.

The purpose of the proposed legislation is to establish a management framework in law for flag and general officers that is responsive to both the needs of the Department of Defense and the desires of the Congress. Toward this end, the proposed legislation establishes a uniform system of accounting for flag and general officer requirements based on utilization; a rational methodology for determining flag and general officer ceilings based on structure, strength, and non-direct mission categories; a standardized system for annual review, validation, and reporting of flag and general officer requirements; and a more clearly defined structure for Departmental control over flag and general officer authorizations. As conceived, the proposed system will provide the necessary oversight, flexibility, and responsiveness required to control changing flag and general officer requirements in support of national security objectives.

We solicit your support in this much needed and long overdue effort.

3. Conclusion

We believe that, despite the absence of an October 1983 pay raise, the FY 1984 manpower program can meet the needs of the All-Volunteer Force, although there is some risk involved. The program continues our efforts to ensure full use of civilians in essential jobs not requiring military people, to increase productivity and operational efficiencies, and to improve the quality of life of our military personnel and their families.

D. INDUSTRIAL RESPONSIVENESS

1. Introduction

A key part of the efforts to rebuild our defense forces is the improvement of industrial responsiveness, for only when American industry has the capability to modernize and expand production to meet increased demands for weapon systems and supplies during times of emergency can we confidently face today's rapidly changing world conditions. We also recognize the vital role that industry must play in developing a capability to surge industrial production, and we are continuing to improve our relationship as partners in the support of our national defense.

Many studies and reports have documented the decline of our national industrial base. The problems in the defense sector of industry are a subset of the problems faced by the entire industrial sector. While the President's economic recovery program includes the mechanisms required to stimulate capital investment by the private sector, general economic conditions have slowed investments to a lower level than we had hoped. We believe that improvement in industrial conditions as a whole will bring about improvements in the production of weapon systems.

It is our desire to create an attractive climate for capital investment by the private sector. While we have not fully attained all of our goals in this respect, we have made significant strides through:

- Development and publication of new defense guidance and the provision of increased funding levels for industrial preparedness programs,
- Increases in appropriations for the Manufacturing Technology Program to assist in the implementation and application of advanced technologies and processes,
- Improvements in the management of industrial property in the possession of defense contractors to simplify methods and reduce costs,
- Sector analyses to review erosion of the industrial base to determine the need for import relief,
- Establishment of a formal program to encourage productivity improvements in the private sector, and
- Development of the Defense Economic Impact Modeling System to delineate the impact of defense requirements on manufacturing capacity.

2. Current Programs

a. Industrial Base Guidance and Funding

In March 1982, we issued revised industrial base guidance, the major objectives of which are to:

- Develop an industrial base capability to produce and deliver our five-year peacetime procurement program efficiently, effectively, and as quickly as possible;
- Develop an industrial base capability to provide surge responsiveness for selected critical systems/items;
- Develop an industrial capability that will permit accelerating the attainment of our programmed sustainability levels for selected critical systems/items, and
- Increase funding for industrial preparedness planning to levels required to accomplish the first three objectives and integrate industrial preparedness resource requirements into the Planning, Programming, and Budgeting System (PPBS).

As a result of this new guidance, the Military Departments have taken actions to weave industrial base considerations into the acquisition process, revitalize industrial preparedness planning, and show industry, through planning and actions, that industrial preparedness is an integral part of acquisition. This is reflected in the almost fourfold increase in funding forecast for industrial preparedness over the next five years.

b. The Defense Production Act

The Defense Production Act 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 the Defense Production Act to maintain ongoing defense contracting and preparedness programs in support of our national security objectives. With the Title I authority provided to us, we have supported those weapon system production schedules and deployments that are subject to disruption or delay when competition for resources exists. The Defense Production Act is essential to defense readiness.

Title III of the Act permits the use of government funds in extraordinary situations as incentives to create new, or expand existing, industrial capabilities to meet national security needs. A contract was recently awarded to the Gila River Indian Community to establish a demonstration domestic guayule (natural rubber) industry as a means of reducing our dependence on foreign sources for our supply of rubber.

c. National Defense Stockpiles

The fundamental purpose of the stockpile, which is managed by the Federal Emergency Management Agency, is to ensure that our government will have available critical raw materials to support the military, industrial, and civilian needs of the U.S. for its national defense.

(1) Critical Raw Materials Status

Under the National Materials and Minerals Policy, Research, and Development Act of 1980 (P.L. 96-479), we have assessed our raw materials situation. Our requirements have been included in the President's National Materials and Minerals Program Plan and

Report, which was sent to Congress on 5 April 1982. This report established the first national minerals policy and generated several actions to reduce the nation's vulnerability.

(2) Foreign Dependence

Although we are dependent upon foreign sources for many raw materials, we have also been experiencing a significant decrease in domestic capabilities to process and manufacture industrial products. We are exploring methods of restoring domestic industrial capabilities in critical areas of foreign dependence which can be damaging to the national security.

d. Manufacturing Technology Program

The Manufacturing Technology Program is a broad-based program designed to improve the productivity and responsiveness of the defense industrial base. Investments made by this predominantly procurement-funded program are expected to result in factory floor applications of productivity-enhancing technology. This program will continue to receive priority emphasis.

e. Industrial Property Management

Government-owned industrial property is provided to contractors to assist in the production of defense requirements when it is necessary and in the government's best interest. The acquisition cost of government-owned industrial property in the possession of defense contractors is in excess of \$36 billion. During FY 1982, we took a number of actions to streamline the management of this property and to reduce costs for both the government and the contractors by reducing the scope and intensity of management for selected items, developing an automated information system for property management and oversight, and restructuring the reserve of industrial equipment. We are also forming a senior-level Defense Industrial Property Council to ensure effective and efficient property management.

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. The following are examples of accomplishments in this area:

- The Defense Economic Impact Modeling System is a methodology whereby projected defense requirements, by industrial sectors, are developed and made available to industry as well as in-house analysts. This information can be used to avoid production bottlenecks and limit excessive cost increases caused by shortages of industrial capacity.
- We have provided the public and private sectors with projected defense and non-defense manpower requirements for 72 skilled labor categories to alleviate current and potential shortages of skilled manpower and to encourage job entrants.
- The Machine Tool Trigger Order Program is a cooperative effort by government and industry to reduce mobilization lead times by accelerating delivery of

machine tools essential to defense production. The program employs standby purchase agreements with machine tool industry members for anticipated mobilization capital equipment needs. The dollar value of agreements to be signed over the next three years is estimated at \$1.5 billion.

g. Industrial Productivity

The Department of Defense is committed to national efforts to improve productivity; we have, therefore, established an Office for Industrial Productivity to foster increased efficiencies and productivity throughout the defense sector of U.S. industry. This office will focus on broad, generic issues and long-range planning to achieve productivity increases, with initial efforts concentrated on contract incentives and on acquisition policies and strategies. It will serve as a focal point for industry and other government agencies for national productivity improvement efforts and will provide extensive liaison with the Military Services, industry groups, and other interested offices within the Department of Defense.

h. Mobilization Force Expansion Planning

Two parallel efforts are under way to develop specific mobilization resource requirements, including industrial requirements, for planning purposes. Within the Emergency Mobilization Preparedness Board's Military Mobilization and Industrial Mobilization Working Groups (see the Mobilization chapter), we are determining the resource requirements associated with fully mobilizing the existing force structure. Within the Department, we have begun to develop the industrial requirements for mobilization expansion of the armed forces. Both of these programs will ultimately lead to specific planning requirements for the industrial base and to rationalized force expansion plans.

3. Conclusion

During the past year, we have taken a number of major steps to improve our industrial responsiveness. In several areas we have increased our commitment to improve the nation's defense posture and the ability to respond to any national emergency. We have continued to enhance our relationship with the industrial sector through cooperative efforts in the areas of surge and mobilization planning and through measures that provide better definition of projected requirements and lend stability to defense programs. Increased funding for the Manufacturing Technology Program and the data provided by the Defense Economic Impact Modeling System are two of the actions that give DoD contractors and suppliers confidence that we are taking seriously the need to revitalize the industrial base. This assurance should encourage the investment of private capital to modernize outdated plants and equipment which will, in turn, improve productivity and increase industrial responsiveness while reducing weapon systems acquisition costs. We have made substantial progress toward our goals; however, there is a long way to go and there must be a continued commitment if we are to develop and maintain a strong industrial base.

LAND FORCES

1. Introduction

a. Force Rationale

Our land forces comprise the active and reserve forces of the Army and the Marine Corps. These forces are designed to assist in deterring war; should deterrence fail, they are structured to conduct ground combat to defeat the enemy. To meet these objectives, we maintain deployments in Europe and the Western Pacific, forward deployments in Korea, and rapidly deployable forces in the United States. Our land forces provide the capability to engage an enemy at all levels of conflict, from counter-terrorism operations to full-scale combat against a highly skilled opponent.

The Army is the largest and most serious challenge. Meeting this challenge accounts for the largest single element of our active land forces -- the Army's armored and mechanized divisions. These are designed and equipped to contend with a modern, tactically mobile, and dispersed enemy. The Army's 3rd Airborne Division, the 82nd Airborne Division, and the 101st Airborne Division are also equipped and trained to meet this challenge. The Marine Corps is also equipped and trained to meet this challenge. Our land forces must be able to provide an appropriate balance between heavy (armored/mechanized) and light forces to meet the objectives that demand the use of our limited assets and available capabilities.

PART III DEFENSE PROGRAMS

b. Program Goals

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

- Properly structured,
- Able to respond quickly,
- Capable of sustained operations,
- Equipped with modern weapons.

Our five-year program for land forces focuses on these objectives. Of particular importance is the modernization of our land forces. We are currently spending \$1.5 billion on modernization. This is inadequate to meet our needs. Our five-year program aims to increase the capability of our land forces to respond to multiple contingencies throughout the world.

c. Force Composition

By the end of FY 1984, the active land force structure will consist of 29 divisions (18 Army and 11 Marine Corps) and 10 Reserve Components (6 Army and 4 Marine Corps).

A. LAND FORCES

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a. Force Rationale

Our land forces comprise the active and reserve forces of the Army and the Marine Corps. These forces are designed to assist in deterring war; should deterrence fail, they are structured and equipped to conduct ground combat to defeat the enemy. To meet these objectives, we maintain deployments in Europe and the Western Pacific, forward deployments afloat, and rapidly deployable forces -- both active and reserve -- in the United States. Our land forces provide the capability to engage an enemy at all levels of conflict -- from counter-terrorism operations to full-scale combat against a heavily armed opponent.

It is the latter that poses the most serious challenge. Meeting that challenge accounts for the largest single element of our active land forces -- the Army's armored and mechanized divisions. These are designed and equipped to contend with a modern, tactically mobile, and firepower-intense opponent. A smaller but still substantial portion of the force -- including the Army's 82nd Airborne Division, the 101st Airborne (Air Assault) Division, ranger battalions, and the three active Marine divisions -- is configured and trained primarily for rapid-response and forcible-entry operations worldwide. These forces are dependent on timely reinforcement and logistics support to conduct sustained combat operations. In structuring our land forces, we seek to strike an appropriate balance between heavy (armored/mechanized) and light forces to meet the objectives just outlined and to make best use of our limited airlift and sealift capabilities.

b. Program Goals

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

- Properly structured,
- Able to respond quickly,
- Capable of sustained combat, and
- Equipped with modern weapons.

Our five-year program for land forces focuses on these objectives.

Of particular importance is modern equipment. Land forces were hit hard by the spending cutbacks of the 1970s. This resulted in inadequate procurement of existing and modernized equipment. Our five-year program aims to offset the trends of the 1970s and to enhance the capability of our land forces to respond effectively to multiple contingencies throughout the world.

c. Force Composition

By the end of FY 1984, our planned land force structure will consist of 29 divisions: 19 active divisions (16 Army and 3 Marine Corps) and 10 Reserve Component divisions (9 Army and 1 Marine

Corps). These divisions (about 18,000 men each), supplemented by separate nondivisional brigades and regiments (4,000-5,000 men each), 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.

Our active forces continue to rely on the Reserve Components to achieve their full combat potential. Of our 19 active divisions, 10 will require roundout by reserve combat battalions and brigades to reach their full complement. In addition, a large number of service support units needed for early deployment of the active force are also in the Reserve Components.

d. Force Disposition

Chart III.A.1 depicts the location of all active and reserve Army and Marine Corps divisions at the end of FY 1983. In addition to the major deployments shown, two brigades of CONUS-based Army divisions 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), and one active brigade in both Panama and Alaska.

2. FY 1984-88 Program

a. Force Structure

FY 1984 will be a year of major change in our active land force structure. Major initiatives include:

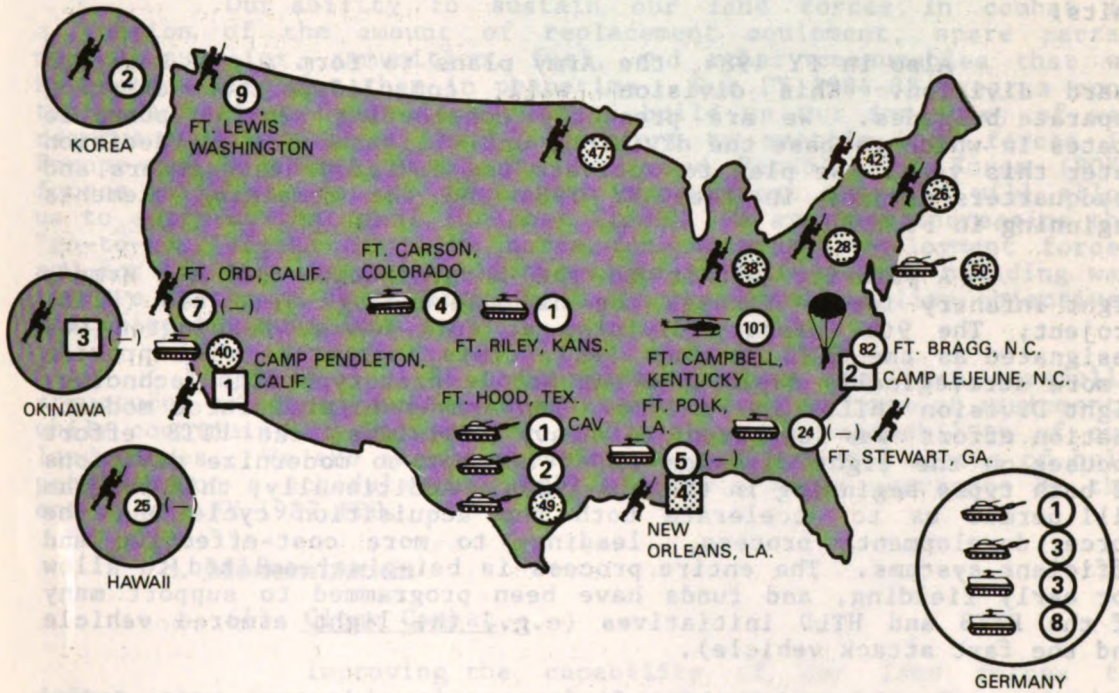
- Continuing the reorganization of our armored and mechanized divisions aimed at optimizing our force modernization effort, and
- Increasing the support structure of the active force while depending on the reserve components to round out active combat structure.

Most of our armored and mechanized divisions will convert to either the final Division 86 force structure or an interim configuration designed to ease the transition to the final structure. This reorganization will increase the number of maneuver companies in each maneuver battalion from three to four, while reducing the number of maneuver battalions per division (e.g., from 11 to 10 in our European-based divisions). At the same time, we will activate 45 new active units, thus significantly increasing our ammunition-handling capacity, air defense capabilities, and -- most significant -- our special forces.

In order to improve the capability of our Special Operations Forces (SOF) to meet threats at the lower end of the conflict spectrum -- where the use of conventional forces may be premature, inappropriate, or politically infeasible -- the Army will activate an additional Special Forces (SF) group headquarters and two SF battalions in FY 1984. This increase will improve SF effectiveness by permitting units to tailor individual training and mission preparation for operations in specific regions of the world. In another move to improve SOF capabilities, the Army has established a major headquarters, the 1st Special Operations Command (SOCOM), which will consolidate management of all SOF assets.

Chart III.A.1

DEPLOYMENT OF U.S. DIVISIONS



ARMY		○ ACTIVE	DIVISION TYPE	
		◐ NATIONAL GUARD	TANK	AIR ASSAULT
MARINES		□ ACTIVE	MECHANIZED INFANTRY	AIRBORNE
		◑ RESERVE	INFANTRY	

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FY 1984 will also witness important changes in our Reserve Component force structure. We plan to begin a two-year expansion of the Army Reserve Component Roundout Program. By year's end, all non-deployed active Army divisions (except the 82nd Airborne and 101st Air Assault Divisions) will be rounded out by reserve combat units. The number of divisions with roundout by brigade-sized units will increase. We also plan to expand the roundout program to other combat units, as well as to combat support and combat service support units.

Also in FY 1984, the Army plans to form a new National Guard division. This division will consolidate three existing separate brigades. We are presently considering several possible states in which to base the division, and will announce our decision later this year. We plan to activate the division headquarters and headquarters company in late FY 1984 and the remaining elements beginning in FY 1985.

A priority effort is the modernization of the Army's light infantry forces through the High Technology Test Bed (HTTB) project. The 9th Infantry Division at Fort Lewis, Washington was designated as the HTTB in June 1980. This initiative will provide a more strategically deployable and mobile prototype High Technology Light Division (HTLD) in FY 1986. The Army's initial force modernization effort was centered on heavy divisions; the HTTB effort focuses on the light division in an attempt to modernize divisions of both types beginning in the mid-1980s. Additionally, this program will permit us to accelerate both the acquisition cycle and the force development process, leading to more cost-effective and efficient systems. The entire process is being streamlined to allow for early fielding, and funds have been programmed to support many of the HTTB and HTLD initiatives (e.g., the light armored vehicle and the fast attack vehicle).

Complementing these force structure changes are a number of ongoing programs to which we attach high priority. Our efforts to increase the density of howitzers in Army artillery battalions continue. We are also completing the reorganization of the 101st Air Assault Division to increase its combat capabilities.

During the coming year, the Marine Corps, like the Army, will continue to increase the combat capability of its forces. For example, the Marine Corps is moving steadily toward its goal of doubling each Marine division's anti-tank capability by FY 1986.

b. Readiness

The emphasis on force readiness begun last year continues in the FY 1984-88 program. The materiel readiness of our land forces will be improved both by the acquisition of more and better equipment and by continued attention to keeping maintenance backlogs of current equipment at low levels. Army training programs will be significantly strengthened by the provision of more training equipment and instructors to the training base, increased rotation of battalions to the National Training Center, and expanded participation in Joint Chiefs of Staff (JCS)-sponsored exercises. The Marine Corps will continue to emphasize training for amphibious operations and subsequent operations ashore over a wide range of geographic and climatic conditions.

Our ability to deploy our land forces rapidly to trouble spots around the world will be enhanced by continued increases in the lift capability of our Air Force and Navy strategic mobility forces. We will reduce the time required to deploy our combat forces by continuing our prepositioning programs.

c. Sustainability

Our ability to sustain our land forces in combat is a function of the amount of replacement equipment, spare parts, medical supplies, ammunition, fuel, and other consumables that we have stockpiled for them in peacetime. Our FY 1984-88 program continues an effort begun last year to build up our inventory of war reserve munitions to a level sufficient to sustain U.S. forces in Europe and Southwest Asia, and U.S. and Republic of Korea (ROK) forces in Korea, for 60 days. Our procurement schedule will allow us to approach that goal for most items. We are also increasing the "go-to-war" stocks of spare parts for our rapid deployment forces and for those units scheduled to engage in NATO and are building war reserve stocks of those items to match the sustainability objectives specified for munitions.

Our FY 1984-88 procurement program has been carefully structured to achieve needed modernization of major items of equipment, while continuing to improve the readiness and sustainability of our land forces. We are also increasing our war reserve stocks of bulk petroleum on a schedule that will eliminate known shortages by the end of the FY 1987 FDP.

d. Modernization

(1) Close Combat

Improving the capability of our land forces to defeat enemy forces in close combat continues to be a top priority of our modernization program. Soviet advances in armored warfare require that we develop and field improved weapon systems capable of defeating heavily armored forces on the modern battlefield. Accordingly, our FY 1984-88 program emphasizes the continued acquisition of systems that will enhance the firepower, tactical mobility, and survivability of our ground combat forces.

M1 Abrams Tank -- M1 production continues at a rate of 60 per month with the Army's M1 acquisition objective of 7,058 tanks anticipated by the end of the FY 1990 FDP. We currently plan to begin deploying an improved version of the M1 (designated M1E1) with a 120mm main gun in late FY 1985. Approximately 51% of the total M1 force will be equipped with this larger gun.

M60A3 Modification Program -- The Army currently has about 5,000 M60A1 tanks in its inventory. To improve the tank's combat effectiveness against the Soviet threat, we are continuing a modification program to upgrade our M60A1 tanks to the M60A3 configuration. The program includes a number of combat effectiveness improvements such as new fire control components (laser rangefinder, solid-state computer, tank thermal sight, and turret stabilization system) and selected engine improvements to increase its reliability. The Army had converted 455 tanks to the M60A3 configuration by the end of FY 1982 and plans to convert 569 more in FY 1983. We are requesting funds to continue the modification program during FY 1984-88 at a planned rate of about 460 conversions per year.

The Bradley Fighting Vehicle System (BFVS) -- The first production BFVS -- the Army's new armored personnel carrier -- was delivered in May 1981. By the end of the FY 1983 FDP, the Army will have received a total of 1,700 of these vehicles. Our FY 1984-88 program proposes to increase the BFVS production rate to a maximum of 90 vehicles per month by the end of FY 1986. This production schedule will allow the Army to achieve its acquisition objective of 6,882 BFVSs by the end of the FY 1989 FDP.

Assault Amphibian Vehicle (LVT) -- The Marine Corps will continue its program to procure additional assault amphibian vehicles (LVT7 product-improved version) to support maritime prepositioning requirements for three brigades. Funding for the final 153 units is requested in FY 1984. Concurrently, it will continue a service life extension program through FY 1985 to improve its existing LVT7 fleet.

Light Armored Vehicle (LAV) -- The Army and Marine Corps have begun joint procurement of a common light armored vehicle to increase the ground combat mobility, survivability, and firepower of their light infantry forces. The LAV will be equipped with a 25mm automatic cannon. Each Service will use the basic vehicle selected as a result of joint testing to derive variants tailored to its specific needs. The current program provides for procurement of 969 LAVs (680 for the Army and 289 for the Marine Corps) during FY 1982-86.

TOW Missile System -- The Army and Marine Corps have programmed funds to continue procurement of an improved version of the TOW anti-tank missile incorporating an improved warhead and guidance system. In addition, a new version of TOW (TOW 2), designed to be capable of defeating advanced-technology armor, is scheduled for initial delivery in the early 1980s.

Light Anti-tank Weapon System -- The Viper Improved Light Anti-Armor Weapon (ILAW) is the proposed replacement for the M72A3 LAW currently in use by the Army and Marine Corps. The ILAW has a shorter range and is lighter than the TOW and DRAGON. Additionally, it will not have a dedicated gunner but will be issued to soldiers and marines as an item of ammunition on an as-needed basis. The FY 1981 budget funded low-rate initial production of 1,400 rounds, to be delivered between November 1982 and March 1983. In view of Congressional concerns with the system's performance during initial tests and its projected cost, we have scheduled further testing to determine if a more cost-effective alternative can be identified. The Army and Marine Corps will conduct joint tests of foreign and domestic ILAW candidates during FY 1983, and will decide whether to proceed with full-scale production of Viper, or to pursue an alternative ILAW, upon completion of the testing program later in the year.

	<u>FY 1982 Actual Funding</u>	<u>FY 1983 Planned Funding</u>	<u>FY 1984 Proposed Funding</u>	<u>FY 1985 Proposed for Authorization</u>
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M1 Tank

Development:				
\$ Millions	133.5	107.9	92.3	51.8
Procurement:				
Quantity	700	855	720	720
\$ Millions	1,570.3	2,035.5	1,757.3	1,759.7

M60A3
Modification

Procurement:				
Quantity	534	460	460	460
\$ Millions	146.6	162.9	189.1	204.0

BFVS

Development:				
\$ Millions	107.6	50.3	19.4	37.6
Procurement:				
Quantity	600	600	600	830
\$ Millions	898.7	870.6	858.3	1,111.4

LVT

Procurement:				
Quantity	30	146	153	--
\$ Millions	71.8	145.2	115.3	--

TOW Missile

Development:				
\$ Millions	6.7	2.0	1.9	3.9
Procurement:				
Quantity	12,674	13,000	20,200	21,028
\$ Millions	151.8	162.0	243.4	282.3

Light Anti-
Tank Weapon

Development:				
\$ Millions	10.0	10.0	--	--
Procurement:				
Quantity	60,000	--	--	104,156
\$ Millions	98.6	--	--	132.9

(2) Land Forces Aviation

(a) Helicopters

The Army and Marine Corps maintain a versatile fleet of helicopters to support their combined arms team. These helicopters will provide an essential measure of firepower and tactical

mobility to our ground combat units. We will rely on them to help detect and defeat enemy armored forces and to transport our troops within combat theaters. To improve their capabilities in each of these mission areas, our FY 1984-88 program places primary emphasis on three modernization goals: enhancing the firepower of our attack helicopters, increasing the lift capacity of our assault-support helicopters, and improving the survivability of both.

Attack Helicopters -- The AH-1 (Cobra), armed with the TOW anti-armor missile, is our primary attack helicopter. To augment its AH-1 force and to enhance the close combat capability of both its light and heavy divisions, the Army is also fielding a new attack helicopter, the AH-64 (Apache). The AH-64 will be able to operate in high mountainous terrain, in adverse weather, and at night using its substantially increased firepower -- a 30mm gun and the new Hellfire anti-armor missile system, which is capable of defeating all known or postulated enemy armor.

Assault-Support Helicopters -- To improve the capability of its assault-support helicopter force, the Army is fielding the UH-60 Blackhawk in selected units as a replacement for its aging UH-1s (Huey). Compared to the UH-1, the UH-60 is more maneuverable and survivable, has greater lift capacity, and is able to travel at higher speeds, significantly enhancing the tactical mobility and flexibility of the units to which it is assigned.

In addition to procuring new UH-60s, the Army will continue several programs in FY 1984-88 to modify other assault support helicopters in its inventory. Modification programs represent a relatively low-cost means of taking advantage of advances in design technology without incurring the costs of developing and fielding a new system. The CH-47D (Chinook) modification program will increase the lift capacity of that helicopter, improve its reliability and maintainability, and reduce its vulnerability, enabling it to meet the Army's medium-lift requirement through the year 2000. The Army Helicopter Improvement Program (AHIP) is intended to modify the Army's current OH-58 scout helicopter to make it capable of worldwide employment during day and night and under conditions of limited visibility. This will be accomplished by improving its flight performance, enhancing its communications and navigation capabilities, and providing it with a mast-mounted sight and laser designator.

The Marine Corps will also continue to improve its force of assault and assault-support helicopters over the next five years. To increase the heavy-lift capacity of its force, it will continue to procure the three-engined CH-53E (Super Stallion). To retain the operational effectiveness of its aging CH-46 medium-lift assault helicopters through their remaining years of service, it is providing continued funding for the CH-46 Safety, Reliability, and Maintainability Update and Fiberglass Rotor Blade programs. In addition to their other missions, the CH-53 and CH-46 will provide into the 1990s the primary lift capability required to land and support the assault echelons of Marine Amphibious Forces.

(b) Developmental Aircraft

Joint Services Advanced Vertical Lift Aircraft (JVX) -- The JVX program is designed to combine a number of the Services' rotary- and fixed-wing development programs into a single effort. Available and demonstrated advanced rotary-wing technology will be utilized to develop a common, basic Vertical and Short Takeoff

and Landing (V/STOL) aircraft which can be produced in several variations to meet specific medium-lift needs of all four Services (amphibious assault troop lift, battlefield surveillance and special electronic support, combat rescue, special operations, and medium logistics support). If development proceeds according to schedule, the Marine Corps will take delivery of the first production aircraft in 1991.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
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AH-64

Development:				
\$ Millions	91.9	33.6	28.3	17.1

Procurement:				
Quantity	11	48	112	144
\$ Millions	537.5	895.2	1,465.5	1,414.8

Hellfire 1/

Development:				
\$ Millions	23.1	26.1	3.3	2.9

Procurement:				
Quantity	680	3,971	5,920	6,340
\$ Millions	119.7	247.4	258.1	259.5

UH-60

Development:				
\$ Millions	6.7	5.6	--	--

Procurement:				
Quantity	96	96	84	78
\$ Millions	638.2	584.8	480.5	533.9

CH-47D

Procurement:				
Quantity	19	24	36	48
\$ Millions	224.4	262.7	344.0	422.2

AHIP

Development:				
\$ Millions	38.5	73.8	53.7	24.3

Procurement:				
Quantity	--	--	16	44
\$ Millions	--	28.4	191.2	245.0

JVX 2/

Development:				
\$ Millions	--	34.8	104.3	311.6

1/ Reflects Army and Marine Corps budgets
 2/ Reflects all Service budgets

(3) Air Defense

The primary objective of our air defense modernization program is to develop and field a balanced and integrated family of ground and airborne weapons. To be effective, these weapons must be supported and linked by a system of radar, command and control, and electronic warfare equipment. Our ground-based air defense systems are designed to provide a balanced mix of weapons capable of point and area defense against a range of potential threats.

Stinger -- The Stinger is a man-portable, shoulder-fired, infrared-guided missile system 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 Redeye and by the Air Force to improve a point air defense capability at selected air bases. A product-improved version of the missile, Stinger-Post, is scheduled to enter production in FY 1983.

Division Air Defense (DIVAD) Gun -- The self-propelled, twin-40mm DIVAD gun is the planned replacement for the self-propelled Vulcan 20mm gun now deployed in the Army's heavy divisions. The initial production contract for DIVAD was signed in May 1982, and the first units are scheduled to be delivered in September 1983. The planned production schedule will permit the Army to achieve its acquisition objective of 618 guns by the end of the FY 1989 FDP.

Patriot -- The Patriot is the Army's advanced all-altitude air defense missile system. Its multifunction, phased-array radar gives it a significant electronic counter-countermeasures (ECCM) capability. The Patriot will be highly effective against all air-breathing targets likely to be encountered through the end of the decade and beyond.

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, and to improve its capabilities against the Soviet aircraft threat of the 1990s, we are replacing the propellant in rocket motors reaching the end of their shelf-life, modifying the system with forward-looking infrared radar (FLIR) sensors for engaging targets at night and in poor weather, and developing a guidance system with high resistance to infrared countermeasures.

Improved Hawk (I-Hawk) -- We are proceeding with a program to upgrade the I-Hawk missile for our Army and Marine Corps forces. Included in the program are installation of a new missile motor and provision of a multi-engagement capability, as well as other system reliability, availability, and maintainability upgrades. These improvements will ensure that our I-Hawk systems will continue to operate effectively into the 1990s in the expected electronic countermeasures environment.

Short-Range Air Defense Command and Control (SHORAD C²) -- During the 1980s, the Army's forward-area air defense capability will be enhanced through the introduction of the DIVAD gun, Stinger/Stinger-Post, and an improved Chaparral. To take maximum advantage of these improvements, a division-level SHORAD C² system is also being developed. In addition to enhancing the management of division air defense resources, automated SHORAD C²

will improve coordination between division and non-division air defense forces.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
Stinger				
Development:				
\$ Millions	16.1	--	--	--
Procurement:				
Quantity	3,032	3,816	2,322	3,757
\$ Millions	219.3	311.6	183.7	428.0
DIVAD Gun				
Development:				
\$ Millions	29.9	10.9	--	--
Procurement:				
Quantity	50	96	130	132
\$ Millions	375.2	618.3	671.1	630.7
Patriot				
Development:				
\$ Millions	55.8	46.9	84.6	69.6
Procurement:				
Quantity ^{1/}	9/176	12/277	15/525	17/815
\$ Millions	747.3	845.0	1,127.2	1,316.6
Chaparral Modifications				
Development:				
\$ Millions	23.6	24.7	23.6	31.6
Procurement:				
Quantity ^{2/}	--	--	--	--
\$ Millions	88.4	37.2	17.9	205.3
Improved Hawk				
Development:				
\$ Millions	39.4	36.4	33.5	28.3
Procurement:				
Quantity ^{2/}	--	--	--	--
\$ Millions	97.2	20.7	31.2	165.6
1/ Firing units/missiles				
2/ Modifications only				

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>SHORAD C²</u>				
Development: \$ Millions	9.2	1.0	41.6	52.4
Procurement: Quantity	--	--	--	--
\$ Millions	--	--	--	--

(4) Artillery Fire Support

Our land forces have substantially fewer artillery pieces than do their potential Warsaw Pact opponents. To correct this imbalance, we are improving the target acquisition and fire control capabilities of our weapon systems, providing improved laser designation capabilities for our existing munitions, modernizing our weapon systems, and building up our stockpile of war reserve munitions.

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 Surveillance and Target Attack Radar System (JSTARS) program. (See the C³I chapter for further details.) The Remotely Piloted Vehicle (RPV), also in development, will improve our ability to locate targets, adjust artillery fire, and designate targets for laser-guided weapons.

Fire Control -- The Army is continuing development of the Advanced Field Artillery Tactical Data System (AFATDS), which will exploit advanced communications and computer technology to develop a new-generation automated fire control system for its firing batteries. The Marine Corps will continue development of the Artillery Computer System (ACS), a lightweight, battery-operated computer intended for use at the firing battery level. Entering procurement in the next five years will be the Army's Battery Computer System (BCS), a small computer that provides firing data for individual guns in a firing battery (thereby permitting more flexible gun positioning and independent automated fire control), and the Meteorological Data System (MDS), which 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 and projectiles such as Copperhead and Hellfire. The Ground Laser Locator Designator (GLLD) and the Modular Universal Laser Equipment (MULE) are currently in procurement.

Weapons -- The Multiple-Launch Rocket System (MLRS) is a high-rate-of-fire general support artillery rocket system designed to supplement cannon artillery fire, to counter enemy artillery, to suppress enemy air defenses, and to provide mid-range interdiction beyond cannon range. Deployment of the system will begin in FY 1983, and the system has been approved for multiyear procurement. The Army is continuing a multinational program to develop a terminally-guided submunition (TGSM) for the MLRS.

The Army will resume procurement of the M109A2 155mm self-propelled howitzer in FY 1984 and of the M198 155mm towed howitzer in FY 1985, primarily for its Reserve Component units.

In FY 1982, we merged the Corps Support Weapon System (CSWS) program and the Air Force's Conventional Standoff Weapon (CSW) program into a joint project, under the Army's lead. The restructured program (Joint Tactical Missile Program) will use elements of assault breaker technology to develop a surface-to-surface weapon system for conventional and nuclear deep battlefield interdiction.

Ammunition -- In FY 1984, we will continue to build our inventories of improved conventional munitions (ICMs), rocket-assisted projectiles (RAPs), and scatterable mines. We are requesting \$878 million in FY 1984 to procure these items for 155mm and 8-inch artillery.

	<u>FY 1982</u> <u>Actual</u> <u>Funding</u>	<u>FY 1983</u> <u>Planned</u> <u>Funding</u>	<u>FY 1984</u> <u>Proposed</u> <u>Funding</u>	<u>FY 1985</u> <u>Proposed for</u> <u>Authorization</u>
<u>JSTARS</u> <u>(formerly BDS)</u>				
Development:				
\$ Millions	4.1	36.8	69.0	70.5
<u>RPV</u>				
Development:				
\$ Millions	76.6	77.7	138.1	103.0
Procurement:				
Quantity	--	--	--	--
\$ Millions	--	--	--	141.6
<u>AFATDS</u>				
Development:				
\$ Millions	4.8	11.0	31.9	32.0
<u>BCS</u>				
Procurement:				
Quantity	217	146	146	128
\$ Millions	45.4	27.9	29.4	28.2
<u>MDS</u>				
Development:				
\$ Millions	6.1	2.2	5.3	3.5
Procurement:				
Quantity	--	6	12	24
\$ Millions	--	13.6	18.0	32.9

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
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ACS

Procurement:

Quantity	--	--	--	--
\$ Millions	--	--	--	16.0

GLLD

Procurement:

Quantity	225	--	105	175
\$ Millions	58.7	--	46.8	51.9

MULE

Procurement:

Quantity	16	120	120	120
\$ Millions	21.2	37.3	43.7	40.9

MLRS

Development:

\$ Millions	40.2	23.1	1.0	3.9
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Procurement:

Quantity ^{1/}	2,496/68	23,640/72	36,000/76	50,472/44
\$ Millions	203.3	444.4	551.6	619.9

MLRS TGSM

Development:

\$ Millions	1.0	6.4	20.4	27.1
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M109A2

Procurement:

Quantity	--	--	112	70
\$ Millions	--	--	82.7	56.0

M198

Procurement:

Quantity	363	--	--	63
\$ Millions	129.9	--	--	31.8

JTACMS

(Formerly CSWS)

Development

\$ Millions	11.9	6.1	50.2	126.5
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1/ Rockets/Launchers.

Artillery Ammunition

	FY 1984			
	Army		Marine Corps	
	Quantity	\$ Millions	Quantity	\$ Millions
155mm ICM	440,000	233.0	143,343	74.6
155mm RAP	73,000	45.0	25,457	14.9
155m Scatter- able Mines	14,000 ^{1/} 51,000 ^{2/}	66.4 ^{1/} 123.3 ^{2/}	8,237 ^{1/} 3,199 ^{2/}	41.2 ^{1/} 8.5 ^{2/}
8-inch ICM	186,000	201.0	11,585	12.1
8-inch RAP	23,000	39.4	10,904	18.5

^{1/} ADAM
^{2/} RAAMS

(5) Tactical and Support Vehicles

The Army and Marine Corps will continue to upgrade their tactical wheeled vehicle fleets, thereby relieving some of the severe problems caused by shortages and over-age, over-mileage vehicles. Both Services are continuing programs to procure commercial vehicles for use in a variety of tasks. These vehicles are an important adjunct to the tactical fleet, since their use reduces mileage and wear on the more expensive and scarce tactical vehicles.

High Mobility Multipurpose Wheeled Vehicle (HMMWV) -- The Army and Marine Corps will begin replacement of a number of tactical vehicles in the 1/4- to 1-1/4-ton range with the 5/4-ton HMMWV. This highly mobile, diesel-powered, 4 x 4 vehicle is air transportable and droppable, and will have a common chassis with multiple variants, such as weapons carrier, utility, and ambulance. Developmental and operational testing were completed early in FY 1983, and the first deliveries are scheduled for FY 1984.

Commercial Utility and Cargo Vehicle (CUCV) -- The CUCV family of Army and Marine Corps vehicles will complement the HMMWV by replacing a number of tactical vehicles operating in less-demanding tactical environments. The CUCV is a diesel-powered, 4 x 4, 5-4-ton, commercial off-the-shelf vehicle that will be procured in cargo, ambulance, and utility versions.

5-Ton Truck (all body types) -- The Army and Marine Corps are procuring product-improved 5-ton cargo, tractor, and dump trucks and 5-ton wreckers. The Army is also procuring product-improved versions of 5-ton tractor-wreckers and vans. The Marine Corps is continuing its 5-ton retrofit program to convert its M39-series vehicles into the current M809-series 5-ton trucks.

10-Ton Truck (all body types) -- The Army continues to procure the Heavy Expanded Mobility Tactical Truck (HEMTT), its largest 10-ton truck program. The HEMTT is a high-mobility vehicle assembled from commercially proven components and produced in five body styles for use in a variety of combat and combat

support units. In FY 1982, the Marine Corps began procurement of the Logistics Vehicle System (LVS), a HEMTT variant with four interchangeable rear body units. Integration of the Army and Marine Corps programs will allow the Marine Corps to field its LVS force 14-18 months earlier than originally planned.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>HMMWV 1/</u>				
Development: \$ Millions	3.0	3.3	--	--
Procurement: Quantity	--	2,328	7,194	12,747
\$ Millions	--	79.0	228.3	407.3

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>CUCV 1/</u>				
Procurement: Quantity	3,033	13,618	16,616	24,082
\$ Millions	39.9	177.4	211.6	354.7

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>5-Ton Truck 1/</u>				
Procurement: Quantity	4,980	6,151	5,995	5,547
\$ Millions	397.4	470.6	475.9	459.3

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>10-Ton Truck 1/</u>				
Procurement: Quantity	1,356	2,618	1,464	2,872
\$ Millions	196.6	402.3	240.7	483.2

1/ Reflects Army and Marine Corps budgets.

(6) Tactical Communications and Electronic Intelligence

Command, control, communications, and intelligence (C³I) programs for our land forces are designed to improve our ability to control our forces; to enhance the interoperability, survivability, and restorability of essential C³I functions; and to increase our capability to jam and monitor the enemy's electronic emitters. Three programs -- Joint Tactical Communications (TRITAC), Joint Tactical Fusion Program (JTFFP), and Joint Interoperability of Tactical Command and Control Systems (JINTACCS) -- are discussed in the C³I chapter. Other key C³I programs (some of which are also discussed further in that chapter) include:

Ground Mobile Forces (GMF) Satellite Communications -- The GMF program is designed to provide reliable, jam-resistant communications support to deployed commanders using satellite communications links. The Army, Air Force, and Marine Corps will procure several hundred of the various types of transportable terminals, as well as supporting equipment.

Single-Channel Ground and Airborne System VHF (SINCGARS-V) -- The SINCGARS-V program will provide secure, ECCM-capable, very high frequency (VHF) radios to replace current vehicular and manpack VHF radios. The four Services will eventually procure some 226,000 of these radios.

Position Location Reporting System (PLRS) and PLRS/Joint Tactical Information Distribution System (JTIDS) Hybrid -- The PLRS, jointly developed by the Army and Marine Corps, will provide combat commanders with automatic, near-real-time, precise locations of their forces regardless of terrain, weather, or geographical location. The PLRS/JTIDS hybrid will provide secure, jam-resistant battlefield data distribution among command and control, intelligence, air defense, fire support, electronic warfare, and other systems.

Electronic Jamming -- To increase its ability to jam enemy communications, the Army will procure additional TACJAM systems (MLQ-34), more hand-emplaced expendable jammers, and the EH-60 Quickfix electronic warfare helicopter. It will protect its helicopters and special-mission fixed-wing aircraft against radar-, infrared-, and other electronically guided missiles and guns by fielding additional aircraft survivability equipment, including radar/laser/missile warning receivers, infrared and radar jammers, and dispensers for chaff and flare decoys.

Tactical Intelligence -- Principal tactical intelligence modernization programs funded during FY 1984-88 include continued procurement of the Improved Guardrail V, improvements to the Trailblazer (TSQ-114A), development of tactical fusion systems, completion of the Teampack (MSQ-103) program, improvements to Quicklook, and initial development of the JSTARS.

Communications Security (COMSEC) -- The Army is procuring several types of modern COMSEC equipment to provide secure tactical communications links among a variety of communications systems.

	<u>FY 1982 Actual Funding</u>	<u>FY 1983 Planned Funding</u>	<u>FY 1984 Proposed Funding</u>	<u>FY 1985 Proposed for Authorization</u>
<u>GMF</u>				
Development:				
\$ Millions	14.8	17.4	17.1	25.2
Procurement:				
Quantity	--	--	--	--
\$ Millions	68.6	87.2	109.3	153.9
<u>SINCGARS-V</u>				
Development:				
\$ Millions	14.0	16.9	16.1	5.7
Procurement:				
Quantity	--	650	3,200	8,250
\$ Millions	--	19.8	50.8	138.1

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>PLRS and PLRS/ JTIDS Hybrid</u>				
Development: \$ Millions	29.4	47.0	41.0	45.1
Procurement: Quantity	--	--	--	--
\$ Millions	--	28.2	35.3	74.5
<u>Electronic Jamming</u>				
Development: \$ Millions	23.9	29.8	78.4	102.8
Procurement: \$ Millions	45.2	27.3	224.9	267.0
<u>Tactical Intelligence</u>				
Development: \$ Millions	53.3	89.3	106.3	108.5
Procurement: \$ Millions	18.6	48.3	105.1	165.8
<u>Communications Security</u>				
Procurement: \$ Millions	88.7	184.1	199.5	180.8

3. Conclusion

Our FY 1984-88 program is aimed at the continuing revitalization of our land forces, severely weakened by the defense spending cutbacks of the 1970s. It is structured to achieve two key goals:

- A modern and balanced force with significantly improved manpower and materiel readiness, and
- A force capable of rapid buildup and sustained combat operations in varying locations throughout the world.

Each of the initiatives funded in our five-year program will contribute to these goals and to our ultimate objective of effectively countering an increasingly diverse range of threats worldwide. The degree of success we will enjoy in their achievement is, in large measure, directly proportional to the degree of program stability permitted by future legislation.

B. NAVAL FORCES

1. Introduction

a. Maritime Policy

As a nation with global commitments and interests, the United States must maintain a strong forward defense posture. In order to carry out our forward defense strategy, U.S. naval forces, in conjunction with allied forces and selected U.S. air and land forces, must be capable -- and be seen as being capable -- of preserving our access to areas vital to our national interests in a timely manner and in the face of the most determined opposition.

While we are still studying in detail the lessons of last year's naval conflict in the South Atlantic, some broad conclusions about maritime strategy are already evident. At the most fundamental level, this conflict reinforced our belief that strong maritime forces are essential to a nation that must defend its interests and support its forces in distant parts of the world. The conflict also made it abundantly clear that multipurpose carrier battle groups -- including airborne early warning aircraft and high-performance, long-range fighter interceptors -- are necessary to ensure the survivability of our surface forces against modern anti-ship weapons. At the same time, the conflict dramatically underscored the need to redouble our efforts to develop improved long-range air surveillance and warning systems, to strengthen the contribution of land-based forces to the defense of the sea lanes, and to develop improved ship self-protection systems.

Beyond these lessons, the performance of the British fleet in the South Atlantic served as a stark reminder to our potential adversaries that the United States has highly capable allies who could contribute significant maritime forces to the common defense if required. The British Navy's performance also demonstrated once again the vital importance of a well-trained and highly motivated force.

b. Program Goals

Our policy of maintaining sufficient allied maritime strength in key ocean areas requires continued improvements in our naval forces. Our programs are intended to enhance the readiness and sustainability of our existing forces, while striking an appropriate balance between modernization and force expansion requirements. Specifically, we have structured our programs to meet five broad objectives:

- Improved day-to-day fleet readiness and sustainability;
- Increased and more diversified offensive striking power;
- Increased attention to air defense of the sea lanes, including the use of appropriate land-based forces;
- Continued improvements in anti-submarine warfare capabilities in order to meet the threat of an increasingly sophisticated Soviet submarine force; and
- Improved amphibious assault capability.

c. Expansion of Naval Force Structure

As outlined in last year's report, we now aggregate our most capable and ready naval forces into a "deployable battle force" category, shown in Table III.B.1. Our program to build a "600-ship Navy" is structured in the context of this counting method, which focuses on those ships that are suitable for wartime deployment overseas. The counting method includes almost all of our active ships and some of our Military Sealift Command (MSC) and Naval Reserve Force (NRF) ships, such as the modern frigates that we are transferring from the active force to the NRF.

When this Administration took office, our deployable battle force numbered 479 ships. By the end of FY 1983, the force will have grown to 506 ships. Counting our sealift, auxiliary, and reserve mobilization ships brings the force total to 559 ships. Our FY 1984-88 program projects that the deployable battle force will grow to about 610 ships and the total operating inventory to about 650 ships by the early 1990s, when nearly all the ships in our five-year shipbuilding plan will have joined the fleet.

TABLE III.B.1

Deployable Battle Forces ^{1/}
(End fiscal year)

	<u>1981</u>	<u>1982</u>	<u>1983</u>
Ballistic Missile Submarines	34	33	34
Strategic Support Ships	7	6	6
Aircraft Carriers	12	13	13
Battleships	0	0	1
Cruisers/Destroyers	110	112	97
Nuclear Attack Submarine	82	91	91
Diesel Attack Submarines	5	5	5
Amphibious Ships	65	65	60
Frigates	78	86	95
Patrol Combatants	1	4	6
Mine Warfare Ships	3	3	3
Mobile Logistic Ships	72	72	73
Combat Support Ships	<u>22</u>	<u>23</u>	<u>22</u>
Total	491	513	506

^{1/} Includes appropriate Naval Reserve Force (NRF) and Navy Fleet Auxiliary Force (NFAF) ships.

Despite the importance I attach to the expansion of our naval fleet, I should also emphasize the limitations of focusing solely on ship numbers to measure the strength of our maritime power. Our general purpose naval forces include large numbers of land-based aircraft, such as the P-3 maritime patrol aircraft that contribute substantially to our anti-submarine warfare capabilities. In the future, Air Force fighters, early warning aircraft, and bombers will also assume an increasingly important role in supporting maritime missions, although the decision to commit additional forces to maritime defense tasks must take into account the potential degradation of other missions. Other key factors that have a major impact on our maritime capabilities include force readiness and sustainability, personnel training and morale, and the quality of our sensor systems and weapons. Moreover, our allies deploy a large number of highly capable ships and maritime aircraft that would make significant contributions to our common defense in a major conflict.

2. FY 1984-88 Programs

a. Force Readiness and Deployments

The defense spending increases in FY 1981 and FY 1982 have registered their most immediate impact on fleet readiness and sustainability. In particular, the increases in compensation in the past two years have contributed significantly to improved retention of experienced personnel and the enlistment of high-quality recruits -- a major factor in the recent improvement in fleet readiness. Continued emphasis on programs to enhance readiness and sustainability will be required, but the improvement to date provides encouragement that we are on the right track. For example, the proportion of our surface ships considered "ready for combat" has increased by six percentage points over the past two years.

(1) Forward-Deployed Presence

The Navy has implemented a new plan for forward deployments of carrier battle groups that adjusts our traditional forward presence to provide more flexibility in our deployments -- hence its name, Flexible Operations (Flex Ops). The new schedule maintains our carrier battle group presence at previous levels in the Mediterranean and the Pacific theaters, while reducing presence in the Indian Ocean from an average of one and one-half carrier battle groups to one continuously deployed group. This adjustment provides opportunities for worldwide battle group training involving two or more carriers and for increased operations in areas where carriers have seldom operated in the past, such as the Caribbean, the Sea of Japan, and the Northwest Pacific. [The Flex Ops schedule reduces the predictability of our carrier deployments and provides the flexibility to increase presence in areas of potential crisis, should circumstances require.] It also eases somewhat the strain on fleet personnel and material readiness that resulted from the Indian Ocean buildup of 1980 and 1981.

(2) Material Readiness

Our five-year program provides balanced funding for each level of maintenance. We have programmed funds to achieve real growth in organizational and intermediate maintenance functions -- a critically important area that has been a prime target of spending cuts in recent years. Decreased funding for depot maintenance reflects a reduction in the number of ship overhauls, a result of the Navy's new extended operating cycle program. Growth in funding for ship spare

and repair parts is consistent with our force expansion and operating objectives.

(3) Sustainability

We have budgeted more than \$4.5 billion in FY 1984 for munitions and war reserve secondary items, to continue the Navy's progress toward meeting the DoD goal of achieving approved levels of sustainability by the end of the FY 1987 funded delivery period. Specifically, we are giving priority attention to building up our inventory of air-to-air and surface-to-air missiles.

b. Carrier Battle Forces

(1) Multimission Capabilities

The linchpin of our naval force projection capability continues to be the multipurpose carrier battle group. The mix of tactical aircraft on these carriers, together with accompanying surface combatants and submarines, provides capabilities across the full spectrum of naval missions. The British fleet's experience in the South Atlantic conflict underscored the wisdom of structuring our carrier battle group forces to provide multimission flexibility. Particularly important is the need for airborne early warning aircraft, long-range interceptors, and long-range anti-submarine warfare aircraft (such as the S-3 Viking) -- a requirement that demands aircraft carriers large enough to support conventional takeoff and landing aircraft.

(2) Force Expansion Plans

With the delivery of the CARL VINSON (CVN-70) in FY 1982, we achieved a force of 13 deployable carriers. The third ship of the highly successful NIMITZ class, the VINSON will begin overseas deployments in March 1983, thus easing the deployment burden on our carriers. Our FY 1984-88 program provides for expansion to 14 deployable carriers and active air wings, coincident with the accelerated delivery of the THEODORE ROOSEVELT (CVN-71) in FY 1987.

(3) Service Life Extension Program

Our service life extension program (SLEP) is vital to our force modernization and expansion plans. By extending the service life of our existing large-deck carriers for an additional 15 years, SLEP promises to be an economical supplement to new ship construction -- particularly since only one shipyard is currently capable of building new CVNs. Work on our first SLEP carrier, the SARATOGA, is proceeding on schedule toward a target completion date in early 1983. When the SARATOGA SLEP is completed, we will begin work on the FORRESTAL at the Philadelphia Naval Shipyard, with other carriers following at a planned rate of one every two years.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>Aircraft</u>				
<u>Carriers (CVN)</u>				
Procurement:				
Quantity	--	2	--	--
\$ Millions	554.5	6,554.1	98.2	13.9
<u>Service Life</u>				
<u>Extension Program</u>				
Quantity	--	1	--	1
\$ Millions	109.2	717.1	118.7	820.9

c. Other Strike Forces

(1) Battleship Reactivations

Reactivation of the four IOWA-class battleships will permit a significant increase in our naval gunfire and surface strike capabilities. The program is proceeding on schedule and within cost estimates, with the NEW JERSEY (the first ship to be reactivated) recommissioned in December 1982. During initial sea trials, we successfully tested the ship's main propulsion, electrical, and other major noncombat systems. Combat system tests conducted last October included firings of the ship's original 16-inch and 5-inch guns and the newly installed Vulcan Phalanx Close-In Weapon System (CIWS). The ship is fully manned, and the crew is living aboard. Fitting out and training will be conducted in January and February 1983, after which the Navy will test the new Tomahawk and Harpoon cruise missile systems. The NEW JERSEY is scheduled to be available for its first deployment in March 1983.

The IOWA, the next ship to be reactivated, has been moved from her berth at Philadelphia, and drydocking and preliminary work planning are under way. This will be our first reactivation in a private yard. Our plans for future reactivations include funding of the third ship, the MISSOURI, in FY 1985, followed by the fourth, the WISCONSIN, in FY 1986.

(2) Tomahawk Cruise Missiles

The Tomahawk cruise missile program represents a major effort to improve the firepower of our naval units and to distribute our offensive striking power among a larger number of ships. Tomahawk is a highly capable and versatile weapon system that can be launched from a variety of surface ships, submarines, and aircraft against enemy surface ships and shore targets beyond the horizon. The early phases of this program have clearly proven the system's worth. The missile has, however, experienced some quality assurance problems in production. As a result, we have slowed production from our earlier projections until these problems are completely resolved. Once we are satisfied with the system's reliability, we plan to procure and deploy the missile in large numbers. Our FY 1984-88 program requests funding for a total of 1,861 missiles.

Tomahawk will be deployed on a wide range of ships and submarines. The first operational missiles will be deployed in armored box launchers on our reactivated battleships. We plan to install a vertical launch system (VLS) on our SSN-688 attack submarines, starting with SSN-719, and on all but the first five new-construction CG-47-class Aegis cruisers, and will retrofit the system on DD-963 destroyers. New DDG-51 guided missile destroyers will also be equipped with the vertical launch system.

(3) Harpoon Anti-Ship Missiles

We plan to continue production of the highly successful Harpoon anti-ship cruise missile, with a total of 1,524 missiles budgeted in the FY 1984-88 program. The Harpoon system is deployed on most of our surface combatants and on many of our attack submarines. The missile can also be launched from P-3 patrol aircraft and A-6 attack aircraft, and we plan to modify S-3 patrol aircraft to carry it as well. We are also conducting compatibility tests with the Air Force's B-52G heavy bomber.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>Battleship Reactivations</u>				
Quantity	1	1	--	1
\$ Million	332.7	315.6	72.1	587.7
<u>Tomahawk Missiles</u>				
Procurement:				
Quantity	88	54	124	353
\$ Millions	232.6	223.7	393.3	768.2
<u>DD-963 VLS Backfit</u>				
Quantity	--	1	--	4
\$ Millions	--	40.3	11.2	103.6
<u>Harpoon Missiles</u>				
Procurement:				
Quantity	240	231	340	340
\$ Millions	230.7	232.7	312.5	345.1

d. Anti-Air Warfare (AAW) Forces

Soviet anti-ship cruise missiles, especially those launched from long-range bombers and submarines, pose an increasingly serious threat to our naval forces and sea lines of communication. The Soviets continue to build the Backfire bomber, which can threaten our naval forces over a large part of the world's ocean area, and they are developing a new bomber, the Blackjack, with even longer range and greater payload. They are also deploying a new class of submarines,

the Oscar SSGN, each of which is capable of carrying 24 anti-ship cruise missiles. In addition to their bomber and submarine modernization programs, the Soviets are also improving their anti-ship missiles by extending their range and increasing their speed and targeting capabilities.

(1) Defense-In-Depth Concept

To defend against air attacks, our carrier battle groups employ a "defense-in-depth" approach consisting of three concentric zones -- an outer defense zone, a surface-to-air missile (SAM) area defense zone, and a point defense zone. Our five-year plan continues programs to upgrade our capability in each of these zones. For outer defense zone protection, our carrier battle forces rely on carrier-based E-2C airborne early warning aircraft, fighter interceptors (F-14s, F-4s, and -- in the future -- F-18s), and EA-6B electronic warfare aircraft. SAM area defense capability is provided by our anti-air warfare ships, which in the future will include CG-47 cruisers and DDG-51 destroyers. Point defense is provided by short-range SAMs (NATO Sea Sparrow), guns (Vulcan Phalanx Close-In Weapon System), and electronic warfare and decoy systems. Electronic warfare systems, by countering the enemy's surveillance and targeting capability and thereby reducing the enemy's missile launch range, also have the potential to increase fighter effectiveness.

Our preferred approach is to destroy enemy bombers before they can reach missile launch range by intercepting them in the outer defense zone. To accomplish this, we must have warning of an attack early enough to get a large portion of the fighters in our carrier battle groups into position to engage the bombers. This requires improved long-range surveillance. As part of our Integrated Tactical Surveillance System (ITSS) program, we have begun development of a tactical Over-the-Horizon (OTH) radar to improve our early warning capabilities. OTH radars will provide detection capabilities between 500 and 1,800 nautical miles from their basing sites. ITSS will also improve the ability of our command, control, communications, and intelligence (C³I) systems to integrate data obtained from OTH radars and other sensor systems, with the objective of delivering a complete surveillance product to the battle group in time to allow our fighter forces to intercept an incoming bomber raid before the bombers reach missile launch range. Additional improvements to our naval C³I systems are described in the C³I chapter of this report.

(2) Land-Based Forces for Sea Lane Defense

We have made a major decision to expand the role of our land-based forces in defending the sea lanes against Soviet long-range bombers armed with anti-ship missiles. Where geographically feasible, [we plan to establish barriers composed of land-based interceptors, supported by long-range surveillance systems, to detect and engage Soviet bombers before they can threaten our naval forces and other ships transiting the sea lanes.] We have identified several deficiencies in our existing capability to use land-based forces for maritime air defense operations, including inadequate wide-area surveillance, vulnerability of communications systems to jamming, and insufficient joint Navy/Air Force training.

Our FY 1984 budget funds programs that will bolster our capabilities in each of these areas. To improve our wide-area surveillance and early warning capabilities, we will accelerate OTH radar development and use Airborne Warning and Control System (AWACS)

aircraft to support land-based fighters in maritime air defense operations. To improve our tactical C³ capabilities, we are starting a program to make the communications equipment in our AWACS aircraft more jam resistant. Finally, to improve the ability of our naval and air forces to function as an integrated team in sea lane defense operations, we are expanding joint Navy/Air Force planning and are arranging for more joint training exercises.

With these improvements, we expect our land-based fighters, with support from AWACS aircraft and British air defense forces, to be highly effective against the Soviet bomber threat in the important North Atlantic region. With OTH radar support, land-based fighters in other regions will also have a capability to help carrier battle groups defend themselves, as well as to protect critical sea lanes, defend vital bases, and assist in crisis management.

(3) CG-47 Aegis Program

The FY 1984-88 shipbuilding program funds procurement of 14 CG-47 guided missile cruisers with the highly effective Aegis weapon system. Combined with the ships already authorized, this procurement profile will give us 24 Aegis cruisers by the early 1990s. These ships will substantially increase the air defense firepower of our carrier battle groups against coordinated bomber raids and anti-ship cruise missile saturation attacks. During the past year, the lead ship of this new class, the TICONDEROGA, conducted highly successful sea trials, confirming that its high speed and sea-keeping capabilities will meet the requirements for operating with our carrier battle groups. Tests of the Aegis combat system have reinforced our confidence that our CG-47 force will significantly strengthen our anti-air warfare capability.

All of the Aegis cruisers in the five-year shipbuilding program will be equipped with the vertical launch system. This system increases ship magazine size, improves missile system reliability, and provides a significant increase in the launch rate for surface-to-air missiles.

To improve our defenses against the more formidable Soviet anti-ship missile threat of the future, we have established a product improvement development program for the Aegis weapon system. We have also begun development of an improved surface-to-air missile for use with the Aegis system.

(4) DDG-51 Program

To replace the large number of guided missile cruisers and destroyers scheduled for retirement in the 1990s, we are developing a new surface combatant, the DDG-51, that will be less costly than the CG-47. Designed primarily for anti-air warfare, the DDG-51 will be a general purpose battle-group-capable escort, with substantial surface and anti-submarine warfare capabilities as well. Its modified Aegis system and vertical launchers will also permit it to operate independently, in protection of all types of naval forces. The lead ship is scheduled for authorization in FY 1985, and we plan to buy several ships each year in the late 1980s and early 1990s. Ultimately, we envision deploying a force of about 60 DDG-51 ships.

(5) Other Cruiser and Destroyer Programs

To strengthen our fleet air defense capability against the growing anti-ship cruise missile threat, we are continuing to upgrade our existing cruisers and destroyers. Programs funded during FY 1984-88 include conversion of Terrier cruisers and destroyers to carry the advanced Standard missile (SM-2) and the follow-on New Threat Upgrade Program for Terrier and Tartar cruisers and DDG-993-class destroyers.

(6) Point Defense Systems

Modernization of surface ship self-defense systems will continue in FY 1984 with procurement and installation of the Phalanx Close-In Weapon System, the NATO Sea Sparrow missile (NSSM) system, and the AN/SLQ-32 electronic warfare system. The improved Sea Sparrow missile (RIM-7M) is also programmed for retrofit in NSSMs installations. In addition, the five-inch Rolling Airframe Missile (RAM) is nearing the end of development and will soon be available for retrofit in selected NSSM installations.

AN/SLQ-32 electronic warfare equipment is now being installed on combatant ships. We are requesting funds to continue development of modifications that will increase the system's electronic warfare capabilities and to develop countermeasures against enemy anti-ship missiles. We are also developing a family of decoys designed to counter radar, infrared, and anti-radiation missile seekers.

	<u>FY 1982</u> Actual <u>Funding</u>	<u>FY 1983</u> Planned <u>Funding</u>	<u>FY 1984</u> Proposed <u>Funding</u>	<u>FY 1985</u> Proposed for <u>Authorization</u>
<u>OTH Radars</u>				
Development:				
\$ Millions	--	1.5	39.0	39.0
Procurement:				
Quantity	--	--	--	2
\$ Millions	--	--	--	120.0
<u>Aegis Cruisers</u>				
Procurement:				
Quantity	3	3	3	3
\$ Millions	2,927.7	2,926.8	3,707.3	3,568.0
<u>DDG-51</u>				
<u>Destroyers</u>				
Development:				
\$ Millions	52.9	138.3	111.0	129.8
Procurement:				
Quantity	--	--	--	1
\$ Millions	--	--	99.5	1,363.7

	FY 1982 Actual <u>Funding</u>	FY 1983 Planned <u>Funding</u>	FY 1984 Proposed <u>Funding</u>	FY 1985 Proposed for <u>Authorization</u>
<u>Standard Missiles</u>				
Procurement:				
Quantity	1,095	1,175	1,231	1,800
\$ Millions	452.2	626.2	624.9	1,005.8
<u>Phalanx Close-in Weapon System</u>				
Procurement:				
Quantity	49	37	40	49
\$ Millions	161.4	124.1	130.2	169.1
<u>Sea Sparrow Missiles</u>				
Procurement:				
Quantity	294	360	370	361
\$ Millions	64.8	75.1	87.3	61.4
<u>Rolling Airframe Missile System</u>				
Development:				
\$ Millions	17.9	16.2	4.6	4.0
Procurement:				
Quantity	--	--	--	60
\$ Millions	--	--	13.4	24.1

e. Anti-Submarine Warfare (ASW) Forces

We are strengthening all aspects of our ASW capabilities -- detection, identification, localization, and attack -- in response to the growing Soviet submarine threat. In most instances, new Soviet submarine types -- such as the Oscar SSGN, the Alfa SSN, the Typhoon SSBN, and other classes that may appear in the future -- are faster and quieter, and can dive deeper. The Soviets are also developing more capable submarine-launched anti-ship missiles. Accordingly, we must intensify our efforts now to improve our ASW capabilities.

(1) ASW Defense-in-Depth Strategy

Effective defense against the Soviet submarine threat requires a defense-in-depth ASW strategy. Long-range, land-based P-3 patrol aircraft and attack submarines, supported by undersea surveillance systems, form an outer zone of ASW defense capable of offensive operations against enemy submarines in forward areas and barriers. Our attack submarines operating in concert with carrier battle groups; our carrier-based S-3 aircraft; and our surface combatants, equipped with towed-array passive sonar systems and LAMPS helicopters, provide a middle zone of ASW protection. An inner defensive zone is provided by surface combatants equipped with hull-mounted active sonars and by carrier-based helicopters. This layered defense maximizes enemy submarine attrition and provides a high level of protection for our

naval forces. To the greatest extent possible, we prefer to engage enemy submarines far forward of our naval forces and sea lanes, before they come within weapons range. This puts a premium on effective area surveillance systems and long-range patrol aircraft.

(2) ASW Surveillance Systems

(a) Fixed Undersea Surveillance Systems

Fixed undersea surveillance systems are a key factor in our ASW capability. We are continuing to upgrade our existing systems.

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

Our new mobile surveillance system, TAGOS SURTASS ships, will begin operations in late 1984. These ships will complement our fixed surveillance systems by providing the necessary flexibility to respond to changes in Soviet submarine deployment patterns and by extending coverage to remote ocean areas not presently monitored by fixed systems. They would also serve as an emergency backup system should our fixed systems be incapacitated. The Congress has appropriated funds for the first 12 of these ships. Our FY 1984-88 program requests funding for an additional six.

(c) Rapidly Deployable Surveillance System (RDSS)

To augment our existing surveillance systems, we are developing a new, mobile monitoring system, designated RDSS, that will be dropped from aircraft to provide undersea surveillance coverage as needed on a time-urgent basis. We will be able to move it quickly to areas of special surveillance interest, where it could augment or replace existing systems for extended periods of time. Our development program is structured to support initial deployment of the system in the late 1980s with more sophisticated models coming on line in later years.

(3) Attack Submarine Programs

Nuclear-powered attack submarines are a key component of our anti-submarine warfare forces, in addition to providing powerful anti-ship capabilities and serving as launch platforms for new sea-launched cruise missiles. Continued construction of our highly capable multimission SSN-688 LOS ANGELES-class submarines is therefore vital to our ability to meet our maritime objectives.

We are happy to report that production problems with our SSN-688-class submarines now appear to be behind us. During calendar year 1982, four SSN-688s were delivered, following seven deliveries in 1981. We continue to be pleased with the high quality of these submarines.

The Congress has authorized construction of 41 SSN-688s through FY 1983. We are requesting authorization of 21 additional submarines in our five-year program, including three units in FY 1984. The higher rate of construction planned for the latter years of our program is needed to replace the large numbers of existing submarines scheduled for retirement in the 1990s.

To ensure their continued high effectiveness in the future, we are also moving forward with a program to modify and improve our SSN-688 force. The design for our new-construction submarines has been modified to include vertical launch tubes, which will increase missile capacity without reducing the number of other weapons carried. We are investigating the possibility of retrofitting our existing 688-class submarines with these launch tubes during overhaul.

We are also improving the sensor and weapons capabilities of our submarine fleet. The Submarine Advanced Combat System (SUBACS), now under development, will incorporate new sensor and computer processing capabilities to maintain our technological edge in this vital area.

For the longer term, we are planning to design a new submarine to capture the latest advances in technology. This effort is now in a preliminary phase, with initial construction envisioned for the late 1980s.

(4) Maritime Patrol Aircraft

The Navy's land-based maritime patrol aircraft force is organized into 37 squadrons (24 active and 13 reserve), each containing nine P-3 aircraft. Studies and fleet exercises confirm that these aircraft will continue to make a substantial contribution to the Navy's ASW capabilities in the years ahead. The reserve squadrons operate our oldest models, the P-3As and early P-3Bs, which have become technologically obsolete relative to the current Soviet submarine threat. In view of this problem, and the block retirements of these aircraft scheduled in the early 1990s, our program funds continued production of P-3C aircraft, in order to maintain an adequate ASW capability into the next decade.

Recent Navy assessments have reconfirmed that the cost of converting our older force of P-3A and lightweight P-3B aircraft to a modern configuration and extending their useful service life would approach 80-85% of the cost of producing new P-3C aircraft. Accordingly, we are proposing a balanced P-3C production and modernization program that will keep pace with the threat without the need for an expensive development program for a new follow-on aircraft. Our FY 1984-88 program includes 29 P-3C aircraft, which, in conjunction with possible future foreign sales and procurement of EP-3 electronic surveillance aircraft, will ensure a reasonably efficient production rate. The six aircraft authorized in FY 1983 will be the first P-3C aircraft produced in the upgraded Update III configuration with the Advanced Signal Processor, the AN/UYS-1.

(5) Light Airborne Multipurpose System

(U) After another series of successful at-sea tests, we have conducted a program review of the LAMPS MK III (SH-60B) ASW helicopter system to assess its readiness to enter full-scale production. The review revealed several areas that will require further development and testing, but, on balance, we believe the system is ready for full production. The first helicopters are now scheduled to begin fleet operations in the fall of 1983. Once introduced into the fleet, LAMPS MK III aircraft will significantly improve the ASW capabilities of our surface combatants. We also expect high system reliability as a result of careful design and sustained testing.

When we submitted the FY 1983 budget, we envisioned a four-year SH-60B production run, to minimize unit costs through high production rates. This plan would have delivered some helicopters ahead of ship availability. In considering the FY 1983 budget, the Congress reduced the FY 1983 production rate to 27 aircraft. In view of this reduction and the overall budget constraints we face, we have decided to fund 21 aircraft in FY 1984. This rate will be sufficient to provide one helicopter for each LAMPS MK III-configured ship. Although this more modest production rate will raise unit costs, it will provide a better match between helicopter deliveries and ship availability, while minimizing the costs associated with any subsystem changes that may result from ongoing development activities and operational tests.

(6) SH-60F CV Helicopters

Our FY 1984 budget request includes funds to start the development of a replacement for the SH-3H helicopter. These helicopters provide an active dipping sonar capability, along with search and rescue and logistics support, for our carriers. The replacement helicopter, the SH-60F, will be a derivative of the SH-60B LAMPS MK III. We anticipate a program review in early 1983 to refine the cost, schedule, and performance requirements for this program.

(7) Surface Combatant 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 is scheduled for installation on all 46 of our FF-1052 class frigates, with about two dozen systems deployed to date. The SQR-19, an advanced-design TACTAS scheduled for installation on DD-963s, CG-47s, active force FFG-7s, and our new DDG-51 destroyers, will provide even greater range capability than the SQR-18. The Navy has completed at-sea evaluations of the SQR-19, with excellent results, and expects to begin deploying the system in the late 1980s.

(8) ASW Weapons

(a) MK-48 Torpedoes

The FY 1984-88 program continues production of MK-48 torpedoes for our submarines. These highly capable weapons can be used against both submarines and surface ships. Development of the Advanced Capability (ADCAP) modification is proceeding on schedule. ADCAP will provide improvements needed to counter faster Soviet submarines with deeper diving capabilities and reduced acoustic target strength and to perform effectively in shallow water, in high sea states, under ice, and in the presence of advanced countermeasures. Initial deployment of the torpedo is scheduled for the mid-1980s.

(b) Lightweight Torpedoes

The MK-46 is our conventional lightweight ASW torpedo designed for launch from surface ships and aircraft. To provide needed near-term improvements against increasingly capable Soviet submarines, we are procuring a new version, called NEARTIP (for the Near-Term Improvement Program). The program includes both new torpedoes and conversion kits to upgrade older MK-46s. For the

longer term, we are developing the Advanced Lightweight Torpedo (ALWT) to counter more capable future Soviet submarines. ALWT will provide a significant improvement in performance over the MK-46 torpedo. If the current rate of progress is maintained, the program should enter full-scale development in FY 1984.

(c) Long-Range ASW Weapons

We are developing two new long-range ASW weapons that will allow our submarines and surface ships to attack enemy submarines outside effective torpedo range. To replace existing Anti-Submarine Rockets (ASROC) deployed on our surface ships, we have begun the Vertical Launch ASROC (VLA) program. The ASW Standoff Weapon (ASW SOW) is slated to replace the Submarine Rocket (SUBROC) deployed with our attack submarine force.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>TAGOS</u>				
<u>SURTASS Ships</u>				
Procurement:				
Quantity	4	--	--	2
\$ Millions	161.9	2.9	6.1	142.1
<u>RDSS</u>				
Development:				
\$ Millions	6.7	19.3	21.1	20.0
<u>SSN-688</u>				
<u>Submarines</u>				
Procurement:				
Quantity	2	2	3	4
\$ Millions	1,612.7	1,688.3	2,174.1	3,057.2
<u>P-3 Patrol</u>				
<u>Aircraft</u>				
Procurement:				
Quantity	12	6	5	6
\$ Millions	430.8	299.1	289.6	415.1
<u>SH-60B</u>				
<u>LAMPS MKIII</u>				
Procurement:				
Quantity	18	27	21	18
\$ Millions	706.7	788.3	596.0	574.5
<u>TACTAS</u>				
Development:				
\$ Millions	17.8	9.8	3.7	--
Procurement:				
Quantity	--	5	16	15
\$ Millions	9.0	70.6	136.5	126.6

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
MK-48 Torpedoes				
ADCAP Development:				
\$ Millions	91.9	180.4	182.1	139.4
ADCAP MOD Kit				
Procurement:				
Quantity	--	--	--	66
\$ Millions	--	--	78.5	196.2
MK-48 MOD 4				
Procurement:				
Quantity	144	120	144	144
\$ Millions	124.1	119.9	127.1	137.3
MK-46 ASW Torpedoes				
Acquisition and Conversion:				
Quantity	228	440	1,200	1,565
\$ Millions	151.7	139.4	250.3	298.7
ALWT				
Development:				
\$ Millions	104.2	115.1	146.1	133.7
ASW Standoff Weapon				
Development:				
\$ Millions	35.4	20.2	28.0	63.4

f. Amphibious Assault Forces

Our FY 1984-88 shipbuilding program funds 13 amphibious ships. These new ships will increase our amphibious assault shipping capacity, permitting major amphibious operations in two separate theaters in wartime and easing the burden of overseas deployments on amphibious fleet personnel in peacetime. This will improve our ability to respond flexibly to threats to our interests around the world. Increased amphibious lift capacity is also needed to support the heavier, more capable equipment being introduced into the Marine Corps inventory and to replace aging ships. To ease the block retirement problem we face in the 1990s, we have also programmed a service life extension program for selected amphibious ships.

(1) Amphibious Ships

(a) LHD-1

The FY 1984 budget requests authorization of the lead ship in our Multipurpose Amphibious Assault Ship (LHD-1) program. The three LHD-1-class ships requested in our five-year program

will significantly increase our amphibious lift capacity, particularly our helicopter assault capability. Like the existing LHA Amphibious Assault Ship on which its design is based, the LHD-1 will displace about 40,000 tons, but it will be able to carry more air-cushioned landing craft than the LHA. The LHD-1 will also be better able to support vertical/short takeoff and landing (V/STOL) aircraft, giving it a secondary mission of operating as a light carrier in the sea control role.

(b) LSD-41

Our FY 1984 budget also requests funding for the fourth LSD-41 dock landing ship. The nine ships in our five-year program, together with the three already authorized, will greatly increase the fleet's capability to carry our new, high-speed Landing Craft Air Cushion (LCAC), with a corresponding enhancement in our ship-to-shore surface assault capability. Construction of the lead LSD-41 ship, the WHIDBEY ISLAND, is proceeding on schedule, with delivery expected in FY 1985.

(c) LPDX

Our FY 1984-88 shipbuilding program funds development of a third new amphibious ship, the Landing Platform Dock (LPDX). A notional ship, the LPDX will be similar in size to the LSD-41 but will carry fewer LCACs, trading landing craft space for greater capacity to carry troops, vehicles, helicopters, and cargo. Authorization of the lead ship is scheduled for FY 1988.

(d) Amphibious SLEP

We are also programming a service life extension for existing LPH helicopter carriers and LPD-4 ships. Without life extensions, these ships would have to be retired in the latter half of the 1990s, creating a major block retirement program. Keeping the ships in the force longer supports our goal of increasing our amphibious assault capability, and it will allow an orderly replacement program for our amphibious fleet.

(2) Landing Craft

The LCAC program will replace most of our existing conventional landing craft with air-cushioned craft capable of transporting troops and equipment to the shore at speeds in excess of 40 knots. LCAC will provide a major increase in assault flexibility, enabling our amphibious forces to land rapidly in areas where enemy forces are weakest. The six craft authorized through FY 1983 will be available for fleet operations in FY 1986. The FY 1984 budget requests authorization of six more, leading to full-rate production of 12 craft in FY 1985. Over the next five years, we plan to procure a total of 54 LCACs.

	FY 1982	FY 1983	FY 1984	FY 1985
	Actual	Planned	Proposed	Proposed for
	<u>Funding</u>	<u>Funding</u>	<u>Funding</u>	<u>Authorization</u>

LHD-1

Procurement:				
Quantity	--	--	1	--
\$ Millions	45.0	55.0	1,379.7	113.5

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
--	------------------------------	-------------------------------	--------------------------------	--

LSD-41

Procurement:

Quantity	1	1	1	2
\$ Millions	304.0	417.5	525.1	696.3

Amphibious
Service Life
Extension

\$ Millions	--	--	13.8	46.2
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LCAC

Procurement:

Quantity	3	6	6	12
\$ Millions	98.4	62.1	169.3	285.2

g. Escort and Support Forces

Many of our existing surface combatants, mine warfare vessels, and support ships will reach the end of their service lives in the 1980s and early 1990s. To prevent a serious reduction in force levels when these ships retire, our five-year shipbuilding program funds a number of important programs that will preserve, and strengthen, our ability to support our carrier battle groups and other naval forces. We have given high priority to the construction of new, more capable anti-air warfare ships such as the CG-47 cruiser and DDG-51 destroyer. We have also placed renewed emphasis on mine warfare ship procurement. In addition, our program recognizes the need to modernize and expand our aging force of underway replenishment ships and other support ships.

(1) Frigates

No additional FFG-7-class frigates are requested in this year's budget. The procurement from previous years, together with our other modern frigates and the substantial forces contributed by our allies, will provide us with an adequate level through the end of the decade. Early ships of the FFG-7 class in a LAMPS MK I/TACTAS configuration will be transferred to the reserves, joining the FF-1052 frigates they now operate. Our reserve frigate force will eventually total 24 FFG-7s and FF-1052s.

(2) Destroyers

Our fleet now contains 31 DD-963-class destroyers. We are requesting authorization of only one more of these ships through FY 1988. We may need to expand the force in future years, however, to provide ASW support for the new carriers we will deploy.

(3) Multiproduct Ship

The battle-group concept of operations requires one multiproduct ship (AOE/AOR) for each carrier, to function as a station ship for petroleum, oil, and lubricants (POL); ammunition; and stores.

Beginning in FY 1986, we will procure additional AOE's in order to align the number of station ships -- now at 11 -- with the number of aircraft carriers.

(4) Fleet Oilers

In order to keep the station ships adequately supplied with marine diesel fuel and aviation fuel, fleet oilers must perform shuttle services between the battle groups and forward bases. The average age of the oilers in the Military Sealift Command now exceeds 30 years. The TAO construction program, begun in FY 1982, will provide replacements for these ships. A total of 19 TAOs are included in our five-year shipbuilding plan.

(5) Fleet Tenders

To alleviate the projected shortfall in surface fleet tenders in the late 1980s, we have requested funds for two destroyer tenders (AD) in our FY 1984-88 shipbuilding program.

	FY 1982	FY 1983	FY 1984	FY 1985
	Actual	Planned	Proposed	Proposed for
	<u>Funding</u>	<u>Funding</u>	<u>Funding</u>	<u>Authorization</u>

Fleet Oilers

Procurement:

Quantity	1	1	3	4
\$ Millions	199.1	163.8	524.6	921.5

(6) Mine Warfare Forces

The Soviet Union maintains the world's largest and most advanced inventory of naval mines. Our aging fleet of 21 ocean-going minesweepers (MSOs) is only marginally effective against this threat. We also have fewer airborne mine countermeasures helicopters than our objectives require. While our allies deploy numerous and highly capable mine countermeasures forces, which we depend upon, we must ensure that the forces we contribute are effective against the mine warfare threat. To improve our mine countermeasures capabilities, we are procuring two new classes of ships and new minesweeping helicopters.

We are also requesting funds for several programs that will improve our offensive mining capability. Improved mines will allow us to exploit more fully the geographical constraints facing Soviet naval forces.

(a) Mine Countermeasures (MCM) Ships

The lead ship in our new MCM-1 ship program, the AVENGER, is about to begin construction. MCM-1 ships will improve our minesweeping capability as well as provide a capability to hunt and neutralize advanced Soviet mines. The Congress has funded two of these ships through FY 1983. Our five-year program requests funding for 12 additional ships.

This year we are also requesting authorization of the lead ship of a new class of smaller mine-hunters, the MSH-1,

designed to augment MCM-1 ships during initial clearance and harbor breakout operations. Our five-year program requests funds for 13 MSHs, toward a program goal of 17 ships.

(b) Mine Countermeasures (MCM) Helicopters

We have begun development of a modified version of the CH-53E cargo helicopter, the MH-53E, for use in airborne mine countermeasures operations. Our program goal calls for production of 51 of these aircraft, with initial procurement scheduled for FY 1985.

(c) Mines

The FY 1984-88 program continues procurement of three types of mines: Captor, the Submarine-Launched Mobile Mine (SLMM), and Quickstrike. We are also investigating options to upgrade Quickstrike and SLMM to provide a wider variety of target detection devices. Completion of these programs will add significantly to our offensive mine warfare capability.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>MCM-1 Ships</u>				
Procurement:				
Quantity	1	1	4	4
\$ Millions	98.9	118.0	390.4	356.7
<u>MSH-1 Ships</u>				
Procurement:				
Quantity	--	--	1	--
\$ Millions	--	--	65.0	.4
<u>Captor Mines</u>				
Development:				
\$ Millions	2.5	10.5	15.9	4.6
Procurement:				
Quantity	400	300	300	475
\$ Millions	121.5	106.2	115.4	174.7
<u>SLMM</u>				
Procurement:				
Quantity	101	266	242	280
\$ Millions	11.5	23.6	22.5	23.9
<u>Quickstrike Mines</u>				
Development:				
\$ Millions	7.5	9.7	7.3	7.3
Procurement:				
Quantity				
\$ Millions	20.6	32.9	40.0	49.5

3. Conclusion

Our FY 1984-88 Navy programs will lead to significant improvements in our nation's maritime power. Additional carrier battle groups, increasingly centered around highly capable NIMITZ-class carriers, will support our global strategy in peacetime and in war. Cruise missiles, deployed on a variety of platforms, will provide increased and more diversified offensive firepower. Our global maritime strategy will also be enhanced through the greater use of land-based forces to protect vital sea lanes from attacks by Soviet long-range bombers. And the expansion of our amphibious assault forces will strengthen our global power-projection capability.

The FY 1984-88 program continues procurement of three types of mines: Caprot, the Submarine-Launched Mobile Mine (SLMM), and the Self-Propelled Undersea Mine (SPUM). We are also investigating options to upgrade Caprot and SLMM and provide a wider variety of target detection devices. Completion of these programs will add significantly to our offensive mine warfare capability.

	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988
	Actual	Actual	Actual	Actual	Actual
MCM-1 Ships					
Procurement:					
Quantity	11	11	11	11	11
\$ Millions	6.583	6.583	6.583	6.583	6.583
MSR-1 Ships					
Procurement:					
Quantity	400	300	300	300	300
\$ Millions	121.5	106.5	106.5	106.5	106.5
SLMM					
Procurement:					
Quantity	101	208	208	208	208
\$ Millions	33.9	33.9	33.9	33.9	33.9
SPUM					
Procurement:					
Quantity	101	208	208	208	208
\$ Millions	33.9	33.9	33.9	33.9	33.9

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C. TACTICAL AIR FORCES TABLE III.B.2

FY 1984-88 Shipbuilding Program

TYPE OF SHIP	FY	FY	FY	FY	FY	FY 84-88
	1984	1985	1986	1987	1988	Five-Year Total
TRIDENT (Ballistic Missile Submarine)	1	1	1	1	1	5
SSN-688 (Attack Submarine)	3	4	4	5	5	21
CVN (Aircraft Carrier-Nuclear)	-	-	-	-	1	1
CV (Aircraft Carrier) SLEP	-	1	-	1	-	2
BB (Battleship) Reactivation	-	1	1	-	-	2
CG-47 (Guided Missile Cruiser)	3	3	3	3	2	14
DDG-51 (Guided Missile Destroyer)	-	1	-	3	5	9
DD-963 (Destroyer)	-	-	-	-	1	1
LSD-41 (Landing Ship Dock)	1	2	2	2	2	9
LHD-1 (Amphibious Ship)	1	-	1	-	1	3
LPDX (Landing Platform Dock)	-	-	-	-	1	1
AMPHIB SLEP	-	-	1	3	3	7
MCM-1 (Mine Countermeasures Ship)	4	4	4	-	-	12
MSH-1 (Mine Hunter-Sweeper)	1	-	4	4	4	13
AOE-1 (Multipurpose Stores Ship)	-	-	1	1	1	3
AE (Ammunition Ship)	-	-	1	1	1	3
AFS (Stores Ship)	-	-	-	1	-	1
AD (Destroyer Tender)	-	-	-	1	1	2
TOA (Oiler)	3	4	4	4	4	19
TARC (Cable Ship)	-	-	1	-	-	1
TAGOS (SURTASS)	-	2	2	2	-	6
TAGS (FBM Support Ship) Conversion	-	2	-	-	-	2
TAK (Cargo Ship) Conversion	-	1	-	-	-	1
TAGM (Range Instrumentation Ship) Conversion	-	-	1	-	-	1
TAFS (Stores Ship) Acquisition	1	-	-	-	-	1
TAH (Hospital Ship) Conversion	1	-	-	-	-	1
TAKRX (SL-7) Conversion	4	-	-	-	-	4
New Construction Ships	17	21	28	28	30	124
Conversions/SLEPs/Reactivations	6	5	3	4	3	21

C. TACTICAL AIR FORCES

1. Introduction

a. Air Warfare Overview

Our national interests and global commitments require a strong forward defense posture. The United States must maintain the capability to respond rapidly to aggression with forces of sufficient strength and firepower to ensure a victorious outcome. Our tactical air forces have been equipped and structured to fulfill that requirement and, in conjunction with our land and naval forces, to preserve a global balance of power that serves our national security interests.

The recent conflicts in Lebanon and the South Atlantic have demonstrated how a properly trained and equipped tactical air force can quickly destroy land and sea targets, as well as provide an air defense umbrella for ground force operations. While the lessons of those conflicts are still being studied in detail, the impressive performance of the Israeli F-16s and F-15s in destroying the Syrian MiG fighter force and surface-to-air missile air defense systems underscores the capabilities of our modern fighters and the importance of highly trained pilots. The benefits of continued modernization of our tactical air forces with F-15, F-16, F-18, and AV-8 aircraft, as well as our increased commitment to training, are readily apparent.

b. Program Goals

Our policy of maintaining a superior tactical air force in support of our national security objectives and treaty commitments requires continuing improvements in combat effectiveness. With that goal in mind, we have carefully structured the FY 1984-88 program to balance improvements in readiness and sustainability with a continuing modernization program and a modest expansion of the force structure. The program gives priority to four broad objectives:

- Improving the combat readiness and sustainability of our tactical air forces by increasing their stocks of weapons, munitions, and spare parts, as well as training;
- Modernizing the active and reserve components with F-15, F-16, F-18, and AV-8 aircraft as well as with newer air-to-air and air-to-ground weapons;
- Enhancing electronic warfare and air defense suppression capabilities; and
- Improving target acquisition, surveillance, warning, and reconnaissance capabilities.

c. Tactical Air Force Structure

Our tactical air forces are structured and planned for a wide variety of missions and roles, involving operations over land and sea. Their organizational structure is summarized below:

(1) Air Force Tactical Aircraft

The Air Force fighter force structure consists of 25 active wing equivalents and the equivalent of nearly 12 Air National Guard (ANG) and Air Force Reserve (AF Res) wings. Each wing typically contains three squadrons of 24 aircraft each. Combat support units, such as those composed of electronic warfare EF-111 aircraft, are generally organized into squadrons of 18 to 24 aircraft. By FY 1988, we expect to have the equivalent of nearly 28 fully equipped active wings and just over 13 ANG and AF Res wings.

In addition to fighter forces, the active and reserve components of the Air Force operate the following types and numbers of special purpose tactical squadrons: electronic warfare (2), defense suppression (1), reconnaissance (8), tactical command and control (11), and special operations (8). By FY 1988, we will have added one defense suppression squadron, six reconnaissance squadrons, and two tactical command and control squadrons, while having increased the quality of our special operations squadrons.

(2) Navy/Marine Corps Tactical Aircraft

Unlike Air Force wings, which generally consist of only one type of aircraft, Navy and Marine Corps air wings are task-oriented and include a mix of aircraft types.

A typical active Navy carrier air wing includes the following types and numbers of aircraft:

<u>Aircraft Type</u>	<u>Function</u>	<u>Squadron</u>	<u>Aircraft</u>
F-4, F-14 (TARPS*)	Fighter (Reconnaissance)	2	24
A-7, F/A-18	Light Attack	2	24
A-6, KA-6D	Medium Attack, Tanker	1	14
S-3A	Anti-Submarine Warfare (Fixed Wing)	1	10
SH-3H	Anti-Submarine Warfare (Rotary Wing)	1	6
EA-6B	Electronic Warfare	1	4
E-2B/C	Airborne Early Warning	1	4

*Tactical Air Reconnaissance Pod System (TARPS). Three F-14s per aircraft carrier will carry this system to provide a tactical reconnaissance capability.

While the wing configuration outlined above is expected to remain the norm, we plan to experiment with specialized, mission-oriented force mixes, featuring fighter and medium-attack units, in the near future.

An active Marine Corps air wing typically consists of the following elements:

<u>Aircraft Type</u>	<u>Function</u>	<u>Squadron</u>	<u>Aircraft</u>
F-4, F/A-18	Fighter/Attack	4	48
A-4, AV-8A/B/C	Light Attack	2-3	38-57
A-6	Medium Attack	1-2	10-20
KC-130	Tanker/Transport	1	12
EA-6B	Electronic Warfare	1	4
RF-4	Reconnaissance	1	7
TAC-A	Tactical Air Control-Airborne	1	10
OV-10	Observation	1	12
AH-1	Attack Helicopter	1	24
CH-53, CH-46	Transport/Utility	9	120
UH-1	Helicopters	6-7	131

Our five-year program funds two additional active Navy carrier air wings -- one during FY 1983-85 and the other in FY 1987 -- bringing the total to 14 active wings by the end of FY 1987. We will also maintain three active Marine Corps air wings, two Navy reserve wings, and one Marine reserve wing throughout the program period.

2. FY 1984-88 Programs

Our Five-Year Defense Program (FYDP) was formulated with an awareness of the limited resources available and the need to balance the allocation of resources among the most urgent priorities. The tactical air force's portion of this program required many difficult choices. For example, we had to balance the production rates for new aircraft against readiness needs, such as additional aircraft flying hours and spare parts. The program pursues, in general order of priority, improvements in the following areas: readiness and sustainability; modernization; electronic warfare and air defense suppression; and target acquisition, surveillance, warning, and reconnaissance.

a. Improving Combat Readiness and Sustainability

In recent years, the combat readiness of our tactical air forces fell below desired levels, as measured by the low number of aircraft units rated as fully combat ready. Combat readiness is determined by the amount of equipment and supplies on hand, as well as by personnel and training levels. Our first priority in the FY 1984-88 program is to improve both the near- and long-term combat readiness, as well as the sustainability, of our tactical air forces.

(1) Combat Readiness

(a) Equipment and Supplies

We will continue to fund initiatives over the next five years to eliminate peacetime operating spares deficits and to reduce service maintenance backlogs.

To contain depot maintenance backlogs, we have provided additional funds and civilian manpower for the Depot Purchased Equipment Maintenance (DPEM) program. Special emphasis has been placed on providing additional funds for aviation component repair. These actions will improve our replacement item processing and repair capabilities, while enhancing the ability of the Air Force Logistics Command and the Naval Air Rework Facilities to respond to a wartime surge. Our program also funds maintenance manpower authorization increases for the tactical fighter units. The additional billets will support wartime sortie rate requirements during the initial days of conflict, while also helping to meet our overall tactical force modernization requirements. (The Materiel Readiness chapter of this report provides more detail on these programs.)

(b) Personnel and Training

Total flying hours are an important aggregate measure of force training and readiness levels. An increase in tactical flying hours translates directly into increased aircrew combat capability. Largely because of their significant advantage in average flying time per crew member, our tactical aircrews continue to be considered superior to Warsaw Pact aviators. In FY 1983, our tactical Air Command pilots will average roughly 210 flying hours per year, compared to only about 120 hours for Soviet pilots. Furthermore, U.S. aircrews enter combat units with more weapon system training than do Soviet crews. However, since we depend heavily upon our tactical air forces to offset the Warsaw Pact's significant advantage in ground forces, a further increase in flying time is necessary for our aircrews so that they can achieve their full combat potential. Our program goal for the active Air Force fighter/attack aircrews is an average of about 240 flying hours per year by FY 1984, varying by aircraft type. The funding levels contained in our five-year program will ensure that we attain and sustain this level of training.

The Navy, on the other hand, has been forced by recent fiscal constraints and relative priorities to program a decrease in the peacetime training rates for its tactical aircrews. In general, the average annual flying hours per crew will decline from about 288 in FY 1982 to about 240 in FY 1984 and beyond. With this reduction, annual Navy flying hours per crew will approximate those of the Air Force's Tactical Air Command.

In addition to funding increases in flying hours, we are continuing to emphasize realism in training. Experience has shown that a high level of realistic peacetime training gives aircrews important early wartime advantages over less-skilled adversaries. Instrumented Air Combat Maneuvering Ranges, now coming into fairly widespread use, offer U.S. and allied aircrews a unique and realistic training aid. Joint Service exercises, in which Air Force units conduct integrated operations with Army and Navy forces, are another important means of providing realistic training to increase the combat proficiency of our tactical aircrews. Air Force, Navy, and Marine Corps active and reserve units regularly participate in the large-scale

"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 at Yuma, Arizona.

(2) Force Sustainability

Sustainability has been given a high priority in our five-year program. Our shift in policy to plan for the possibility of a global, extended war with the Soviets requires accelerated improvement in this area. Our current program is designed to reach a 60-day sustainability goal for spare parts and munitions by FY 1987. Therefore, for the Air Force, we have funded War Readiness Spares Kits (WRSK), Base Level Supply Sufficiency (BLSS) items, War Reserve Materiel (WRM) munitions, and Other War Reserve Materiel (OWRM) requirements. In a similar fashion, we have increased funding for the Navy's Aviation Consolidated Allowance Lists (AVCAL). These efforts will sustain our tactical air forces in the European and Korean theaters and our rapid deployment forces in other potential conflict regions during the early stages of a conflict.

Consistent with our sustainability goal, our five-year program gives mobility a high priority. We have programmed additional funds to begin construction of facilities to preposition aircraft support and materiel-handling equipment and flightline support vehicles in Europe and Southwest Asia, and to increase munitions and petroleum, oil, and lubricants (POL) storage capabilities. (The Mobility Forces and Materiel Readiness chapters discuss these programs in more detail.)

b. Force Modernization

Our modernization program for the tactical air forces has been structured to meet three goals: to increase combat capability, to reduce the average age of the force, and to permit a modest force expansion. Though there are many variables that affect our goals for aircraft age, an average age of 10 to 11 years is considered acceptable for the Air Force. For Navy and Marine Corps aircraft, an average age of 8 to 9 years is preferred because of the high stress of carrier operations. By 1988, the average age of aircraft in the active elements of the Air Force, Navy, and Marine Corps will be about 9 years, but about 15 years in the reserve elements of all three Services. For the Navy/Marine Corps active and reserve forces, this represents a decline of about one year over the five-year period. For the Air Force, it represents an increase of about one year, although the average age of tactical aircraft in the Air Force inventory will still be lower than the plans of the previous Administration would have provided. Force age could be reduced even further if we did not also need to expand both the Air Force and the Navy tactical air forces, thus necessitating retention of older aircraft in the reserves.

(1) Air Force

Our Air Force modernization program funds improvements for both the active and reserve tactical fighter and air defense forces. We have programmed funds in FY 1984 to procure 48 F-15s and 120 F-16s. The F-15 procurement will support formation of about one and one-half F-15C/D tactical fighter squadrons, freeing earlier-model aircraft for transfer to NORAD-allocated air defense units; the F-16 procurement will permit continued modernization and growth of the

active and reserve forces. The F-16s are slated primarily to replace F-4s in the active force; these, in turn, will be used to replace older aircraft, such as early model F-4s, in the Air National Guard and Air Force Reserve. One ANG unit in FY 1983 and one AF Res unit in FY 1984 are scheduled to receive F-16s.

We would prefer to procure F-15s and F-16s at higher, more efficient rates in FY 1984 to accelerate the modernization plan for the reserve force, but cannot do so because of current fiscal constraints. Eventually, however, our five-year program will permit us to procure fighter aircraft at these more efficient rates. In FY 1986, F-15 procurement is projected to reach 96 aircraft per year, and F-16 procurement will rise to 180 aircraft per year. We also intend to continue procurement of both of these aircraft through the end of the decade.

While our current F-15 and F-16 aircraft will provide satisfactory air-to-air performance against the Soviet aircraft threat of the 1980s, we must pursue a vigorous modernization program 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, our FY 1984-88 program provides continued funding for several weapons development programs, such as the Advanced Medium-Range Air-to-Air Missile (AMRAAM), which will provide the F-16 with a night/ all-weather, radar-missile capability and improve both F-15 and F-16 survivability in beyond-visual-range (BVR) engagements. We also are considering modifying the airframes of our existing F-15s and F-16s to improve their capabilities. Finally, we have begun studies of Advanced Tactical Fighter (ATF) concepts that could lead to introduction of a new aircraft type by the early 1990s.

Our special operations forces will be quantitatively and qualitatively improved during this period. We will procure 11 additional MC-130 deep-penetration aircraft and add to our medium- and heavy-lift vertical takeoff and landing (VTOL) capabilities with 10 HH-60D helicopters. Improvements to existing fixed-wing aircraft will enhance their penetration capabilities.

The following paragraphs provide additional detail on the major modernization effects being pursued as part of our Air Force program:

F-15 (Eagle) -- Designed as the Air Force's air superiority fighter, the F-15 is capable of operating well into enemy airspace in all weather conditions. The current program proposes to acquire 408 additional F-15s through FY 1988, and we plan to continue buying the aircraft into the early 1990s. Development funds are programmed for an air-to-surface derivative with enhanced range, payload, and delivery capabilities.

F-16 (Fighting Falcon) -- A multirole aircraft, the F-16 is designed to complement the F-15 as an air superiority fighter. We plan to procure 120 F-16s in FY 1984 as part of a 480-aircraft multiyear procurement program (FY 1982-85), and to increase production to 180 aircraft per year in FY 1986 and beyond. We are also continuing development of a cranked-arrow-wing version that will greatly expand the F-16's range and stores capability. We are conducting an operational comparison between the F-15 and F-16 air-to-surface derivatives, and may choose to procure only one of them as a dual-role fighter.

MC-130H (Combat Talon II) -- A modified C-130 aircraft, the MC-130H is equipped with precision-navigation, terrain-following, and self-protection systems designed for use in special operations, at low altitudes and at night. Over the next five years, we are requesting funds to buy 11 more of these aircraft, nearly doubling the capabilities of our three existing squadrons.

HH-60D (Nighthawk) Helicopters -- Improved avionics incorporated in the "D" model of this VTOL aircraft will extend our medium-lift capability for rescue and special operations through the 1990s.

JVX -- A description of this aircraft is included in the Land Forces chapter. The avionics package in the Air Force version will enable it to replace the HH-53 Pave Low II in the 1990s and add to the deep penetration capabilities required for special operations.

LANTIRN -- Currently under development, the LANTIRN system is designed to acquire enemy targets in day or night and relay the target information to air-launched weapons. The system will provide the F-16 and A-10 with night/under-the-weather navigation capability, in addition to increasing their conventional munitions, laser-guided bomb (LGB), and Maverick missile delivery capability.

IIR Maverick -- An anti-armor air-to-surface missile, the IIR Maverick is an updated version of the current TV-guided model. The IIR version uses an imaging infrared seeker for guidance, expanding its capability in the night-attack role.

Advanced Medium-Range Air-to-Air Missile (AMRAAM) -- This new, all-environment, air-to-air missile will have an active radar seeker, giving it a "launch-and-leave" capability. AMRAAM can operate independently of the aircraft's radar system, enabling an aircraft carrying several of these missiles to engage multiple targets on a single intercept. The missile's increased average velocity, together with its launch-and-leave capability, will serve to reduce aircrew vulnerability. AMRAAM is being developed for use by both the Air Force and the Navy as a follow-on to the AIM-7.

AIM-7M -- An all-weather, air-to-air missile designed for use with both Air Force and Navy aircraft, the AIM-7M 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.

AIM-9M -- An infrared-guided air-to-air missile deployed by both the Air Force and the Navy, the AIM-9M incorporates improved background discrimination and countermeasures capabilities over earlier versions. New improvements this year include a reduced-smoke motor, making it more difficult for an enemy both to see the missile and to "track back" to our aircraft's location, and a closed-cycle cooler, yielding a more sensitive target detector that increases the missile's range.

30mm Anti-Armor Aircraft Guns -- First procured in FY 1980, these pods will provide additional anti-armor capability for the F-4 and A-7, plus growth potential for other aircraft. By the end of FY 1984, we will have procured a total of 299 of these pods.

Wide-Area Anti-Armor Munitions (WAAM) -- The FY 1984-88 program continues development of this new family of advanced anti-armor munitions, ranging in type from unguided cluster weapons to terminally guided, dispensed submunitions.

Tactical Aircraft Modifications -- This account funds aircraft modifications to correct problems identified during development or operational use, including changes to enhance the capability of existing aircraft, improve their reliability and maintainability, incorporate operational and safety modifications, and extend their service life. Significant items in the current program include provision of an Inertial Navigation System (INS) for the A-10, a low-smoke engine modification and radar warning receiver update for the F-4, and final installation of electronic warfare conversion kits for the EF-111. Additionally, under the Compass Call program, we are modifying 16 C-130 aircraft to provide them with a command, control, and communications jamming capability.

	<u>FY 1982</u> <u>Actual</u> <u>Funding</u>	<u>FY 1983</u> <u>Planned</u> <u>Funding</u>	<u>FY 1984</u> <u>Proposed</u> <u>Funding</u>	<u>FY 1985</u> <u>Proposed for</u> <u>Authorization</u>
<u>F-15</u>				
Development:				
\$ Million	32.3	104.8	117.8	68.8
Procurement:				
Quantity	36	39	48	72
\$ Million	1,154.5	1,481.0	2,127.4	3,112.2
<u>F-16</u>				
Development:				
\$ Million	57.3	73.5	107.4	72.8
Procurement:				
Quantity	120	120	120	120
\$ Million	2,231.1	2,254.6	2,123.6	3,164.5
<u>MC-130H</u>				
Procurement:				
Quantity	--	1	2	2
\$ Million	27.0	43.0	71.7	97.2
<u>HH-60D</u>				
Development:				
\$ Million	18.8	27.3	66.6	17.9
Procurement:				
Quantity	--	--	--	7
\$ Million	--	--	25.9	228.1
<u>JVX</u>				
Development:				
\$ Million	--	--	14.4	42.9

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
LANTIRN				
Development:				
\$ Million	84.3	99.9	89.9	96.4
Procurement:				
Quantity	--	--	--	45
\$ Million	5.0	15.7	4.6	208.2
IIR Maverick				
Development:				
\$ Million	22.7	4.4	1.5	0
Procurement:				
Quantity	200	900	2,600	5,729
\$ Million	222.2	248.9	349.8	720.1
AMRAAM				
Development: 1/				
\$ Million	139.8	211.2	195.4	245.3
Procurement:				
Quantity	--	--	--	224
\$ Million	--	--	62.6	427.4
AIM-7M				
Procurement:				
Quantity	966	1,165	1,005	--
\$ Million	222.3	206.9	187.2	--
AIM-9M				
Procurement:				
Quantity	700	500	450	1,000
\$ Million	51.7	41.8	30.8	65.3
30mm Guns				
Procurement:				
Quantity	104	75	80	--
\$ Million	43.7	29.5	28.9	--
WAAM				
Development:				
\$ Million	18.6	13.7	52.2	96.0
Tactical Aircraft Modifications				
\$ Million	618.9	630.5	607.6	943.7

1/ Includes Air Force and Navy funding.

(2) Navy and Marine Corps

Our FY 1984-88 defense program will continue to improve both Navy and Marine Corps warfighting capabilities. We are committed to significant improvements in our maritime force, and our aircraft procurement plan carefully balances near- and long-term requirements. Over the next five years, we plan to buy 920 Navy and Marine Corps tactical fighter and attack aircraft. This procurement schedule will allow us to reach the goal of 14 active carrier air wings mentioned earlier.

The 562 F/A-18s that are programmed during the FY 1984-88 planning period represent over 50% of the tactical aircraft funded by the Navy. The F/A-18 will be introduced into Marine fighter/attack and Navy light-attack squadrons in FY 1983. When this program is completed in the 1990s, all 28 Navy light-attack squadrons and all 12 Marine Corps fighter/attack squadrons, as well as four Navy fighter squadrons, will be equipped with F/A-18s. All of our F-14 fighter force will be deployed on large-deck carriers. While our combined force of F-14s, A-6s, and F/A-18s will be organized into carrier wings consisting of fighter, light-attack, and medium-attack squadrons, these wings can be tailored to meet specific mission needs. In the near future, we will experiment with operating specialized carrier air wings composed of various mixes of fighter and medium-attack squadrons.

The Marine Corps will procure new AV-8Bs for its active light-attack forces, freeing older A-4Ms for transfer to reserve units.

Our procurement program will allow the Navy to arrest the aging of its active fighter and light attack forces. But by the early 1990s, the fighter and light-attack aircraft in Navy and Marine Corps reserve units will need to be replaced. The earlier versions of the F/A-18 could then be transferred to these units, where they would replace older F-4 and A-7 aircraft.

The following paragraphs provide additional detail on the major modernization efforts being pursued as part of the Navy/Marine Corps program:

F-14 -- The Navy's most capable interceptor, the F-14 is an all-weather aircraft designed for the fleet air defense mission. It is the only aircraft in the Navy's inventory that can carry the long-range Phoenix air-to-air missile, and is intended primarily to protect carrier battle groups against long-range Soviet bomber and cruise missile attacks. We are requesting continued procurement funding to support our force objective of providing two F-14 squadrons for each large-deck carrier air wing.

F/A-18 -- The newest addition to the Navy's inventory, the F/A-18 is a multipurpose aircraft, capable of employment in both the fighter and attack roles. Designed to replace older Navy and Marine Corps F-4s and Navy A-7s, it may also serve as a new tactical reconnaissance aircraft. Eventually, it will be used to modernize Navy and Marine Corps reserve squadrons.

A-6E -- Continued procurement of this all-weather/night attack aircraft will permit us to achieve and maintain programmed force levels, while continuing to convert older A-6s to KA-6 tankers.

AV-8B -- A light-attack aircraft, the AV-8B incorporates improvements over the AV-8A in gross takeoff weight and performance. The AV-8B is slated to replace AV-8A/Cs and A-4Ms in Marine Corps units.

AIM-7M -- (Discussed under Air Force programs.)

AIM-9M -- (Discussed under Air Force programs.)

IIR Maverick -- The Navy version of this imaging infrared missile features fusing options selectable from the cockpit and a warhead designed for hardened sea, port, and land targets.

AIM-54A/C -- An all-weather, air-to-air missile, the AIM-54A/C is intended primarily for long-range attack of bombers before they can launch cruise missiles against ship targets. First procured in FY 1980, the "C" model has improved electronic counter-countermeasures features relative to earlier versions.

Tactical Aircraft Modifications -- This account funds aircraft modifications to correct problems identified during development or initial operational use, or to enhance the capability of existing aircraft. Significant items in the current program include the following system subsystems: A-6 inertial navigation, rewing, and Target Recognition Attack Multi-Sensor (TRAM); A-7 Forward Looking Infrared (FLIR) sensor and TF-41 engine; F-14 TF-30 engine improvement program, AWG-9 programmable signal processor, and Television Control Set (TCS); EA-6B (ICAP II) EW capability improvements; and E-2C improved antenna (TRAC-A).

	<u>FY 1982 Actual Funding</u>	<u>FY 1983 Planned Funding</u>	<u>FY 1984 Proposed Funding</u>	<u>FY 1985 Proposed for Authorization</u>
<u>F-14</u>				
Development:				
\$ Million	19.7	21.7	45.7	85.7
Procurement:				
Quantity	30	24	24	24
\$ Million	1,176.0	1,120.2	1,149.6	1,342.1
<u>F/A-18</u>				
Development:				
\$ Million	194.0	109.1	27.2	88.0
Procurement:				
Quantity	63	84	84	92
\$ Million	2,422.2	2,483.4	2,726.2	3,000.9

	<u>FY 1982 Actual Funding</u>	<u>FY 1983 Planned Funding</u>	<u>FY 1984 Proposed Funding</u>	<u>FY 1985 Proposed for Authorization</u>
<u>A-6E</u>				
Development:				
\$ Million	10.0	11.4	37.7	42.1
Procurement:				
Quantity	12	8	6	6
\$ Million	283.2	244.3	232.3	216.4
<u>AV-8B</u>				
Development:				
\$ Million	231.4	113.8	118.2	12.2
Procurement:				
Quantity	12	21	32	48
\$ Million	667.3	917.5	1,047.6	1,321.7
<u>AIM-7M</u>				
Development:				
\$ Million	5.0	--	--	--
Procurement:				
Quantity	321	285	325	844
\$ Million	70.6	59.4	71.9	153.7
<u>AIM-9M</u>				
Development:				
\$ Million	0.6	--	--	15.2
Procurement:				
Quantity	1,800	1,920	1,700	--
\$ Million	136.8	114.8	105.9	--
<u>IIR Maverick</u>				
Development:				
\$ Million	10.2	1.0	19.6	7.8
Procurement:				
Quantity	--	--	--	290
\$ Million	--	--	--	30.6
<u>AIM-54A/C</u>				
Development:				
\$ Million	31.5	22.8	4.0	--
Procurement:				
Quantity	72	108	324	464
\$ Million	162.6	260.7	454.6	520.7

	FY 1982 Actual <u>Funding</u>	FY 1983 Planned <u>Funding</u>	FY 1984 Proposed <u>Funding</u>	FY 1985 Proposed for <u>Authorization</u>
<u>Tactical Aircraft Modification</u>				

Modifications:
 \$ Million 803.8 995.7 1,246.1 1,876.6

c. Enhancing Electronic Warfare and Air Defense Suppression Capabilities

Our FY 1984-88 program requests funding for a balanced mix of lethal and nonlethal systems designed to neutralize, disrupt, and destroy critical elements of the enemy's integrated air defense system.

The High-Speed Anti-Radiation missile represents a significant improvement over our present anti-radiation weapons, such as Shrike; while the Precision Location Strike System, when coupled with the F-4G (Wild Weasel) or other weapon systems, can locate and selectively destroy enemy air defense systems. Our newest electronic warfare systems employ the most advanced technology available, allowing us to detect and attack enemy targets more quickly. The extremely fast processors of these systems can be programmed for specific mission targets -- a capability that is unmatched by any other military force. Finally, our new communications systems (Voice, Data, and Identification) not only employ the most effective technology available, but also, through preplanned product improvement (P³I) initiatives, can be upgraded to take advantage of continuing technological advances.

The following paragraphs provide additional detail on our programs in this area:

High-Speed Anti-Radiation Missile (HARM) -- The HARM air-to-surface missile is designed to suppress or destroy the land- and sea-based radars of enemy air defense systems. The missile is being developed under a joint Navy/Air Force program.

Precision Location Strike System (PLSS) -- PLSS is designed to locate, identify, and guide applicable munitions or weapon system strikes on enemy air defense emitters in all weather conditions from standoff ranges. Currently under development by the Air Force, the system is scheduled to become operational in the mid-1980s.

Airborne Self-Protection Jammer (ASPJ) -- This joint Navy/Air Force program will provide many of our tactical aircraft with an internal electronic countermeasures system.

Anti-Jam Secure Voice, Data, and Identification Friend/Foe (IFF) Systems -- The Joint Tactical Information Distribution System (JTIDS) is being developed to provide a secure, jam-resistant, digital information system for tactical use by all the Services. The United Kingdom also plans to deploy JTIDS on selected platforms (e.g., Nimrod and Tornado aircraft). Initial operating capability (IOC) is scheduled for the late 1980s. As an interim response to the jamming threat, we are modifying the UHF radios in our tactical aircraft with the Have Quick system. More than 1,000 aircraft have

been equipped with this system over the past year. At the Congress' direction, the Air Force has terminated the Seek Talk anti-jam radio system program, and is evaluating several alternative approaches to provide a secure voice system for the tactical air forces by the late 1980s. The preferred alternative, called Have Clear, will be described in a study to be sent to the Congress in April. The Air Force is also developing a Combat Identification System for use by all four Services and by our NATO allies. Integration of these voice/data/identification systems into a common, modular design is also being pursued.

	<u>FY 1982 Actual Funding</u>	<u>FY 1983 Planned Funding</u>	<u>FY 1984 Proposed Funding</u>	<u>FY 1985 Proposed for Authorization</u>
HARM				
Development:				
\$ Million	25.2	6.7	11.1	8.7
Procurement:				
Quantity	236	258	517	1,546
\$ Million	202.5	256.7	380.3	676.3
PLSS				
Development:				
\$ Million	79.5	78.7	69.7	69.1
Procurement:				
Quantity	--	--	--	50
\$ Million	1.7	1.8	9.1	80.0
EA-6B				
Development:				
\$ Million	10.7	12.7	23.8	31.6
Procurement:				
Quantity	6	6	6	6
\$ Million	275.8	332.5	442.3	433.9
ASPJ				
Development:				
\$ Million	77.8	76.0	89.6	47.9
Procurement:				
\$ Million	--	--	24.3	318.9
JTIDS				
Development:				
\$ Million	133.0	173.8	171.3	189.1
Procurement:				
Quantity	--	--	--	--
\$ Million	26.3	25.6	21.9	202.5

d. Improving Target Acquisition, Surveillance, Warning, and Reconnaissance Capabilities

The location, identification, and destruction of enemy air defenses and other ground targets is important to effective tactical air operations, and, therefore, to the outcome of the battle.

The following paragraphs provide detail on the major programs we are pursuing to improve our capabilities in this area:

E-3A (AWACS) -- This aircraft is equipped with a long-range, look-down radar with substantial jamming resistance. Capable of detecting both air and ground targets and of managing multiple fighter and attack aircraft sorties, the AWACS provides the Air Force with improved surveillance, warning, and control capabilities for use in North American air defense, as well as in tactical theaters of operation. The AWACS also represents a valuable supplement to our naval forces in performing the sea-lane defense mission.

E-2C -- This aircraft provides the Navy with airborne early warning and command and control capabilities for sea control and air defense missions.

TR-1 -- This aircraft, a derivative of the U-2, is designed to provide the Air Force with continuous, all-weather surveillance of the battle area. Its airframe is compatible with the PLSS equipment now under development by the Air Force. The FY 1984-88 program requests funding for PLSS aircraft and associated TR-1 ground processing facilities.

	<u>FY 1982 Actual Funding</u>	<u>FY 1983 Planned Funding</u>	<u>FY 1984 Proposed Funding</u>	<u>FY 1985 Proposed for Authorization</u>
<u>E-3A</u>				
Development: \$ Million	51.8	67.0	69.1	65.2
Procurement: Quantity	2	2	0	3
\$ Million	262.1	149.5	76.2	456.9
<u>E-2C</u>				
Development: \$ Million	18.1	52.2	54.4	44.6
Procurement: Quantity	6	6	6	6
\$ Million	262.8	293.5	345.8	347.0
<u>TR-1</u>				
Procurement: Quantity	4	4	5	4
\$ Million	138.6	175.2	236.3	177.7

3. Conclusion

Our five-year program for the tactical air forces emphasizes increased combat readiness and sustainability, modernization of the active and reserve components, enhancements in electronic warfare and air defense suppression capabilities, and improvements in surveillance and reconnaissance capabilities. We will improve the effectiveness of our existing weapon systems through better training, improved logistics, and high-technology modifications. Our program to modernize and expand the force with technologically superior aircraft, missiles, and munitions will maintain our advantage over our adversaries. Our tactical air forces, backed by improved surveillance and command and control systems, will provide us with a new generation of joint-Service forces, capable of sustained operations over land and sea, in support of "long" as well as "short" wars.

TR-1 -- This aircraft, a derivative of the U-2, is designed to provide the Air Force with continuous, all-weather surveillance of the battle area. Its airframe is compatible with the F105 equipment now under development by the Air Force. The F-105 program requests funding for F105 aircraft and associated ground processing facilities.

E-3A Development: \$ 2 Million
Procurement: \$ 1.5 Million
Quantity: 6

E-3C Development: \$ 1.5 Million
Procurement: \$ 1.5 Million
Quantity: 6

TR-1 Procurement: \$ 1.5 Million
Quantity: 6

Program	FY 1981 Actual Funding	FY 1982 Planned Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed Funding
TR-1	1.5	1.5	1.5	1.5	1.5
E-3C	1.5	1.5	1.5	1.5	1.5
E-3A	1.5	1.5	1.5	1.5	1.5

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D. NORTH ATLANTIC TREATY ORGANIZATION (NATO) PROGRAMS

1. Introduction

President Reagan has said that our forces are in Europe because the NATO line is our first line of defense. Our participation in the programs described in this section permits the United States to work closely with its NATO Allies in setting and supporting specific directions for NATO's defense effort. Close collaboration with our Allies in developing and implementing these programs helps to ensure the best possible use of available resources.

NATO differs from most previous security alliances. The common operative principle for alliances has been an agreement for allied forces to work together in the event of war. While NATO is based on this common principle, it has gone far beyond this simple agreement by developing in peacetime the necessary arrangements to permit an effective coalition military capability for deterrence and defense.

This additional step of preparing in peacetime for effective coalition defense has led to the establishment of major NATO programs, some aimed at establishing necessary NATO facilities, procedures, and arrangements, others directed at guiding and facilitating the improvement of national forces and their interoperability.

Let me emphasize, however, that NATO common efforts are in no way intended to permit any one nation to reduce its national efforts by "letting NATO do it." NATO defense consists fundamentally of national defense efforts in providing the necessary national forces and in support of agreed NATO programs.

NATO Heads of State and Government gathered at a summit meeting in Bonn, Germany, on 10 June 1982, and agreed on a mandate for strengthening NATO's defense posture, with special regard to conventional forces. Elements of this mandate, as well as other NATO defense programs, arms control approaches, and other issues are discussed below. Where the NATO programs parallel major U.S. defense programs, greater detail will be found in other chapters of this report.

2. Current Programs

a. Improving NATO Conventional Defense: Emerging Technologies

At their summit meeting in Bonn, NATO Heads of State and Government agreed that NATO should explore ways to take full advantage both technically and economically of emerging technologies, especially to improve conventional defense. The Department of Defense took the lead in preparing a first paper for NATO's consideration. I provided the U.S. paper to our NATO Allies at the meeting of NATO Defense Ministers last December. Follow-on work is now in progress in NATO to draw up specific programs for introduction of selected new technology in the short and mid-term. This NATO action also may facilitate intensified development efforts in the longer term. Overall, I see this as a major opportunity for improvement of NATO's conventional capability, drawing on the technological strength of the West. Periodic reports to NATO Ministers and other reviews will permit us to monitor progress and guide further action.

b. NATO Force Goals

While the decision to emphasize the role of emerging technologies represents a major area of emphasis in NATO defense planning, the normal and continuing NATO vehicle for guiding national efforts in NATO defense is the NATO Defense Planning System. This system centers around the establishment of NATO force goals and review of national plans to carry out these goals. The force goals for 1983-88, established in the spring of 1982, emphasize conventional force improvements, including replacement and modernization of equipment, some increases in maritime force levels, attainment of adequate stock levels, and improvements in manning levels and training. NATO force goals are drawn up to contain a "challenge level" above national plans. If fully met in all respects, the force goals would offset serious deficiencies in NATO's force capabilities. The Ministerial review of national force plans in December 1982 showed significant national efforts in maintaining and improving national forces, but with some force goals only partially implemented or with full implementation delayed beyond 1988. Defense Ministers will review this situation and any other significant developments when they meet in the coming spring to approve "Ministerial Guidance 1983," which will govern the preparation of new NATO force goals for 1985-90. The U.S. force plans for 1983-87, reviewed at the December 1982 Ministerial meeting of the Defense Planning Committee, go a long way toward fully meeting the NATO force goals for the U.S. We will continue to make every effort to meet NATO force goals in the U.S. force plans for 1984-88, which we will submit to NATO this summer.

c. NATO Long-Term Defense Program

The NATO Long-Term Defense Program (LTDP) was established by Heads of Government in 1978 outside the normal NATO defense planning system as high-level guidance for defense planning. It represented a decision to emphasize certain specific defense improvement measures within ten selected areas judged to be of critical importance. It has served this purpose well and its programs are continuing; at the Bonn Summit, nations agreed to continue to implement LTDP measures.

Three management features of the LTDP have proved invaluable: analysis by functional area, independent monitors who report directly to the Secretary General on progress in implementation and identification of problem areas, and detailed national reporting on selected measures. We would seek to incorporate these features in any follow-on system.

d. Coordinated Defense Program

Along with their emphasis on emerging technologies, NATO Heads of Government at the Bonn Summit called for continued efforts to improve NATO planning procedures. NATO follow-up efforts aim at a single annual review for Defense Ministers of all defense planning in NATO. This overall review would take into account not only the NATO Defense Planning System (dealing with NATO force goals and national force plans) but also the independent planning activities carried out by the various NATO committees. Thus, the review would compare progress in the development of national forces with progress in such related areas as NATO infrastructure, NATO communications, cooperative or collective logistics, cooperation in armaments, and support from the civil sector, with problem areas identified for Ministerial consideration and action.

I see this as a very worthwhile effort in making the best use of resources in planning for NATO defense. We are making every effort to assist in the first full review.

e. NATO Nuclear Planning

Matters concerning the nuclear element of NATO's deterrent and defensive posture are coordinated through the NATO Nuclear Planning Group (NPG). Currently, all members of the Alliance except France and Iceland belong to the NPG. The analysis and recommendations that provided the basis for the December 1979 decision to deploy new Longer-range Intermediate-range Nuclear Force (LRINF) missiles were prepared in a study group under the aegis of the NPG. The same study group, known as the High-Level Group, is now considering the remainder of NATO's land-based nuclear forces, to ensure that they remain an effective deterrent. A parallel study group, working under the aegis of the North Atlantic Council, prepared the basis for the other integral half of the December 1979 decision -- to seek negotiated limits on LRINF missiles with the Soviet Union.

I serve as the U.S. member of the NATO NPG when it meets in Ministerial session, and my colleagues and I find the time devoted to our twice-yearly meetings well spent. The Assistant Secretary of Defense (International Security Policy) serves as Chairman of the High-Level Group.

f. NATO Air Defense Planning

Air defense is central to the defense of Europe. This field of military planning was selected in 1978 as one of the ten key areas of the LTDP. Planning in this field was given even greater emphasis in the 1979 decision to set up a high-level committee, reporting directly to the North Atlantic Council, to guide national and NATO actions on air defense planning. As a first aim, the NATO Air Defense Committee intends to draw up a revised 15-year air defense program that will take into account the role of France and Greece, as well as the maritime air defense capabilities for the sea areas adjacent to Allied Command Europe (ACE).

The NATO air defense problem is considered serious and is being addressed as a matter of urgency by the Department of Defense, but the solution is really a NATO challenge and involves all Alliance members. There are a number of actions under way in DoD and NATO that we think will help meet NATO's future air defense needs. One approach is a major new counter-air concept that has been formulated by the Under Secretary of Defense for Research and Engineering. This concept is being studied in detail in DoD, and has been referred to NATO for its consideration and development. This counter-air concept addresses the threat of the 1980s and 1990s and includes proposals to integrate new employment ideas with a number of weapon subsystems to enhance NATO's air defense capabilities significantly. In addition to this major thrust, emphasis is being placed on improving air base defense and on Short Range Air Defense (SHORAD) systems and their command and control.

g. NATO Infrastructure and U.S. Military Construction (MILCON) Programs for Europe

The NATO Infrastructure Program provides cost-sharing for programming and building military facilities for wartime operational use of NATO Commands' forces. Included are facilities for

NATO's common use, joint use by forces of two or more countries, or, in some cases, for sole use of one country's NATO-committed forces when this is considered to be of common NATO interest. For example, Infrastructure financing is provided for U.S. user airfields in Europe where one or more squadrons of NATO-committed aircraft are stationed or are committed to specific times for deployment. This also applies to additional facilities for U.S. reinforcement squadrons that are to be collocated on airfields that are primarily for host country or other NATO country forces. We have recently reached agreement with Turkey to establish such collocated operating bases in that country.

In addition, the recently approved Reinforcement Support Category (RSC) of Infrastructure provides for prepositioning facilities for combat-ready storage of equipment and materiel for external reinforcement forces. It also includes storage of replacement equipment and ammunition for committed forces and facilities for supporting their arrival and forward deployment. Congressional support for U.S. materiel prepositioning actions is essential. Last year's denial of authority to proceed with prepositioning the equipment for two additional reinforcing divisions (POMCUS 5 and 6) has seriously undermined substantial Allied contributions to the project as well as our ability to meet the commitment to provide a 10 division D-Day force. We are seeking to remedy this situation in our Supplemental Appropriation request for FY 1983.

There is a continuing backlog of unprogrammed military facilities needed by U.S. forces in Europe involving both national (MILCON) funding (e.g., barracks) and NATO Infrastructure funding (wartime operational facilities) in support of NATO missions. This backlog has negative implications for the readiness of U.S. forces.

Thirteen NATO nations currently contribute to cost-sharing NATO Infrastructure projects. The number rises to fourteen when France participates, but this is largely in the air defense warning installations category. In due course, it is anticipated that Spain, as a new member of NATO, will participate in the Infrastructure Program.

National commitments, which are based on long-established cost-shares, are made in progressive steps. These steps include agreement to a multiyear (usually five) ceiling, a yearly program of specific projects called a Slice, and the actual authorization of NATO funds for individual projects.

The U.S. benefits from the Infrastructure Program. While the U.S. share of the cost is 27% (for which \$300 million is programmed in FY 1984), approximately 35-40% of the projects programmed annually directly support U.S. NATO-assigned forces. These projects include a wide range of facilities at airfields, naval bases, and missile sites as well as storage facilities for prepositioned war reserve materiel, special weapons, and fuel.

In view of the common financial commitments involved, all decisions on Infrastructure, in all of the various NATO committees at all levels, must be unanimous. Accordingly, each participating country has an equal voice in agreeing to an Infrastructure program, or to funding a given project, with full awareness that others have the same prerogative. There is a recognized need for give-and-take that normally results in timely resolution of most problems.

The NATO Infrastructure Program funds only wartime operational facilities. Over the years, the Allies have agreed that personnel support and other predominantly peacetime projects will be funded nationally. Therefore, \$1.1 billion in MILCON funding is required for Europe in FY 1984, with the primary emphasis on the improvement of living and working conditions for our deployed forces.

In recent years, we have taken steps to integrate planning and budgeting for Infrastructure and related U.S. national construction programs. We have focused upon:

- Establishing U.S. and NATO priorities,
- Determining and justifying funding sources,
- Phasing coordination between Infrastructure and U.S. funding for facilities not eligible for NATO,
- Giving advance notice of U.S. priorities to host countries having mixed U.S.- and Infrastructure-funded projects, and
- Recouping U.S. funds from projects previously pre-financed by the U.S.

In addition, we are currently supporting a NATO-wide effort to cause closer coordination between Infrastructure financing requirements and the various NATO policy decisions establishing the missions, programs, and force goals that create the need for common-funded facilities.

The rate of Infrastructure programming has increased sharply in recent years, and the program ceiling agreed for the current five years (1980-84) is not adequate. Considering that there are unfulfilled priority needs far beyond that agreed level, the U.S. is actively supporting a request from Major NATO Commanders (the Supreme Allied Commander, Europe and the Supreme Allied Commander, Atlantic) for a substantial increase by or before June 1983.

NATO recently succeeded in accelerating the completion of Infrastructure projects. However, this success has caused budgetary problems for many nations in meeting the accelerated payments involved. We expect these problems to be resolved in a forthcoming review of the current Infrastructure ceiling.

h. Host Nation Support

Host nation support has become a primary element in NATO efforts to achieve a stronger deterrent and warfighting posture. We and our Allies have undertaken extensive planning to improve the effectiveness and capabilities of U.S. in-place and reinforcing forces through the use of wartime host nation support. This will ensure critical logistics support without further straining U.S. lift and support resources.

Since host nation support is essential to our ability to reinforce Europe rapidly in a crisis, we have asked our Allies to provide the maximum amount of support. This includes support of U.S. reinforcements and facilitating follow-on resupply originating in the United States and moving through European seaports and airports

to forward locations in Central Europe. It also includes the movement of ammunition and supplies from central storage locations to positions of intended use.

We are making significant progress in developing and expanding wartime host nation support arrangements with Germany, Belgium, the Netherlands, Luxembourg, and the United Kingdom. We have also negotiated host nation support agreements with most of the NATO Northern region nations and we hope to complete negotiations for such agreements with Southern region nations. Our most important achievement has been a unique host nation support agreement signed with Germany last year. The German government has agreed to organize in peacetime reserve units that during crisis or war would be dedicated to providing logistics support to U.S. reinforcing forces and forward-deployed combat units in Germany. These new German units will comprise about 93,000 German reservists. The agreement also formalizes the intention of the Germans to provide extensive support from their civil sector during crisis and war.

Our wartime host nation support agreements are an extension of peacetime economic burdensharing into a logical division of labor among Allies that provides maximum benefits from NATO defense resources. For instance, we estimate that the 93,000 German reservists will cost about one-tenth of what it would cost to provide that same capability with U.S. Reserve Component units and less than one-fortieth of what it would cost to provide that capability with U.S. active forces. Neither of these cost comparisons considers the cost of any additional strategic airlift capability that would be needed to move U.S. combat service support units -- active or reserve -- from the U.S. to Europe in an emergency. If the costs of additional airlift are considered, the cost advantage of the host nation support solution over additional U.S. force structure becomes greater than 200 to 1 on a 20-year life cycle basis.

In this context, Congress' failure to authorize funding for the U.S. FY 1983 share of this eminently desirable arrangement dealt a severe blow to our progress in obtaining increased burdensharing by our Allies. I hope that Congress will correct this unfortunate situation in acting upon our FY 1983 Supplemental Appropriation request. Host nation support makes sense for both the U.S. and the Alliance. We intend to continue vigorous support of this important program, not only in Europe but in all parts of the world where U.S. forces may have to be deployed.

i. NATO Arms Cooperation

NATO efforts to improve cooperation among its members in research, development, and production of armaments and equipment range from bilateral to Alliance-wide measures. The Conference of National Armaments Directors (CNAD) directs this activity. Supporting bodies include three main armaments groups (Army, Navy, and Air Force), a Defense Research Group, a NATO Industrial Advisory Group, the Tri-Service Group on Electronic Equipment, and a newly formed Working Group on NATO Acquisition Practices. NATO work in this field takes the form of project groups, bringing together interested countries in development of specific equipment, and information exchange groups. In many cases the decision to form project groups results from discussion in an information exchange group.

The U.S. furnishes representatives to almost all of these armaments groups and subgroups, with the Under Secretary of

Defense for Research and Engineering serving as the U.S. member of the CNAD.

Recent U.S. initiatives in NATO armaments cooperation have included emphasis on memoranda of understanding (MOUs), encouragement of co-production, and organization of research under families of weapons. Bilateral or multilateral MOUs may deal with specific projects for co-development and co-production; in addition, bilateral general reciprocal procurement MOUs have been negotiated to open competition in systems acquisition through waiver of buy national provisions. In this regard, Congressional restrictions related to procurement of items containing foreign specialty metals adversely affect cooperative defense programs with our NATO Allies and other friendly countries. Such restrictions also harm our own defense industry by reducing opportunities for the offsetting arrangements normally associated with large arms purchases from the U.S. Without offsets from the U.S., our Allies may well look to other sources for meeting their defense equipment needs. So, quite apart from the impact on NATO cooperation per se, our own self-interest dictates that Congress provide prompt relief from these restrictions. We have included the necessary changes for such relief in our FY 1983 Supplemental Appropriation request.

The U.S. and its Allies in NATO devote considerable effort to the task of cooperation in armaments. Nevertheless, we still need to draw even greater benefits from the opportunities that exist or can be created, so that we can capitalize on the technological advantages and combined superiority of the industrial base of the U.S. and its Allies. In pursuit of this goal, Under Secretary DeLauer recently asked the Defense Science Board (DSB) to establish a special task force to investigate policies and problems that impede international industry-to-industry cooperation in the Alliance. Their work to date has been most valuable. Armaments cooperation remains a field of priority importance.

j. NATO Logistics

Military logisticians insist, correctly, that the initial readiness of forces in the field, our ability to reinforce them, and the sustainability of the fully mobilized forces all depend in great part on prior logistics arrangements and a continuing logistics support system.

While logistics has for years been considered in NATO as a national responsibility, NATO has begun to recognize that logistics cooperation and commonly undertaken efforts are necessary for effective coalition defense within available resource levels. Accordingly, NATO recently established a Senior NATO Logisticians Conference (SNLC) (SNLC) which, among its other responsibilities, is concerned with improving NATO logistics arrangements and readiness.

The SNLC injects a coalition perspective into Alliance logistics considerations. Its program of NATO logistics improvements includes greater emphasis on broad logistics planning for the Alliance, harmonization of national arrangements in the communications zones, logistics sustainability, host nation support, improved medical support support capabilities, and improvement of the logistics posture of the Southern region.

We provide strong support for this essential program. The Assistant Secretary of Defense (Manpower, Reserve Affairs, and

Logistics) and the Director, J-4 (Logistics) of the Joint Staff, serve respectively as the U.S. civil and military representatives on the SNLC. Its work has helped us make progress toward a better integration of U.S. forces and their logistic support into the overall NATO framework.

k. NATO Exercises

The overall aim of NATO military exercises is to improve the capability of NATO and national forces, headquarters, and agencies to implement NATO contingency and General Defense Plans, all of which require close cooperation among forces of different nationalities. The plans also require the integration of reservists and reserve units with regulars and standing units.

We are active participants in the NATO exercise program. Over two-thirds of the JCS exercise program consists of either NATO scheduled and sponsored exercises or NATO-related exercises sponsored by a NATO member nation in coordination with the Supreme Allied Commander, Europe (SACEUR). Program emphasis is placed on rapid reinforcement of ACE and initial combat capabilities based on the NATO strategy of forward defense. For example, we allocate over half the airlift capability for JCS exercises to rapid reinforcement exercises such as REFORGER and CRESTED CAP held each year in Europe.

In response to our recommendation, NATO has agreed to exercise its procedures for response to warning, including ambiguous warning, in its annual NATO Headquarters exercise.

l. NATO Training

Each member nation is responsible for training the forces it commits to NATO. However, the Major NATO Commanders are concerned with the higher levels of training involving the ability of national forces to work together under NATO Headquarters, as well as their effectiveness and readiness. This higher training takes the form of international or NATO exercises and maneuvers. The Standing Naval Force Atlantic and the Standing Naval Force Channel, into which maritime units of member countries rotate periodically, serve as training testbeds for maritime interoperability and cooperation.

In addition to higher level or coalition training, NATO also assists countries in meeting individual training needs in a number of ways. NATO schools run by the NATO Military Authorities offer courses on nuclear and conventional weapons planning and employment; NBC defense; electronic warfare; and communications, command, and control. NATO nations also offer many courses to both NATO personnel and personnel from other member nations. The Euro NATO Training Group, with 12 NATO nations participating, develops cooperative training projects in which allied personnel train together in a common course of instruction, using common tactics and procedures. This consolidated training is usually less expensive because of economies of scale. Examples of these projects are joint jet pilot and helicopter pilot training (conducted in the U.S.) and training in Europe on air-ground operations, engineer operations, and logistics planning. Congressional action to permit the U.S. to reciprocate the Allied practice of providing training to U.S. personnel at incremental cost would enable NATO to realize more fully the benefits of cooperative training. Finally, the NATO Defense College in Rome, which operates under the general supervision of the NATO Military Committee, instructs mid-level military and civilian officials of NATO governments

at the level of a senior defense college, emphasizing coalition problems.

m. Mutual and Balanced Force Reductions (MBFR) and Arms Control

While the NATO Allies are deeply involved through close consultations in all important arms control talks, such as the Soviet-U.S. bilateral negotiations at the START and INF talks, those Allies who participate in the MBFR talks with the Warsaw Pact act as a collective body. As a complement to NATO conventional force improvement programs, the MBFR talks are aimed at improving stability through significant and verifiable reduction of the conventional forces of both sides to parity in Central Europe.

The Warsaw Pact superiority in military ground forces is one of the most destabilizing factors in the European military equation. The U.S. and its NATO Allies are committed to addressing this problem through their military programs. However, the Alliance is equally committed to reducing levels of direct military confrontation in peacetime.

The MBFR talks are unique in that all positions to be taken by the NATO negotiators in Vienna are discussed in the NATO Senior Political Committee and approved by the North Atlantic Council. Furthermore, the 12 NATO members who participate as direct participants or participants with special status in the talks themselves develop negotiating tactics based on full consensus. Department of Defense personnel play a major role in the development of U.S. positions for use in NATO consultations. My senior advisors and I watch this process closely.

n. Burdensharing

There is no formal NATO program aimed solely at burdensharing. In a fundamental sense, the Alliance itself is a mechanism for sharing the burden of facing up to Soviet military power. Decisions as to national roles within the Alliance are sovereign decisions. Nevertheless, concepts of cooperative effort and fair sharing are implicit in every major Alliance decision.

We deal specifically with burdensharing, of course, when NATO sets force goals. We comment on the quality of burdensharing when NATO reviews national force and financial plans. Once having politically agreed on national shares, as in the Infrastructure Program, the NATO Civil Budget, and the International Military Headquarters and Agencies Budget, we find it difficult to readjust these shares.

The essential aim of burdensharing in NATO defense is that each member nation carry its full share, according to its political and economic capabilities. U.S. officials dealing with NATO matters understand fully the importance of full participation by all Alliance members and work to this end. Over the long run we must all do more if we are to counter effectively the Soviet threat.

A separate report on this subject is being submitted to the Congress in accordance with PL 97-252.

o. Master Restationing Plan

The Army has a plan for relocating three brigades in Germany to U.S.-controlled land close to the eastern border of the Federal Republic of Germany. This plan, called the Master Restationing Plan, or MRP, is not a NATO program, but is an important part of our effort to strengthen the defense of Europe. The MRP supports force modernization, increased deterrence, and war-fighting capabilities, and would improve living and working conditions for American soldiers and their families.

In March 1982, senior-level delegations from the U.S. and Germany met to discuss the mutual benefits inherent in the MRP. As a result of this meeting, a working group was tasked to identify problems that could result from implementing the MRP. They reached agreement on the technical and administrative aspects of the plan, but not on how the plan is to be funded.

During 1983, we will continue to hold MRP discussions with the Germans aimed at developing cost-sharing plans acceptable to both countries.

p. Cost of Withdrawing U.S. Forces From Europe

(1) Background

During its hearings on the FY 1983 DoD budget, the Congress expressed continued interest in the costs associated with our NATO deployments. In responding to similar requests in the past, DoD has derived its cost estimates by "allocating" the total defense budget to various regions of the world. This approach has several serious shortcomings, however. The two most obvious are:

(a) U.S. forces are multipurpose. While U.S. forces are available to meet any aggression in Europe by the Soviet Union and its allies, they must also be able to respond to threats against U.S. security interests in other regions of the world. Thus, even if our NATO commitment were suddenly to disappear, we would not necessarily be able to inactivate a significant portion of the forces now stationed in Europe, much less those in CONUS whose current primary mission is rapid deployment to Europe.

(b) Much of our force structure that could not be directly allocated to Europe under any defensible methodology nevertheless supports common allied interests. An example is our strategic nuclear forces.

Although Congressional inquiries concerning the costs of our NATO deployments have been phrased in a variety of ways, it seems clear that they are based on a notion that budgetary savings could be achieved by withdrawing some of our forces from Europe. This notion cannot be explored using an allocation approach and, quite frankly, it should not be considered seriously without reference to the political and military implications discussed below and to existing agreements among the Allies. It requires an analysis that establishes a precise scenario for redeploying forces from Europe to CONUS and identifies the costs or savings associated with each of the major elements of that scenario. We have conducted such an analysis and believe the results are quite interesting.

(2) Political and Military Implications of U.S. Troop Withdrawals

Before presenting the analysis, I feel it is important to reiterate some basic tenets related to forward deployment, a key supporting policy of our defense strategy.

U.S. forces are maintained in Europe directly in support of U.S. political and military interests -- not as an act of charity toward our Allies. Our force presence is an integral part of our NATO defense commitment, and withdrawals of the scale discussed in the following analysis would weaken our credibility both with our Allies and with potential adversaries. Our presence helps foster deterrence by demonstrating U.S. resolve.

The adequacy of NATO's conventional defenses, particularly in the Central Region, in effect determines the threshold for nuclear war. A strong conventional defense raises the threshold; a weak defense lowers it. Recognizing that strong conventional defenses reduce the likelihood of war, whether conventional or nuclear, in Western Europe, the United States and its Allies have taken measures to bolster their defenses.

At the Bonn Summit meeting in June 1982, President Reagan reaffirmed the United States' commitment to the NATO Alliance. He underscored emphatically our adherence to the principle that the security of all Allies is indivisible and stated that there will be no unilateral withdrawal of the American presence in Europe.

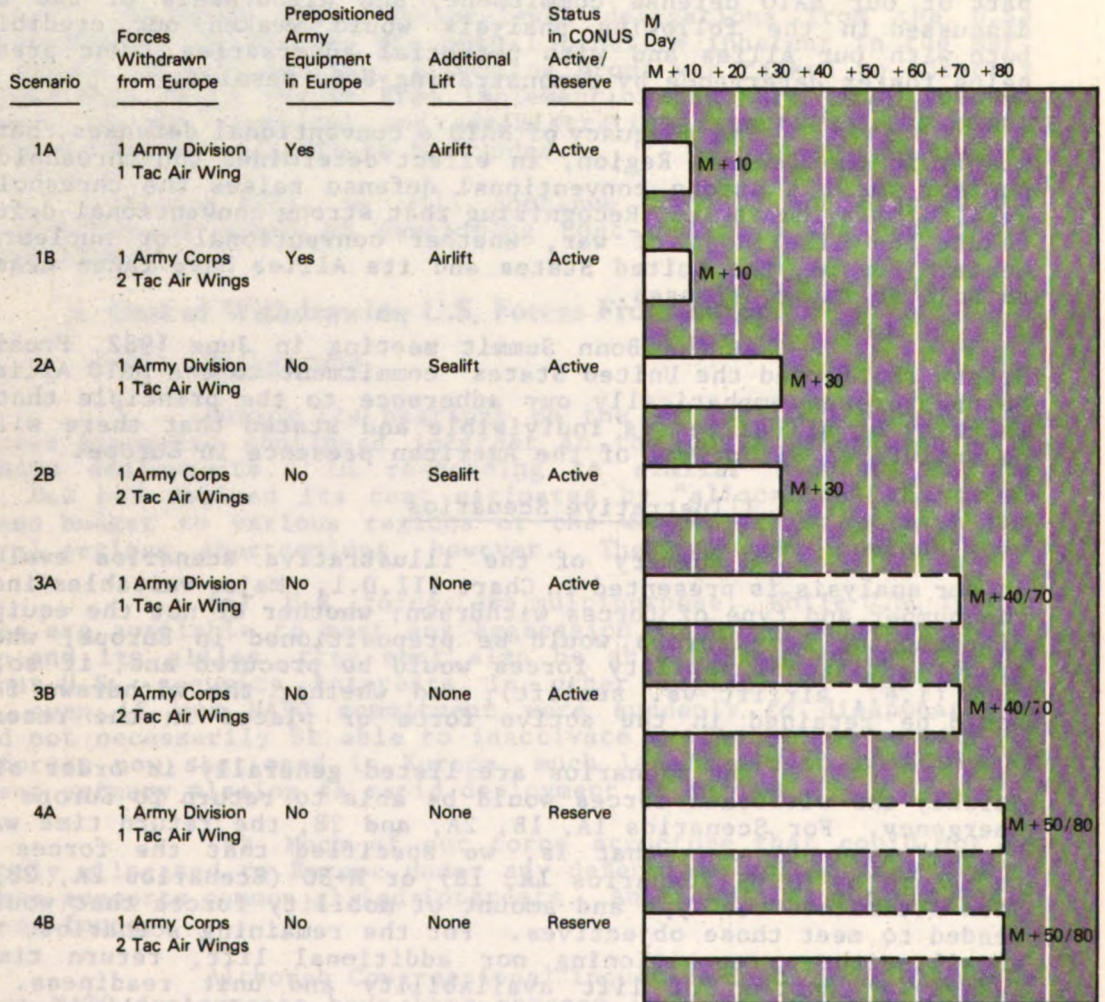
(3) Illustrative Scenarios

A summary of the illustrative scenarios evaluated in our analysis is presented in Chart III.D.1. Major variables include the number and type of forces withdrawn; whether or not the equipment of returning Army forces would be prepositioned in Europe; whether or not additional mobility forces would be procured and, if so, the type (i.e., airlift vs. sealift); and whether the withdrawn forces would be retained in the active force or placed in the reserves.

The scenarios are listed generally in order of how quickly the withdrawn forces would be able to return to Europe in an emergency. For Scenarios 1A, 1B, 2A, and 2B, the return time was an "input" assumption -- that is, we specified that the forces were to return by M+10 (Scenarios 1A, 1B) or M+30 (Scenarios 2A, 2B) and then determined the type and amount of mobility forces that would be needed to meet those objectives. For the remaining scenarios, which entail neither prepositioning nor additional lift, return time is largely a function of lift availability and unit readiness. For Scenarios 3A and 3B the units could deploy more quickly than indicated in Chart III.D.1 if they were given high priority on the time-phased deployment list, but this would delay the deployment of other combat forces. Because of this "ripple" effect, the net impact in terms of the total number of combat forces arriving in the theater over time would be the same as if the withdrawn units had awaited their turn for the first available lift.

Chart III.D.1
SUMMARY OF SCENARIOS

TIME REQUIRED TO RETURN TO EUROPE
(DAYS AFTER MOBILIZATION (M) DAY)

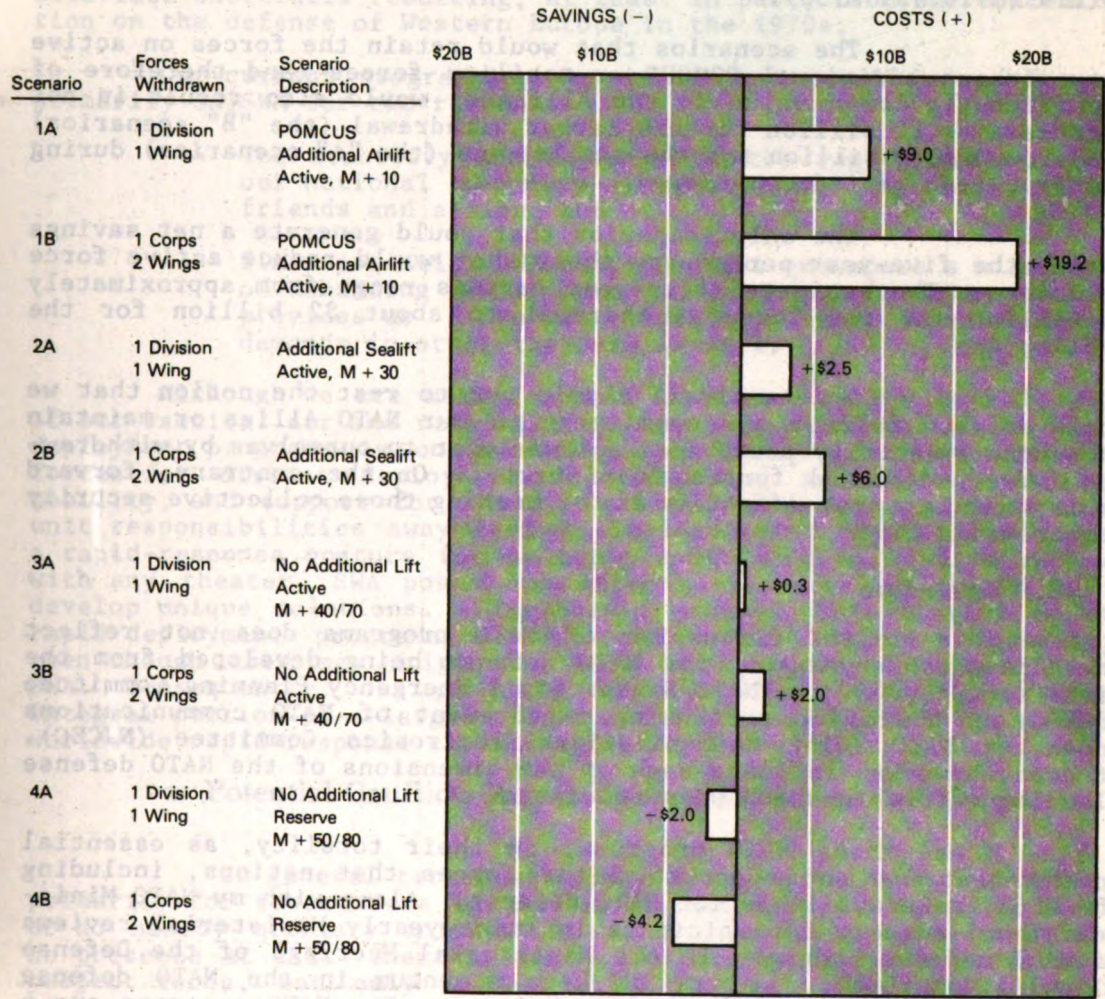


Note:

In Addition to the Major Combat Unit Withdrawals Indicated Here, the Air Force Has Included in Its Cost Analysis Other Associated Actions It Would Take Under the Scenarios Addressed in This Analysis. These Include, Among Other Things, a Variety of European Base Closures and Consolidations.

Chart III.D.2

**SUMMARY OF 5 YEAR (1984-88) SAVINGS / COST
(FYDP \$ IN BILLIONS)**



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(4) Cost Impact of Troop Withdrawals

Chart III.D.2 depicts the total FY 1984-88 costs/savings associated with each scenario.

The telling point is that all of the scenarios calling for a rapid return of the forces in an emergency would require substantial net increases in TOA during FY 1984-88. These added costs could range from approximately \$3 billion to \$19 billion, depending on the size of the withdrawal and how rapidly the forces were to return (M+10 vs. M+30).

The scenarios that would retain the forces on active duty without additional POMCUS or mobility forces (and therefore of significantly lower value to the Alliance) would also result in net increases -- \$2 billion for the larger withdrawal (the "B" scenarios) and around \$300 million for the smaller one (the "A" scenarios) during the five-year period considered.

The only scenarios that would generate a net savings during the five-year period are those that would reduce active force structure. The estimated five-year savings range from approximately \$4 billion for the larger withdrawal to about \$2 billion for the smaller one.

This analysis should put to rest the notion that we could somehow fulfill our commitment to our NATO Allies or maintain an adequate security posture at a lower cost to ourselves by withdrawing forward-deployed forces from Europe. On the contrary, forward deployment is a cost-effective way of meeting those collective security requirements.

3. Conclusion

This limited discussion of NATO programs does not reflect the considerable support for NATO defense being developed from the civil sector under the NATO Senior Civil Emergency Planning Committee (SCEPC) or the major continuing improvement of NATO communications under the NATO Joint Communications-Electronics Committee (NJCEC). It does, however, indicate some of the dimensions of the NATO defense planning effort in which we participate.

I see these NATO programs, in their totality, as essential to the best use and support of the forces that nations, including the U.S., make available for NATO defense. Along with my NATO Ministerial colleagues, I participate in twice-yearly Ministerial reviews of NATO defense programs in the Ministerial Meetings of the Defense Planning Committee. We try to keep momentum in the NATO defense programs and to keep them in some balance. The NATO programs are a necessary complement to national defense programs; the two efforts taken together will determine the continuing effectiveness of NATO deterrence and defense.

E. RAPID DEPLOYMENT FORCES

1. Introduction

The capability to deploy combat forces rapidly is essential to our ability to deter war and, if necessary, to fight -- in Europe, Southwest Asia (SWA), the Pacific, or elsewhere -- especially in the important early days of a conflict. This helps us meet our key objective of terminating hostilities at the lowest possible level of violence. Our FY 1984-88 programs recognize the important elements of speed and flexibility for U.S. forces, and they are structured to alleviate shortfalls resulting, at least in part, from our concentration on the defense of Western Europe in the 1970s.

Our current programming for rapid deployment forces focuses primarily on SWA for two reasons:

- The stability and security of the region are vital to our national security interests, and to those of our friends and allies; and
- Since potential SWA contingencies encompass a wide range of demanding situations, programming for that theater provides us a robust capability that covers likely demands in other theaters as well.

Although we are making modest increases in the overall size of our tactical air and naval forces, the primary focus of our rapid deployment programs is on enhancing the readiness of our existing forces for distant deployment and providing additional training, mobility, and support for them. In some cases, we are reorienting unit responsibilities away from a single-theater mission and toward a rapid-response posture for multiple contingencies. Of course, as with any theater, SWA poses some special problems requiring us to develop unique solutions. In general, however, the majority of our rapid deployment programs enhance our overall combat capability, even though they may originally have been developed primarily for SWA. Consequently, our programs for SWA should be viewed as an integral portion of a larger effort aimed at revitalizing our overall worldwide rapid-response capability.

a. Potential Conflicts Requiring Rapid Deployment Forces

In general terms, we need a "rapid deployment capability" primarily for those areas of the world in which the U.S. has little or no nearby military infrastructure or, in some cases, maintains no presence at all. There are many locations where we might need to project force, not only in SWA and the Middle East, but also in Africa, Central America, South America, the Caribbean, and elsewhere.

Each of these areas has special requirements, but it would be too costly to try to tailor a unique force for each. Therefore, we must set priorities -- as we have with our programs for SWA -- and, at the same time, build flexible capabilities that can serve our needs in more than one region. If faced with a crisis requiring military force, we will probably send our most ready, deployable units, even if they are designed primarily for other commitments.

SWA and the Middle East, as depicted in Chart III.E.1., understandably represent the focus of our current rapid deployment force planning and programming.

(1) Southwest Asia (SWA)

It is our policy to support the independence and territorial integrity of the countries in this politically unstable region, and to prevent a further spread of Soviet domination. Furthermore, one-third of the free world's oil supply is produced in SWA, making it vital to the interests of the U.S. and especially to those of our allies.

Although SWA is the focus of our rapid deployment planning, we presently have no agreements to station our combat forces ashore in the area and, therefore, maintain only a limited sea-based presence there. Furthermore, political conditions and agreements with our friends and allies near the region, in Europe, and elsewhere along vital lines of communication (LOCs) influence the availability of important resources and transit facilities necessary to support our rapid deployment strategy. As a result, many of our programs emphasize mobility and achieving access to countries en route to and near that distant region.

The continuing Soviet occupation of Afghanistan, the Iran-Iraq war, and lower-level intraregional disputes, such as those between North and South Yemen, exemplify the range of regional instabilities that complicate our policy and strategy. Our programs for the region must therefore offer capabilities across a spectrum of potential conflicts.

Regional internal instabilities and intraregional conflicts provide frequent opportunities for Soviet intervention through proxy states or Soviet-backed sympathizers. In most cases, we would respond indirectly through economic, technical, political, or security assistance programs, depending on political conditions. U.S. military participation could range from the provision of training, materiel, and security assistance to support for the employment of third-party assistance or the tailored use of military force, as appropriate.

An overt Soviet invasion would, of course, represent a far more demanding requirement for a military response. Such an invasion could lead to the establishment of Soviet control in vital areas if the U.S., together with our allies and regional friends, were unprepared to respond rapidly with sufficient force.

(2) Middle East

The Middle East is contiguous to, and by some definitions overlaps, SWA. This, too, is a politically dynamic region that poses many similar problems for U.S. forces and, therefore, requires the same general types of capabilities that we are building for SWA.

Indeed, during the recent crisis in Lebanon, we deployed elements of our rapid deployment forces (a Marine Amphibious Unit) as part of a multinational peacekeeping force.

Chart III.E.1

SOUTHWEST ASIA AND THE MIDDLE EAST



b. Unified Command for SWA

On 1 October 1981, we chartered the Rapid Deployment Joint Task Force (RDJTF) as a separate joint task force reporting directly to the National Command Authority (NCA) through the Joint Chiefs of Staff (JCS). Its commander was given operational control over selected Army and Air Force units and was assigned operational planning responsibility for SWA. This narrowed scope reflected our recognition of the need for a full-time major commander to develop detailed plans for the wide range of possible contingencies in that region. The new structure allowed the RDJTF Commander to plan his operations more effectively, exercise his forces, and maximize their combat readiness.

On 1 January 1983, we upgraded the RDJTF to a Unified Command for SWA, after a time-phased transition we had been planning for over a year. This marks the first geographic unified command created in over 35 years, and highlights the importance we have placed on SWA and our ability to deter or oppose Soviet aggression in the region.

With this transition, the Commander, RDJTF became the Commander-in-Chief, United States Central Command (CINCCENT). The same forces formerly available to the RDJTF are available on a priority basis for CINCCENT planning, exercises, and operations as necessary. Further, CINCCENT continues to have access to a reservoir of additional forces he could draw upon, depending upon the size and nature of the contingency. While, in principle, most of our general purpose forces are in some sense available for rapid-response missions, the actual composition of the available-forces reservoir will change and gradually expand over time, as our ability to deploy forces rapidly and support them adequately improves. Table III.E.1. depicts, in generic terms, the major types of combat forces available for SWA and other rapid deployment contingencies.

The primary mission of the new command is to deter Soviet aggression and to protect U.S. interests in SWA. For deterrence to be credible, we must be prepared to fight, thereby raising the cost of Soviet aggression to an unacceptable level. Our analysis indicates that a joint task force, with appropriate air, naval, and unconventional warfare support, would have a substantial capability against a Soviet invasion or lesser threats in SWA. We are examining ways to increase our SWA mobility capabilities. This will require a commensurate increase in funding for readiness and sustainability, as well as improved planning and strategic lift, advantageous use of strategic warning, and prepositioning of supplies and equipment in the region.

The new command is based at MacDill Air Force Base, Florida. The feasibility of locating the headquarters in the SWA region is presently under study.

Over the next year or so, we plan for CINCCENT's responsibilities to grow as the command assumes more of the functions typically assigned to a CINC (e.g., administration of security assistance programs). We are in the process of manning the headquarters staff, primarily from existing personnel authorizations.

Due to his need for a core of rapidly deployable combat forces, CINCCENT has been given access to some of our most mobile

and ready units. Many of these units, however, may be needed for crises outside CINCCENT's geographical area of responsibility. Therefore, as needed, we will make them available for rapid deployment missions in other regions.

TABLE III.E.1.

Combat Forces for Rapid Deployment Contingencies

	<u>FY 1984</u>
<u>Army</u>	
Airborne Divisions	1
Air Mobile/Air Assault Divisions	1
Mechanized Infantry Divisions	1
High Technology Infantry Divisions	-
Cavalry Brigade Air Combat	1
Rangers and Unconventional Warfare Units	Varies
<u>Marine Corps</u>	
Marine Amphibious Forces <u>1/</u>	1-1/3
<u>Air Force</u>	
Tactical Fighter Wings (TFWs) <u>2/</u>	7
Strategic Bomber Squadrons <u>3/</u>	2
<u>Navy</u>	
Carrier Battle Groups	3
Surface Action Groups	1
Maritime Patrol Air Squadrons	5
<u>Headquarters</u>	
Army Headquarters	1
Naval Forces	1
Air Forces	1

1/ A Marine Amphibious Force typically consists of a reinforced Marine division and a Marine aircraft wing (containing roughly twice as many tactical fighter aircraft as an Air Force tactical fighter wing).

2/ Includes support forces.

3/ These bombers and associated reconnaissance, command and control, and refueling aircraft make up the Air Force's Strategic Projection Force.

c. Rapid Deployment Force Issues—The SWA Mission

No matter where outside NATO we might send our rapid deployment forces, the problems they face are likely to be quite different from those posed by a NATO/Warsaw Pact contingency. In general, our forces are likely to have to operate in distant theaters characterized by little regional U.S. presence, an inadequate infrastructure (i.e., limited road, rail, air transport, communications, or similar facilities), and a harsh climate or difficult terrain. Requirements for SWA are a prime example of the types of considerations we must incorporate into our rapid deployment strategy and programs.

(1) Mobility

Our peacetime regional presence in SWA is limited primarily to a sea-based force. Therefore, we must be able to project additional forces very rapidly into this distant region and adequately sustain them in combat. Meeting these objectives will require:

- Developing mobility capabilities to deploy forces rapidly to and within SWA over extended air and sea lines of communication (ALOCs/SLOCs) and to sustain them in combat;
- Locating, obtaining approval for, and developing land-based prepositioning sites;
- Obtaining both overflight rights and en route access from several additional countries;
- Securing lengthy ALOCs/SLOCs during the conflict to sustain combat operations;
- Obtaining access to and improving in-theater airfields and seaports;
- Obtaining host nation support agreements with countries en route to and in SWA; and
- Improving our cargo loading and unloading capabilities to compensate for the lack of local infrastructure and trained personnel.

(2) Force Structure and Readiness

The different types of rapid deployment scenarios require different types and sizes of forces and, depending upon the situation, different force capabilities. Regardless of their size, configuration, or destination, our rapid deployment forces must be prepared to deploy on a "moment's notice." Our primary concerns are that:

- Our forces be "streamlined" to maximize combat power early in a crisis by ensuring our units include only time-sensitive equipment and personnel;
- The equipment to be moved be appropriate to the climate and terrain of the region;
- The limited capacity of our mobility systems be used efficiently; and
- Steps be taken to ensure our deploying forces are "rapid" (by improving their equipment and personnel preparedness as well as planning) and "ready" (by training combat and logistics support units for operations in unfamiliar and widely varying climates and terrain).

(3) Support

Because of the characteristics of the rapid-response scenario in general -- and deployment requirements for SWA in particular -- our support forces are faced with:

- Little or no host nation support, requiring them to be able to operate independently;
- A need for access to en route and regional facilities, in peacetime as well as during crises;
- A need to tailor support (e.g., water, medical, communications, and transportation) for unique and austere combat operations; and
- A requirement for "cross-service" support (e.g., Army long-distance land transportation for Marine and Air Force units).

In addition to these challenges, three particular problems still confront our rapid deployment forces:

- Many of our combat and support forces identified for rapid deployment are "dual-" or even "triple-hatted" (i.e., have missions in other theaters).
- Because our forces have been designed primarily for use in Europe, several types of support units -- essential in the austere environment of SWA -- are in short supply or do not exist. To help remedy these deficiencies, the Army plans to create some combat service support units specifically for SWA, but these will not become operational until late in the program period.
- Were roughly simultaneous crises to occur in NATO and SWA, or elsewhere, our airlift and fast sealift could not deploy forces to both theaters as rapidly as might be necessary.

Our FY 1984-88 program addresses each of these requirements. Our principal program goals can be summarized as follows:

- To improve our mobility forces and preposition sufficient equipment and supplies in order to deploy rapidly and support a force of an appropriate size to deter Soviet aggression;
- To provide long-term support and resupply to sustain these forces;
- To gain access to and improve regional facilities and to expand local support structures;
- To strengthen friendly forces in the region and carry out joint and combined exercises and planning; and

-- To increase our capability to deploy to and fight in two or more theaters simultaneously.

2. FY 1984-88 Programs

Planning and programming to improve our rapid-response capabilities have improved significantly over the last three years, as has our ability to project forces overseas, especially in SWA. Our FY 1984-88 programs continue this trend, enhancing the capability of our rapid deployment forces and reinforcing the credibility of our intentions.

Cost Summary. At the start of this chapter, I stated that our programs for SWA should be viewed as an integral portion of a larger effort aimed at revitalizing our overall worldwide rapid-response capability. Nevertheless, it is useful to distinguish SWA-unique costs from the costs of programs that enhance our rapid deployment capability in general. We can group our FY 1984-88 program costs into two categories:

-- SWA-Specific Programs -- those few programs that would probably not be needed if our national strategy did not require maintaining rapid deployment capabilities specifically for SWA; and

-- Other Rapid Deployment Programs -- those programs that, although they may have been developed primarily to support our SWA strategy, would be needed to support missions and operations in other regions. These programs would still be needed even if we removed SWA planning from our national strategy.

The FY 1984-88 costs for these programs are summarized in Table III.E.2.

TABLE III.E.2.

	<u>Rapid Deployment-Related Program Costs</u>					
	(\$ Millions)					
	<u>FY</u> <u>1984</u>	<u>FY</u> <u>1985</u>	<u>FY</u> <u>1986</u>	<u>FY</u> <u>1987</u>	<u>FY</u> <u>1988</u>	<u>FY</u> <u>1984-88</u>
SWA-Specific	622	805	893	1,204	852	4,376
Other	<u>1,618</u> <u>2,240</u>	<u>1,479</u> <u>2,284</u>	<u>1,580</u> <u>2,473</u>	<u>1,717</u> <u>2,921</u>	<u>2,783</u> <u>3,635</u>	<u>9,177</u> <u>13,553</u>

a. Combat Forces for Rapid Deployment Contingency Planning

Over the next five years, our forces available for rapid deployment contingency planning will grow. In FY 1984, 3-1/3 Army divisions, plus their combat service support, and 1-1/3 Marine Amphibious Forces will give us a fully supported rapid deployment capability of about 4-2/3 division equivalents (see Table III.E.1). The Army divisions, however, are expected to continue to be dual-hatted with NATO.

We have programmed about seven Air Force tactical fighter wings for our rapid deployment forces in FY 1984. Like our ground forces, these tactical fighter wings will be dual-hatted with NATO.

The Navy will continue to make available to our rapid deployment forces up to three carrier battle groups throughout the period.

b. Support

As I mentioned previously, one of the primary thrusts of our rapid deployment programs is to provide more adequate support for our existing combat forces. Accordingly, the Army has programmed a significant increase in support structure spaces. In FY 1984, we will be able to deploy and sustain 3-1/3 Army divisions.

We will accomplish this by activating Active Army combat service support units (ammunition; petroleum, oil, and lubricants (POL); water; medical; transportation; maintenance; and engineers) specifically for our rapid deployment forces. With the addition of these units, we expect the Active Army to be able to support over half of the rapid deployment requirement. The remaining units will be drawn from the Reserve Components. Since some critical support units, such as medium truck companies and engineer battalions, are dual-hatted for NATO, we are identifying Reserve Component units that will need to mobilize immediately to deploy with our rapid deployment forces or to replace NATO-oriented units that may have deployed with our rapid deployment forces. In addition, our NATO allies are evaluating the possibility of providing Host Nation Support to alleviate the unit shortfall.

To permit early deployment of an initial force, the combat support and combat service support elements for the first divisions would be drawn primarily from active forces. The support for the remaining divisions would come primarily from Reserve Component units available after mobilization.

Because support requirements for our rapid deployment forces are so important and demanding, we are examining a wide range of near- and mid-term options to improve our capabilities, including asking our allies to assume a greater share of the support burden in NATO, expanding regional prepositioning, and upgrading Reserve Component support units.

Additionally, the Navy plans to convert and purchase two 1,000-bed hospital ships to support the medical needs of deployed Marine forces. The first ship is expected to be delivered in early FY 1986, and the second later that same year.

c. Strategic Mobility

Strategic mobility is the key to our rapid deployment planning, but our ability to project forces overseas is currently constrained by limited airlift and sealift resources. Sealift would be the dominant means of transporting our forces and equipment after the first few weeks of a deployment. During the early days of a conflict, however, before sealift takes effect, airlift and prepositioning would be our only means of rapidly deploying and sustaining our combat forces.

(1) Airlift

To meet our early force projection and resupply needs, we have placed a high priority on improving our airlift capability. We are pursuing four courses of action:

- Procurement of 50 additional C-5 cargo aircraft and 44 more KC-10 cargo/tanker aircraft to help reduce our airlift shortfall in the near term;
- Continued improvement of current airlift aircraft (e.g., C-5 wing modification and procurement of additional C-5 and C-141 spare parts);
- Acquisition of additional capacity through a restructured Civil Reserve Air Fleet (CRAF) Enhancement Program beginning in FY 1984; and
- Continued research and development on the C-17 airlift aircraft.

(2) Sealift

To improve our sealift capability, we have placed priority on converting the eight SL-7 fast sealift ships procured in FY 1981-82 to a roll-on/roll-off configuration by 1984-85. These high-speed (33-knot peak) ships could transport heavy forces to any theater.

To ensure that we can take full advantage of our rapid strategic mobility programs, we are funding on-load/off-load programs to allow us to use austere ports and to provide an over-the-shore capability. These improvements will also facilitate transferring cargo from one lift mode to another (i.e., from strategic sealift and airlift to intratheater air, sea, and ground transportation systems).

(3) Prepositioning

To improve our ability to deploy forces rapidly, we have initiated several sea-based prepositioning programs with a SWA orientation. Our prepositioning programs yield at least three benefits: (1) they give us a peacetime presence in the region; (2) they reduce deployment time to the region; and (3) they increase the amount of early combat capability in the region.

We already have on station a Near-Term Prepositioning Force (NTPF) of 18 chartered ships. Six of these ships carry unit equipment, medical facilities, and supplies for a heavily mechanized Marine Amphibious Brigade (MAB). The remaining 11 depot ships carry common-user water and POL, as well as materiel for early arriving Army and Air Force units. The NTPF depot ships will enable our forces to sustain combat operations until supplies can be shipped from the United States. The eighteenth NTPF ship is in the Mediterranean. Although the NTPF program, per se, will be phased out in 1986, the capability it has provided will remain. The Marine Corps equipment and supplies will become part of the third Maritime Prepositioning Ship Program task force, and the depot ships will remain on station to support Army, Air Force, and common-user requirements.

The medical facility NTPF ship, known as the Rapidly Deployable Medical Facility (RDMF), is a break-bulk ship carrying two 400-bed Army field hospitals and one 200-bed combat support hospital. In a crisis, these facilities would be moved to appropriate land locations to support deployed Marine Corps units. In June 1983, the Navy plans to replace these Army hospitals with equivalent Navy medical facilities, which will remain on station to support Marine Corps operations. The Army hospitals will then be stored in Europe as part of the POMCUS program.

The goal of the Maritime Prepositioning Ship (MPS) program is to preposition unit equipment and supplies for three Marine Amphibious Brigades (MABs). In time of crisis, the troops and their remaining materiel (those items that could not be prepositioned) would be airlifted into theater marry-up sites to meet the MPS. The MPS, unlike the NTPF, will contain self-sustaining roll-on/roll-off ships that will be able to unload cargo more quickly in austere ports or over the shore. The MPS program will allow us to deploy additional forces to SWA earlier than if they had to use available sealift.

We expect the first MPS task force to be on station in late 1984 and the second in 1985. Our current plans call for the NTPF MAB to be replaced by the third MPS task force in 1986, a full year ahead of schedule. Due to the global mission of the MPS and the need for fleet security, the first and second MPS task forces will be stationed at different locations, but where they can still meet their deployment objectives for a SWA contingency.

(4) Other Mobility Considerations

Due to the limited availability of ports and airfields in SWA, its adverse terrain and climate, and the extremely limited surface transportation network, intratheater transportation will be critical to our success in the region, or in other locations where our rapid deployment forces might be needed. Without adequate intratheater airlift, sealift, and ground transportation networks, we could be forced to concentrate in less defensible locations near major airfields and seaports, rather than in key defensive positions of our choosing. We must also develop an efficient and effective capability to integrate our strategic and tactical mobility systems. We have selected deployment units and mobility improvement programs with these considerations in mind.

Since our sealift and airlift forces enhance our mobility capabilities in general, rather than for one specific theater, they are discussed in greater detail in the Mobility chapter of this report.

d. Command, Control, Communications, and Intelligence Support

C³I systems are the "central nervous system" of our military forces. Without the vital services they perform, our deployed combat forces could not function effectively. We rely on our C³I systems, for example, to provide strategic and tactical warning of an attack, and to support communications not only among our force components but between our theater commanders and the National Command Authorities (NCA) as well. For areas such as SWA that lack an established communications infrastructure, rapidly deployable and reliable C³I is especially critical. In SWA, an area about two-thirds the

size of the United States, we must provide real-time command and control over distances perhaps as long as that between Chicago and Miami -- a difficult enough requirement even in the absence of an enemy who will make every effort to disrupt our communications. Therefore, we must procure equipment that is capable of long-distance communications, resistant to jamming, and transportable.

C³ support for our rapid deployment forces will be provided jointly by the Joint Communications Support Element (JCSE), the Services, and the Defense Communications Agency (DCA). Modernization of rapidly deployable C³ equipment is being carried out under programs designed to support U.S. forces in all theaters. Such programs include ground mobile satellite terminals, tactical voice communications (SINCGARS, HAVE QUICK, Improved HF), tactical data distribution (JTIDS, PLRS/JTIDS), and tactical switched communications (TRI-TAC). These and other ongoing programs in positioning and navigation, airborne warning and control, and electronic warfare will significantly improve C³ support for our rapid deployment forces.

Intelligence support for CINCCENT is a formidable problem given the extreme distances involved and the likely dispersion of forces in the SWA region. We are therefore providing funding for the near-term purchase of responsive, lightweight, and maintainable reconnaissance equipment with associated communications for CINCCENT-designated units.

e. Facilities Access

We must rely heavily on airlift and sealift to deploy and sustain our rapid deployment forces, especially in SWA. This creates a particular challenge to protect them en route, primarily against Soviet submarine, fighter, and long-range bomber/cruise missile threats. Our maritime forces are already spread thin and, for the most part, may be the only military presence we have in the region during peacetime and at the outbreak of hostilities. To alleviate some of our shortfalls, we are expanding the scope and number of joint-Service programs for SWA (for example, storing Army and Air Force materiel aboard prepositioning ships). We are also continuing to seek access to facilities along the ALOCs and SLOCs, to and within SWA, from which to support deployment of our forces more adequately.

En route access provides facilities and support for airlift and sealift, as well as locations for conducting air-based anti-submarine and maritime patrol aircraft operations. It also includes overflight rights necessary to shorten flight times to the region.

Access to in-theater facilities, such as airfields and debarkation ports, provides for the reception of incoming units, allows early link-up with heavy equipment arriving by sealift, provides sites to stockpile supplies for sustaining combat, and in some cases provides sites from which we can conduct combat operations.

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, or to conduct routine training exercises during peacetime. In some cases, it has been necessary to improve the existing facilities and 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.E.3 shows our funding requirements for military construction projects in countries where we have, or expect to gain, access; the discussion that follows provides more detail on the specific projects.

It is important to reiterate that we are not creating any new U.S. bases, per se, in SWA. Rather, we are improving existing host nation facilities that we might use in crises or for peacetime support of U.S. forces in the region, and are arranging for prompt access when needed.

TABLE III.E.3

Military Construction Funding for
Rapid Deployment-Related Facilities ^{1/}
(\$ Millions)

<u>Location</u>	<u>FY 1980-83</u> <u>Appropriated</u>
Egypt (Ras Banas)	91
Oman	224
Kenya	58
Somalia	54
Diego Garcia	435
Azores (Lajes)	67
Other locations	--
Total	929

^{1/} Does not include planning and design costs.

Egypt has offered to permit our forces access to its facilities, including the strategically located facility at Ras Banas on the Red Sea, where we have undertaken a construction program to build an austere capability. The improvements will include upgrading the airfield and port facilities and constructing an austere cantonment. Once construction is completed, access to Ras Banas in time of crisis may allow us to deploy forces near a potential conflict area in SWA or the Middle East much sooner than if we had to wait until we could directly enter the affected country. However, apart from providing caretaker forces for U.S. facilities and participating in routine exercises with Egyptian forces, we will maintain no peacetime military presence in Egypt.

By agreement with the United Kingdom, we are upgrading facilities at Diego Garcia to increase the capacity of its airfield to accommodate en route refueling and to prepare for mooring additional MPS and ammunition ships there.

We are currently upgrading facilities at Lajes Air Base in the Azores and are seeking agreement with Portugal to increase the fuel storage capability there to support rapid deployment operations and enhance our current capability to support ongoing operations.

Enhancements at Lajes are important for supporting airlift to SWA as well as to other theaters.

We have reached agreement with Oman permitting us to improve selected facilities for our use, primarily during crises but also in peacetime. These planned improvements include upgrading runways, taxiways, and aprons, as well as constructing support facilities for personnel and maintenance. Omani facilities could be very important for sea control and support of naval forces.

We have relatively small but important construction projects nearing completion in Kenya and Somalia. The government of Kenya has agreed to allow our forces to use its airfield and port facilities at Mombasa. This port is useful for maintaining and refueling our ships, including aircraft carriers, and offers one of the few locations in the region for crew rest and liberty. Somalia has allowed us access to its seaports and airfields at Mogadiscio. These agreements demonstrate the success, and importance to our strategy, of our military construction program for this region.

f. Readiness, Equipment, and Training

To improve the operational readiness of our rapid-deployment forces, we plan to procure additional equipment and, for SWA, will continue to maintain a peacetime naval presence and conduct a wide range of joint-Service exercises both in the region and in the United States.

Our rapid deployment forces may be called upon to operate in both mountain and desert terrain -- two demanding yet different environments. Force requirements vary accordingly, from mobile light infantry to mechanized units. We are obtaining additional tanks and tracked landing vehicles -- to be stored on maritime prepositioning ships -to give Marine Corps forces a greater capability against enemy armored forces. Both the Army and Marine Corps are evaluating their lightweight equipment needs and are streamlining their force structure to increase strategic mobility while maintaining combat power.

We expect to continue peacetime Navy and Marine Corps operations in the SWA region. We plan to keep one aircraft carrier battle group continuously on station in the Indian Ocean. In addition, a Marine Amphibious Unit will be positioned in the Indian Ocean about 50% of the time.

Our ability to conduct effective combat operations in SWA or elsewhere is enhanced through combat exercises in and out of theater, as well as through communications and logistics exercises and wargaming. Because we believe that exercises are essential for operational readiness -- as well as to demonstrate U.S. resolve in SWA -- we plan to continue a wide range of rapid deployment exercises both in the United States and in the SWA region. For example, our most recent exercise in SWA was JADE TIGER 83, held in late November-early December 1982. In this air-defense-oriented exercise, our joint forces conducted varied operations in Oman, Sudan, and Somalia. Although smaller than the previous year's BRIGHT STAR exercise, JADE TIGER 83 gave us the opportunity to conduct air intercept and air interdiction training and an amphibious landing in Oman, and air defense training in Somalia. An important aspect of the exercise was the opportunity to practice combined operations with the Sultan

of Oman's Land Forces. JADE TIGER 83 involved Air Force F-15 interceptors and AWACS aircraft, Navy carrier-based aircraft, and Air Force B-52s (simulating enemy aircraft). This exercise successfully demonstrated our substantial capabilities, while identifying areas for future improvements.

In general terms, CINCCENT plans to conduct one exercise (either BRIGHT STAR or a communications exercise) in the SWA region each year. In years when BRIGHT STAR is not held, CINCCENT will schedule a division-sized GALLANT KNIGHT exercise in the U.S. Table III.E.4 summarizes recent and projected rapid deployment-oriented exercises.

TABLE III.E.4

Selected Rapid Deployment-Related Exercises

<u>Exercise</u>	<u>Frequency/Sponsor</u>	<u>Location</u>	<u>Description/Size</u> ^{2/}
GALLANT KNIGHT	Annual/CENTCOM	Ft. Bragg, NC	CPX/Corps
BRIGHT STAR ^{1/}		SWA Region	FTX/Brigade +
or	Annual/CENTCOM	or	
GALLANT EAGLE ^{1/}		United States	FTX/Division
Communications ^{1/}	Annual/CENTCOM	Varies	COMMEX
Exercise ^{1/}			
JADE TIGER ^{1/}	One-Time/CENTCOM	Oman/Sudan/ Somalia	Air Defense Exercise
Rapid Deploy- ment Readiness Exercise	Varies/CENTCOM	United States	Alert Exercise Deploys Head- quarters Elements for CINCCENT
BOLD EAGLE	Biennial/REDCOM	United States	CPX; FTX
BOLD STAR	Biennial/REDCOM	United States	CPX; FTX

^{1/} Will be held in the U.S. every other year (when BRIGHT STAR is held in SWA).

^{2/} CPX = Command Post Exercise
FTX = Field Training Exercise
COMMEX = Communications Exercise

In addition to conducting joint exercises, the Services are independently emphasizing rapid-deployment-related training.

3. Conclusion

Current events and trends over the past few years have reinforced the need for the United States to be able to protect its interests worldwide, and to play a major role in protecting the interests of our allies and other friendly nations. Our FY 1984-88 defense program clearly recognizes the importance and urgency of our rapid deployment programs in building toward that goal and, accordingly, provides real capabilities to protect our vital interests -- with force if necessary.

By the end of the program period, our Unified Command for SWA will have access to a combat-ready force capable of rapidly deploying and sustaining a substantial number of ground divisions with appropriate air and naval support. This is a significant increase from

the two divisions plus support we maintained in the late 1970s and the roughly four divisions supportable now. This future force projection capability will not be limited to use in SWA. Most of our rapid deployment forces and equipment will be able to deploy to regions outside SWA just as easily and quickly. Furthermore, our planning is taking this flexibility into account.

In the near term, however, we must continue to rely heavily upon deterrence, early use of strategic warning, and forces that may have dual commitments for other theaters. The risk of doing this, while great now, will be reduced substantially as our programs take effect.

We are continuing to evaluate and strengthen all aspects of our rapid deployment forces and related programs. In many cases, we have reexamined the way we do things and have made some very difficult decisions, especially about command organization, force structure, and mobility. In SWA, we will continue to show our commitment and capability, while accumulating valuable experience for our forces. We will continue to work closely with the State Department to build closer and more cooperative relationships with the regional states of SWA and to integrate our programs as smoothly as possible with whatever host nation support may be available. We are confident that our programs for our rapid deployment forces are well designed, and will give them the priority necessary to ensure their implementation.

F. MOBILITY FORCES

1. Introduction

a. The Role of Mobility Forces

Mobility forces are an indispensable component of our global response capability. They allow us to project power worldwide -- even to austere regions -- and sustain that power over long periods.

We must be able to move our combat and support forces rapidly with sufficient equipment and supplies to establish a solid military presence at distant locations where our interests are threatened. With that capability, we can make military action by opposing forces less likely and may decrease the force size needed for victory should deterrence fail.

In peacetime, a proven capacity for rapid deployment demonstrates a firm resolve to protect our interests and underwrites our commitment to friends and allies. We have been very careful, therefore, to include in our FY 1984 budget many of the mobility enhancements necessary to ensure a capable and balanced force.

(1) Intertheater Mobility

The term "intertheater mobility" refers to the movement of forces and materiel between major geographic regions or theaters of conflict. The scenario we consider most important in our mobility planning and programming is a U.S. reinforcement of NATO Europe to counter a Warsaw Pact buildup or attack, preceded by a deployment of U.S. forces to Southwest Asia (SWA) to counter Soviet aggression in that region. If we can meet the mobility needs of this scenario, we believe we will be equipped to handle contingencies in other parts of the world as well. Each deployment would require the initial movement of combat units and associated support to the conflict theater as well as follow-on transits to carry reinforcing units and materiel to sustain them in combat. In most instances, this would be accomplished through a combination of airlift and sealift, augmented by prepositioned equipment and supplies.

In designing our mobility programs, we consider both military and civilian airlift and shipping capability and the assistance we can expect from our allies. As a rule, we add military aircraft and ships to build capability that is not available, or that is in short supply, in the civilian sector. For instance, we do not build military passenger aircraft for troop deployments since there are adequate civilian aircraft available. Our airlift, sealift, and prepositioning programs are aimed at maintaining the entire system in balance.

Our airlift fleet is designed to carry the full range of combat and support equipment -- from items loaded on small pallets (measuring about 65 square feet) to M1 tanks (353 square feet and eight feet high). We group equipment into three categories -- bulk, oversize, and outsize items -- and categorize

cargo aircraft by the size of equipment they can carry.^{1/} The commercial air cargo trade is almost exclusively in bulk and oversize items, and civil cargo aircraft are sized accordingly. Therefore, our military airlift forces must meet the outsize requirement as well as provide additional oversize and bulk capability.

In theory, we would like our aircraft to carry the type of cargo for which they are best suited. We strive for an airlift force that is balanced, with bulk and oversize equipment moved on bulk and oversize carriers and outsized equipment moved on outsize carriers. In practice, however, in order to meet the theater commanders' requirements, we must deliver complete, combat-ready units as quickly as possible. This imposes a constraint on the optimum matching of cargo types to aircraft types.

In our current programming scenarios, we sometimes use outsize aircraft to transport oversize equipment, particularly when moving Air Force units, since they have relatively few outsize items of equipment, and our outsize aircraft perform well in this role. When moving Army and Marine Corps units, we rapidly reach an outsize constraint: there is more outsize equipment to move than there are outsize cargo aircraft. When this happens, a unit must wait in theater for its outsize equipment to be delivered. During this time the unit is not fully effective.

After careful consideration of the types of equipment that will have to be moved by air, we are adding the outsize aircraft we need to reduce the current outsize constraint. This will yield a force with a balanced bulk, oversize, and outsize capability for use across a reasonable range of deployment scenarios.

Just as our airlift programs must be carefully balanced, we must consider the overall balance among our airlift, sealift, and prepositioning programs. Airlift and prepositioning are closely linked. By prepositioning equipment for some of our forces in peacetime, we need only move the troops and limited residual equipment at the outbreak of a crisis. The remaining equipment consists of items that are too expensive to preposition, such as helicopters, and items that do not store well. For a typical Army division with prepositioned equipment in Europe, the equipment that we would have to airlift weighs about 3,000 short tons and is 58% outsize by weight. An additional 60,000 short tons of unit equipment would be prepositioned awaiting the troops' arrival.

Prepositioning is effective only if there is sufficient airlift to move the remaining equipment and personnel in a matter of days. If the response time grows too long because of limited airlift and approaches that of sealift, the value of prepositioning is lost.

^{1/} Bulk items measure less than 104 inches long, 84 inches wide and 96 inches high (pallet-size limits); oversize items are larger than bulk items and measure less than 1,090 x 117 x 105 inches (C-141 limits); outsize items are larger still, measuring less than 1,453 x 144 x 156 inches, or 1,453 x 216 x 114 inches (C-5 limits).

Based upon detailed analyses of the types and sequencing of forces to be moved, we have attempted to design mobility programs that will produce the greatest capability possible within expected funding.

(2) Intratheater Mobility

The term "intratheater mobility" refers to the movement of forces and supplies within a theater of operations from their air or sea ports of debarkation to their initial destination, and subsequent movement in response to the tactical situation. Some units would travel by road, using their own vehicles. Others, lacking their own surface or air transportation, must rely on intratheater mobility support.

Any of a number of transportation modes might be available to us for intratheater moves. In some cases, the host nation may provide road or rail transportation for some of our forces; in others, we would have to provide trucks, aircraft (such as the C-130), or helicopters (such as the CH-47) to move them, or to supplement the transportation provided by the host nation. When intratheater transportation must be provided by the Services, we design our inter-theater mobility schedule accordingly, placing the necessary intratheater transportation units early in the deployment sequence.

Our deployment planning must also consider arrangements for unloading and transferring cargo at the port of debarkation. In a NATO reinforcement, we would rely on host nations to furnish this logistical support. Some regions, however, do not have adequate port capacity or the capability to unload modern container ships that are not self-sustaining. For deployments to these areas, we would have to provide a substantial amount of support equipment and personnel to complete the job. In such cases, transportation for these units must also be scheduled early in the deployment sequence.

b. Mobility Objectives

Our long-term goal is to be able to meet the demands of a worldwide war, including concurrent reinforcement of Europe, deployments to Southwest Asia (SWA) and the Pacific, and support for other areas. For the program period, our goal is to be able to reinforce NATO with six Army divisions, a Marine Amphibious Brigade (MAB), and 60 tactical fighter squadrons -- all with initial support -- in 10 days, or to deploy a joint task force and required support forces to SWA within six weeks.

Given the Soviets' capability to launch simultaneous attacks in SWA, NATO, and the Pacific, our long-range goal is to be capable of defending all theaters simultaneously.

Our NATO reinforcement objectives are designed to augment our forward-deployed forces in NATO Europe with the mobile reserve forces essential to block Warsaw Pact breakthroughs. While sealift can deliver follow-on forces and supplies, it cannot meet the immediate deployment requirements for the initial combat forces and their support. Airlift can move troops quickly, but the amount of equipment to be moved in the first two weeks of a deployment far exceeds the capacity of our existing airlift fleet. Therefore, we rely on a combination of prepositioned equipment and airlift to meet our rapid reinforcement objectives. Our airlift program will permit us to meet the "10-division-within-10-day" objective only if combined

with the six-division-set prepositioning program discussed later in this chapter.

Our deployment objectives for a Southwest Asian contingency are based on deterring Soviet aggression in the region. To accomplish this, we must be able to deploy initial light ground combat units and tactical air forces rapidly to establish air defenses and occupy key positions. We must also be able to support those forces and follow-on units in relatively primitive mountain and desert areas while completing the movement of forces to SWA.

Our deployment objectives for Northeast Asia are based on augmenting U.S. forward-deployed forces to deter or defeat a North Korean attack on the Republic of Korea. In a worldwide conflict, our objective is to be able to deploy additional forces to South Korea, while resupplying the forward-deployed forces there -- in addition to supporting simultaneous operations in NATO and SWA.

Our overall mobility requirements are determined by the size and type of forces to be moved and by the required delivery date at their final destination. Determining these requirements involves a two-step process: the forces for each Service must first be time-phased according to a priority scheme, and then priorities among all four Services' requirements must be established. The result is a detailed list of forces to be moved and the order in which they are to be scheduled.

c. Existing U.S. Mobility Forces

Table III.F.1 summarizes our major organic mobility assets for intertheater and intratheater deployments. Not shown are the commercial aircraft and ships committed to DoD for use in time of war or national emergency. The long-range international portion of the Civil Reserve Air Fleet (CRAF) consists of 215 passenger aircraft and 109 cargo aircraft, or about 90% of the long-range international passenger and all of the long-range international cargo aircraft in the U.S. commercial inventory. Our merchant fleet contains 242 dry cargo ships, 173 of which are available by charter or government contract under the Sealift Readiness Program, which operates at no direct cost to DoD. Our medium-lift helicopter programs, essential for intratheater mobility, are discussed in the Land Forces chapter of this report.

d. Assistance from Allies

To augment our own mobility forces in a NATO reinforcement, we would rely on ships and aircraft provided by our NATO allies to carry our troops and materiel to Europe. These commitments enhance our reinforcement capability, while freeing some of our airlift and sealift resources for other missions. To date, the NATO allies have earmarked about 600 of their most militarily useful ships for use in a NATO reinforcement. The Allies have also agreed to commit 44 of their long-range cargo aircraft and some passenger aircraft for this purpose. Since the demands for airlift in the early phases of a NATO reinforcement exceed our airlift capability, we would like to see this cargo and passenger airlift commitment increased.

TABLE III.F.1

U.S. Military Mobility Assets (FY 1983)Aircraft:

<u>Active Forces Aircraft</u>	<u>Inventory</u> <u>1/</u>
C-5	70
C-141	234
KC-10	12
C-130	218
CH-47/CH-54	333
CH-53	161
<u>Reserve Forces Aircraft</u>	<u>Inventory</u> <u>1/</u>
C-130	294
C-7/C-123	19
CH-47/CH-54	169
CH-53	18
<u>Dry Cargo Vessels:</u>	
Military Sealift Command	37
Ready Reserve Fleet	29
Other National Defense	
Reserve Fleet Ships	167

1/ Aircraft numbers are primary aircraft authorized (PAA) in operational squadrons. PAA is used for planning and programming purposes, and does not reflect the Total Aircraft Inventory (TAI). Training squadron PAA are not included in the table.

2. FY 1984-88 Program

Our FY 1984-88 mobility programs will enhance our capability to meet our deployment objectives. The additional airlift procurement we have proposed, together with improvements in sealift and prepositioning, will move us close to our goal of meeting the mobility demands for a NATO reinforcement or a Southwest Asian deployment. Meeting our long-term goal of concurrent deployments will require further increases in airlift and sealift, as well as additional prepositioning.

a. Airlift Improvements**(1) Expanding Airlift Capability**

Our airlift program adds capability as quickly as possible, while maintaining a balance with existing civilian and military aircraft. We are requesting funds over the next five years to procure additional C-5 and KC-10 aircraft, while continuing to investigate methods of increasing the Civil Reserve Air Fleet. By procuring additional C-5s and KC-10s, we can add airlift and tanker capability with minimum risk in cost, scheduling, and performance.

The C-5 adds to our capability to move outsize equipment, such as large weapon systems and vehicles. We have negotiated a firm, fixed-price offer from the prime contractor to produce 50 additional C-5 aircraft. The C-5 is our most flexible mobility

resource; it can be refueled in flight and can carry a wide mix of unit equipment to any theater.

The KC-10, which can operate either as a tanker or as an airlift aircraft, is a particularly valuable component of our airlift forces. As a tanker, it can give the C-5 and C-141 worldwide capability without the need for intermediate basing. As an airlift aircraft, it can move bulk and oversize equipment and supplies. It can also operate in a mixed role when deploying fighter squadrons, carrying fuel for the deployment as well as a significant amount of cargo.

The CRAF Enhancement program compensates U.S. commercial airlines for the additional costs of buying and operating wide-bodied passenger aircraft that can be converted quickly to carry military cargo. Of all our airlift programs, this is the least expensive means of adding cargo capability. We are currently formulating a revised request to industry for participation in the program.

While our FY 1984-88 program adds airlift capability at an accelerated rate, it will not satisfy our future airlift requirements. We must therefore continue to investigate additional aircraft procurement programs that would enable us to increase the capability, responsiveness, operational flexibility, and reliability of our airlift forces. Accordingly, the FY 1984 budget includes a request for funds to continue research and development related to the C-17 cargo aircraft. Intended to contribute to our intertheater airlift needs as well as provide intratheater capability, the C-17 will be able to carry the full range of military equipment, including the M1 tank and most other outside cargo that only the C-5 can carry now. It will also be able to operate from austere airfields, thus greatly improving our ability to respond to global contingencies.

(2) Additional Airlift Improvements

Meeting our airlift objectives requires that we improve our existing forces, as well as acquire additional capacity. Our five-year plan therefore continues several ongoing programs that will enhance the capability of our current forces.

Structural deficiencies in the wings of our C-5A aircraft now limit their use to 7,100 hours, which most of the force will have accumulated within the next five years. To correct this problem, we are continuing a modification program that will extend the service life of our C-5 force to at least the year 2000. The production line began in FY 1982, and all 77 aircraft in the inventory will be modified by FY 1987.

We have also programmed funds to procure additional spare parts for our C-5s and C-141s to increase their wartime utilization rates. In addition, we are continuing two programs to improve our intratheater mobility capability. We are modifying the Army's fleet of CH-47 helicopters to increase their operational capability, and we are continuing to procure CH-53E heavy lift helicopters for the Marine Corps. These programs are discussed in the Land Forces chapter.

	FY 1982 Actual <u>Funding</u>	FY 1983 Planned <u>Funding</u>	FY 1984 Planned <u>Funding</u>	FY 1985 Proposed for <u>Authorization</u>
<u>C-5</u>				
Procurement:				
Quantity	--	1	4	10
\$ Millions		803.4	1,403.7	2,380.3
<u>KC-10</u>				
Procurement:				
Quantity	6	8	8	8
\$ Millions	234.5	933.6	813.0	715.0
<u>CRAF</u>				
<u>Enhancement</u>				
\$ Millions	47.7	--	147.4	173.0
<u>C-5 Wing</u>				
<u>Modification</u>				
Quantity	18	18	24	--
\$ Millions <u>1/</u>	239.2	297.6	349.3	105.7
<u>C-17 Cargo</u>				
<u>Aircraft</u>				
Development:				
\$ Millions	--	60.0	26.8	32.6

1/ Includes operations and maintenance (O&M) costs for installation of wings on the production line.

b. Sealift Programs

Sealift is vital for projecting and sustaining our forces in distant conflict regions. In a large deployment, it would deliver a majority of the cargo, including much of the non-prepositioned equipment for armored and mechanized forces and support units, as well as most of our supplies and ammunition.

(1) Fast Sealift

The need to move forces rapidly, while maintaining deployment flexibility, has caused us to look for ways to decrease the response time of sealift. In FY 1981-82, we acquired eight high-speed (33-knot) SL-7 container ships -- the fastest cargo ships available. To maximize their utility for carrying military cargo, we have placed high priority on converting them to a "roll-on/roll-off" configuration, thereby shortening loading and unloading time and increasing their capability to move Army units. Funds for conversion of the first four SL-7s were provided in FY 1982. We are requesting funds in FY 1984 to complete the full conversion of the remaining four (for which advanced funding was provided in FY 1983).

(2) Ready Reserve Fleet

The Navy has also programmed funds to expand the size of the Ready Reserve Fleet (RRF). A part of the National Defense Reserve Fleet, the RRF contains 29 cargo ships that have been upgraded to make them available for use within five to ten days after notification. By contributing to the early availability of shipping, the RRF program reduces the time required to begin sealift operations. Our five-year program calls for expansion of the force to 77 ships (61 cargo ships and 16 tankers) by FY 1988.

(3) Container Ship Utilization

The shift to containerization by the maritime industry has significantly increased shipping companies' productivity but, at the same time, has increased the number of container ships in the U.S.-flag fleet. Commercial container ships are of limited military utility, and most require modernized port facilities to load and unload cargo.

The primary military use of container ships is for the movement of resupply and ammunition. Unit equipment can be best moved on roll-on/roll-off, breakbulk, or barge ships. Since many shipping companies are replacing breakbulk ships with container ships, we are exploring ways to increase the military utility of container ships.

We are requesting funds to continue the development and procurement of sea sheds and flat racks, which will enable us to carry large equipment items aboard container ships. A sea shed is a large container with a folding, or "work through," floor. These are installed in reinforced container guides and provide a cargo hold accessible from the main deck that can support large items of equipment. When the bottom shed is loaded, the movable floor of the sea shed above is lowered, and it is loaded. The procedure is reversed to unload the ship. Once fitted, the sea sheds can remain in the ship. Flat racks give a container ship a similar capability, but they lack a "work through" capability and must therefore be loaded and unloaded with the cargo. Flat racks and sea sheds increase the utility of container ships -- the most rapidly increasing ship type in both the U.S.-flag and NATO fleets.

(4) Sealift Discharge

Deployments to SWA may require the discharge of cargo and petroleum, oil, and lubricants (POL) in non-modernized or damaged ports or in areas lacking port facilities. To permit us to operate under those conditions, the Army and Navy have begun programs to improve our ability to unload container ships and discharge cargo and POL over the beach. These programs will enhance the flexibility of our sealift forces, while increasing the military utility of modern container ships.

The Navy is also continuing several programs to improve the capability of container ships and to provide mobile port facilities. It is developing an auxiliary crane ship that would be used to unload cargo from container ships that lack their own cranes. It is also procuring mobile piers, called elevated causeways, that can be installed within 72 hours. In addition to these programs, the Army has programmed funds to replace obsolete

water craft in its inventory and to produce facilities for unloading tanker ships and storing POL and water ashore.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Planned Funding	FY 1985 Proposed for Authorization
<u>SL-7</u>				
Procurement:				
Quantity	2	--	--	--
\$ Millions	68.4	--	--	--
Conversion:				
Quantity	4	--	4	--
\$ Millions	336.3	44.0	252.5	11.9
<u>RRF</u>				
Procurement:				
Quantity	3	9	9	9
\$ Millions ^{1/}	14.5	19.9	56.8	64.5
<u>Container Ship Utilization</u>				
Procurement:				
\$ Millions	0.0	6.7	10.5	34.7
<u>Sealift Discharge</u>				
Procurement:				
\$ Millions	27.2	9.7	62.5	167.7

^{1/} Includes procurement and operations and maintenance funding.

c. Prepositioning

To meet our mobility objectives in the early days of a deployment, we have undertaken several programs to store equipment and supplies in Europe, Southwest Asia, and the Pacific for U.S.-based forces that would deploy there in time of crisis. With most major items of equipment prepositioned near the region, combat units and their residual equipment could be airlifted to the conflict area with a substantial reduction in delivery time.

(1) Land-Based Prepositioning

Army. Under the POMCUS program, we have prepositioned the heavy equipment of Army divisions and supporting units in Europe. We have a commitment to our NATO allies to provide a total of six division sets of equipment. Equipment for three divisions was prepositioned in the 1960s, and we are currently completing work on the fourth set. Our allies have provided the land for the fifth set in Belgium and the sixth set in the Netherlands, and \$182 million in NATO Infrastructure funding has been allocated to build storage facilities for these sets. Construction for both has begun and is scheduled to be completed in FY 1984 and FY 1985, respectively.

To begin shipment of equipment for POMCUS division sets five and six, we are submitting an FY 1983 Supplemental Appropriation request for \$32.0 million. We are also requesting the Congress to remove the restriction in the FY 1983 Defense Appropriations Act that prohibits shipping equipment for more than the first four sets. The FY 1984 budget requests funds to continue shipment of equipment for the final two sets.

The POMCUS program was begun in response to the generally accepted concern that our ability to reinforce NATO was seriously inadequate to meet the Warsaw Pact threat. In particular, SACEUR had no readily available forces in reserve to block Pact breakthroughs. The need for rapid deployment of heavy, mobile forces is as great today as it was when the program was first proposed.

The mobility alternatives to POMCUS are expensive. A fast sealift program equivalent to POMCUS sets five and six would require an additional \$4 billion to \$5 billion and would take at least five years to complete. An airlift alternative would be prohibitively expensive and could not be completed until well into the 1990s.

We recognize and share the concern of the Congress that the creation of POMCUS uses equipment that might otherwise be issued to fill shortages in units. To alleviate this effect, we have increased funding for the types of equipment that are in short supply. Unit readiness and rapid reinforcement are important problems that must be solved in parallel. The value of either is reduced without the other.

In summary, the POMCUS program provides the rapid response capability for heavy Army divisions that will enable us to meet the Warsaw Pact threat. Other alternatives, whether airlift or sealift, would be much more expensive and take longer to complete. I urge the Congress to reconsider its decision on this essential program.

Air Force. The Air Force began several prepositioning programs for Europe and Southwest Asia in FY 1983 and has an ongoing program in South Korea. The European program will preposition equipment for tactical fighter forces. The Southwest Asian program provides funds for the procurement, transportation, storage, and maintenance of additional support equipment.

Marine Corps. The Marine Corps is continuing a land-based prepositioning program in Norway, where it is storing equipment for a Marine Amphibious Brigade (MAB) to assist in the defense of NATO's northern flank.

(2) Maritime Prepositioning

Our FY 1984-88 maritime prepositioning program provides a rapid deployment capability for combat forces and supplies. Under the Maritime Prepositioning Ships (MPS) program, the Navy is providing 13 chartered ships to preposition equipment and supplies for three MABS. These ships are capable of discharging cargo in ports or over the shore, and the equipment and supplies are stored so that the combat capability is not dependent on any single ship. The ships and equipment for the first brigade will be on station in 1984; the remaining two brigades will be prepositioned by 1985 and 1986, respectively. This will complete the three-brigade program more than a year ahead of schedule.

Our program to preposition supplies aboard ships began with the current Near-Term Prepositioning Force (NTPF) and depot ship programs. In July 1980, we began the NTPF by prepositioning equipment and supplies for one MAB in SWA. To this, we have added additional ammunition, supply, POL, and medical ships for the Marines and early arriving Air Force and Army forces, and today have a total of 18 prepositioned ships. Upon completion of the MPS program, the Marine Corps portion of the NTPF (now six ships) will be replaced with the third MPS brigade, and the depot ships will remain on station. Table III.F.2. illustrates this transition. By FY 1986, we will have equipment and supplies for a division-sized Marine combat force stored on 13 MPS ships, and supplies to maintain early arriving Army and Air Force units stored on 12 depot ships.

TABLE III.F.2

<u>Maritime Prepositioning Programs</u> (Brigade Equivalents/Number of Ships)				
<u>Program</u>	<u>FY 1983</u>	<u>FY 1984</u>	<u>FY 1985</u>	<u>FY 1986</u>
MPS	0/0	1/4	2/8	3/13
NTPF	1/6	1/6	1/6	0/0
Depot Ships	-/12	-/12	-/12	-/12
Total	1/18	2/22	3/26	3/25

Although the current emphasis of our maritime prepositioning programs is on SWA, these programs also reduce our deployment time to conflict regions worldwide. In essence, all of our maritime prepositioning programs have a global application, and their component parts can be repositioned -- even on a ship-by-ship basis -- as our military commanders deem necessary.

	<u>FY 1982</u> <u>Actual</u> <u>Funding</u>	<u>FY 1983</u> <u>Planned</u> <u>Funding</u>	<u>FY 1984</u> <u>Planned</u> <u>Funding</u>	<u>FY 1985</u> <u>Proposed for</u> <u>Authorization</u>
<u>Army</u>				
<u>Land-Based</u> <u>Prepositioning</u>				
\$ Millions	158.0	209.0	227.0	207.0
<u>Air Force</u> <u>Prepositioning</u> 1/				
\$ Millions	165.0	110.0	128.0	108.0
<u>Marine Corps</u> <u>Prepositioning</u>				
\$ Millions	22.2	29.3	36.5	18.9

	<u>FY 1982</u> <u>Actual</u> <u>Funding</u>	<u>FY 1983</u> <u>Planned</u> <u>Funding</u>	<u>FY 1984</u> <u>Planned</u> <u>Funding</u>	<u>FY 1985</u> <u>Proposed for</u> <u>Authorization</u>
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Maritime
Prepositioning
Ships 2/

\$ Millions	253.5	239.5	444.8	549.9
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Near-Term
Prepositioning
Ships and Depot
Ships 2/

\$ Millions	199.7	211.6	253.0	279.3
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1/ Includes procurement and operations and maintenance funding.

2/ Includes Marine Corps equipment acquisition and maintenance costs.

3. Conclusion

Our FY 1984-88 program makes significant improvements to our intertheater mobility forces, adding capability as quickly as possible while maintaining an appropriate force balance. Our proposal to add 50 C-5s and 44 KC-10s to our airlift forces, along with our plan for a restructured CRAF Enhancement Program, will increase both the capability and the flexibility of our mobility forces. Our request for funds to convert our SL-7 ships to a "roll-on/roll-off" configuration will add militarily useful fast sealift as early as FY 1984, with eight ships available by FY 1986. Over the next five years, we will also more than double the size of the Ready Reserve Fleet, while increasing our capability to unload ships and tankers in areas lacking modern port facilities. Finally, our planned and existing prepositioning programs, in conjunction with our airlift forces, will improve our capability to deploy division-sized combat forces rapidly to distant conflict regions.

Our FY 1984-88 program will move us significantly closer to achieving our mid-term goals. While further improvements are necessary, it provides much-needed improvements in our capability to move conventional forces to threatened areas. Funding these programs will demonstrate our resolve to honor our commitments to our treaty partners and friends and to protect our interests worldwide.

G. NUCLEAR FORCES

1. Introduction

The FY 1984 budget request represents a critical phase in our comprehensive program to revitalize our nuclear deterrent. It is essential that we maintain the momentum that we have achieved during this past year. The program continues to focus both on force survivability and command and control improvements in the near term, to maintain our deterrent, and on longer-term force modernization, to assure our security into the coming century. Strategic offensive and defensive forces, as well as non-strategic nuclear forces, are included in this comprehensive plan to maintain the balance of nuclear power.

Strategic offensive forces include land-based intercontinental ballistic missiles (ICBMs); sea-based submarine-launched ballistic missiles (SLBMs); and long-range bombers armed with short-range attack missiles (SRAMs), air-launched cruise missiles (ALCMs), and gravity bombs. Maintaining three diverse, but complementary, forces (collectively referred to as the "strategic nuclear triad") ensures our ability to retaliate by compounding the problems of a potential attacker and by compensating for vulnerabilities in any one of the triad components, thus strengthening deterrence.

Strategic defensive forces include air, ballistic missile, and space defense systems. The systems that perform attack warning and assessment, support command functions, and provide communications networks to control the strategic forces are collectively referred to as strategic command, control, and communications (C³) systems.

Our non-strategic nuclear forces include intermediate-range nuclear forces (INF), such as bombs delivered by tactical aircraft and intermediate-range missiles; 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 non-strategic nuclear systems are deployed with land, naval, and air forces to enhance deterrence by providing capabilities at the lower end of the nuclear spectrum, firmly linking our strategic forces to our conventional capabilities.

2. FY 1984-88 Programs for Strategic Forces

Our FY 1984-88 program sustains the President's plan to modernize all five elements of the strategic forces, thus strengthening deterrence while providing a firm basis for arms reduction negotiations:

- To enhance the survivability of the command and control network that supports our nuclear forces, we are upgrading the airborne command centers, as well as improving our early warning and communications systems. We are also continuing development of more enduring C³ systems that will enhance the deterrent potential of our forces in the future.
- To provide more immediate enhancement of our nuclear capability, we are deploying air-launched cruise missiles on our B-52 bombers. To ensure that the penetrating bomber force remains effective in the future, we have begun production of the B-1B bomber, with initial deployment

scheduled for FY 1985, and are developing an advanced technology bomber (ATB) for deployment in the early 1990s. To reduce shortfalls in aerial tanker capability, we are purchasing additional KC-10 aircraft and reengining the KC-135A force.

- To enhance our sea-based forces, we are developing the Trident II missile, with improved accuracy and a greater payload. We also plan to deploy nuclear-tipped cruise missiles on attack submarines, starting in 1984, to bolster our nuclear reserve forces.
- To improve the effectiveness of our land-based ICBMs, we intend to deploy a force of 100 Peacekeeper missiles.
- To revitalize our strategic defensive forces, we are replacing aging F-106 interceptors with modern F-15 and F-16 aircraft. We are also deploying more modern early warning radars to search approach corridors to our coasts. To ensure our continued security in the future, we are developing deep-space tracking sensors and airborne surveillance systems, while, at the same time, proceeding with research and development -- consistent with the terms of the 1972 ABM Treaty -- on a ballistic missile defense system.

a. The ICBM Force

⑧ A more survivable and powerful ICBM is essential to redress the significant asymmetry in prompt counterforce capability that has developed since the Soviets began deploying their current generation of very accurate ICBMs in the late 1970s. An effective ICBM also provides a very powerful incentive for the Soviets to seek genuine arms reductions. Without the credible prospect of a capable ICBM force, the U.S. position in the ongoing Strategic Arms Reduction Talks (START) would be severely weakened. In addition, a highly capable and survivable ICBM will hedge against unexpected reductions in the effectiveness of other triad elements. Total reliance on bomber and SLBM forces in the long term could seriously undermine the credibility of our deterrent, should unforeseen threats or system deficiencies materialize. A strong triad has served us well in the past and is necessary for the future.

⑦ The Peacekeeper missile is intended to provide this needed modernization for our land-based ICBM forces. It is more accurate than our existing Minuteman missiles, will carry more warheads, and will be able to attack effectively the full spectrum of strategic targets.

Last year the Congress directed us to accelerate the schedule of our Peacekeeper basing study and to recommend a permanent basing mode by December 1982. Our analysis concluded that a closely spaced basing system offers great potential to improve the deterrent role of the ICBM force. An adversary could not be confident of mounting an effective attack in the face of "fratricide" effects enforced by the very hard silos and close spacing.

In accordance with Congressional requests, we will submit to the Congress in early 1983 a detailed technical assessment of the closely spaced basing system. This report will also compare closely spaced basing with other alternative ballistic missile deployment

modes. Full-scale engineering development of a basing mode for the Peacekeeper missile will not be started until the completion of this report and the subsequent approval by the Congress of the President's basing recommendation.

As announced last year, we are retiring our aging force of Titan II missiles. Now 20 years old, these liquid-fueled ICBMs are quite expensive to maintain, and are of decreasing value to our overall strategic posture as the forces are modernized. We have begun to remove the missiles and expect to complete the deactivations in FY 1987. We are, however, conducting analyses to determine if these Titan II missiles should be used as space launch vehicles.

We are also conducting further research in FY 1984 on deep underground basing, a concept that may provide protection against nuclear attacks for extended periods. Such protection could be useful for ICBMs or, perhaps, for command and control facilities, but cannot be available before the 1990s.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
Peacekeeper Missile and Basing				
Development: \$ Millions	1,899.7	2,505.8	3,378.4	2,901.2
Construction: <u>1/</u> \$ Millions	11.0	13.6	390.0	592.0
Procurement: Quantity	--	5	27	37
\$ Millions	--	988.0	2,867.9	4,007.4

1/ Excludes planning and design and family housing.

b. Sea-Based Strategic Nuclear Forces

Our program for modernizing the SLBM force is designed to provide a credible sea-based deterrent well into the next century. Our ballistic missile submarine (SSBN) force, when at sea, is the most survivable element of our strategic triad of forces. Over the next five years, we are funding several programs that will further enhance its survivability, while increasing our deterrent capabilities at sea. Our program responds directly to the two most pressing needs of the SLBM force: achieving a capability to destroy hard targets and assuring continued high levels of SLBM capability as Poseidon submarines are retired.

The 31 Poseidon ballistic missile submarines now in the SSBN force were constructed in the 1960s. In the 1970s, they were converted to carry 16 Poseidon (C-3) missiles armed with multiple independently targetable reentry vehicles (MIRVs). Modifications enabling them to carry the more capable Trident I (C-4) missile were completed on 12 of these submarines late last year. Poseidon submarines will be capable of operating in the force until they reach a service life of approximately 30 years.

The newest addition to our sea-based deterrent force is the Trident submarine. The first Trident-class submarine, the USS OHIO, was deployed in the Pacific in October. The USS MICHIGAN, the second Trident submarine, has been delivered and is expected to deploy in 1983. Compared with the Poseidon, the Trident has more missile launch tubes (24 instead of 16) and will be able to carry the larger, more capable Trident II (D-5) missile. It is also designed to be significantly quieter than the Poseidon and to have increased patrol time at sea. Ten Trident submarines have been authorized through FY 1983, and we are requesting authorization of the eleventh this year. The FY 1984 request also includes funds to procure Trident II equipment for the ninth Trident submarine (authorized in FY 1981), the first ship to be fitted with the D-5 missile. (The tenth SSBN was fully funded as a Trident II submarine in FY 1983, and the submarine we are requesting this year will also be Trident II-capable.) In addition to avoiding the cost of initially equipping these latest three Trident SSBNs to carry C-4 missiles, this procurement schedule will allow us to accelerate the introduction rate of Trident II-equipped submarines.

The credibility of our sea-based deterrent will be further enhanced with the development of the Trident II missile. The Trident II will be deployed on all new SSBNs starting with the ninth Trident and will be retrofitted into the first eight Trident submarines as well. Designed to take advantage of the large Trident launch tubes, it will have greater accuracy and payload than the Trident I, providing the capability to attack all potential targets effectively from submarines. We plan to begin five years of full-scale development of the missile this year, with initial deployment scheduled before 1990. The FY 1984 budget also requests funding to procure the last 52 Trident I missiles to support Poseidon and initial Trident submarine deployments. We have reduced total Trident I procurement by 60 missiles, reflecting our plan to accelerate the introduction of Trident II-equipped SSBNs.

For the near term, we plan to deploy sea-launched cruise missiles (SLCMs) with nuclear warheads on attack submarines and surface ships. These missiles will strengthen our nuclear capabilities by providing survivable forces that can strike the full range of enemy targets.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
Trident Submarine				
Procurement:				
Quantity	--	1	1	1
\$ Millions	484.2	1,883.9	2,476.4	2,030.8
Trident I Missile				
Procurement:				
Quantity	72	62	52	--
\$ Millions	876.8	662.8	587.2	210.0

	FY 1982 Actual <u>Funding</u>	FY 1983 Planned <u>Funding</u>	FY 1984 Proposed <u>Funding</u>	FY 1985 Proposed for <u>Authorization</u>
<u>Trident II</u> <u>Missile</u>				
Development: \$ Millions	240.8	369.6	1,496.4	2,145.6
Procurement: Quantity	--	--	--	--
\$ Millions	--	--	--	140.0

c. The Strategic Bomber Force

Modernization of the bomber and tanker forces will dramatically improve the strategic balance in this decade. Bombers are survivable and flexible, and can attack effectively any strategic nuclear targets that are not time sensitive. The inherent flexibility of manned bombers greatly increases deterrence. In addition to their nuclear capabilities, long-range bombers can be used to support general purpose force operations. They can deliver large conventional payloads to distant targets, virtually anywhere in the world. They also provide a significant increase in the firepower available to theater commanders, and are useful in naval support roles.

Today's force of B-52 and FB-111 bombers will continue to provide a credible deterrent for the immediate future. By the end of the decade, however, when the Soviets are expected to have fielded a more formidable air defense system, our older B-52s will no longer be survivable in the penetrator role. We therefore plan to begin deploying the B-1B in 1985 to replace the B-52s in this most demanding mission, thus allowing the B-52s to transition to the cruise-missile-carrier role. Deployment of the air-launched cruise missile (ALCM), first on B-52s and later on the B-1B, will serve to improve our overall strategic capability while placing great stress on Soviet air defenses. The Advanced Technology Bomber will be deployed in the early 1990s to ensure that our bombers will be able to penetrate Soviet air defenses into the 21st century.

(1) Bomber Modernization

Our vigorous ALCM program will do much to improve the strategic balance. These small, low-flying, highly accurate missiles are effective against a wide range of targets, and they pose difficult problems for Soviet air defenses. By the end of FY 1984, we will have deployed ALCMs on 90 on-line (PAA) B-52Gs. Starting in 1985, as B-1B aircraft are deployed, we will begin to modify our B-52Hs for cruise missile carriage.

As stated previously, we do not expect our B-52 aircraft to remain effective penetrators until the ATB is deployed. The lack of an effective penetrating bomber in the late 1980s would constitute an unacceptable deficiency in our strategic forces, since this would permit the Soviet Union to focus its air defense efforts solely on the ALCM force, and it would severely limit our ability to attack movable military targets critical to Soviet wartime objectives. To address this potential deficiency, we will introduce the B-1B during the latter half of this decade. We plan to deploy the first B-1B bombers in FY 1985, with the last of the planned force of 100

aircraft scheduled for deployment in FY 1988. The B-1B incorporates substantial improvements over the B-1A prototype and is an exceptionally capable and versatile long-range bomber. It will be employed as a strategic penetrator during the 1980s. As the ATB is deployed in the 1990s, the B-1B will carry cruise missiles as a part of its weapons mix, ensuring that it will remain an effective part of our bomber force throughout its projected operational life.

The B-1B program has benefited from our test experience with B-1A prototypes, substantially reducing developmental risk. We are confident that we can deliver the aircraft on schedule and within the \$20.5 billion (FY 1981 \$) cost ceiling.

Development of the ATB is proceeding at a vigorous but prudent pace toward a planned initial deployment date in the early 1990s. We expect that the ATB will be capable of penetrating all existing and projected Soviet air defenses well into the next century.

(2) Current Bomber Forces

Within the framework of our modernization program, we are planning carefully for the most efficient future use of existing aircraft, which vary widely in age and in capability. We are proposing that the obsolescent B-52Ds (which are less capable and more costly to maintain than our other B-52 models) be retired at the end of FY 1983 and that the FB-111As be transferred to the tactical inventory as the ATB is deployed.

We expect our B-52Gs to serve effectively into the next decade. Those aircraft scheduled for cruise missile conversion will be assigned to nonpenetrating or "standoff" missions as the B-1B is deployed, while those not scheduled for use as cruise missile carriers will replace retiring B-52Ds in a conventional/maritime support role. Over the next decade, as the ATB is deployed and the B-1B assumes a cruise-missile-carrier role, we would expect to begin retiring the B-52G force.

Finally, we foresee a very long operational life for our B-52Hs, the latest B-52 model, as cruise missile carriers well into the 1990s.

We are proposing a number of modifications for both our B-52G and B-52H aircraft -- consistent with their intended missions and operational life. All of these aircraft are scheduled to receive a new offensive avionics system (OAS), radar upgrades, engine refurbishments, and other improvements needed to keep them effective in their planned missions.

(3) Aerial Tankers

Aerial refueling support is essential to virtually all manned bomber missions -- strategic and conventional. At present, we do not have sufficient tanker capacity to support both strategic missions and tactical air operations simultaneously. While this could sharply limit our military options now, the problem could become even more severe in the future as we increase our inventory of aeri ally refuelable aircraft. To reduce these shortfalls, we are expanding our aerial tanker capability by reengining existing KC-135As and purchasing additional KC-10s.

Reengining KC-135s with current-technology CFM56 engines (the KC-135R program) will significantly increase their fuel-dispensing capability, while reducing their operating and maintenance costs. The KC-135R program also includes modernization of many aircraft subsystems, which will ensure the fleet's continued effectiveness well past the year 2000.

Since the KC-10 is being purchased primarily to meet shortfalls in our mobility forces, it is discussed in more detail in the Mobility chapter.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>B-52 Bomber</u>				
Development: \$ Millions	92.7	91.1	86.9	41.8
Procurement: \$ Millions	459.7	530.7	632.6	710.1
<u>B-1 Bomber</u>				
Development: \$ Millions	471.0	753.5	749.9	491.8
Procurement: Quantity	1	7	10	34
\$ Millions	1,612.0	4,033.5	6,179.6	8,026.4
<u>Air-Launched Cruise Missiles</u>				
Development: \$ Millions	99.9	137.0	28.5	28.5
Procurement: Quantity	440	330	--	--
\$ Millions	597.1	555.2	103.9	83.1
<u>KC-135 Reengining</u>				
Development: \$ Millions	28.9	29.0	11.3	9.4
Procurement: Quantity	9	17	30	65
\$ Millions	225.5	375.6	895.8	1,440.9

d. Strategic Defensive Forces

Our strategic defensive forces and associated C³I systems are an integral component of our deterrence strategy. We rely upon them to provide timely and reliable tactical warning of bomber and cruise missile attacks, to control access to North American airspace in peacetime and in time of crisis, and to provide a limited air defense in war. The past decade witnessed a troublesome decline in our air defense capabilities, as needed improvements were often

deferred in the face of competing priorities. As a result, we have large gaps in our North American air defense warning network, our strategic air defense interceptors are obsolete, and our anti-satellite and ballistic missile defense research and development programs have lagged behind the Soviets'.

Our strategic modernization program ends these years of neglect, moving quickly to bolster the capability of each component of our strategic defense system. We are taking steps to improve our radar warning network and airborne warning system and to modernize our interceptor forces. We are also strengthening our space defense systems and pursuing an operational anti-satellite system. Finally, to provide possible future defense options, we are continuing a vigorous research and development program on technically advanced ballistic missile defense system concepts and related basic technologies. All of these efforts are consistent with the provisions of the 1972 ABM Treaty.

(1) Air Defense

Currently, Soviet bombers flying at low altitudes could penetrate undetected through gaps in radar coverage over Canada and our ocean approaches. We are taking a number of steps to correct this deficiency in our air defenses. We plan to deploy new ground-based atmospheric surveillance radars and modern interceptors to provide timely warning of atmospheric attack, to control access to North American airspace, and to maintain a limited active defense capability. We also plan to buy additional Airborne Warning and Control System (AWACS) aircraft to augment and support our radar network, and to control our strategic interceptor forces defending against a bomber attack.

(a) Surveillance Systems

Because long-range detection is essential if we are to have timely warning of bomber attacks, we will procure and deploy over-the-horizon backscatter (OTH-B) radars for all-altitude coverage of the eastern, western, and southern approaches to the North American continent. The OTH-B is a high-frequency radar that can detect aircraft from approximately 500 to 1,800 miles away by bouncing a radar beam off the ionosphere.

For northern atmospheric surveillance, we plan to upgrade the Distant Early Warning (DEW) Line extending across Alaska, northern Canada, and Greenland. Replacing these 1950s-vintage radars with more modern equipment will not only reduce operating costs significantly, but will also close gaps in our current radar coverage. The improved DEW Line will consist of new, short-range, unattended radars and upgraded, long-range, minimally attended radars that together will provide all-altitude coverage of the northern bomber approaches to North America. Maintaining the DEW Line improvement schedule is important, as we will reduce support for the aging and obsolescent CADIN-Pinetree radar system in southern Canada starting in FY 1984.

(b) Interceptor Forces

Interceptor forces assigned to the North American Aerospace Defense Command (NORAD), along with Tactical Air Command F-15 and F-4 augmentation forces, now maintain ground alert at sites around the periphery of the 48 contiguous states, in Alaska,

and in Canada. The Air Force, Navy, and Marine Corps would provide additional interceptors for air defense in a crisis.

We are continuing to modernize our active and reserve interceptor forces by replacing obsolete fighter aircraft. In FY 1982, we completed the first of five scheduled conversions of interceptor squadrons to F-15s. The F-15 will provide our interceptor forces with a long-needed "look-down/shoot-down" capability to detect and engage enemy bombers penetrating at low altitudes and will have sufficient flight range to use information provided by the new OTH-B radar system. Ultimately, F-15 and F-16 aircraft will replace all aging F-106s and F-4s in active and Air National Guard air defense squadrons.

(c) Airborne Surveillance and Control

Beginning in FY 1985, we propose to buy 12 additional AWACS aircraft for North American air defense at a rate of three aircraft per year. We plan to fly random AWACS surveillance and warning patrols over the coastal and northern approaches to CONUS using our existing AWACS aircraft. This will increase our ability to deter a Soviet bomber attack in the critical years before improved ground-based surveillance systems are fully operational. After all the ground-based radars have been deployed, AWACS would be used to augment and support them. In wartime, it would provide survivable surveillance coverage of bomber approach corridors and would also be used to control interceptor forces defending against bomber attacks. Additional detail on the AWACS program is provided in the C³I chapter.

(2) Space Defense

We are proposing several programs in FY 1984-88 to improve our ability to monitor space activities and to provide an anti-satellite capability. We are continuing our efforts to complete a worldwide network of five ground-based electro-optical surveillance sensors that will detect and identify deep space objects. We are also planning to modify several existing radars to provide additional high- and low-altitude surveillance coverage, and we are working on data processing improvements to track and target enemy satellites more accurately. Finally, we are investigating advanced technologies that could lead to more capable and survivable surveillance systems in the future.

In conjunction with these surveillance improvements, we are working to achieve an anti-satellite (ASAT) capability. The Air Force plans to deploy the Air-Launched Miniature Vehicle (ALMV), which will be launched by F-15s against enemy satellites. To support an anti-satellite capability beyond this decade, we are currently assessing the feasibility of space-based laser weapons.

(3) Ballistic Missile Defense

Our extensive work with Ballistic Missile Defense (BMD) components has demonstrated that an active defense could protect some high-value strategic assets from ballistic missile attack. The program is structured, therefore, to sustain our understanding of this technology so that we could field an advanced and highly effective BMD system quickly should the need arise.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
<u>Air Defense</u>				
<u>OTH-B Radar</u>				
Development: \$ Millions	21.7	77.1	99.1	47.2
Procurement: Quantity	--	--	2	3
\$ Millions	--	--	176.3	247.6
<u>DEW Line Radar</u>				
Development: \$ Millions	--	8.0	31.3	29.3
Procurement: Quantity	--	--	11	20
\$ Millions	--	--	83.3	146.2
<u>Interceptors</u>				
Procurement: Quantity	--	--	--	--
\$ Millions	--	--	16.0	82.9
<u>AWACS</u>				
Procurement: Quantity	2	2	--	3
\$ Millions	262.1	149.5	76.2	456.9
<u>Space Defense</u>				
Development: \$ Millions	200.9	209.5	205.6	108.3
Procurement: \$ Millions	--	--	19.4	196.9
<u>Ballistic Missile Defense</u>				
Development: \$ Millions	462.1	519.0	709.3	1,564.0
Procurement: \$ Millions	--	--	--	--

e. Strategic Command, Control, and Communications

Strategic command, control, and communications (C³) systems are needed to ensure that we could employ our nuclear forces effectively, which is essential for a credible deterrent. We rely upon our strategic C³ systems to warn us of impending ICBM and SLBM

attacks and to assess their size and likely objectives. Our C³ systems must be capable of supporting an initial retaliatory response by our forces, both during and after an enemy attack. They must also be able to operate reliably over an extended period following an attack, should that prove necessary. Over the next five years, we are proceeding with several programs that will improve the survivability of our strategic C³ systems. We are also pursuing a comprehensive research and development program to ensure enduring communications connectivity during a nuclear war.

(1) Missile Warning and Attack Assessment

Survival of the bomber force and important elements of our C³ system depends on high-confidence tactical warning. Some attack characterization information is also needed to support the retaliatory process. To meet these objectives, we are funding programs to improve the survivability, performance, and coverage of the satellites and radars we rely upon to warn us of a Soviet missile attack and to assess its size and scope.

(a) Satellite Early Warning System

Early Warning satellites in geostationary orbits would provide initial warning of a missile attack. These satellites use infrared sensors to detect ICBM and SLBM launches. New satellites, scheduled to replace those now on orbit in the mid-to-late 1980s, will incorporate a number of improved features designed to enhance the satellites' performance and survivability.

Warning data from the satellites is 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.

(b) Ground-Based Radar Surveillance

In addition to our satellite warning systems, we maintain two systems of ground-based radars to provide redundant coverage of Soviet missile launch areas.

The Ballistic Missile Early Warning System (BMEWS) radars at sites in Alaska, Greenland, and the United Kingdom confirm satellite warning of missile attacks from the north. A secondary role of BMEWS is the satellite tracking support it provides for the Air Force's Space Track program. Upgrades to the Greenland and United Kingdom BMEWS radars, scheduled to be completed in FY 1986, will permit more precise estimates of an attack's size and likely targets.

Phased-array radars (PAVE PAWS) deployed along our east and west coasts would confirm satellite warning of an SLBM attack launched from normal Soviet submarine operating areas. We plan to deploy two new PAVE PAWS radars (one each in Georgia and Texas) to provide surveillance of possible SLBM attack corridors to the southeast and southwest of our borders. These four sites, along with the PARCS radar in North Dakota, will complete our planned five-site phased-array radar SLBM warning network, and will allow us to remove the aging FPS-85 and FSS-7 radars.

(c) Advanced Missile Warning System

Because the survivability of fixed ground-based satellite processing stations and the reliability of satellites following a nuclear attack will always be uncertain, we are funding research on an Advanced Warning System (AWS). Building on technologies now under development, the system would be designed to ensure continued operation throughout a nuclear conflict. Such a system would incorporate more comprehensive on-board data processing so that messages could be transmitted directly to users. The research program is currently structured to support a decision in FY 1987 on whether to proceed to full-scale development. A favorable decision at that time could lead to initial deployment of the system in the 1990s.

(d) Integrated Operational Nuclear Detonation Detection System (IONDS)

To improve our ability to detect, locate, examine, and report nuclear detonations worldwide, we are developing improved nuclear detonation (NUDET) detection sensors. Some of these new sensors (IONDS) will be installed on the satellites of the NAVSTAR/Global Positioning System (GPS) to expand coverage and increase system survivability and endurance. The system will become fully operational upon deployment of the full constellation of 18 NAVSTAR/GPS satellites. IONDS will contribute to nuclear test ban monitoring and intelligence collection in peacetime, and would provide damage and strike assessment information during a nuclear war. It would identify the location of impacting enemy warheads, thereby assisting the National Command Authorities (NCA) in selecting an appropriate U.S. response.

(2) Command Centers

We need strategic command centers that will 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 that will increase the endurance of our airborne command centers and provide new mobile command centers to supplement them.

(a) Airborne Command Centers

We will complete deployment of four E-4B airborne command posts by FY 1985 to meet the requirements of the NCA/JCS National Emergency Airborne Command Post mission. The E-4B is a modified Boeing 747 aircraft that has been hardened against the effects of nuclear detonations, including electromagnetic pulse (EMP). It is outfitted with high-powered, jam-resistant, very low frequency (VLF) and low frequency (LF) communications equipment and with super high frequency (SHF) satellite communications equipment to provide reliable and survivable communications with our forces. We also will provide the E-4Bs with an automatic data processing capability to support force management and with more survivable satellite connectivity to ensure that the NCA can receive and transmit information promptly.

We are also upgrading the EC-135 airborne command posts that serve the Commander-in-Chief, Strategic Air Command (CINCSAC) and other nuclear force commanders. The EC-135 modification program includes EMP hardening and upgrading mission-critical C³ systems.

(b) Mobile Command Centers

We believe that the E-4B and the upgraded EC-135 airborne command posts will greatly improve our capability to retaliate effectively during the early phase of a nuclear conflict. We are concerned, however, about their ability to operate beyond the initial stages of a nuclear conflict. We therefore plan to develop and deploy mobile command centers (MCCs) that could supplement or take over the key functions of our airborne command posts if they could no longer operate effectively.

(3) Communications Systems

Effective control of our strategic nuclear forces depends upon survivable communications links. Our ICBM, SLBM, and bomber forces must be assured of receiving emergency action messages from the NCA both during and after a nuclear attack. Our FY 1984-88 program will reduce the vulnerability of our strategic communications systems to physical attack, jamming, and nuclear effects. The C³I chapter includes a discussion of our strategic communications systems, funding for which is included in the following table.

	<u>FY 1982 Actual Funding</u>	<u>FY 1983 Planned Funding</u>	<u>FY 1984 Proposed Funding</u>	<u>FY 1985 Proposed for Authorization</u>
<u>Strategic Surveillance and Warning</u>				
Development: \$ Millions	252.5	293.4	310.8	266.0
Procurement: \$ Millions	369.2	585.2	524.2	175.3
<u>Strategic Command Centers</u>				
Development: \$ Millions	112.9	150.4	225.5	212.0
Procurement: \$ Millions	110.9	68.3	105.0	171.2
<u>Strategic Communications</u>				
Development: \$ Millions	276.5	417.1	691.1	696.7
Procurement: \$ Millions	43.9	87.8	280.2	512.5

3. FY 1984-88 Programs for Non-Strategic Nuclear Forces

The most important objective of our non-strategic nuclear force modernization program is the deployment of 464 ground-launched cruise missiles (GLCMs) and 108 Pershing II operational missiles on launchers in Europe. We have also placed high priority on upgrading our stockpiles of nuclear artillery, short-range missiles, bombs, and

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sea-based weapons. In conjunction with these modernization programs, we are funding programs to improve the command, control, communications, and intelligence (C³I) systems that support our non-strategic nuclear forces. Finally, we continue to seek improvements in the safety, security, and survivability of our nuclear warheads and delivery systems.

a. Longer-Range INF Missiles

NATO's current non-strategic nuclear arsenal contains no land-based longer-range INF (LRINF) missiles. The Soviet Union, on the other hand, has been engaged since 1977 in a significant build-up of its LRINF arsenal with deployments of the MIRVed SS-20 ballistic missile. The Soviets have now deployed over 300 of these missiles, the majority of which are located in bases from which they could attack targets throughout Western Europe.

The Soviet buildup led to concern throughout the NATO alliance that a perceived gap had been created in NATO's spectrum of nuclear deterrence. The fear was that the Soviets might believe -- however incorrectly -- that they could conduct or threaten limited strikes against Western Europe from a sanctuary in the Soviet Union, on the assumption that, without strong theater-based systems capable of reaching Soviet territory, and given the loss of U.S. strategic superiority, NATO lacked an appropriate means of response. The December 1979 Alliance decision authorizing deployment of the Pershing II and GLCM, in concert with arms control initiatives, represented NATO's effort to redress this imbalance.

During 1983, we will complete development of both Pershing II and GLCM. The United States is moving ahead with plans to deploy these systems in Europe beginning at the end of this year because the Soviets have not yet agreed to our proposal to ban all U.S. and Soviet nuclear missile systems of this range. The Pershing II ballistic missile, a follow-on to the shorter-range Pershing IA now deployed in Europe, has a range of 1,800 kilometers (km). GLCM has an operational design range of 2,500 km.

The deployment of a mixed ballistic missile/cruise missile force will provide 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. By virtue of their high accuracy, both Pershing II and GLCM will provide an effective capability to attack hard targets while limiting collateral damage. In addition, each system has distinctive characteristics that complement those of the other. Pershing II offers a high assurance of penetrating future Soviet defenses, has the capability to strike time-urgent targets, and takes advantage of the existing Pershing IA infrastructure. GLCM's longer range will allow it to attack deeper targets 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.

Deployment of Pershing II and GLCM will also permit greater flexibility in the employment of dual-capable aircraft, thus improving NATO's conventional warfighting capabilities. Moreover, by increasing NATO's capability to destroy fixed targets, the Pershing II and GLCM deployments will substantially enhance the credibility of NATO's nuclear deterrent.

Basing preparations are proceeding on schedule, consistent with Alliance plans to begin LRINF deployments in late 1983. Construction of GLCM bases is under way in the United Kingdom and Italy, and preliminary GLCM basing preparations have begun in the Federal Republic of Germany. Since the new Pershing II missiles will replace existing Pershing IAs deployed with U.S. units stationed in Germany, no new base construction will be required for them. Consistent with its September 1980 commitment to support fully both the arms control and modernization parts of NATO's December 1979 decision, the Belgian Government is proceeding with the basing preparations necessary to meet NATO's deployment schedule should the INF arms control negotiations fail to produce concrete results. With regard to the Netherlands, we are engaged in bilateral discussions with the Dutch government on GLCM basing preparations in that country.

	FY 1982 Actual Funding	FY 1983 Planned Funding	FY 1984 Proposed Funding	FY 1985 Proposed for Authorization
Pershing II				
Development:				
\$ Millions	150.6	111.0	22.8	--
Procurement:				
Quantity	21	91	95	104
\$ Millions	219.3	478.6	434.6	447.3
GLCM				
Development:				
\$ Millions	80.1	28.6	36.5	13.2
Procurement:				
Quantity	54	110	120	120
\$ Millions	350.5	525.4	616.7	543.6

NOTE: Costs exclude Department of Energy funding.

b. Shorter-Range INF Missiles

The Pershing IA ballistic missile, deployed by U.S. and West German forces, is the only shorter-range INF missile currently in NATO's inventory. During FY 1983, we will begin to retire our Pershing IA force, replacing the missiles on a one-for-one basis with new, longer-range Pershing IIs.

c. INF Aircraft

NATO's current INF aircraft inventory consists of Vulcan bombers and dual-capable F-111, F-16, F-4, F-104, Tornado, Buccaneer, and Jaguar fighter-bombers. As part of an ongoing modernization program, NATO will continue to replace older dual-capable aircraft in its inventory with more modern F-16 and Tornado fighter-bombers. In conjunction with NATO's aircraft modernization 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. Short-Range Nuclear Forces

Short-range nuclear weapons in NATO's current arsenal include 8-inch and 155mm artillery-fired atomic projectiles (AFAPs) and two types of surface-to-surface missiles, Lance and Honest John. (The Honest John has been replaced by Lance missiles in U.S. units but continues to be deployed in some non-U.S. NATO units.) These forces are designed to provide direct support to ground combat units on the battlefield, while complementing other strike systems for shallow interdiction missions.

Over the next five years, we will continue several programs to improve the capabilities of our short-range nuclear forces. We have programmed funds to continue production of a new 8-inch artillery round, the W79, as a replacement for our aging stock of W33s. The new round incorporates an enhanced radiation (ER) warhead and offers significant improvements over the W33 in range, accuracy, and security.

Eventual retirement of the current stockpile of 8-inch W33 rounds will permit recovery of highly enriched uranium (oralloy) for use in modernizing our nuclear forces.

We are also continuing development of a new 155mm artillery projectile, the W82, to replace the aging W48. The W82 uses a modular concept that permits field configuration with a rocket motor, which will add six kilometers to its 24-kilometer basic range.

	<u>FY 1982 Actual Funding</u>	<u>FY 1983 Planned Funding</u>	<u>FY 1984 Proposed Funding</u>	<u>FY 1985 Proposed for Authorization</u>
<u>8-Inch AFAP</u>				
Development: \$ Millions	0.3	0.0	0.0	0.0
Procurement: \$ Millions	16.1	14.4	29.1	6.5
<u>155mm AFAP</u>				
Development: \$ Millions	31.7	27.4	23.7	18.0
Procurement: \$ Millions	0.0	0.0	63.1	64.7

Note: Costs exclude Department of Energy funding.

In addition to our AFAP modernization programs, we will complete the production of an ER-capable Lance warhead (W70-3).

All ER weapons are being stockpiled solely on U.S. territory, not dispersed or deployed outside it. Any decision to deploy them would be taken only after close consultation with any country on whose territory they would be based, and then only with the explicit approval of the President.

e. Land-Based Defensive Systems

Land-based defensive nuclear forces currently in NATO's inventory include the Nike-Hercules air defense system and atomic demolition munitions (ADMs). We are replacing U.S. nuclear-armed Nike-Hercules missiles with Patriot conventional air defense missiles.

f. Sea-Based Systems

NATO's current long-range sea-based nuclear forces include U.K. Polaris and U.S. Poseidon submarine-launched ballistic missiles (SLBMs) and U.S. carrier-based aircraft. (France also deploys ballistic missile submarines (SSBN), but these forces are not committed to NATO.) The United Kingdom plans to modernize its SLBM force in the 1990s by replacing its four Polaris-carrying SSBNs with a force of either four or five new British SSBNs carrying Trident II missiles.

Our sea-based systems also include a variety of shorter-range anti-air, anti-submarine, and anti-surface ship weapons, such as Terrier surface-to-air missiles, ASROC and SUBROC anti-submarine rockets, air-delivered nuclear depth bombs, and carrier-based tactical bombs. 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 also examining the feasibility of enhancing the new Anti-Submarine Warfare Stand-Off Weapon for submarine launch and the Vertical Launch Anti-Submarine Rocket for surface ship launch. These new weapons will provide a modern capability for our submarines and surface ships, enabling them to counter the enemy air threat more effectively and to attack enemy submarines from longer ranges.

Our sea-based nuclear forces for land attack, in conjunction with our land-based nuclear forces, support our policy objective of denying the Soviets the ability to limit a nuclear war to the sea.

g. C³I Systems

We continue to seek improvements in the security, reliability, and capability of the command, control, communications, and intelligence systems that support our non-strategic nuclear forces. By the end of the program period, we will have deployed two new communications networks for our forces. By the end of FY 1983, a new system of ultra-high frequency (UHF) satellite communications terminals with secure teletype will be in place, providing a dual transmission route for emergency action messages to our non-strategic nuclear forces (including Pershing and GLCM). By the end of FY 1988, a network of modern, survivable high frequency (HF) radios for our forces in Europe will also be fully operational. The network will incorporate jam-resistant features and will also be hardened against the effects of electromagnetic pulse to improve its survivability in a nuclear war.

h. Safety, Security, and Survivability

The safety, security, and survivability of our non-strategic nuclear forces are key elements of our modernization program. We are continuing to make our nuclear systems more survivable in combat by increasing their hardness, mobility, and dispersion and by reducing their vulnerability to detection. We are also taking steps to protect our nuclear weapons from seizure by enemy forces, terrorists, or other subversive organizations. Additionally, we are working closely with the Department of Energy to make our nuclear systems safer and more

secure by using insensitive high explosives, improved permissive action links, enhanced electrical features, and nonviolent command disable systems.

4. Conclusions

A credible and stable deterrent is the essence of our nuclear security. Our adversaries must know that we are capable of immediate and effective retaliation after any type of attack. Our nuclear modernization programs will provide us that security. Improvements being made today are already enhancing our retaliatory posture. As our modernization plans are realized, our retaliatory posture, on which the credibility of our deterrent depends, will continue to be strong.

The deployment of nuclear cruise missiles, the Trident I missile, and Trident submarines, and modernization of the tanker force are already strengthening our existing strategic nuclear deterrent with visibly improved capabilities. Command, control, and communications improvements are raising the confidence with which we, and the respect with which our adversaries, view our ability to control nuclear forces.

The planned construction of a modern ICBM force, the deployment of new penetrating bombers, and the development and deployment of more powerful and accurate weapons for survivable sea-based forces will give our triad of strategic nuclear forces the robust capability they need to continue as a credible deterrent into the coming decade. Continued improvements in our strategic communications systems and defenses will bolster the inherent survivability of our forces, thereby increasing our confidence in our ability to retaliate after any form of attack.

Our FY 1984-88 program also makes great strides in modernizing and enhancing non-strategic nuclear forces. Unless an INF arms control agreement is reached in the interim, our programmed force of GLCMs and Pershing IIs will be fully deployed by the end of the decade. Likewise, we will have completed production of the new 8-inch artillery round and new Lance warhead. Deployment of F-16 and Tornado aircraft will have been under way for years; and the nuclear SM-2 will be entering the force. Both of the new communication nets will be in place, thus improving communications with non-strategic nuclear forces, and our new systems will incorporate improved safety, security, and survivability features.

H. DETERRENCE OF CHEMICAL WARFARE

1. Introduction

Our goal is to eliminate the threat of this particularly abhorrent form of warfare by obtaining a complete and verifiable ban on chemical weapons. The United States will not be the first to use chemical weapons and does not and will not possess biological or toxin weapons. We remain committed to long-standing U.S. policy and existing treaties. However, while seeking a verifiable ban, we must be in a position to deter the use of chemical warfare against us or our allies.

The Soviet Union possesses a considerable advantage in chemical warfare (CW) capabilities that could be a decisive factor in some future conflict. In the face of this threat, we have been working to improve our protective posture. While we have recently made significant improvements in training, we still face serious deficiencies in both the quality and the quantity of our defensive equipment. Furthermore, our retaliatory capability remains inadequate since our current stockpile is composed largely of weapons and chemical agents with little or no military utility on the modern battlefield. Efforts to achieve bilateral arms control agreements between 1977 and 1980 were unsuccessful in spite of U.S. unilateral restraint since 1969. Current efforts to obtain a verifiable ban are centered in the multilateral Committee on Disarmament at Geneva, where increased pressure can be exerted on the Soviet position on verification. Achieving a ban will not come easily, not only because the verification and compliance problems are so formidable, but also because the Soviets have little incentive to negotiate seriously so long as they perceive they have a significant advantage in CW capabilities.

Until we can achieve a verifiable ban, we must reduce the Soviet Union's incentive to use chemical weapons against us or our allies by rebuilding and maintaining an adequate CW posture of our own. Our program is structured and sized to do this and no more. Consequently, most of the resources in this program are devoted to improving the ability of our forces to survive and operate under chemical attack. Our goal is to be able to sustain combat operations in a chemical conflict while minimizing the performance decrement associated with operating in a protective posture. However, significant degradation is unavoidable. Therefore, improving our protective posture will not by itself provide an adequate deterrent because the Soviet Union would enjoy a significant military advantage if they could force us to operate in protective equipment in a contaminated environment while their troops remained relatively unencumbered. To complete our deterrent posture, we must eliminate the prospects for such a Soviet advantage by reestablishing a retaliatory capability sufficient to make them recognize that they, too, would be forced to operate with similar encumbrances.

In addition to improving our protective posture and reestablishing a credible retaliatory capability, our program includes plans for the disposal of obsolete stocks of chemical agents and munitions under safe conditions.

The overall direction for our CW program is provided by the Assistant to the Secretary of Defense for Atomic Energy. The Army is the executive agent for research and development, with each Service responsible for procurement, training, and Service-unique development.

2. FY 1984-88 Programs

a. CW Protection

As we move toward our goal of improving CW protection, increased emphasis in RDT&E will be placed in the medical area and upon elimination of deficiencies in current items of protection and warning. Throughout the mid-range period, development of doctrine appropriate to the chemical battlefield and use of field exercises will complement increased training activities. In FY 1984 we will continue to procure stocks of protective clothing for all forces and expand procurement of collective protection systems for all Services.

b. CW Retaliatory Capability

We will continue to seek Congressional approval to reestablish a credible retaliatory capability. Our proposed program is a small but critical component of our overall approach to redressing critical deficiencies and ensuring that the Soviets have no incentive to use chemical weapons against us or our allies. A chemical retaliatory capability, in conjunction with a strong protective posture, is essential. The current stockpile is clearly inadequate to provide a credible deterrent. Only a very small portion of the stockpile offers potential military utility into the 1980s. Moreover, there is serious concern about the future reliability of even this small portion due to internal munition and agent deterioration in many of the munitions. We will continue our maintenance program to attempt to preserve the serviceability of these munitions. Maintenance alone cannot, however, overcome the deficiencies of the current stockpile, nor can it provide an effective deep-target capability in the absence of the appropriate weapons. Maintenance cannot ease the logistical burdens or reverse or halt internal degradation of munitions. The program we propose would replace the current, inadequate chemical munitions stockpile with one that is more militarily effective, safer and, at the same time, substantially smaller. Our plans are to begin production of binary munitions with FY 1984 funds, which will result in initial assembly of 155mm projectiles in late 1985 and of air-deliverable Bigeye bombs in FY 1986.

c. Demilitarization

In recognition of the magnitude of the national problem of chemical weapons demilitarization, increased DoD-level management control will be exercised. The program will seek to dispose of those munitions that safety dictates should be eliminated first. FY 1984 funds are requested for a facility to dispose of the incapacitating and highly flammable agent BZ. A facility to dispose of the stocks on Johnston Island and facilities to destroy the rockets and mines at all other storage sites are planned. These facilities will enable us to destroy all M55 rockets and M23 mines (the most potentially hazardous items) by 1990. In parallel with these efforts, we will pursue a research and development program to identify the most cost-effective method of disposing of the remaining, less time-urgent items in the stockpile.

3. Conclusion

Improvement of the U.S. chemical deterrent posture is essential both to eliminate the Soviet Union's current incentive to use chemical weapons and to provide an incentive for the Soviets to negotiate seriously a comprehensive, verifiable chemical weapon ban. Both the

protective and retaliatory components of our program are essential. The Soviet Union has made massive investments in chemical warfare capabilities. The current extreme imbalance in capabilities between us and the Soviets could have catastrophic consequences. We need not attempt to match the Soviet Union across the board in chemical warfare capabilities; this is a highly leveraged area in which our investments in a balanced program, consisting of both protective and retaliatory elements, will have a high payoff in restoring an adequate level of deterrence. Production of binary munitions will not add to the demilitarization problem, since the chemical agent would not be produced until after the munition had been launched toward its target. Further, binary munitions offer substantial safety and maintainability advantages over unitary chemical munitions. However, continued failure to improve our retaliatory posture will perpetuate and aggravate the current high-risk situation and probably thwart attempts to achieve a complete, verifiable ban on chemical weapons. Therefore, we request Congressional support in approving and funding these essential programs.

B. Continued Management Initiatives

The variety and complexity of our C3I systems present us with an extremely challenging management task. In response to this challenge, we will continue to enhance a number of our key management initiatives, including our ability to manage, maintain, and operate our

systems. We are establishing a new organizational structure to improve our ability to manage, maintain, and operate our systems. This structure will be based on the principle of functional specialization, and will be designed to provide the most effective and efficient management of our systems. We are also establishing a new organizational structure to improve our ability to manage, maintain, and operate our systems. This structure will be based on the principle of functional specialization, and will be designed to provide the most effective and efficient management of our systems.

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I. COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE (C³I)

1. Introduction

a. Dependence of Force Capability on C³I

The C³I systems associated with our various nuclear and conventional forces are an integral part of our defense structure and contribute to both deterrence and warfighting capability. The central feature of any C³I system is the human decisionmakers -- the commanders plus their various staffs and others. These decisionmakers operate within a framework of established doctrine, strategies, tactics, and procedures, supported by an array of sensors, computers, communication links, command facilities, and other equipment. Through these interlinked C³I systems, our command authorities seek in both peace and war to accomplish military missions directed by civilian authorities. Force capability is inextricably related to the quality of C³I components and to the manner in which they are integrated with associated weapon systems and decisionmakers.

b. Continued Management Initiatives

The variety and complexity of our C³I systems present us with an extremely challenging management task. In responding to this challenge, we have continued to emphasize a number of initiatives that are improving our ability to manage, procure, and operate our C³I systems.

-- We are emphasizing a total integrated weapon/C³I system approach to the development, acquisition, and operation of C³I systems. We believe this approach will ensure the best return for our defense expenditures. In particular, we are reviewing our end-to-end functional requirements for each military mission area to determine the proper mix of weapon systems and C³I systems. These reviews have provided us with the framework necessary to plan and direct a balanced development and acquisition program.

-- To meet changing threats and mission requirements, weapon systems and force structures necessarily evolve over time along with strategy, operational concepts, tactics, and the decisionmakers' needs for different types of information. Taking note of this, we are developing and acquiring sensor systems, computers, communications systems, and command facilities in an evolutionary manner. At the same time, we keep our planning horizon extended over a 15-year period to ensure architectural stability, cohesiveness, and affordability.

-- The central command and control role played by decisionmakers establishes the need to build each C³I system around their requirements. To this end, we are emphasizing the greater use of test-beds plus the active involvement of the operational communities in a continual effort to refine C³I interface requirements and system specifications in support of our evolutionary acquisition strategy.

- We are placing particular emphasis on improving the endurance of the C³I systems that support our strategic nuclear, non-strategic nuclear, and conventional forces. C³I systems must not merely survive, but must remain capable of performing their basic functions in both lethal and electronic warfare environments. By the same token, C³I systems should not degrade the survivability and endurance of associated forces and weapon systems.
- We are continuing to stress C³I system interoperability, both among our own Services and with our allies, in joint and combined military operations.
- Lastly, we are continuing to stress greater involvement of the Joint Chiefs of Staff and the Defense Intelligence Agency in long-range planning for intelligence and C² capabilities to support the Unified and Specified Commands and in reviewing Service and Defense Agency programs to ensure that investments respond to Unified and Specified Command requirements.

2. FY 1984-88 Programs

Emphasizing a total weapon/C³I system approach to our development and acquisition activities has afforded us the opportunity to focus our efforts in the following functional areas:

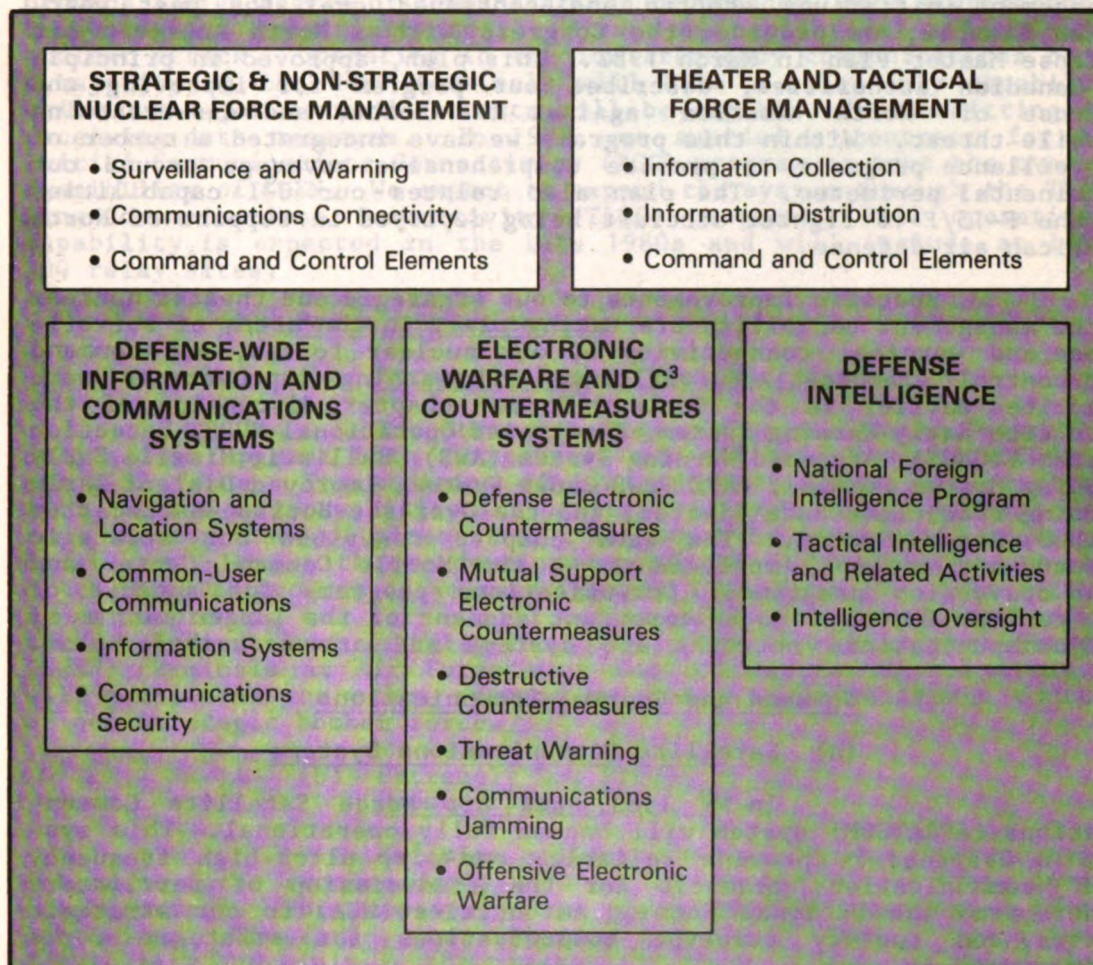
- Strategic and non-strategic nuclear force management,
- Theater and tactical force management,
- Electronic warfare and air defense suppression,
- Defense-wide information and communication, and
- Intelligence programs.

Each of these functional areas, illustrated in Chart III.I.1, has received considerable attention over the past year as part of our defense program. At the top of the chart are the two principal force areas making up our operational defense capability -- our strategic/non-strategic nuclear forces and our general purpose theater and tactical forces. Associated with each of these forces are C³I systems tailored to meet their specific needs. Providing a foundation for these more specific C³I systems are those common elements shown at the bottom of the figure. Each of these program areas makes essential and complementary contributions to our overall defense capability, and we are requesting \$31.5 billion to fund them in FY 1984.

The following sections of this chapter discuss each functional area and the significant accomplishments achieved over the past year, with particular attention paid to those C³I systems that support cross-mission or cross-Service needs.

Chart III.I.1

C³I MISSION AREA STRUCTURE



a. Strategic and Non-Strategic Nuclear Force Management

Over the past year, we have continued to support the President's plan for redressing the relative imbalance between U.S. and Soviet strategic and non-strategic nuclear forces. Specifically, within the C³I area, we are developing a balanced program of force management improvements. These improvements are based on specific management initiatives adopted and continued over the past year. As an example, we provided the Congress with a North American Air Defense Master Plan in March 1982. This plan, approved in principle by Canadian authorities, describes our program for improving the defense of North America against the bomber and air-breathing missile threat. Within this program, we have integrated a number of surveillance programs to provide comprehensive coverage around our continental perimeter. The plan also relates our C³I capabilities to the F-15/F-16 fighter aircraft being deployed in support of North American air defense.

Specific improvements to our strategic and theater nuclear force management capability are taking place in the areas of surveillance and warning, connectivity of our nuclear forces, and command and control elements. Surveillance and warning improvements were described earlier in the Nuclear Forces chapter discussion of the Satellite Early Warning System, Integrated Operational NUDET Detection System (IONDS), Advanced Warning System (AWS), Ballistic Missile Early Warning System (BMEWS), PAVE PAWS Radar System, Improved Distant Early Warning (DEW) Line Radar System, and the Over-the-Horizon-Backscatter (OTH-B) Radar System. The same chapter described our strategic command and control improvements -- the Mobile Command Center and E-4B conversion programs. Communications programs for support of the nuclear forces form an important segment of the larger matrix of DoD communications networks and systems and are described below.

(1) Command and Control Communications

(a) Satellite Communications Systems

In FY 1983, the Air Force Satellite Communications (AFSATCOM) system will become fully operational. This system is designed to provide reliable, one-way, ultra-high frequency (UHF) communications channels for the transmission of retaliatory orders from the National Command Authorities (NCA) to our strategic forces, and two-way teletype communications for strategic force management.

AFSATCOM transponders are carried on various host satellites, including the Navy's FLEETSATCOM (FLTSAT) system and Defense Satellite Communication System (DSCS) III satellites. DSCS III will also provide survivable relay links for transmitting processed missile attack warning data from the satellites' early warning system to senior military authorities.

Effective continuous control of our forces, however, requires two-way, jam-resistant communications between our commanders and their forces. MILSTAR, a new satellite communications system with extremely high frequency (EHF) communications channels, will incorporate a significant number of survivability features and provide for prompt one-way message transmissions. As an interim measure, FLTSAT will carry an EHF package to support development, test, and evaluation of MILSTAR user terminal equipment.

(b) Ground Wave Emergency Network (GWEN)

The GWEN program is designed to connect the National Command Authorities to all major CONUS commanders. In addition, GWEN will link together the North America Aerospace Defense Command (NORAD) Headquarters, Strategic Air Command (SAC) Headquarters, the strategic bomber forces, ICBM launch control centers, and critical surveillance and warning centers. The distributed nature of GWEN will provide a high degree of communications redundancy, thus significantly lessening its sensitivity to the direct and collateral effects of a nuclear attack. Operating in the low frequency communications band, a majority of the GWEN terminals will have a relay-only capability while our major command elements will be capable of transmitting and receiving data messages. In 1982, we awarded a contract for the Initial Communications Connectivity (ICC) program to test the overall feasibility of GWEN. We expect to expand the system through the Thin-Line Communications Connectivity (TLCC) program. Full operational capability is expected in the late 1980s and will include at least 300 relay sites.

(2) Force Communications

(a) Strategic Bomber Communications

The Strategic Bomber Communications Program is designed to upgrade both terrestrial and airborne communications to our B-52 force. The addition of low frequency (LF) radio receivers will improve our capability for positive control of this weapon system. Research and development of a miniature LF receiver is presently under way, along with the development of the EHF terminals, as part of the MILSTAR program (discussed later in this chapter). In addition, we are improving our terrestrial communications connectivity through the development and installation of Ground Wave Emergency Network (GWEN) terminals at Air Force Wing Command Posts. These terminals will complement the other systems to assure positive launch control of our strategic bomber force.

(b) Extremely Low Frequency (ELF) Communications

Existing communication links to the strategic submarine force require deployment of an antenna at or close to the ocean surface. This constrains the operating depth and speed of the submarines. To provide the submarine force with greater operational flexibility and minimize the possibility of detection, we are deploying a dual-site ELF transmission system. One site will result from conversion of the existing Wisconsin Test Facility to an operational configuration. The other will be centered at K.I. Sawyer Air Force Base in the upper Michigan peninsula and will operate in electrical synchronism with the Wisconsin site for enhanced coverage of submarine operating areas. These systems will provide a highly reliable and jam-resistant means for transmitting brief operational messages to the submarine force.

(c) TACAMO/EC-X Aircraft

Airborne communications relay via the TACAMO aircraft provides the only survivable command link to our ballistic missile submarine (SSBN) force. The TACAMO/EC-X program is designed to provide our SSBN force with improved and enduring communications connectivity. Consisting of modifications and procurement of a

replacement aircraft for the TACAMO mission, this program will assure positive control over the SSBN force well into the next century. The program will eliminate current TACAMO aircraft weight restrictions, allow for C³ suite upgrades, improve survivability through electromagnetic pulse (EMP) hardening, extend the range and speed of the TACAMO aircraft, and extend mission performance through an air refueling capability. During the past year, development and acquisition progress was continued through the solicitation and receipt of proposals for the new TACAMO/EC-X aircraft.

(d) Non-Strategic Nuclear Force Communications

Two programs designed to provide our land-based, non-strategic nuclear forces with improved communications connectivity were also emphasized in our C³I program over the past year. In one area, production, training, and logistics support activities continued for a system of UHF teletype communications terminals. This satellite communications system will link the headquarters of our European Command with its deployed nuclear forces, thus providing a dual transmission route for emergency action messages. Initial fielding and operational testing of the equipment is expected to occur this year. In a second area, we are supplementing European theater nuclear force communications with reliable, secure, and jam-resistant HF equipment that is hardened against electromagnetic pulse effects to improve survivability. During FY 1982, we began the acquisition process for this network and expect selection of a contractor design in FY 1983. The development of a standard jam-resistant waveform will permit the equipment to interoperate with other HF radios.

b. Theater and Tactical Force Management

We have also continued to improve our combat management capabilities for the conventional forces. Initiatives in this area are designed to improve information collection and distribution capabilities, and command and control elements.

In addition to specific programs for enhancing our tactical C³I capabilities, we are continuing efforts to coordinate our various improvement programs. An example is our participation in the NATO Air Command and Control System (ACCS) program. The ACCS program is designed to integrate all NATO air C³ components into a single, effective airspace management system over the next 15 years. As part of this effort, we have established the European Theater Air Command and Control Study (ETACCS) to coordinate U.S. participation in the ACCS program. The ETACCS team is fully operational and has produced the U.S.-preferred architecture for the ACCS. Under the aegis of the National Security Industrial Association, twelve U.S. firms have participated in a DoD-sponsored effort to examine new C³ concepts for air defense in Europe.

We have taken similar steps to coordinate other areas of our tactical C³I program on a total weapons/C³I system basis. Specifically, we conducted a broad study of battlefield surveillance and target acquisition during the past year. As a result of this study, we were able to consolidate two separate Service programs for developing a surveillance and target acquisition radar system (described below). Through this initiative, we expect to field an integrated and interoperable radar system for the Army and the Air Force at a substantial savings in development and acquisition costs. The program

will also provide the basis for common development of the Army's Corps Support Weapon System and the Air Force's Conventional Standoff Weapon.

(1) Improved Information Collection

Over the past year, we continued or initiated a number of programs to provide our tactical commanders with better information for tactical situation assessment, force direction, and other decisions. These programs will provide improvements to both air and ground operations.

(a) Combat Identification System (CIS)

The CIS program is intended to enhance our effective management of defensive firepower through the improvement of our tactical forces' capability to identify positively (as friend or foe) aircraft, surface naval vessels, and ground combat vehicles, and initiate the attack beyond visual range. The overall approach is to combine inputs from cooperative identification systems, non-cooperative identification sensors, and indirect C³I elements to provide high confidence identification. The development of the Mark XV cooperative identification system to replace the aging Mark XII system is included as part of this effort. Over the past year, we were successful in obtaining the agreement of the United Kingdom and the Federal Republic of Germany to evaluate this new design for an identification system. Additional progress was made in the indirect identification area with the development of a draft NATO Standardization Agreement. Overall, improvement of our identification capability will increase substantially the effectiveness of both our air-to-air and surface-to-air air defense weapons while reducing the risk of fratricide to our own forces.

(b) E-3A Airborne Warning and Control System (AWACS)

The Air Force E-3A AWACS is a deployable airborne command, control, communications and surveillance platform that performs both tactical and North American air defense missions. Additionally, the capabilities of the E-3A are increasingly being exercised in joint operations for the defense of sea lines of communication. During the past year, the E-3A has actively participated in the tracking of Soviet monitoring aircraft off the eastern coast of the U.S., as well as in surveillance operations in Southwest Asia. This past year has seen the delivery of the 28th E-3A aircraft to the Air Force and the fourth of a planned force of 18 aircraft to NATO. Air Force aircraft 25 through 34 and all 18 of NATO's aircraft will be in a standard configuration which includes a maritime radar, a larger computer, and the Joint Tactical Information Distribution System (JTIDS) (described later). The first 24 Air Force aircraft will be retrofitted with the large computer, JTIDS, and an austere maritime surveillance capability beginning in September 1984. The 34th U.S. and 18th NATO aircraft are expected to be acquired by 1985. Successive system improvements are also in various stages of development, production, or retrofit to existing AWACS aircraft. Additionally, we plan to procure 12 more AWACS, beginning in FY 1985, to supplement surveillance coverage for North American Air Defense.

(c) E-2C HAWKEYE

The E-2C HAWKEYE is a carrier-based airborne early warning and control aircraft that provides air defense surveillance and mission coordination and control capabilities for the Navy's carrier battle groups. In addition, the E-2C has supported U.S. efforts to control drug-smuggling operations along our southern coast. By the end of 1982, the Navy had taken delivery of its 76th E-2C aircraft. Japan has also acquired four of a planned force of eight aircraft and Israel continues to express interest in acquiring additional E-2Cs. Finally, we are pursuing a number of radar system improvements to enhance, in a progressive manner, the operational capabilities of the E-2C.

(d) Relocatable Over-the-Horizon Radar (ROTHR)

We have begun a ROTHR program to develop and acquire a relocatable, over-the-horizon surveillance capability for tactical missions which would have less performance capability than the OTH-B radars being deployed at fixed sites for CONUS defense. Primary mission application of the ROTHR would be in support of maritime air defense of the Navy's carrier battle groups and selected sea lanes. Additionally, the ROTHRs could be assigned in support of rapid deployment force operations in remote areas of the world. Finally, the ROTHRs are expected to be the primary wide-area search system for regional air defense operations in critical ocean areas not covered by existing or planned surveillance systems. The initial ROTHRs are planned to become operational in the mid-to-late 1980s.

(e) TR-1 Reconnaissance Aircraft

The TR-1 is a high-altitude, long-endurance standoff reconnaissance and surveillance platform. This aircraft, a derivative of the existing U-2R, is capable of long loiter at altitudes above 60,000 feet. The TR-1 is designed to carry a variety of sensors for battlefield surveillance. These alternative sensors include the Advanced Synthetic Aperture Radar (ASARS) for surveillance of ground targets and the Precision Location Strike System (PLSS) for the detection, location, and attack of enemy radars. The first TR-1 aircraft was delivered in September 1981, followed by three in FY 1982 and three more expected in FY 1983. For the future, we are considering the TR-1 as one of the airframes for the new Joint Surveillance Target Attack Radar System (described next).

(f) Joint Surveillance and Target Attack Radar System (Joint STARS)

The Joint STARS program, mentioned earlier in the Land Forces chapter, is intended to provide the Army with a wide-area, moving target surveillance capability, and the Air Force with a full weapons guidance capability. It therefore will add to our battlefield interdiction capability by supporting both overall battle management processes and the execution of standoff interdiction attacks. During 1982, we completed formation of the Joint Program Office and conducted concept definition studies. A full-scale engineering development contract for Joint STARS radar development is expected to be awarded by the middle of 1983.

(2) Improved Information Distribution

We must not only improve our capability to collect battlefield information, but also assure that it is made available to operational users in a timely and reliable manner. To this end, we have included a number of tactical communications improvements in our current C³I program.

(a) Joint Tactical Information Distribution System (JTIDS)

JTIDS is a joint-Service program for distributing high-capacity, secure, and jam-resistant digital information to our tactical air, land, and naval forces. This highly survivable system will provide not only tactical data and limited voice communications, but also limited cooperative identification and relative navigation information to JTIDS-equipped platforms within the JTIDS network. During this past year, the Navy's Distributed Time Division Multiple Access (DTDMA) program entered full-scale development, joining the Air Force/Army Class-2 terminal TDMA program (full-scale development began in 1981) and the Air Force Class-1 terminal program (production started in 1981, with deliveries beginning in July 1982). We expect both the Class-2 TDMA and the DTDMA terminals to reach production decisions in the mid-1980s. These JTIDS terminals, when deployed in the late 1980s and early 1990s, will provide an improved level of communications interoperability to our tactical forces.

(b) HAVE CLEAR

The HAVE CLEAR program will provide long-term improvements to our tactical airborne communications. Based on our evaluation of the SEEK TALK program, we have modified our approach to providing a high anti-jam voice capability. The HAVE CLEAR program resulted from that evaluation. HAVE CLEAR should provide jam-resistant capability well into the late 1990s.

(c) HAVE QUICK

The HAVE QUICK program provides nearer-term improvements to our tactical airborne communications. This program modifies existing UHF radios. In FY 1982, we acquired HAVE QUICK units for both the Air Force and the Navy. During FY 1983, we are starting a limited research and development effort to extend the useful life of HAVE QUICK. Also during FY 1983, the Army is acquiring HAVE QUICK units while NATO is expected to ratify related standardization agreements.

(d) Single Channel Ground and Airborne Radio System (SINCGARS)

The SINCGARS program is designed to provide our tactical forces with a new generation of secure, jam-resistant, and reliable Very High Frequency (VHF) radio communications. Another key objective of the SINCGARS program is the achievement of interoperability with our NATO allies. To this end, we are continuing our efforts to secure related NATO standardization agreements for the SINCGARS equipment. We have accelerated our acquisition of SINCGARS such that production will begin in FY 1983 and tactical units will start to be equipped in FY 1985.

(e) Tactical HF Communications

Consistent with our improvements to our VHF communications systems, we are pursuing jam-resistance improvements to our tactical HF radios. Interim waveform standards for our current HF radios have been developed and released to our NATO Allies. In addition, we have taken steps to ensure the interoperability of these radios with the earlier-mentioned communications equipment supporting our European non-strategic nuclear forces. For the long term, we have established a tri-Service coordinating group to develop standards for all of our future tactical HF systems.

(f) Position Location Reporting System (PLRS)

PLRS is a joint Army/Marine Corps program to develop and field an automatic, near-real-time identification and location system for deployed tactical forces. The system will augment conventional communications and enhance our ability to control tactical maneuver units on the battlefield. Over the past year, joint development and operational tests were completed by the Army and Marine Corps, and production decisions were made by both Services. FY 1983 plans call for the award of a production contract plus continued development of test equipment and support packages for initial fielding. Initial fielding of the system is projected for FY 1986. Complementing this program is our development of the more advanced PLRS/JTIDS hybrid system. Through the application of a preplanned product improvement (P³I) to PLRS, and integration with the JTIDS Class II terminal, fielding of this system in FY 1988 will provide the data communication system linkages between tactical computer-driven weapon and support systems to be fielded in this century.

(g) Joint Tactical Communications (TRI-TAC)

The TRI-TAC program provides improved, secure digital communications for our tactical forces. The broad program includes multi-channel transmission units, circuit and message switches, control facilities, telephones, data terminals, and communications security equipment. During 1982, we awarded production contracts for the Tropospheric Scatter Radio equipment, the Digital Group Multiplexer, and the modified AN/GRC-144 radio. In FY 1983, we plan to accomplish the initial delivery of large circuit and message switches and to award contracts for several other elements of the TRI-TAC program. Through these efforts, we are moving to assure interoperability among U.S. and NATO forces while at the same time improving tactical communications service and reducing system life-cycle costs.

(3) Improved Command and Control Elements

Complementing our programs for improved information collection and distribution are several efforts designed to improve the force management process itself.

(a) Joint Crisis Management Capability (JCMC)

The JCMC program will provide rapidly deployable force management capabilities in those areas of the world where U.S. presence is minimal or nonexistent. The modular system will replace our aging and unreliable crisis management C³ assets with a modernized standard force management system. Through this program, we are assuring responsive communications connectivity and command and control

from the crisis area back to the Theater Command or to the National Command Authorities. During 1982, we continued this program through the acquisition and fielding of manpack satellite communications terminals. In the near future, we expect to begin procurement of more extensive airborne/ground C³ equipment for the commanders of the European Command, Pacific Command, Readiness Command, and the Unified Command for Southwest Asia.

(b) Joint Tactical Fusion (JTF) Program

Our JTF program is an effort to develop and field an automated system to assist processing, analyzing, and disseminating tactical intelligence reports for battle management and execution. We have structured this joint Army/Air Force development program to improve standardization of computer hardware and software, to ensure system interoperability, and to maximize our return on prior Service research and development efforts. In addition, two near-term projects are currently under way to field interim improvements to our tactical intelligence processing capability. A Limited Operational Capability for Europe (LOCE) system, based on earlier JTF testbed work, will support USCINCEUR and his major subordinate commands. Also, the Army's Technical Control and Analysis Center-Division (TCAC-D) will be deployed to provide automated support for signals intelligence control and analysis within the U.S. Army forces. These efforts, coupled with more advanced follow-on fusion systems, form a critical element of our tactical force management capability.

(c) Joint Interoperability of Tactical Command and Control Systems (JINTACCS)

Our JINTACCS program was established to assure the interoperability and compatibility of the Services' various tactical C³I systems. Consisting of standardized information-exchange requirements, message formats, and interface procedures, JINTACCS covers a number of functional areas including intelligence, air operations, amphibious operations, fire support operations, and operations control. By FY 1984-85, we expect to have completed compatibility and interoperability testing and operational effectiveness demonstrations for each of the functional areas.

(d) Modular Control Equipment (MCE) Program

The MCE is a joint effort with the Marine Corps TAOC-85 program to develop modular replacement units for the aging air surveillance and control portions of our Air Force Tactical Air Control System (TACS). The MCE will enhance TACS's survivability, mobility, and ability to handle the greatly increased C³ workloads required in a modern combat environment. In the last year, we awarded a three-year research and development contract for the MCE program.

c. Electronic Warfare and C³ Countermeasures

Our electronic combat capabilities underlie both strategic and tactical military operations. This broad functional area includes destructive and disruptive operations designed to degrade the enemy's electromagnetic operations while protecting our own. Over the past year, we have placed considerable emphasis on maintaining a technological advantage in this area of rapidly evolving competition.

To integrate our various initiatives in this area, we have undertaken a number of management actions designed to focus attention on the overall electronic combat problem faced by each of our forces. In one effort, the Air Force has developed an Electronic Combat Action Plan to support a balanced acquisition program for both destructive and disruptive assets. As again demonstrated in the Israeli/Lebanon conflict, electronic warfare provides a high-leverage military capability when used in conjunction with anti-radiation weapons. The increased visibility provided to electronic combat needs resulted in a more than 15% funding increase for this area between FY 1983 and FY 1984. In a similar effort, the Air Force, Army, and Readiness Command developed a joint operational concept for command, control, and communications countermeasures. This effort has allowed us to coordinate command and control responsibilities, targeting procedures, and execution procedures for this vital area of operations. Through such efforts, we are formulating the framework needed to coordinate and consolidate, where appropriate, our various electronic combat improvement programs.

Current programs and accomplishments are in the areas of defensive electronic countermeasures, mutual support electronic countermeasures, threat warning systems, destructive countermeasures, communications jamming, and offensive electronic warfare.

(1) Defensive Electronic Countermeasures

Two types of systems included in our current C³I program provide for the enhanced survivability of our tactical fighters against enemy air defenses. For our existing ALQ-131 jamming pod, we completed prototype testing of new processing techniques. Incorporation of these improvements in our FY 1983 production will increase the effectiveness of this externally carried countermeasures pod against both air-to-air and surface-to-air radars. Our more advanced Airborne Self-Protection Jammer (ASPJ) system is a joint Air Force/Navy development effort to enhance the combat survivability of the A-6, EA-6B, F-14, F-16, and F/A-18 aircraft (internally mounted), and the AV-8B (podded version).

(2) Mutual Support Electronic Countermeasures

Mutual support electronic countermeasures provide additional protection to our combat aircraft by complementing self-protection systems such as the AN/ALQ-131 and ASPJ. Two types of mutual support electronic countermeasures aircraft continue to be upgraded as part of our current C³I program.

The EA-6B carrier-based EW aircraft supports naval aviation strike operations by suppressing a variety of early warning, acquisition, and fire control elements of enemy air defense systems. In addition, the EA-6B contributes to fleet defense by degrading the enemy's anti-ship missile systems. Over the past year, we continued development and testing of a number of system improvements designed to extend the capabilities of the EA-6B into the 1990s.

The Air Force's EF-111A aircraft with its Tactical Jamming System (TJS) supports a number of missions, including barrier surveillance jamming, suppression of surface-to-air missile threats for close air support operations, and escort jamming for deep strike missions. The 388th Electronic Combat Squadron was established in FY 1982 at Mountain Home Air Force Base, and site activation efforts

were continued for a second operational location at RAF Upper Heyford, England.

(3) Threat Warning

Our family of ALR-67, ALR-69, and ALR-74 radar warning receivers (RWRs) is the most important element of a tactical fighter's self-protection system. These systems warn the pilot of impending threats in time to permit the use of a variety of defense options (e.g., jamming, decoys, maneuvering, or suppression of the threat). Accomplishment of this function within a dense signal environment is becoming more difficult as threat radars are technologically improved. In response, we are continuing to make critical improvements to our various RWR systems. We will complete operational evaluation of the Navy's ALR-67 system (installed in the A-6, EA-6B, AV-8B, F-14, and F/A-18) by mid-FY 1983, and have initiated a limited production contract for F-18 installations. We continued production of the Air Force's ALR-69 system (installed in the A-10, F-4E, and F-16) to meet established inventory objectives. We have recently signed a joint Navy/Air Force agreement for tactical electronic warning receivers and expect to establish a joint program office. Our current plan calls for development of a more advanced warning system for deployment by both Services in the 1990s.

(4) Destructive Countermeasures

To complement the disruptive countermeasures, destructive options are required to help counter enemy acquisition, terminal threat, C³, and jamming systems. Programs in this category include the F-4G WILD WEASEL, which provides a lethal counter to enemy surface-to-air missile systems. Equipping the F-4G Wild Weasel force with the High-Speed Anti-Radiation Missile (HARM) will substantially increase the capability of this lethal system. Additionally, the Precision Location Strike System (PLSS) will provide highly accurate real-time targeting data on enemy emitters, and is capable of directing weapons and strike aircraft against those targets. The Navy and Air Force are jointly pursuing near-term acquisition of a self-protection missile (SIDEARM I) that can be launched from specially equipped aircraft. A follow-on version (SIDEARM II) will subsequently be developed for employment on most tactical aircraft.

(5) Communications Jamming

Emphasis on a C³CM strategy has resulted in the development of a broader range of electronic warfare systems designed to degrade directly the enemy's communication systems. Three systems currently in development reflect this emphasis. The Navy's ALQ-149 Tactical Airborne Communications Jamming System is targeted against enemy HF/VHF/UHF tactical communication links and will replace the outdated ALQ-92 system. We completed our testing of the advanced development model in FY 1982 and expect to begin full-scale development in mid-FY 1983. For the Air Force, we employed a preplanned product improvement strategy to deliver the EC-130H COMPASS CALL jamming system in a record two years from initial contract. Finally, the Army began system acceptance testing this year for its ALQ-151 QUICK FIX HF intercept and jamming system. Deployed at the division, separate brigade, and armored cavalry regiment levels, the system will be a key element of Army Combat Electronic Warfare Intelligence (CEWI) units.

(6) Offensive Electronic Warfare

The Soviets continue to field more capable surveillance and targeting sensors which, coupled with deployment of their longer range and more accurate weapons, increases the scope and intensity of the threat to our forces. To counter this evolving threat, area electronic warfare concepts and tactics are being developed. Included in this category are the use of mutually supporting electronic countermeasures to degrade long-range surveillance sensors, decoys to confuse targeting sensors, and emissions control procedures to deny passive detection.

d. Defense-Wide Information and Communications Systems

Our efforts to improve the capabilities of our defense-wide information and communications systems are focused on four major areas: navigation and location, common-user communications, information systems, and communications security.

(1) Navigation and Location

A principal component of our program to improve the navigation capabilities of our forces is the NAVSTAR Global Positioning System (GPS). This space-based radio navigation system will provide highly accurate position, velocity, and time information to equipped users anywhere on or near Earth. Full-scale development of the space, control, and user equipment segments progressed satisfactorily in FY 1982. In September 1982, we awarded a production contract for long-lead spacecraft components; a full multiyear contract is scheduled to be awarded in FY 1983. This coming year will see the integration of prototype user equipment on a number of test vehicles to support a production decision evaluation phase in FY 1984. Deployment of the 18 satellites that will provide a worldwide three-dimensional capability is expected to be completed in FY 1988.

(2) Common-User Communications

The Defense Communications System (DCS) provides global telecommunications service to DoD and other users and encompasses a variety of common-user switched systems, long-haul transmission systems, special networks, and associated network technical control systems. Major accomplishments in 1982 included the formulation of a cost-effective DoD commercial satellite communications system (COMSATCOM), as well as improvements in several other communications systems.

(a) Defense Satellite Communications System (DSCS)

The first DSCS III satellite with greatly improved jam resistance, electromagnetic pulse hardening, and a more survivable control system was successfully launched in October 1982. The system is designed to serve a wide variety of users.

(b) Defense Switched Network (DSN)

The DSN is a telecommunications system providing end-to-end common-user and dedicated telephone service to DoD. Evolving from the existing AUTOVON and other circuit switching projects, the DSN will be extended incrementally as opportunities occur for upgrades and growth. Over the past year, we established the DSN

plan and tasked the Defense Communications Agency (DCA) to prepare financial and administrative plans for this system. Over future years, the DSN will provide critical DoD users with enhanced communications security, interconnectivity, interoperability, survivability, and economy.

(c) Defense Data Network (DDN)

This past year, we terminated the AUTODIN II program and replaced it with the more survivable and less costly DDN. Formed from existing DoD networks, the DDN is a common-user data communications network providing end-to-end encryption and direct terminal access.

(d) Worldwide Digital System Architecture (WWDISA)

Expanding from our present networks, the WWDISA provides a plan for the evolutionary integration of voice, data, and record communications into an all-digital system. The WWDISA will ultimately combine communications systems that support DoD strategic and tactical, civil, and NATO users into a worldwide digital system. The Joint Chiefs of Staff approved the architecture of this evolutionary project in FY 1982.

(e) MILSTAR

The MILSTAR satellite communications system is designed to provide survivable and enduring command and control communications for those decisionmakers who must be able to direct and receive information from their forces through all levels of conflict, including general nuclear war. Principal users of the system will be the nuclear forces, the Navy, and tactical ground mobile forces of the Army, Marine Corps, and Air Force.

The system definition phase of the MILSTAR program was concluded in September 1982 with the release of a request for proposal for full-scale engineering development of the MILSTAR satellites. MILSTAR terminals are being developed by the Services and will be available coincident with the first launch.

(f) Secure Voice Improvement Program (SVIP)

The SVIP will expand DoD's secure voice capability to approximately 10,000 subscribers over the next several years. The SVIP will share equipment and facilities with the Federal Secure Telephone System, and will be interoperable with other DoD, DCS, civil, and tactical networks. The SVIP terminal development is proceeding on schedule, and work is being accomplished in the areas of interface development, systems architecture, and testing. SVIP conferencing will be available through the Secure Conferencing Project, which was approved for implementation in 1982. To extend the life cycle of the present secure voice system until the SVIP can be fully implemented, the AUTOSEVOCOM Life Cycle Extension Program (ALCEP) was implemented. ALCEP will also meet 700 urgent, long-standing, unfilled secure voice requirements.

(3) Information Systems

Improvements to our Worldwide Military Command and Control System (WWMCCS) and other computer systems are being carried

out under several programs. Enhancement of the command and control functions on our Honeywell H-6000-based computer system is the focus of our WWMCCS Information System (WIS) Modernization Program. During the past year, a number of improvements were made to the automated message-handling, unit and joint reporting, and other hardware and software features. The WWMCCS Intercomputer Network (WIN) is an element of the Defense Data Network. Progress this year with the replacement of obsolete switches is moving the WIN toward more reliable and enduring communication service for all network users. We continue to emphasize computer security at our Computer Security Evaluation Center (CSEC), whose functions involve the evaluation of industrial and DoD computer systems and the development of new computer security technology.

(4) Communications Security (COMSEC)

We are continuing to implement protective measures under our COMSEC program to deny unauthorized persons national security-related information from U.S. telecommunications. As part of this effort, we are applying security technology to our entire spectrum of telecommunications systems to dramatically improve the endurance of our C³I systems and, by extension, our strategic and tactical forces. Finally, we have taken the lead in the establishment of the government-wide Federal Secure Telephone System (FSTS).

e. Intelligence Program

The Defense Department intelligence program is designed to respond to military intelligence requirements at the national, departmental, and tactical levels on an across-the-board basis. The collection capabilities of its technical systems enable the DoD to respond to a variety of intelligence needs of other departments and agencies of the Government.

The needs of weapons designers and planners for information concerning situations with which the U.S. must deal in the future require that continuing attention be given to information and analysis that will support mid-term and longer-range planning.

Increased attention is being given to enhancing the support that department-level intelligence resources provide to the operational forces.

Provision of resources for tactical intelligence activities in lower-echelon units of the operational forces is handled through the normal force structure process, but all other DoD intelligence activities are handled in one of two ways, either within the National Foreign Intelligence Program (NFIP) or as Tactical Intelligence and Related Activities (TIARA). Many of the activities within the NFIP and TIARA are highly classified, but a general description can convey the scope of what is involved.

(1) National Foreign Intelligence Program (NFIP)

Most of the peacetime intelligence activities of the Defense Department are included in the NFIP, and a variety of activities are under way to improve Defense capabilities for collecting, processing, and participating in the production of national intelligence. The Director of Central Intelligence (DCI) is charged by the President with responsibility for providing program guidance and developing the NFIP budget. The activities of DoD's intelligence

components account for most of the resources in the NFIP. These activities are budgeted in five NFIP programs:

(a) Consolidated Cryptologic Program (CCP)

The CCP includes the resources of the National Security Agency (NSA) and those cryptologic elements of the Military Services that are under operational direction of the Director, National Security Agency/Chief, Central Security Service, who is program manager for the CCP.

(b) General Defense Intelligence Program (GDIP)

Resources of the Defense Intelligence Agency (DIA) and of those intelligence components of the Military Services devoted to the collection, processing, or production of national intelligence are included in the GDIP, for which the Director, DIA is program manager. Primary focus of DoD intelligence organizations whose funding is provided in the GDIP is on military intelligence of importance to both national and departmental users and to the operational forces.

(c) Special Reconnaissance Activities of the Air Force and the Navy

These two programs, each managed under Service cognizance, are devoted to the collection of special national foreign intelligence through reconnaissance activities. The intelligence acquired is of importance to both national policymakers and the operational forces.

(d) Defense Foreign Counterintelligence Program (DoDFCI)

Counterintelligence activities of the three Military Departments comprise this program. The program manager is in the Office of the Deputy Under Secretary of Defense (Policy). Increasing emphasis is being given to investigations of espionage, to operations against hostile foreign intelligence organizations, and to the provision of support to operational commands.

(2) Tactical Intelligence and Related Activities (TIARA)

TIARA encompasses an array of Service and Defense Agency reconnaissance, surveillance, and target acquisition systems that are acquired and operated outside the NFIP. These systems respond to operational commanders' tasking for time-sensitive information. Included in the TIARA aggregation are the Tactical Cryptologic Program (TCP) and the Defense Reconnaissance Support Program (DRSP).

There were many significant accomplishments by TIARA programs last year. These included satisfaction of both tactical and national intelligence requirements in support of major U.S. and allied exercises during normal military operations and in crises. A key goal of the TIARA concept is to obtain a complete, coherent, and rational management perspective over activities that share the common objective of supplying intelligence information to force commanders.

A major long-term contribution of TIARA management will be to provide a total systems approach to satisfying intelligence requirements of tactical commanders. This will ensure that supportive communications, processing, correlation/fusion, and display capabilities are addressed as part of the complete tactical intelligence system. The intent is to focus on successful operational systems, make cost-effective, near-term improvements in those systems, and plan for the orderly integration of systems now in development.

To assure greater recognition of cross-program considerations, nearly all programs included under the definition of TIARA are now under the cognizance of the Director of Tactical Intelligence Systems in the Office of the Assistant Deputy Under Secretary of Defense (Intelligence). Their TIARA management procedures vary, but each Service and Defense Agency has established separate TIARA offices within its headquarters to work with OSD to ensure that the intelligence needs of the commander are incorporated at the beginning of the requirements process and that related programs are faithfully executed.

We have charged the Joint Chiefs of Staff and the Defense Intelligence Agency to take the lead in ensuring that cross-service, cross-command, cross-program, and international requirements are addressed in the intelligence and related C³ planning during the program reviews.

In the planning area, the Defense Intelligence Agency is moving to become the focus for defense intelligence planning. Additionally, the Agency has established an office to support the National Command Authorities and military commanders in planning for war emergency situations.

(3) Intelligence Oversight

The Assistant to the Secretary of Defense (Intelligence Oversight) is responsible for the independent oversight of all DoD intelligence and counterintelligence activities to ensure legality and propriety, and reports on such matters to the Deputy Secretary of Defense and the President's Intelligence Oversight Board. He inspects DoD intelligence elements worldwide and monitors inspections of such units by the inspectors general of the Services and Defense Agencies. He also conducts, directs, or monitors investigations of alleged questionable activities within the DoD intelligence community.

3. Conclusion

Over the past year, we have continued a number of initiatives aimed at effectively and affordably improving our strategic, tactical, and common-user C³I systems. Taken together, these initiatives will provide our command authorities with enhanced capabilities for accomplishing assigned military missions in both peace and war. The integral nature of C³I systems and weapon systems has led us to emphasize the total defense structure in our development, acquisition, and operational activities. Building upon our earlier progress, we have structured our C³I program to provide evolutionary improvements keyed to specific mission area requirements. Balancing this evolutionary acquisition approach has been our emphasis on long-range (15-year) planning to ensure architectural stability, cohesiveness, and system affordability. Through this approach, we have demonstrated significant progress in providing enhanced C³I capabilities in our strategic, non-strategic nuclear, and tactical force mission areas. Continuation

of this balanced approach is seen as the best means for complementing our evolving force structures with effective, enduring, and interoperable force management capabilities.

The capability of the United States to mobilize its vast economic, industrial, and human resources to augment the active forces in times of national emergency is an essential factor in deterring potential enemies and reassuring U.S. allies. The deterrent value of mobilization resides not only in the military components but also in the convertibility of civilian manpower and production capabilities into military units and industrial warfighting support.

This Administration places great importance on creating a capability to respond with appropriate military measures to a set of geographically dispersed, simultaneous emergencies. Toward this end, we have undertaken numerous initiatives to improve both our DoD and Federal mobilization capabilities during the past year. Improving our capabilities to respond militarily to various emergencies is largely a planning activity, with some exercises to test the plans. The small commitment of resources required for these activities has a potentially large payoff in preparedness should actual mobilization be required.

2. Federal Mobilization Planning—The Emergency Mobilization Preparedness Board

Late in 1981, the President established the Emergency Mobilization Preparedness Board (EMPB) as a senior-level interdepartmental organization for the coordination of mobilization planning and guidance. This formalized his commitment to developing a credible and effective capability to harness the mobilization potential of America in support of the armed forces while meeting the needs of the national economy and other civil emergency preparedness requirements. To emphasize the high priority he places on federal mobilization planning, the President designated his Assistant For National Security Affairs as Chairman of the EMPB. DoD is represented by the Under Secretary of Defense for Policy and the Director of the Joint Staff. During this year, the Board prepared and the President approved a National Policy Statement on Emergency Mobilization Preparedness. The EMPB also developed a Plan of Action to improve emergency mobilization preparedness consistent with the approved policy. The EMPB has chartered 12 interdepartmental working groups organized along functional lines to implement the Plan. DoD actively participates in all of these working groups and chairs those on Military Mobilization and Emergency Communications.

a. Military Mobilization Working Group

The Assistant Secretary of Defense For Manpower, Reserve Affairs, and Logistics is the chairman of the Military Mobilization Working Group (MMWG), which includes representatives from 10 other federal agencies. The Working Group has developed guidelines for the National Plan of Action related to supporting the employment of forces to theaters of operations, ensuring the availability of resources necessary for military mobilization, and improving military support to civil authorities. The MMWG has also chartered three subworking groups. The Scenario Development Subworking Group has developed a set of contingency scenarios for use in interagency mobilization planning. The MMWG reviewed and approved the scenarios, and they are currently being coordinated by the EMPB among the federal agencies. The Requirements Development Subworking Group has completed

... contribution of TIARA management
... as the best way for accomplishing
... with effective monitoring and inter-
... management and coordination
... the complete tactical intelligence sys-
... successful operational systems, make
... improvements in those systems, and plan for
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... recognition of cross-program con-
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... capabilities in our strategic,
... and tactical-force mission areas. Continued

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J. MOBILIZATION

1. Introduction

The capability of the United States to mobilize its vast economic, industrial, and human resources to augment the active forces in times of national emergency is an essential factor in deterring potential enemies and reassuring U.S. allies. The deterrent value of mobilization resides not only in the military components but also in the convertibility of civilian manpower and production capabilities into military units and industrial warfighting support.

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a detailed plan of action. The group has identified specific resource categories and assumptions required to articulate shortfalls and is working to identify current shortages for the purpose of projecting mobilization requirements and availabilities. The Health Personnel Legislation Subworking Group has completed legislation in draft form that, if enacted, will enable the Selective Service to conscript health professionals in an emergency should we not be able to get sufficient health professional volunteers to support our forces. The draft legislation is being coordinated with various health professional organizations and should be submitted to the Congress early this year.

b. Emergency Communications Working Group

The Emergency Communications Working Group (ECWG) was established to ensure communications resources are adequate to respond to the nation's needs across a broad spectrum of emergency mobilization situations. It is chaired by the Director of the Defense Communications Agency, serving in his dual capacity as Manager of the National Communications System. Selected subgroups deal with issues, user needs, emergency preparedness concepts, the planning process, nonelectronic communications, and information processing. The ECWG prepared a coordinated Emergency Communications National Policy Statement on Emergency Mobilization Preparedness and a coordinated Emergency Communications Plan of Action consistent with the National Policy.

3. DoD Mobilization Planning

a. New Mobilization Deputy

Last fall, I established the new position of Deputy Assistant Secretary of Defense for Mobilization Planning and Requirements reporting to my Assistant Secretary for Manpower, Reserve Affairs, and Logistics. Over the past two years, I have increased emphasis on military mobilization planning, conventional force deployment planning, and contingency mission resource requirements. We had made considerable progress in mobilization programs, and relationships within and outside DoD had been strengthened. However, because of the broadening scope and importance of these programs, the increasing interest in mobilization planning at the highest levels of government, and the continuing contacts required with top government officials, I decided a senior official, concentrating wholly on these functions, was necessary.

b. DoD Master Mobilization Plan

The complexity and magnitude of the mobilization process dictate that sound planning occur at all levels within DoD. The DoD Master Mobilization Plan (MMP) provides broad planning guidance to all DoD agencies and organizations and a framework for making mobilization decisions and managing the mobilization process. The MMP identifies mobilization responsibilities and describes the related tasks to be performed both during peacetime preparation for a crisis and during mobilization.

In June 1982, the MMP was issued as a formal, approved planning document. During the coming year, we will continue to revise the MMP, develop detailed plans for executing various mobilization tasks, identify resources for full mobilization, and initiate force expansion planning for a protracted multitheater conflict.

c. Crisis Management Planning

In the fall of 1980, we conducted a major DoD exercise to test our procedures for mobilization and deployment under the threat of imminent hostilities. The evaluation of that exercise disclosed that the Office of the Secretary of Defense (OSD) lacked the organization and procedures to discharge effectively its management responsibilities under the heightened urgencies of time and complexity in a mobilization crisis.

Since early 1981, we have been developing organizational and procedural mechanisms to enhance OSD's crisis management performance beginning with the basic task of identifying the nature and the responsibility for mobilization management actions. This prototype, termed the OSD Crisis Management Organization (CMO), was tested during Exercise PROUD SABER. We are now analyzing the results of that test to determine what modifications are required to make better use of the capabilities of this organization. We will continue to test and refine the CMO.

d. DoD Mobilization and Deployment Steering Group

Under this Administration, the Department of Defense Mobilization and Deployment Steering Group has been thoroughly revitalized. The principal functions of this group are to provide mobilization policy and planning guidance, to coordinate mobilization planning programs, and to identify and resolve mobilization planning issues. The group is chaired by the Under Secretary of Defense for Policy, and is composed of senior representatives from the Office of the Secretary of Defense, the Military Departments, and the Organization of the Joint Chiefs of Staff. The Steering Group has initiated a major mobilization force expansion planning effort. This type of planning is vital to our ability to mobilize effectively for an extended conventional conflict.

e. Force Expansion Planning

Both planning and programming within DoD and the federal government focus on full mobilization. There have been few estimates made of resources needed to go beyond the readiness and sustainability requirements of the current active and reserve force structure. Planning for mobilization expansion of the armed forces had not, in the past, proceeded beyond the development of standby planning organizations and procedures. This meant that detailed planning would have to be done during a crisis or perhaps even after a decision had been made to undertake full mobilization.

We have recently increased the emphasis on planning for a longer conflict that is fought on a global scale. We recognize the need to plan for mobilization expansion of the armed forces in order to understand the demands such expansion would place on the nation's economy and resources. The complexity and magnitude of the problems associated with this expansion require a systematic approach to this planning, to include the basic assumptions and planning guidance.

During most of 1982, a special working group developed initial planning approaches, assumptions, guidance, scenarios, and force increments that go beyond the requirements for full mobilization, tasking the nation's resources in a total mobilization environment.

The group's final report provided a framework for the Military Departments to develop schedules and estimates for expansion of the force structure, assumptions for force expansion mobilization planning, responsibilities for planning and executing emergency force expansion, and an analytical framework to help identify and remove obstacles to rapid force structure expansion under emergency conditions. Additional force expansion mobilization planning efforts during 1983 will establish planning structures within the Military Departments to prepare an initial plan.

f. Wartime Manpower Planning

The Wartime Manpower Planning System (WARMAPS) is the authoritative DoD-wide structure and source for time-phased, wartime military manpower program data. WARMAPS institutionalizes the computation, presentation, and justification of projected wartime manpower needs and assets by providing a set of common definitions, parameters, computations, and data displays. Furthermore, the system is a data tool for programs to satisfy projected trained manpower needs in wartime and provides a common basis for reviewing Service projections of wartime manpower needs.

Although WARMAPS was originally developed as a program preparation and review tool, its value in mobilization planning has since been recognized. Accordingly, during the past year we have revised the WARMAPS governing instructions to emphasize DoD's mobilization planning role and the data WARMAPS provides for this planning. We have also expanded the instructions to cover DoD's needs for civilian employees during wartime. We have received and processed both military and civilian wartime data from the Military Services and the Defense Logistics Agency. The military data were used in reviewing and analyzing the Services' requirements and supply projections during the annual program review. The data were also used very successfully during the PROUD SABER/REX-82 BRAVO and Tidewater civilian mobilization exercises discussed later in this chapter.

g. Legislative Actions to Improve Mobilization Capability

We are proposing legislation to enhance our mobilization capabilities by improving our supply of pretrained manpower, as discussed in the Manpower chapter.

Constraints in the Clean Water Act would keep us from mobilizing a significant part of the munitions production base. The changes proposed to the Act by the Administration last year would have eased those constraints by broadening the current Presidential exemption authority for federal facilities and giving him new authority to exempt critical civilian facilities in time of war or national emergency. Congress, however, failed to act on those proposals. Our ability to respond to a major crisis will continue to be limited until the Clean Water Act is amended.

Under a program sponsored jointly by the Office of the Secretary of Defense, the General Counsel, and the Military Department Judge Advocates General, we are nearing completion of a DoD computer-assisted data base for mobilization-related legislation and regulations, and codifying existing statutes and regulations. When completed, this program will identify fully and correctly our emergency authority under existing legislation, and the legal and regulatory impediments to rapid, effective mobilization. This data base will

allow us to assure Congress that mobilization-related legislative proposals are required, are in consonance with the sense of Congress as expressed in current legislation, and do not inadvertently duplicate or undermine other legislation.

4. Manpower Mobilization Actions

a. Mobilization of Guard and Reserve Forces

In conjunction with the general improvements being made in mobilization procedures, we are refining systems for mobilizing Guard and Reserve forces. For example, using the results of a recent study, we have improved our capability to use the reserves more effectively in the pre-hostility period. Concurrently, we are improving the management information systems that monitor the course of Reserve Component mobilization.

b. Screening of Ready Reservists

In order to ensure the availability of the Reserve manpower pool, we have intensified the screening program for federally employed Ready Reservists. This program began in 1952 and is now conducted annually throughout the federal government, with the results forwarded to the Congress in an annual report.

The employment screening program has not been expanded into the private sector. The necessity for such screening has been studied. The 1980 Screening Report to the House Appropriations Committee stated that no occupational areas had been identified outside the federal sector that would be severely affected if all Ready Reservists were mobilized. Consequently, there is no evidence justifying the cost of about \$4 million required for DoD to conduct a single screening of the private sector.

A major sampling of DoD aerospace defense contractors in 1982 revealed that all of the reservists employed by three of the largest companies could be mobilized.

c. Military Mobilization Accession Activities

The Department of Defense and the Selective Service System continue to have a close working relationship that will enhance the flow of manpower needed during mobilization. Inductees are an important source of untrained mobilization manpower that will augment those who volunteer for military service. Since inductees have a statutory minimum of 12 weeks of training before being sent overseas, the sooner they begin training the sooner they will be available. The Selective Service has the responsibility of meeting our untrained manpower requirements specified in our inductee requirements schedule.

To improve its ability to meet our inductee schedule, the Selective Service System undertook a revitalization effort that included training programs for about 10,500 volunteer local board members and 480 appeal board members. The Selective Service is also developing regulations to implement the Alternative Service Program.

The Department of Defense and the Selective Service System operate a joint computer facility at Great Lakes Naval Training Center. The joint computer center, combined with peacetime registration, enables the Selective Service to provide the first inductee 13

days after mobilization and to provide a total of 100,000 inductees within 30 days of mobilization. We conducted two joint exercises last year which validated the induction and claims processing procedures developed by the Selective Service System.

We are also working with the Selective Service System and the Military Enlistment Processing Command (MEPCOM) to smooth procedures for operating the accession system during the transition from peace to war. For example, we have made arrangements to provide the Selective Service with personnel and facilities in case of an emergency resumption of inductions.

In recognition of the importance of the mobilization accession process, we have established a Military Manpower Accessions Committee as part of the Crisis Management Organization. This committee met during the PROUD SABER exercise and laid out the critical mobilization accession issues. We will continue to address these issues in a cross-Service forum using this committee.

d. Mobilization of DoD Civilians

Mobilization of our military resources would require a concurrent expansion of activity by the DoD civilian work force. Planning for civilian mobilization, however, had been neglected for many years prior to 1981. Since then, the Services and Defense Agencies have taken major steps to improve civilian preparedness. All DoD Components now are required to revise their estimates every two years of how many additional civilians would be needed for each activity during a full mobilization. These emergency personnel would replace recalled reservists and military retirees. They would also handle expanded workloads in logistics, maintenance, and other support functions. Procedures are being evaluated to recruit these people through the help of the Department of Labor, rehiring of civilian retirees, and other measures. The FY 1983 mobilization exercise, discussed later in this chapter, unlike its recent predecessors, stressed the marshalling of civilian resources.

5. Industrial Mobilization Activities

The programs described in the Industrial Responsiveness chapter of this report contribute to improving the mobilization capabilities of our industrial base. Several related activities are discussed below.

a. Industrial Base Mobilization Responsiveness

The Industrial Task Force, established in 1981 to facilitate the development of a surge capability in industry, has completed the first phase of its program. Working directly with industry and with the Military Departments, the Task Force has completed arrangements for the first group of defense systems to be funded for surge capability in FY 1984. When completed, this program will allow us to increase the production rates of critical systems and materiel rapidly in order to respond to a mobilization crisis or a sudden increase in security assistance demands, or to sustain deployed forces until the industrial base can expand.

b. Transportation and Construction Mobilization Accomplishments

We are also working to improve mobilization planning and operations in the transportation and construction areas. With the

Department of Transportation, we are surveying readiness of the National Defense Reserve Fleet in terms of materiel requirements, logistical support, shipyard capability to handle increased workload, and manpower to operate the fleet. To enhance our mobilization and deployment capability, we have recently completed memoranda of agreement with the Department of Transportation on shipping support of military operations, a contingency response program for land transport, and the civil reserve air fleet.

With the Department of Transportation and the Navy, we are studying methods to refinance that portion of the National Defense Features Program that provides equipment for existing merchant ships that would be useful if the ships were required in a military capacity. Previously, the Maritime Administration financed this portion of the program using construction differential subsidy funds, which now have been discontinued.

We are involved with industry in long-range development of wide-body cargo aircraft for civilian and military use. We are also working with the National Defense University (NDU) to determine the adequacy of industrial transportation and traffic management planning in support of surge and mobilization production.

We have drafted a directive that will require the DoD Components to develop facility requirements for mobilization. The directive also establishes procedures for examining the capabilities of the DoD Components and the construction industry to provide the facilities. Furthermore, it provides guidance on programming facilities with long construction lead times in military construction programs. The directive should be published early this year.

Emergency construction authority was provided to DoD on 12 July 1982 by the Congress in the Military Construction Codification Act. This authority allows OSD to use unobligated military construction funds for the Military Services and Defense Agencies to fund facilities required during national emergencies. The benefit of this legislation is being evaluated since we tested it during Exercise PROUD SABER.

With NDU and key private-sector professional groups, we are investigating possible solutions to facility expansion problems anticipated during mobilization such as shortages of construction materials and long lead times required by current contracting regulations.

6. Mobilization Exercises

a. PROUD SABER/REX-82 BRAVO

We continue to emphasize the importance of testing our mobilization directives and plans by conducting periodic mobilization exercises. Last fall, in conjunction with the Federal Emergency Management Agency (FEMA), we conducted a major mobilization exercise, PROUD SABER/REX-82 BRAVO. This was the latest in a series of biennial exercises to test our mobilization directives, plans, systems, and procedures under simulated wartime conditions. There was also widespread federal government participation. Since the exercise occurred halfway through this Administration's first term, it is an important indicator of how well we are doing in improving our mobilization planning.

We were encouraged by the improvements and progress we noted in the PROUD SABER exercise. The procedural problems encountered in previous mobilization exercises were either resolved or well on their way to resolution. New procedural problems that surfaced were largely second generation, that is, those that are not visible unless the basic systems and procedures are in place or those that require fine tuning of the procedures. In the areas of resources and logistics, our achievements were not as dramatic, although we did see progress in a number of areas where we have been able to apply funding increases. Others of our logistics problems remain, however, and we continue to experience stockage below the levels we believe we need in several functional areas. While we did not play the full scope of industrial mobilization due to the design of the exercise, we did address the surge capabilities of the industrial base. The results of this surge analysis demonstrated that we will continue to require a much greater effort than has been expended in the past if we are to enhance our surge and conversion capabilities. Coordination and management were especially improved, particularly at the OSD level, as were our functional working relations with FEMA, the National Security Council, and the civilian departments and agencies of the federal government.

b. Tidewater Exercises—Civilian Mobilization

As part of the PROUD SABER/REX-82 BRAVO exercise, we examined the capability of DoD to identify its civilian mobilization requirements and for the Department of Labor to supply the civilian work force needed by DoD. The exercise participants included the Army, the Navy, the Air Force, FEMA, the Department of Labor, and the Office of Personnel Management (OPM). We focused our effort in the Virginia Tidewater area to get a perspective on the problems concerning civilian mobilization when multiple claims for manpower resources are placed on resource agencies such as OPM and the U.S. Employment Service. The exercise demonstrated that the procedures we have established for defining our needs for civilian manpower under full mobilization are valid, but we are unable to define our needs at lesser levels of mobilization. We are taking action to improve this situation. We must ensure that all claimants for manpower resources, at whatever level of mobilization, know and understand the procedures. Exercise participants gained a clearer understanding of the importance of civilian manpower mobilization planning and the need for communication among the resource and claimant agencies.

7. Conclusion

We are making significant progress on a number of fronts as we continue to improve our mobilization planning and programs. The Emergency Mobilization Preparedness Board represents a major step forward in enhancing interdepartmental mobilization planning. My appointment of a new Deputy Assistant Secretary for Mobilization Planning and Requirements increases DoD's emphasis on military mobilization planning, conventional force deployment planning, and contingency mission resource requirements development. The Military Mobilization Working Group will continue its efforts to improve support for deployment, identify the availability of resources to implement military mobilization, and develop an improved system for military support to civil authorities. We will continue to test and improve our plans through mobilization exercises.

K. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

1. Introduction

Research, Development, Test, and Evaluation (RDT&E) activities lay the groundwork for the acquisition and deployment of affordable, reliable, and supportable weapons and equipment needed to give our armed forces the means to carry out their assigned missions.

Our program has been developed both to correct near-term deficiencies and to address long-term needs in each mission area. I have discussed the specific initiatives taken in those mission areas in other chapters of this report. In this chapter, I will cover a number of other RDT&E activities.

2. Science and Technology Programs

The Science and Technology (S&T) program, comprising the Technology Base and Advanced Technology Development programs, is the foundation for the country's future capabilities to meet its national security needs. These programs are managed by the Military Departments, the Defense Advanced Research Projects Agency (DARPA), the Defense Nuclear Agency (DNA), and the Uniformed Services University of the Health Sciences (USUHS). Research and development activities are actually performed by industry, universities, and government laboratories. This combination of talent and perspective provides us the means for meeting our technological needs in a world where know-how and the ability to meet new challenges play a vital role in national security and survival.

a. Assessment and Objectives

As I indicated in earlier chapters of this report, the Soviets continue to invest a substantial amount of effort in military research and development and, as a result, are fielding increasingly sophisticated equipment. They have long been excellent in the basic sciences and have developed very large programs for the education of scientists and engineers. The apparent Soviet commitment to the continued development and fielding of increasingly high-performance, technically advanced weapon systems, added to the numerical superiority of their armed forces, makes the Soviet Union a formidable adversary. Part of our response must be to place continued emphasis on our own national science and technology programs.

While the Soviet Union must rely primarily on military research and development, the United States is fortunate in possessing a strong private sector that it can draw upon for novel and creative approaches to the improvement of our military forces. We are also fortunate to have as allies advanced industrial nations with independent technological capabilities for the development of advanced military materiel. In order to take the best advantage of this situation, the Department of Defense will continue to advocate, in addition to the S&T program, programs that increase our national supply of scientists and engineers and the availability of adequate tools for our universities to conduct advanced research. Cooperative efforts with our allies, among other endeavors that promote the health and well-being of the technical community, will be continued. In addition, we will continue to support a strong and vigorous independent research and development program within the industrial sector.

b. Program Status

The DoD S&T program covers a broad spectrum of projects applicable to our future military needs. Since 1976, we have provided for increases in the Technology Base program to compensate partially for the 50% decrease in buying power that occurred during the 1960s and early 1970s. We are appreciative of the support provided by the Congress in achieving this goal and request its continued support. I consider it prudent that we continue our past efforts to provide real technical options for the 1990s but also, just as important, to prevent adverse technological surprise. Our request for the Science and Technology program in FY 1984 is shown below:

TABLE III.K.1

Science and Technology Program
(Dollars in Millions)

	<u>FY 1983</u>	<u>FY 1984</u>
Army	922	1,155
Navy	971	1,095
Air Force	1,102	1,336
Defense Agencies	<u>1,038</u>	<u>1,191</u>
Total	4,033	4,777

Our nation's universities provide three valuable services for the DoD research and development community: they are the source of the nation's scientists and engineers, they perform a substantial portion of our research, and they are a source of expert advice and consultation. In order to derive the greatest benefit from the academic community, we plan:

- To increase the universities' portion of DoD's basic research program both to take advantage of their innovative talent and to increase the number of graduate students supported;
- To upgrade university research instrumentation in areas of interest to DoD;
- To increase the number of graduate fellowships in areas of importance to DoD; and
- To continue our support of the DoD/University Forum, which was established as a means of promoting discussion by high-level university and DoD officials on the relationship between DoD and the universities.

The DoD is emphasizing joint and cross-Service programs to ensure that we receive maximum benefits from our S&T investment. We now have established and staffed an Office of the Assistant for Directed Energy Weapons to coordinate the efforts of the Services and Defense Agencies in this large and important program.

A comprehensive tri-Service plan for the development of microelectronics components, microwave devices, and electro-optical equipment has been developed to eliminate duplication of effort and enhance productivity. The Army and Navy infectious disease and combat dental research portions of the military medical program have been consolidated, with the Army serving as the lead agency. In addition, liaison officers from the other Services will be assigned to the Army's major facility for chemical defense research matters. The S&T program is an excellent mechanism for cooperative Service programs, and we plan to encourage this mode of operation.

The Services manage approximately 75% of the S&T program. Their efforts cover all technical disciplines and warfare areas of interest to DoD. Some of the program highlights are discussed below.

(1) The Very High Speed Integrated Circuit (VHSIC) program promises significant increases in performance for military equipment and applications using microelectronics. Six contractor teams are developing a family of devices for broad system use. The new "chips" will be ready for insertion into military equipment for demonstrations in FY 1984. We have requested funds in the FY 1984 program for this effort so that the increased capability can be fielded at the earliest possible date.

(2) The Navy/Air Force/DARPA programs in carbon/carbon and metal-matrix composites for tactical and strategic missiles continue to be very productive. These programs will assist us in developing very high-speed/long-range tactical and cruise missile systems with capabilities far beyond what is now technically achievable.

(3) The Chemical Defense S&T program has made substantive progress in this critical technology area. We have been able to double the university contract base. We plan to seek ways of adapting new biotechnology techniques (recombinant DNA, gene splicing, etc.) to develop improved vaccine and therapeutics for chemical/biological defenses. We have also begun a five-year research program to develop new technology we can apply for cost-effective and safe methodologies for the demilitarization of unusable or obsolete chemical munitions, discussed in the Chemical Warfare chapter.

(4) The Adverse Weather Precision Guided Munitions Technology program is making good progress toward development of both radar and millimeter wave seekers designed for autonomous acquisition and attack of military targets. This technology, if successful, will provide a significant "force multiplier" effect on the conventional battlefield across a broad range of environmental conditions.

(5) The DoD Software Technology program requires additional fiscal and management support. We have made considerable progress toward implementing the Ada language as the standard DoD High-Order Language, but much remains to be done. The systems used by our fighting forces are becoming increasingly dependent on computers for their successful operation. Increased demands in both quantity and complexity have driven up the software costs of our computer systems. Cost considerations include not only the original cost but also life-cycle costs that often span a period of 20 years. In addition, software transportability (from one system to another) and the need for frequent software changes, as equipment or procedures are changed, directly affect the combat capabilities and survivability

of our forces. I have requested FY 1984 funds to undertake a software technology initiative to overcome our current limitations in developing and maintaining software systems. The program will be a coordinated tri-Service effort managed at the OSD level. I request your support in getting this critical program under way.

c. The Defense Advanced Research Projects Agency (DARPA)

As the central research organization for the Department of Defense, DARPA's primary responsibilities are to help maintain U.S. technological superiority over its potential adversaries and to prevent technological surprise. Its goals are to pursue those highly imaginative and innovative research ideas and concepts offering significant military utility, to support and manage projects assigned by the Secretary of Defense, and to marshal advanced research through demonstrations of feasibility for military application. As high-payoff technology areas mature, feasibility demonstrations are conducted in cooperation with the Services, since they can move the technology rapidly through the development process.

While DARPA's research activities cover a broad spectrum of technologies, some of its major efforts are discussed below.

(1) Under the Advanced Cruise Missile Technology program, DARPA is investigating promising technological options for increasing the range, accuracy, and survivability of future generations of cruise missiles. The technology being pursued will also provide new basing and employment options for future cruise missile forces. Also, by investigating advanced propulsion systems that incorporate advanced materials, new engine concepts, and high energy fuels, we hope to increase the range and payload of our cruise missile systems. Engine thrust-weight ratio is projected to increase by 50%, with a 40% improvement in fuel consumption. Guidance and targeting technologies now being developed -- self-contained all-weather guidance, for example, and a stealthy terrain-following/obstacle-avoidance capability for long ranges -- should produce substantial improvements in missile accuracy. The technical capabilities being sought will permit the use of precision non-nuclear munitions against long-range, high-value land and sea targets. The advances could provide operational options for flexible basing, an interhemispheric range of action, multiple attack roles, and target discrimination.

(2) The Space Laser Triad (Alpha, Lode, and Talon Gold) program is structured to develop the technologies required in three key areas for a space-based laser weapon system. The objective of the Alpha program is to resolve the critical technology issues associated with space applications of a chemical laser device. Through ground-based testing, it seeks to demonstrate the feasibility of directly extrapolating chemical laser technology, with a high degree of confidence, to the power level and beam quality required in space. The objective of the Large Optics Demonstration Experiment (LODE) is to demonstrate the necessary beam control technology. The Talon Gold Program will develop and test the advanced acquisition, tracking, and precision pointing capability required by the system. The test program will be conducted using the space shuttle, and will utilize both high-altitude aircraft and space targets to obtain realistic target data.

(3) The survivability and durability of command, control, and communications systems are being improved by the development of a comprehensive internettted system that will provide worldwide capabilities linking satellites, tactical units, command centers, and computer-based information centers into a network virtually invulnerable to destruction. This effort builds upon earlier accomplishments in packet switching, internetting intelligent systems, radiation-tolerant gallium arsenide integrated circuits, and microelectronic system technology.

(4) The Submarine Laser Communications program is a joint DARPA/Navy effort to develop the technology for using blue-green laser transmitters to communicate with submarines at operating depths.

3. Technology Transfer

A study of Soviet successes in acquiring Western technology makes it apparent that the Soviet Union is a major beneficiary of technology transfer, both legal and illegal, from the Western world. There has been a well-orchestrated and successful Warsaw Pact effort to acquire Western technology both overtly and covertly. The most successful overt means include purchase of equipment, purchase of whole manufacturing lines including turnkey factories, and training of students and others in Western nations. Although technology transfer to the Soviet Union is pervasive, it is far from uncontrolled. In support of U.S. policy, it is DoD's objective in export control matters to protect U.S. lead times in the application of advanced technologies to military use. We have achieved major accomplishments in meeting this objective over the last year, and have established major initiatives to focus our efforts in the pursuit of this goal in the years to come. Primary activities accomplished in the last year or under way this year include the important critical technology project, the Coordinating Committee (COCOM) List review, compliance support, the NATO Technology Transfer Study, and development of technical policy for DoD review of export license applications.

The critical technology project involves development and update of the Militarily Critical Technologies List (MCTL), as required by the Export Administration Act of 1979; application of the MCTL in export regulations and export control lists; and improvements to industry's understanding of DoD's technical concerns in export control. In the last year, work continued on a broad front to update and improve the coverage and description of the critical technologies and related goods in the MCTL. Application of the MCTL as required by the Export Administration Act involves revision of the control lists to include the MCTL concerns, revision of U.S. export regulations to protect the "arrays of know-how," and use of the MCTL in the license review process. The MCTL is currently being used in the DoD licensing decision process as a source of supplementary information on items controlled by the commodity control list (CCL) and International Traffic in Arms Regulations (ITAR) Munitions List. The MCTL, together with supporting documentation, is expected to support timely, predictable, and consistent license reviews. DoD has also developed and sent to the Department of Commerce proposed guidelines for interagency use of the MCTL in the license review process. We are also working with representatives of industry to improve their understanding and acceptance of the MCTL.

The COCOM (comprising representatives from Japan and the NATO countries, excepting Iceland and Spain) has developed an agreed

list for control of the transfer of products and technology to the Warsaw Pact. Following the High Level Meeting of COCOM in January 1982, the first such meeting in nearly 30 years, the U.S. prepared major new initiatives to strengthen multilateral controls over the export of strategic technologies and equipment to the Warsaw Pact countries. The Department of Defense has been in the forefront of this effort, involving preparation of well over a hundred technical proposals to be used in the COCOM list review. We shall also provide most of the technical support at the negotiating table over the next year. The MCTL served as the foundation for the preparation of the new technical proposals.

NATO agreed in October 1981 to undertake a study of the security implications for the NATO Alliance of the transfer to the Warsaw Pact, by commercial and other means, of militarily relevant technology. A final report was provided to the NATO Defense Planning Committee and the North Atlantic Council in May 1982.

We have developed technical guidelines for the export of computer hardware and software to Eastern Europe, and have begun an intensive review of DoD delegation of authority for export control to the Department of Commerce.

We have made significant progress over the past year in controlling the export of dual-use products and technology. In October 1981, we eliminated a persistent backlog of export applications awaiting Defense review for national security concerns, and have subsequently processed most of the new applications within 60 days.

We have taken a number of initiatives in the past year in support of the selective transfer of advanced military technology to allies and friends. This has been done in the context of cooperative defense efforts and security assistance when mutual benefits are derived.

We have also taken steps to ensure that the transfer of technology to potential adversaries is strictly controlled. We have expended considerable effort in developing reasonable, well-balanced guidelines for the control of sensitive technologies such as the Very High Speed Integrated Circuit (VHSIC). We have expanded clearance requirements for information proposed for public release in order to prevent the unauthorized disclosure of critical military technology.

We have established a DoD-university forum which has discussed, among other subjects, the effect of technology export controls on university research. We intend to continue this cooperative effort.

A number of management improvements in technology transfer functions have been implemented within DoD in the last year. A new DoD directive on control of technology transfer will provide an integrated and coordinated DoD process in technology transfer matters and clearly establish the responsibilities of DoD components. Also, the Services, the Defense Intelligence Agency, and the National Security Agency were directed to establish program elements to dedicate resources to handle technology transfer control responsibilities. In addition, during the last year DoD has added both permanent and temporary staff positions in support of the technology transfer function. This additional staff support has, among other things, enabled us to devote increased attention to reviewing the foreign visitor program from the perspective of DoD's technical concerns.

DoD is also seeking to increase review of free world export license cases and has brought areas of particular concern to the attention of the Department of Commerce. Further, DoD has provided to the Department of Commerce suggestions concerning proposed revisions to Section 379 (Technical Data Regulations) of the Export Administration Regulations, in order to assist in improving the control of critical technologies. Finally, we are implementing the Foreign Disclosure and Technical Information System (FORDTIS), a computerized information system covering the MCTL and supporting documentation, Munitions List cases, CCL dual-use cases, and other relevant information. FORDTIS will be available to agencies within DoD as well as to the Departments of State, Commerce, Energy, and other departments with technology transfer responsibilities.

4. International Programs

a. Policy Objectives

Our basic objective in this area is to enhance the security of the U.S., our allies, and friends by improving the effectiveness of our international cooperative activities. Force modernization and cooperation with NATO, other allies, and friends in the areas of research and development, security assistance, and technology transfer remain the primary vehicles through which we are able to advance our own national interests and, at the same time, enhance the overall security of the free world. Our technology transfer program will be pursued in the context of the prudent technology protection strategy discussed in the previous section.

b. Current Programs and Initiatives within NATO

Our cooperative defense efforts continue to focus on achieving a high state of force readiness, sustainability, and interoperability of U.S. and allied forces. Our cooperative efforts in the areas of research, development, and weapons procurement must continue to capitalize on the technological advantage and combined superiority of the free world's industrial base. In that regard, we are pursuing initiatives to increase the direct involvement of the private sector in international arms cooperation. The active involvement of industry in the review and formulation of international defense cooperative policy has brought balance and practicality to those problems that had formerly been considered impediments to international defense cooperation.

At the NATO Defense Ministers meeting in May 1982, I proposed that the Alliance undertake an immediate study on exploiting new technologies for the improvement of our conventional defense. At the December 1982 Ministerial meeting, I presented the U.S. proposal for initiating this NATO-wide effort for improving conventional defense in the primary areas of defense against first-echelon attack, interdiction of Warsaw Pact follow-on forces, improving counter-air capability, enhancing command, control, communications, and intelligence (C³I) capabilities, and disrupting Warsaw Pact C³.

We continue to support efforts to streamline the functions of the Conference of National Armaments Directors (CNAD) and to improve the overall armament planning process. The key element in this effort is the full implementation of the Periodic Armaments Planning System (PAPS). The PAPS framework closely parallels DoD's own process for managing the development of major systems and is a NATO-wide mechanism for rationalizing arms development to meet the

needs of the Alliance. Our goal within NATO continues to be the further refinement of structures that promote efficiency, effectiveness, and mutual interests.

Progress in arms cooperation among NATO allies remains mixed. There are a number of cooperative research and development programs currently under way. Although production decisions on many of these programs are still to be made, they do provide a degree of encouragement. We remain committed to cooperation with NATO and other allies in order to capitalize on our combined technological and industrial superiority and thereby achieve a high state of force readiness, sustainability, and interoperability of U.S. and allied forces. The recent Roth/Glenn/Nunn Amendment supports our efforts, and we will intensify consultations toward an equitable and efficient sharing of the financial burdens as well as the technological and economic benefits of NATO defense.

c. Cooperation with Other Nations

Cooperative arrangements with friendly nations in other areas continues on a bilateral basis. Our objectives are to further mutual security interests, to exert U.S. influence, to stretch the resources available to us and to them, and to help develop their self-sufficiency.

We will continue a balanced and effective armaments cooperative program for those Middle East nations who share our security interests. For example, our research and development activities with Israel include test and evaluation of each other's equipment, funding of R&D in the other country, competitive R&D, and joint projects. With Egypt, our program of defense production assistance should enable that country to support its national forces more economically as it shifts from dependence upon Soviet-supplied equipment.

Japan has the capability for joint or complementary R&D. We expect to establish a viable armaments cooperation program with the Japanese that will provide a two-way flow of technology and is supportive of agreed defensive mission roles for their forces in the region. We will continue our cost-sharing program with the Republic of Korea (ROK), which has been a notable success for over a decade.

We expect to establish armaments cooperation programs with friendly, less developed nations that are effective in achieving our and their national objectives. During the past year we signed an agreement with Indonesia providing for U.S. firms to assist in modernizing Indonesian defense industries. We have begun similar discussions with the governments of Singapore and Malaysia.

Within our own hemisphere, Brazil is now capable of producing most types of ground force systems and is the free world's third largest exporter of armored vehicles. It also ranks sixth among free world aircraft producers. We plan to develop cooperative programs with Brazil -- and perhaps with other nations from Latin America as their capabilities develop.

Our efforts in non-NATO Europe, with neutral and non-aligned nations, can be viewed as a pursuit of common interests. We plan the transfer of technology with appropriate safeguards and the sale of equipment to those countries whose policies advance interests in consonance with our own.

5. Nuclear Programs

a. Stockpile Modernization

The Department of Defense and the Department of Energy (DoE) share statutory responsibilities for managing the U.S. nuclear weapons program. The President authorizes the number and types of nuclear weapons to be produced by DoE and transferred to DoD, approves deployment plans for these weapons, authorizes nuclear testing programs, and provides specific programmatic direction. DoD is responsible for specifying desired weapon characteristics and for providing weapon delivery systems, while DoE designs and produces the nuclear warheads. Thus, decisions affecting either the system or the warhead design must consider the impact on both departments.

The nuclear weapons stockpile is being modernized to enhance deterrence through improved operational capability and to ensure that appropriate standards of safety, security, and command and control are maintained.

Programs in which both departments are involved include the development, production, and deployment of modern nuclear systems (Peacekeeper, the B-83 Strategic Bomb, B-61 Tactical Bomb, ALCM, Trident, GLCM, Pershing II, Tomahawk, SM-2, and 8-inch and 155mm artillery projectiles). Production of the Enhanced Radiation/-Reduced Blast version of Lance is now complete. Additionally, as an economy measure, and to improve and extend the useful life of current weapons, we will upgrade some of the older weapons in the stockpile, such as B-61 and B-28 bombs, to incorporate modern safety and security features.

b. Weapons Production Capabilities

We strongly support efforts to modernize and upgrade the entire nuclear weapons production complex and encourage early planning for replacement of key facilities.

c. Special Nuclear Material

The total amount of special nuclear material is a constraint that we cannot significantly alter in the short term. Supply and demand must be carefully monitored and, because of the long lead time involved, production decisions must be made in a timely manner. There is a valid need to develop sufficient reserves to ensure that national security requirements are not constrained by the availability of SNM. We support those initiatives that will restore DoE capabilities to provide both the SNM needed for current requirements and an appropriate reserve.

d. Safety and Security

The safety and security of our nuclear weapons continue to be a major driving force in our nuclear stockpile modernization program. In 1968, the oldest of the 26 types of stockpiled weapons was 11 years old, and the average age was seven years. Thirteen years later, the oldest of 24 types was 23 years, with an average age of 12 years. We are replacing many of these older nuclear weapons to take advantage of today's new technologies, such as insensitive high explosives and improved electrical safety measures.

e. Defense Nuclear Agency

The Defense Nuclear Agency conducts the DoD nuclear weapons effects research program. The purpose of the research is to assess the survivability of our military systems in a nuclear environment, predict lethality thresholds for destruction of enemy assets, and develop the technological capability to enhance the survivability and security of our forces. Results are obtained through underground nuclear and aboveground high explosives test programs, extensive use of nuclear weapons effects simulators and computer models, exoatmospheric experiments, analyses and evaluations of the results of these tests and experiments, and examination of U.S. versus enemy nuclear warfighting capabilities. The program in FY 1984 is designed to encompass all major strategic systems (i.e., TRIDENT II, MILSTAR, B-1B, Peacekeeper, etc.) scheduled to be introduced in the near future, C³ systems, and key tactical systems.

6. Test and Evaluation (T&E)

a. Major Programs

The Director, Defense Test and Evaluation maintains oversight of and advises me on the status of tests and evaluations of all major weapon systems in acquisition. He approves the plans for all major weapon system tests, monitors the progress of the testing, approves regular reports on testing to the Congress, and provides me with an independent assessment of the adequacy of testing completed and the operational suitability and effectiveness of systems at major milestone reviews such as the Defense Systems Acquisition Review Council (DSARC) meetings. His assessments play a major role in evaluating program risk and determining any additional test requirements. In conjunction with our initiatives to streamline the acquisition process, he is instituting measures to identify problems early in the test process, use more innovative test techniques, and identify adequate funding for test hardware up front in the budget process.

b. Test and Evaluation Initiatives

(1) Increased Emphasis on Qualification Testing

Case studies of several major weapon system programs to evaluate the effectiveness of qualification testing have highlighted areas for improvement by Service program managers and industry. As a result of this effort, we expect system contract requirements and specifications to be more realistic, operationally oriented, and time sensitive. The lessons learned will ensure better planning and management to shorten future weapon system acquisition times.

(2) Identification and Funding of Adequate Test Assets

The adequacy of test hardware will be addressed in the Director's independent assessment for each DSARC review in order to ensure that sound test and evaluation programs can be budgeted and executed. This emphasis on adequate front-end funding of test hardware will reduce the risk of inadequate testing of new systems prior to production.

(3) T&E Requirements Analysis System

The current T&E process is being reviewed in order to determine where improvements in efficiency can be realized. This information will be used to design a generic model that may be used by the Director and Service test agencies to determine the adequacy and effectiveness of T&E as planned and conducted.

(4) T&E of Embedded Computer Software

We have initiated an effort to examine existing software quality assurance tools and the current state-of-practice in software T&E, with the objective of developing improved guidelines for embedded software testing.

(5) Development of T&E Simulator and Testbed Networks

We have conducted a survey of existing simulators and testbeds in an effort directed toward design, demonstration, and eventual implementation of a network that will allow interconnection and interoperability of geographically dispersed simulations and testbeds. This effort should produce a significant increase in our ability to accelerate testing of subsystems to help alleviate the problems associated with concurrent programs.

c. Joint Test and Evaluation (JT&E)

The JT&E Program for FY 1984 contains six ongoing tests to examine the capability of developmental and deployed systems to perform their intended missions in joint operational environments. These tests address command, control and communications countermeasures; data link vulnerability; electro-optical guided weapons countermeasures and counter-countermeasures; identification friend, foe, or neutral; forward area air defense evaluation; and Joint Logistics Over-the-Shore II.

d. Major Test Ranges and Facilities

(1) Joint Targets Acquisition

Two aerial targets have been evaluated and selected for joint Service use. The Air Force/Navy Firebolt high-speed/high-altitude aerial target and the Army/Air Force MQM-107B subsonic target are now in joint Service production. Also, Army cooperation with the Air Force in the utilization of J-69 engines for BQM-34 targets and the conversion of AQM-34 remotely piloted vehicles to BQM-34s will achieve additional cost savings.

(2) NAVSTAR Global Positioning Satellite (GPS) Initiatives

A tri-Service GPS Range Application Study Committee was established and has identified several uses of GPS for test and evaluation and training ranges. In the long term, the use of GPS can significantly reduce the cost of Position Location (PL) systems, provide higher accuracies over wide geographic areas, and provide a high level of PL standardization among the Services and ranges at substantially reduced operating costs.

(3) Joint Instrumentation Acquisition

Joint initiatives to develop and/or procure common instrumentation for the Service ranges and to improve affordability include: Surveillance Radar (FAA lead, tri-Service participation), Multi-Object Radar (Navy lead, Army and Air Force participation), and GPS Applications (Air Force lead, Army and Navy participation).

(4) Reduction of Test Assets

In assessing the broad ocean area support requirements, the Strategic Systems Test Support Study Group recommended the disestablishment of the USNS ARNOLD, USNS WHEELING, and USNS VANDENBERG range instrumentation ships -- all of which have been deactivated and replaced by lower-cost, improved alternatives.

(5) Aging Facilities and Backlog of Maintenance and Repair

A substantial number of our T&E facility buildings are of semi-permanent and temporary construction. This situation -- together with the nature of test and evaluation requiring remote, scattered sites; extensive transportation and utility systems; and airfields and hangars located in harsh environments (such as extreme desert conditions) -- contributes to a demanding backlog of maintenance and repair each year. Higher priorities for other programs continue to degrade our ability to maintain adequate facilities.

(6) Low, Fast Targets for Surface Ship Missile Threat Simulation

There is no aerial target available to represent the supersonic low-altitude and anti-ship missile threat for T&E of counterweapon systems. The Firebrand "sea skimmer" target program was cancelled in December 1981 because of cost and schedule difficulties. Various alternatives for a near-term solution are under evaluation.

e. Foreign Weapons Evaluations (FWE)

The FWE program has resulted in Service selection of nine items of equipment and munitions for procurement in the next several years. Over 40 FWE programs are now in progress, and I expect to see the Services take greater advantage of foreign-developed equipment that is available to meet our operational requirements.

7. Defense-Wide Support

a. Space—Program Status

The NASA-developed manned space shuttle will provide increased capabilities in terms of payload weight and volume delivered into orbit, on-orbit payload checkout and servicing, and retrieval from low earth orbits. Current boosters and production capability will be retained as a backup until shuttle capabilities have been adequately demonstrated operationally. We have begun our confirmation of the shuttle's capabilities for military applications with an experiment on the fourth test flight. The first DoD use of the shuttle to deploy an operational payload will occur in late 1983. The Inertial Upper Stage (the booster required to move payloads from shuttle orbit to higher orbit) is meeting its performance specifications. The

initial flight on a Titan III 34D in October 1982 was highly successful, and flight on board the shuttle is scheduled for February 1983. Progress on construction of shuttle facilities at Vandenberg AFB continues toward an IOC date of October 1985. Data security procedures are being implemented as we modify NASA facilities to permit classified DoD operations. Studies are under way to define an appropriate approach to assuring the required availability of space systems capability at all levels of conflict.

Satellite Control Facility (SCF) data systems are being modernized to provide the capacity to support new space systems. A new Consolidated Space Operations Center (CSOC) is planned to eliminate the single nodes that exist at the SCF and NASA facilities supporting DoD spacecraft and shuttle operations. In FY 1983, CSOC facilities construction and systems acquisition will lead to initial satellite operations in late 1986. We plan to acquire the CSOC control capability by a phased approach whereby capabilities will be added incrementally as needed to support operational requirements.

b. Geophysics and Global Military Meteorological and Oceanographic Support

This activity includes the development and acquisition of geophysical (meteorological, oceanographic, ionospheric, and space environment) systems and the operations of the global military meteorological and oceanographic support system. Reliable and accurate geophysical information is a critical factor in all phases of weapon system acquisition and employment, from design criteria to combat tactics. The growing sophistication of our weapons results in increasingly complex sensitivities to geophysical phenomena, thus requiring more advanced meteorological and oceanographic support systems in order for the weapons to achieve their expected performance. Our technology base programs address fundamental geophysics and its application. Our development, acquisition, and employment programs support our tactical commanders in making rapid decisions based on optimized meteorological and oceanographic information.

This year's geophysical/environmental sciences program continues to concentrate on atmospheric and oceanic transmission and modernization of overall support capabilities. The new Extended DoD Atmospheric Transmission Plan coordinating all Service efforts expands work in the millimeter wave spectral area and increases coordination in aerosol data collection. Past applications have now provided infrared tactical decision aids to the field for precision guided munitions support, and the modernization of our tactical support continues with the engineering development of tactical observation, processing, and display systems for shipboard and field deployment.

The modernization of our 20-to 30-year-old fixed-base weather equipment continues with the development of the Automated Weather Distribution System (AWDS) and the Next Generation Weather Radar (NEXRAD). AWDS is progressing in the engineering development phase, and NEXRAD -- a joint Defense, Commerce, and Transportation Department program -- is entering the validation phase.

As was confirmed by events in the South Atlantic conflict, one of the most critical wartime readiness elements is a meteorological/oceanographic satellite capability. The Defense Meteorological Satellite Program (DMSP), providing direct, secure transmissions to tactical vans and naval vessels deployed around the

world, may be our only consistent source of global weather and ocean data for our operational military commands in wartime. Program improvements in acquisition, instrumentation, and secure communications will lead to a more dependable wartime capability. Both the NEXRAD and DMSP programs have undergone significant changes this year to reduce their overall costs.

8. Small Business Innovative Research

The Defense Department will give its full support to the newly enacted Small Business Innovative Development Act, which requires that a percentage of each federal department's RDT&E funding be set aside for research and development contracts to small businesses. The funding levels for this new program will increase gradually over the years, to a maximum of 1.25% of RDT&E funds by FY 1987. For the current program period, the total benefit to small industries may be as high as \$170 million. Although the Department has encouraged small-business RDT&E for years, this initiative formalizes our support publicly. We anticipate that small industries will benefit greatly from the potential business, and that the Government will benefit both from an expanded research and development base and from the concepts and hardware it develops.

9. Conclusion

The FY 1984 RDT&E program balances needed improvements in our near-term capabilities with essential long-term requirements. We cannot close all the gaps in the immediate future. Difficult choices have been made to ensure that our FY 1984 program addresses the most pressing priorities. While we continue to make progress, the real payoff -- adequate quantities of effective and affordable systems in the hands of our men and women in the field -- remains ahead.

L. MATERIEL READINESS, SUSTAINABILITY, AND OTHER LOGISTICS

1. Introduction

The defense logistics system provides the requisite support to enable U.S. forces to deter aggression or, should deterrence fail, to conduct combat operations successfully in support of our national objectives. To provide this support, the logistics system must be sized and structured to carry out the expected workload for a broad spectrum of possible wartime scenarios. Similarly, logistics plans, procedures, and systems employed in peacetime must be workable in a wartime environment. Finally, the logistics system must be operated in the most cost-efficient manner in peacetime while still being capable of executing its wartime mission on short notice.

The essence of the task confronting the defense logistics system is expressed in the following objectives:

- Provide the materiel readiness and sustainability necessary to equip and employ our forces in support of our national defense objectives,
- Provide our military population with adequate food, housing, and clothing, and
- Provide essential upkeep of DoD's capital plant and facilities.

To put the magnitude of this task in perspective, consider the following:

- U.S. forces are operating at over 500 major installations in the continental U.S. and 250 installations overseas;
- The DoD operates and maintains a larger inventory and wider assortment of end items than any private sector organization;
- In peacetime, the defense logistics system must support an average of about 2.1 million active-duty military personnel, and about one million selected reserve personnel; and
- The worldwide logistics system operating to support DoD's facilities, people, equipment, and weapons consists of 30 wholesale supply depots, 9 ammunition storage depots, 19 inventory control points, 35 depot maintenance facilities, 197 wholesale POL storage facilities and pipelines, and 115 ocean and air terminal facilities.

Improving the readiness and sustainability of our existing forces through a balanced and comprehensive logistics program continues to be a top priority in this Administration's defense program. My objective in this chapter is to assess this logistics support posture -- both as we see it today and as we project it to be during the program period. I will do this through a review of logistics program funding profiles, weapon system and materiel readiness data, and selected logistics management improvement initiatives.

In February 1983, we will send to the Congress our annual Materiel Readiness Report (MRR), which is Volume II of the fiscal year 1984

Force Readiness Report (FRR). The MRR provides supplemental information on funding for materiel readiness purposes in the President's budget for FY 1984, and data on the materiel readiness that is projected to occur from appropriation of DoD's budget request. Discussions of overall materiel readiness trends, and DoD efforts to improve materiel readiness measurements, analysis, and management are contained in Volume I of the FRR. A display of logistics readiness by major items of equipment is provided for the Guard and Reserve in an annex to Volume II of the FRR.

2. FY 1984-88 Programs

a. Materiel Readiness

(1) General

Materiel readiness is expressed in terms of asset posture and materiel condition status. Asset posture is the inventory of weapon systems, combat-essential equipment, and materiel on hand relative to the inventory prescribed to perform the wartime mission. Materiel condition status is the fraction of the possessed inventory of each weapon system, combat-essential equipment, or materiel that is operational (that is, available and capable of performing its wartime mission).

In the following section, I will discuss two major determinants of weapon system readiness -- spare parts and depot repair funding. For these resources, I will explain the relationship between resource availability and readiness and highlight the impact of funding deficiencies. This discussion is followed by a review of selected weapon system mission capable rates and ship materiel readiness performance, which are based on resource availability.

(2) Spare Parts Support

The availability of peacetime operating spare parts (POS) is critical to the peacetime readiness of our forces. These items are needed to keep our equipment operationally ready and available both for peacetime training and for increased activity during the initial stages of conflict. All spare parts fall into one of two general classes: consumables and repairable components.

(a) Repairable Components

When part of a weapon system fails, that component must be either repaired or replaced. Usually, repair is given first priority, since it can generally be accomplished for between 1/4th and 1/7th of the cost of new procurement. However, all components have a finite repair life, and procurement requirements are generated to replace assets condemned in the repair process as well as to accommodate demand increases, lead-time changes in the procurement process, increased force levels, and modernization. The procurement cycle commences with a forecasted need by the user for more components than are projected to be available in the supply system; it ends with the delivery of the spare parts from the supply source.

Procurement lead-time -- the period between obligation of funds for spares and the delivery of those spares -- averages two years for repairable items. This delays the attainment of improved mission capability resulting from increased funding for

spares. Therefore, it is imperative that we fund spares support as early as possible in order to ensure that assets are delivered in time to support planned force activity levels, modernization programs, and other requirements that are dependent upon the availability of repairable components.

Table III.L.1 summarizes our procurement of peacetime repairable spares for FY 1981-84. The significant increases each year clearly demonstrate our emphasis on providing adequate peacetime readiness support. Our FY 1984 budget of \$9.3 billion for spares procurement is about twice that of FY 1981. Despite these substantial increases, some replenishment spares funding deficits will exist in FY 1984, primarily because of recently identified growth in Air Force requirements. Full funding of validated replenishment spares requirements will continue to remain a high readiness priority for the FY 1985 budget.

Table III.L.1
Peacetime Operating Spares Procurement (\$M)
 (Repairable Items)

	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983^{1/}</u>	<u>FY 1984^{1/}</u>
Army				
(Initial)	524	601	792	1,129
(Replenishment)	305	474	599	704
Navy				
(Initial)	716	951	1,069	1,208
(Replenishment) ^{2/}	787	785	1,144	1,316
Marine Corps				
(Initial)	16	34	37	41
(Replenishment)	7	40	48	42
Air Force				
(Initial)	622	823	1,097	1,617
(Replenishment)	1,706	2,438	2,466	3,201
DoD Total				
(Initial)	1,878	2,409	2,995	3,995
(Replenishment)	2,805	3,737	4,257	5,263

^{1/} Subject to change based on Service distribution of approved funding.

^{2/} FY 1981 replenishment spares procurement for Navy includes only half-year funding for shipboard depot-level repairable spares. In the last half of FY 1981 and ensuing years, these spares are procured through the Stock Fund and are not included here.

(b) Consumable Spare Parts

Consumable spare parts are used in the depot and intermediate maintenance programs to fix faulty components and by the organizational level of maintenance directly on the users' equipment. Although most consumable items have low unit costs, a shortfall of these items can cause weapon system downtime either directly at the organizational level or indirectly at the intermediate or depot level. Therefore, consumable item requirements have an importance equal to repairable spares procurement and depot level repair funding to provide

balanced supply support. The old adage "for want of a nail..." aptly describes the critical importance of consumable items to weapon system readiness.

Most consumable spare parts are financed by DoD stock funds. Stock fund procurements are approved and controlled by the Office of the Secretary of Defense (OSD) and the Office of Management and Budget (OMB) by means of apportionment control and obligation authority issued to the Services and Defense Agencies in amounts sufficient to support demands and replenishment of authorized stock levels. However, for the past few years our weapon system-related stock funds have struggled to maintain sufficient inventories in the face of increasing procurement lead-times, price escalations, force structure increases, and new and modernized weapon systems. To help provide the required stock fund inventories, the FY 1984 proposed budget includes \$2.2 billion to procure the additional items needed to support the force modernization, force expansion, and readiness initiatives scheduled for FY 1985-86. Failure to fund these requirements fully will adversely affect materiel readiness and delay scheduled weapon system maintenance and modification programs. New budget authority for each Service's stock fund inventory build requirement is shown in Table III.L.2.

Table III.L.2

Stock Fund Peacetime Inventory Build Requirements
(\$ in Millions)

	<u>FY 1983</u>	<u>FY 1984</u>
Army	0	154
Navy	230	636
Marine Corps	0	0
Air Force	51	1,456
Defense Logistics Agency	<u>0</u>	<u>0</u>
DoD Total	281	2,246

(3) Depot-Level Repair Funding

Depot-level repair funding and backlogs for missiles, ground combat vehicles, ships, engines, airframes, and repairable components can significantly influence materiel readiness. As noted earlier, repaired components are available faster, and are generally cheaper, than new procurement and have a direct and near-term influence on weapon system availability. The Department continues to strive toward its goal of fully funding depot maintenance requirements. The depot maintenance program included in the FY 1983 President's budget provided for the full funding of requirements verified at the time the budget was formulated. Later (higher) requirements, coupled with FY 1983 Congressional funding reductions, will leave us with a depot maintenance backlog at the end of FY 1983. The FY 1984 program contains significant increases in funding for depot maintenance programs. Despite these increases, modest financial backlogs of maintenance can be anticipated to remain throughout FY 1984. Such 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.

(4) Aircraft Materiel Readiness

For aircraft, we often use mission-capable (MC) rates as an important measure of materiel readiness. Aircraft MC rates are, in part, a function of the proposed FY 1984 budget and previous years' funding. Actual rates for FY 1980-82 are shown in Table III.L.3.

Table III.L.3

	Average Mission-Capable Rates (%)		
	Actual		
	FY 1980	FY 1981	FY 1982
<u>Army</u>			
All	74	74	73
(AH-1)	74	75	73
<u>Navy/Marine Corps</u>			
All	59	59	63
Fighter/Attack ^{1/}	53	53	56
<u>Air Force</u>			
All	66	65	67
Fighter/Attack ^{2/}	62	65	66

^{1/} Includes A-4s, A-6s, A-7s, AV-8s, F-4s, and F-14s.

^{2/} Includes A-7s, A-10s, F-4s, F-15s, F-16s, and F-111s.

(5) Ship Materiel Readiness

The FY 1984 budget continues to fund organizational and intermediate level maintenance, including the Commercial Industrial Services (CIS) program used to accomplish "overflow" intermediate maintenance requirements. The number of ships overdue for overhaul will be 13 in FY 1983 and 13 in FY 1984. Operational commitments rather than lack of funding cause most of this backlog.

Funds requested for the Ship Support Improvement Program (SSIP) in FY 1984 will be applied to programs directly affecting fleet readiness, such as development and implementation of the life-cycle support system for the progressive overhaul concept of the Lo-Mix ships, FFG-7, and PHM-1 classes, and development, implementation, and continuation of surface ship Engineered Operating Cycle (EOC) programs. Approximately 100 surface ships of eight combatant and non-combatant ship classes will have entered EOC programs by the beginning of FY 1984. During FY 1984, we will expand these programs to include the LHA-1 and AOR-1 classes and the first of the new ships in the CG-47 class. Engineering development for future implementation of EOCs is being completed for the LPH-2 and AE-26 classes, and program development is being undertaken for the CGN-36/38-class ships in FY 1984.

Under the Intermediate Maintenance Activity Upgrade Program, we will commence improvement of the Shore Intermediate Activities at Pearl Harbor, and accomplish the second increment of the improvement program at San Diego. Construction is scheduled to be completed at five other locations in FY 1984, with installation of equipment to follow. These improvements are essential for fulfilling current and future maintenance requirements.

Ship materiel readiness is measured in terms of Command Operationally Ready (COR) rates. COR rates are based on inventories, the average number of units in programmed maintenance, historical trends, and estimates of system availability. Actual rates for FY 1981-82 are shown in Table III.L.4.

Table III.L.4

Ship Materiel Readiness Performance (%)

<u>Ship Category</u>	<u>Actual</u>	
	<u>FY 1981</u>	<u>FY 1982</u>
Submarines	73	68
Aircraft Carriers	68	65
Battle Group Combatants	71	68
Non-Battle Group Combatants	70	76
Amphibious	72	70
Mobile Logistics	80	71
Mine	74	75
Patrol Combatants	75	78
Materiel Support	71	74
Fleet Support	71	72

(6) Ground Forces Materiel Readiness

The FY 1984 budget continues an important procurement program to correct long-standing deficiencies in stocks of principal equipment end-items in Army and Marine Corps units, as illustrated in Tables III.L.5 and III.L.6.

TABLE III.L.5

Stocks of Selected Equipment End-Items (Army)

	Objective for FY 1988	Projected			
		Assets End FY 1983 FDP	1/ Assets End FY 1984 FDP	Assets End FY 1988 FDP	Assets End FY 1988 FDP
Medium Tanks	17,748	12,931	13,564	15,811	
Armored Personnel Carriers					
FVS	16,851	1,700	2,300	6,370	
M113 ^{2/}	25,312	19,800	20,852	20,852	
Self-Propelled Artillery	4,188	3,293	3,417	3,955	
5-Ton Trucks	73,631	43,783	46,443	57,533	

^{1/} Funded Delivery Period.

^{2/} Comprises M113, FISTV, ITV, and M577.

TABLE III.L.6

Stocks of Selected Equipment End-Items (USMC)

	Objective for FY 1988	Projected			
		Assets End FY 1982 FDP	1/ Assets End FY 1984 FDP	Assets End FY 1988 FDP	Assets End FY 1988 FDP
Medium Tanks	788	646	716	716	
Landing Vehicles, Tracked	1,405	986	1,313	1,313	
Light Armored Vehicles	744	60	307	392	
Self-Propelled Artillery	251	184	247	247	
5-Ton Trucks	8,067	3,939	5,405	8,067	
5/4-Ton Trucks	13,197	0	7,112	13,197	

^{1/} Funded Delivery Period.

The Army's rate of recovering and rebuilding unserviceable components, although lower than the Air Force and Navy rates, has improved significantly during the past fiscal year. The Army's Repair Parts Improvement Program is aimed at increasing its repairable return rate to 75%. The Army has already met or exceeded this goal for many classes of components.

Ground forces materiel readiness is often measured in terms of weapon system Fully Mission Capable (FMC) rates. FMC performance for selected categories of land equipment in Army and Marine Corps units is illustrated in Tables III.L.7 and III.L.8.

Table III.L.7

Ground Forces Readiness Performance (Army) (%)

<u>Weapon System</u>	<u>Actual</u>	
	<u>FY 1981</u>	<u>FY 1982</u>
Tracked Combat Vehicles	86	85
Tanks	86	87
Artillery/AD Guns/Mortars	88	88
Missiles	91	92

Table III.L.8

Ground Forces Readiness Performance (Marine Corps) (%)

<u>Weapon System</u>	<u>Actual</u>	
	<u>FY 1981</u>	<u>FY 1982</u>
Tracked Combat Vehicles	83	82
Tanks	84	88
Artillery	88	86
Guided Missile Systems	93	93

b. Materiel Sustainability**(1) War Reserve Materiel**

Beyond readiness, we are also concerned about combat sustainability -- the staying power necessary for our forces to balance the Soviets' ability to endure a prolonged conventional conflict. Sustainability is a function of our ability to resupply weapons, equipment, secondary items, munitions, and fuel to replace those resources consumed or attrited during combat operations. These resources are called War Reserve Materiel (WRM) because they are the additional inventories, above the levels needed to support peacetime operations, procured to support the much higher anticipated wartime activity levels and loss rates. To support a force indefinitely, these stocks must be sufficient to last until the production base can satisfy the demand.

WRM requirements (called stockage objectives) are developed by each Service based on programming and planning assumptions that pertain to the specific theater of operation. Factors considered include expected materiel consumption, combat intensity and duration, force and materiel attrition, resupply delays, and host and allied nation support. WRM stockage objectives are expressed both in terms of the number of days supply we need to have prepositioned in the theater, and how much we need to hold in reserve for resupply. We measure sustainability by comparing our stockage objectives against resource availability -- current and projected.

As was the case with readiness, the enhancement of materiel sustainability continues to be a key theme in this administration's defense program. Unfortunately, due to past neglect the road to achieving that goal is a long and expensive one. Our program for FY 1984 contains about \$12 billion for war reserve spares, fuel and tactical munitions. Other priority needs compel us to fund a substantial portion of the remaining requirement in FY 1986-88, with funding in FY 1987 growing to \$24B.

In the following paragraphs, I will identify selected categories of materiel that contribute to combat sustainability, and illustrate current and projected funding to improve our sustainability in each area.

(2) Prepositioned War Reserve Equipment and POMCUS

Both the Army and the Marine Corps possess and continue to procure combat attrition replacement assets for major items of ground force equipment such as tanks, armored personnel carriers, and artillery pieces. The Air Force has also undertaken an extensive program to preposition WRM in Southwest Asia and Europe. Assets that consume large amounts of airlift or that are required in the early days of a crisis were selected for prepositioning.

(3) War Reserve Munitions

Our stockpile of war reserve munitions remains in transition from the older, Vietnam-era munitions to a new generation of much more effective munitions necessary to help offset the numerical superiority of our potential adversaries.

The munitions procurement program for FY 1984 is illustrated in Table III.L.9. Also shown is the funding for the past three years.

Table III.L.9

	<u>Munitions Procurement</u> ^{1/}			
	(\$ in Millions)			
	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>
Army	2,403	3,525	4,300	4,216
Navy	1,471	1,864	2,327	3,550
Air Force	485	1,237	1,379	2,909
Marine Corps	82	324	630	494

^{1/} Includes both WRM and training munitions.

(4) War Reserve Secondary Items

Secondary items include repairable components, consumable repair parts, personnel support items (e.g., uniforms and combat rations), and a myriad of other generally low-cost consumable items. Almost everything that is not a weapon system, major equipment,

or a munition is a secondary item. The vast majority of the approximately 3.8 million different items in the DoD supply system are classified as secondary items. Of those, about 200,000 have been identified as crucial enough to our combat capability to justify maintaining war reserve inventories of them. Although secondary items account for a relatively small part of the dollar value of our total war reserves, shortages can severely degrade our combat capability and can be as important as shortfalls in major equipment and munitions.

The inventory status of WRM spare parts is a particularly critical part of the sustainability equation. The funding improvements in this area have been noteworthy. For FY 1984, we are proposing about \$1.6 billion for WRM spare parts -- more than twice the FY 1981 funding level.

Table III.L.10 illustrates the Services' funding for war reserve secondary items and spare parts.

Table III.L.10

War Reserve Secondary Items/Spare Parts Funding ^{1/}
(\$ in millions)

	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983^{2/}</u>	<u>FY 1984^{2/}</u>
<u>Army</u>				
Spare Parts	48.0	220.3	496.2	483.6
Other Secondary Items	13.7	67.0	110.1	198.2
Total	<u>61.7</u>	<u>287.3</u>	<u>606.3</u>	<u>681.8</u>
<u>Navy/Marine Corps</u>				
Spare Parts	0.3	22.7	172.7	100.8
Other Secondary Items	--	--	28.3	--
Total	<u>0.3</u>	<u>22.7</u>	<u>201.0</u>	<u>100.8</u>
<u>Air Force</u>				
Spare Parts	739.3	981.1	420.2	1,041.5
Other Secondary Items	24.1	70.4	82.0	142.9
Total	<u>763.4</u>	<u>1,051.5</u>	<u>502.2</u>	<u>1,184.4</u>
<u>Total</u>				
Spare Parts	787.6	1,224.1	1,089.1	1,625.9
Other Secondary Items	37.8	137.4	220.4	341.1
Total	<u>825.4</u>	<u>1,361.5</u>	<u>1,309.5</u>	<u>1,967.0</u>

^{1/} Includes stock fund and procurement accounts.

^{2/} Subject to change based on Service distribution of approved funding.

(5) Petroleum, Oil, and Lubricants (POL)

One of our biggest sustainability shortfalls is the shortage of POL. To correct this deficiency we are placing renewed emphasis on validating requirements and obtaining additional POL resources and storage facilities. This past year we published a directive that establishes, for the first time, specific policy

guidance on requirements determination and management of bulk petroleum war reserves. We then conducted an extensive review of our stated war reserve fuel requirements to ensure the credibility of the process by which they were established. With this validation in hand, we are now addressing various options and alternatives to overcome our shortfalls. Our intent is to pursue a program that covers our requirements at the lowest possible cost commensurate with an acceptable degree of risk. The program will be a mix of assets in military-owned storage, NATO and allied government facilities, and leased commercial storage, as well as stocks to be provided under host nation support agreements.

(6) Water Support

Water support is vital to the forces deployed to arid environments, such as we would encounter in Southwest Asia. Equipment and facilities are required for water production, treatment, storage, distribution, cooling, and force structure support. The Army, as DoD Executive Agent for Land-Based Water Resources, is developing the concepts, doctrine, and force structure to support rapid deployment force operations. Resources to support near-term requirements were provided by the FY 1981 and FY 1982 budgets. Our FY 1984 budget continues this build to allow us to meet our long-term objective by FY 1989.

c. Installation Support

Support for Department of Defense installations includes replacement and modernization of obsolete facilities; maintenance and repair of existing facilities; construction of new facilities; improvements to operating efficiency; and compliance with environmental, safety, and occupational health standards.

(1) Improving Working and Living Conditions at Existing Installations

(a) Military Construction Program

Many of our people are working and living in old, crowded, and obsolete buildings that affect our readiness, cause low morale, and detract from our efforts to retain valuable personnel. In FY 1984, we have continued our emphasis on improving conditions for our troops overseas, with an emphasis on housing for both families and unaccompanied personnel, dependent schools, community support, and operational and training facilities.

1. Europe

In Europe, many wartime operational facilities are funded by the NATO Infrastructure Program. The U.S. contribution to this multi-nation construction program will be \$300 million in FY 1984. The funds will help support high-priority initiatives such as theater nuclear force modernization and the Long-Term Defense Program. Projects that are not eligible for NATO funding will cost roughly \$1 billion in FY 1984. They include unaccompanied housing and dining facilities (\$124 million), family housing (\$136 million), schools (\$91 million), community support (\$50 million), and operational and other facilities (\$696 million).

2. Other Overseas Areas

In FY 1984, about \$660 million is needed for construction to support our troops assigned to other overseas

areas. Most of these funds will be spent in the Pacific theater. Although the Japanese and Korean governments both help meet our construction requirements, we plan on spending about \$238 million for our forces in these areas.

(b) Real Property Maintenance Activities (RPMA)

The RPMA program provides funds for a host of functions related to the operation and maintenance of our real property facilities, including maintenance and repair, minor construction, utility systems, and other engineering services. The condition of our facilities has been steadily declining during the past two decades because of inadequate funding, inflation, and the growing age of plant assets. We reversed this trend in FY 1982 and reduced the backlog of maintenance and repair (BMAR). In FY 1983, we plan on spending about \$3.5 billion for real property maintenance. The President's FY 1984 budget increases this funding to approximately \$4.1 billion, allowing us to cover our recurring requirements while further reducing the BMAR.

(c) Pollution Abatement

We continue to identify corrective projects required to comply with all environmental laws. As the Environmental Protection Agency (EPA) and the states fund improvements to regional municipal wastewater treatment facilities, DoD installations are required to provide their fair share. The FY 1984 budget includes \$48 million for these facilities and requests \$20 million for industrial and domestic waste-water treatment on DoD installations. One new category of facility this year is hazardous waste storage, required by the Resource Conservation and Recovery Act (RCRA). DoD components are also continuing studies to identify sites where hazardous wastes were disposed of improperly to determine if abatement projects are required.

(d) Prevention of Accidents and Occupational Illnesses

We must reduce the accidental loss of material resources and the incapacitation of people due to injuries and work-related illnesses. The FY 1984 Budget contains funding to correct serious workplace and defense systems hazards and to strengthen occupational health training and surveillance.

(2) Establishing Installations for New Missions

(a) Peacekeeper

The FY 1984 Military Construction Program includes \$449 million in support of the Peacekeeper weapon system. This includes \$39 million for planning and design, \$11 million for access roads, \$20 million for family housing, and \$379 million for the first increment of land acquisition and facility construction in support of deployment of the Peacekeeper in a permanent basing mode.

(b) GLCM

One of the highest operational priorities in the NATO theater is the deployment of the Ground Launched Cruise

Missile (GLCM). Operational facilities are being funded by NATO while land and utilities connections are paid for by the host nations. This year's request of \$172 million is for U.S. personnel support facilities (\$148 million) and family housing (\$24 million). These support facilities constitute an essential component of the U.S. commitment, since they clearly demonstrate our resolve to deploy GLCM on a permanent basis, should it be necessary, and they provide our people the quality of life they deserve.

(c) Rapid Deployment Forces

The FY 1984 military construction request includes approximately \$230 million for strategic facilities in the Indian Ocean/Persian Gulf area; \$441 million and \$335 million were approved in FY 1982 and FY 1983, respectively.

(3) Increasing Efficiency

(a) Property Sales Relocations and Consolidations

This Department is by far the largest single user of federal real property. As such, we can provide many of the assets necessary for the success of the President's property initiative, while at the same time improving our own efficiency through economical consolidations and relocations. In the past, however, attractive opportunities for such actions have not been pursued due to an inability to provide necessary relocation and replacement costs. I am proposing legislation that would allow the Defense Department to recoup these costs and permit us to retain a small portion of the proceeds from sales to encourage further efficiencies. At least 95% of the net sales proceeds would be returned to the Treasury to reduce the national debt.

(b) Base Operations Support (BOS)

The Department has three major BOS programs to save money and manpower, improve efficiency, and increase readiness.

The Commercial Activities program requires certain segments of the in-house work force to compete with the private sector for performing base support services. Service contracts are then awarded to the lowest bidder. In cases where support services must be provided by a government work force, our Efficiency Review program analyzes task requirements and manpower utilization to ensure the most efficient use of available resources. The Defense Retail Inter-service Support program eliminates the duplication of base support services by consolidating functions common to more than one Service at a single installation under one manager. Altogether, we expect that the above programs will make 9,200 manpower spaces available for higher-priority work loads and will save over \$100 million.

(c) Energy Conservation

The Department of Defense is working toward compliance with the National Energy Conservation Policy Act, which requires that all cost-effective conservation retrofit actions for existing facilities be accomplished by 1990. Of equal importance is the objective of providing permanent retrofits, which will significantly reduce our long-term energy costs and improve the mission support capabilities of our installations. The Congress appropriated over \$955 million for this program from FY 1976 through FY 1983, with an

overall average amortization period of less than five years. The FY 1984 investment of \$133 million for military construction and family housing will result in a permanent annual energy cost savings of over \$26 million, with an average amortization period of five years. Despite these investments, we have experienced in the past year a slight increase in facility energy consumption. This increase, we believe, is in large measure due to increased readiness and operational activities. We are initiating a thorough analysis of this increase to determine its exact causes, and will take action, as appropriate, to correct any problems we find.

d. Logistics Management Support

(1) Supply Programs

I have established a Supply Management Policy Group which includes representation from my staff, the Military Services, and the Defense Logistics Agency. This group is working toward the development of logistics management policies and procedures that will lead to the measurement of supply performance on the basis of weapon system availability. Such policies and procedures will help us meet our targets for operational availability of weapon systems while keeping inventories of spares at the minimum required level.

We are implementing a program to introduce the use of bar-code markings in the DoD distribution system. Virtually all procurement contracts now require that incoming material be bar-coded. We will use existing computers to process the bar-code information and maintain logistics data bases. We estimate that annual savings resulting from improved inventory control and materiel processing will exceed \$100 million once these procedures are fully implemented. We have also begun to seek additional savings by using bar codes to reduce paperwork and streamline document processing associated with the storage, accountability, and distribution of material and property.

(2) Maintenance Program

Maintenance of our weapon systems and related equipment requires significant resources -- including more than \$24 billion annually and the efforts of more than 800,000 government and contractor personnel throughout the world.

Several major program initiatives are under way to accomplish this maintenance as efficiently and effectively as possible. The DoD Maintenance Policy Council (MPC) has been established to provide an executive-level forum for the examination of DoD maintenance plans, policies, and procedures to improve the efficiency and effectiveness of maintenance operations. Under the auspices of the MPC, actions are under way to increase the use of interservice maintenance support, modernize equipment to improve efficiency, and establish comparable aeronautical depot maintenance management information systems among the Services.

We are in the process of formulating policy relative to Post Production Support (PPS). The objective of the PPS program is to assure that spare parts, maintenance, test equipment, trained personnel, and other support requirements are available at reasonable cost throughout the period after production close-out of weapon systems and related equipment.

DoD is continuing to expand the application of Reliability Centered Maintenance (RCM). RCM is the DoD adaptation of a maintenance strategy developed by the commercial airlines to reduce maintenance expenses and increase operational availability without sacrificing safety or operating reliability. RCM has been successfully applied to ships, aircraft, engines, and combat vehicles, as well as to various subsystems, avionics systems, and ground support equipment. The Air Force completed initial analysis of all major engines and airframes in FY 1981. Research continues on application of RCM to communications-electronic systems and Army aircraft.

We have begun the DoD Logistics Civilian Career Management Program to improve the selection, recruitment, education and training, and career development of DoD personnel who support and manage DoD maintenance and other logistics programs. The Air Force, through its related program, has recently established a career development panel to assist in the management of long-term, full-time training and career-broadening assignments of its logistics personnel.

(3) Transportation and Traffic Management

We have included an extensive review of transportation programs in the Mobility chapter. The following management initiatives explain important transportation programs not covered in that chapter.

On 5 October 1981, we established Military Export Cargo Offering and Booking Offices (MECOBOs) worldwide by consolidating the sealift cargo management functions of the Army's Military Traffic Management Command (MTMC) and the Navy's Military Sealift Command (MSC). These offices have reduced the time required to process sealift bookings by 25%, eliminated excess paperwork, and improved the management of intermodal container shipments. Annual savings of \$5 million per year are projected.

The JCS have recommended unanimously that a new unified Military Transportation Command (MTC) be established under the Joint Chiefs. This new command is urgently needed to correct the coordination problems we currently have in the management of surface transportation in peace and war. I am working with the Armed Services Committees to resolve remaining differences regarding implementation of the JCS plans for the MTC.

(4) Productivity Enhancement

Authority was provided to industrial fund managers in FY 1983 to purchase modern labor-saving equipment through the industrial fund rather than through direct appropriations. This reflects a continuing effort to reduce the cost of repair by modernizing our equipment maintenance base.

DoD also fosters a range of programs directed at improving the productivity of other activities. These programs provide financing for capital equipment and facilities to improve the productivity of support operations. They include small dollar labor and cost-saving equipment as well as major operational improvements. One of these investments, LOGMARS, employs state-of-the-art machine-readable symbology or bar-coding to improve the productivity, timeliness, and accuracy of a broad range of DoD Logistics operations. This

specific project is expected to return almost \$17 for each dollar invested over its economic life in supply, maintenance, and base operations. In FY 1984, DoD will reap \$8 million in benefits from LOGMARS. This savings will increase to \$112 million through FY 1988.

(5) Host Nation Support

Host nation support (HNS) is designed to complement forward-deployed and reinforcing U.S. combat and support forces to provide the logistics support necessary to give our combat units effective combat power. It represents a critically important step to improve our conventional warfighting capability in Europe, in Southwest Asia, East Asia, and the Pacific. HNS is necessary because the U.S. has severe force structure shortages in the combat service support units -- largely logistic units -- that give our forward-deployed and early-reinforcing combat units their sustained combat capability. HNS is designed to ensure this critically needed support without further straining U.S. resources.

The principle underlying the concept of HNS is that our allies can provide needed support from their civil sectors and military establishments at a small fraction of the cost were the U.S. to provide comparable service. Our HNS arrangements with our European Allies are discussed in the NATO chapter. The Republic of Korea and Japan also provide host nation support for U.S. combat forces. These programs will enable us to improve the readiness and deployability of U.S. forces while reducing costs and manpower requirements for logistics functions that can reasonably and assuredly be provided by host nations.

(6) Deployable Hospitals

Our emphasis on repairing equipment must be matched by at least an equal effort to "repair" and keep in sound condition those people we depend upon to use that equipment. Therefore, the achievement of an adequate wartime medical capability is of the highest priority. The deployable hospitals that the Services have on hand today could provide care to no more than one in five of our wounded in the event of a conventional war in Europe, and to fewer than one in ten of our wounded in the event of war in Southwest Asia or Korea. The first large procurements of deployable hospitals were funded by the Congress in FY 1983, and additional funds are requested in FY 1984. These procurements, together with expanded procurement programs in FY 1985 and FY 1986 and the acquisition of the essential hospital ship capability, will provide an adequate theater medical capability by end-FY 1987.

We have also taken steps to improve inter-Service coordination in the development of field medical systems. Through a new standardization process, deployable hospital programs will be coordinated among the Services and the Office of the Assistant Secretary of Defense (Health Affairs). On 21 June 1982, we issued a Department of Defense Instruction governing the standardization of field medical systems. The Instruction requires the Services to procure only those systems that have been developed under the direction of the Military Field Medical Systems Standardization Steering Group and approved by each of the Services, with final approval by the Assistant Secretary of Defense (Health Affairs).

(7) Air Force European Distribution System (EDS)

In FY 1983, we requested funding to begin implementing EDS. This Air Force program is a logistics readiness-sustainability initiative that provides a significant increase in operational fighter aircraft each day in a European war by assuring the timely distribution of the critical logistics assets needed to return grounded fighter aircraft to service. Our FY 1984 budget request includes the remaining light transport aircraft for one squadron and military construction support facilities. This will complete funding for this logistics system in Europe.

3. Conclusion

This Administration is dedicated to improving our currently inadequate logistics posture. Force readiness and sustainability are the two areas we have identified that require our highest-priority attention. My assessment of the progress we have made toward accomplishing this objective is one of cautious optimism.

I am optimistic because we made a good start and are moving in the right direction. The FY 1981 and FY 1982 budgets constituted an important beginning with the addition of about \$12 billion to improve the readiness and sustainability of our existing forces. This funding will be further increased in FY 1983 and FY 1984. Our FY 1984 budget request will result in funding levels for readiness and sustainability nearly 40% higher (in real terms) than FY 1980, the final year of the last Administration. Because of production leadtimes and the time it takes for the equipment, munitions, and spares to work their way through the system, we have not seen the full effect of this increased funding on materiel readiness. However, significant improvements are already evident in several areas.

- Since February 1981, the number of combat ready active units has increased by almost one third. At the same time, the number of units that are not combat-ready has declined by almost one half.
- Mission-capable rates for Navy, Marine Corps, and Air Force aircraft have improved. The Navy and Marine Corp expect continued improvement through FY 1986.
- Ship overhaul backlogs have been reduced; most remaining backlogs are the result of operational schedule conflicts rather than a shortage of overhaul funds.
- Operating tempos for non-deployed fleets are being increased in FY 1984 to support training and readiness.
- We have a five-year program that will improve our sustainability posture significantly. Largely due to our funding increases in FY 1981 and FY 1982, our days of munitions supply in FY 1983-87 should be about 10% greater than they would have been under the previous Administration's plan. By the time the FY 1984 budget procurement is delivered, the war reserve stockpiles of munitions and spares will have increased about 25% over the FY 1981 funded delivery period. After execution of the out-year (FY 1985-88) program as it now stands, these stockpiles will have increased by another 40-50%.

On the other hand, my optimism is somewhat guarded because we have not yet reached our goals in several areas. As I pointed out, we will have to accept some readiness funding deficiencies in FY 1984 and delay some sustainability funding until FY 1986-88. But this does not mean that we have lessened our resolve to build a strong and effective logistics support posture. Obviously, we cannot undo a decade of neglect in one or two years. Our goals are ambitious, and as we struggle with growing and increasingly complex support requirements, we will continue to pursue high standards in both performance and efficiency. We are striving to get the best military capability possible for each tax dollar. Our combat forces are improving each day, and our emphasis on materiel readiness and sustainability will help to ensure that this improvement continues.

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M. SECURITY ASSISTANCE

1. Introduction

a. Objectives

The security assistance program is an essential complement to the overall U.S. defense effort. When we directly assist other nations in meeting their defense requirements, we also make a contribution to our own security. Security assistance must be carefully tuned to U.S. global and regional strategy objectives. For instance, the security assistance program supports our efforts to obtain the access, overflight, and base rights the Defense Department needs abroad. Furthermore, this program helps us move toward greater equipment standardization and interoperability, which enables friends and allies to move, shoot, and communicate with U.S. forces in coalition warfighting situations.

The security assistance program is not a giveaway. Almost all the financing for foreign military sales, the Economic Support Fund, and the funds for International Military Education and Training are spent in the U.S. Thus, the program has economic benefits associated with economies of scale, production line smoothing, expansion of the defense industrial mobilization base, and expanded pipeline availability. Security assistance program requirements also can be the medium for maintaining a production capacity-in-being for current front-line systems that are being replaced, while the new production capability is coming on line. For these reasons, we are urging a larger, more flexible, and more fully manned security assistance program.

b. Trends in Security Assistance

Security assistance has historically played a prominent role in U.S. foreign and defense policy. Virtually all major international events involving the U.S. since World War II have included our providing security assistance to countries on the front lines of conflict -- from European rearmament after the war, to the defense of Southwest Asia in more recent times. Most countries participating in the program have done so for many years.

(1) Recent Evolution of Security Assistance Programs

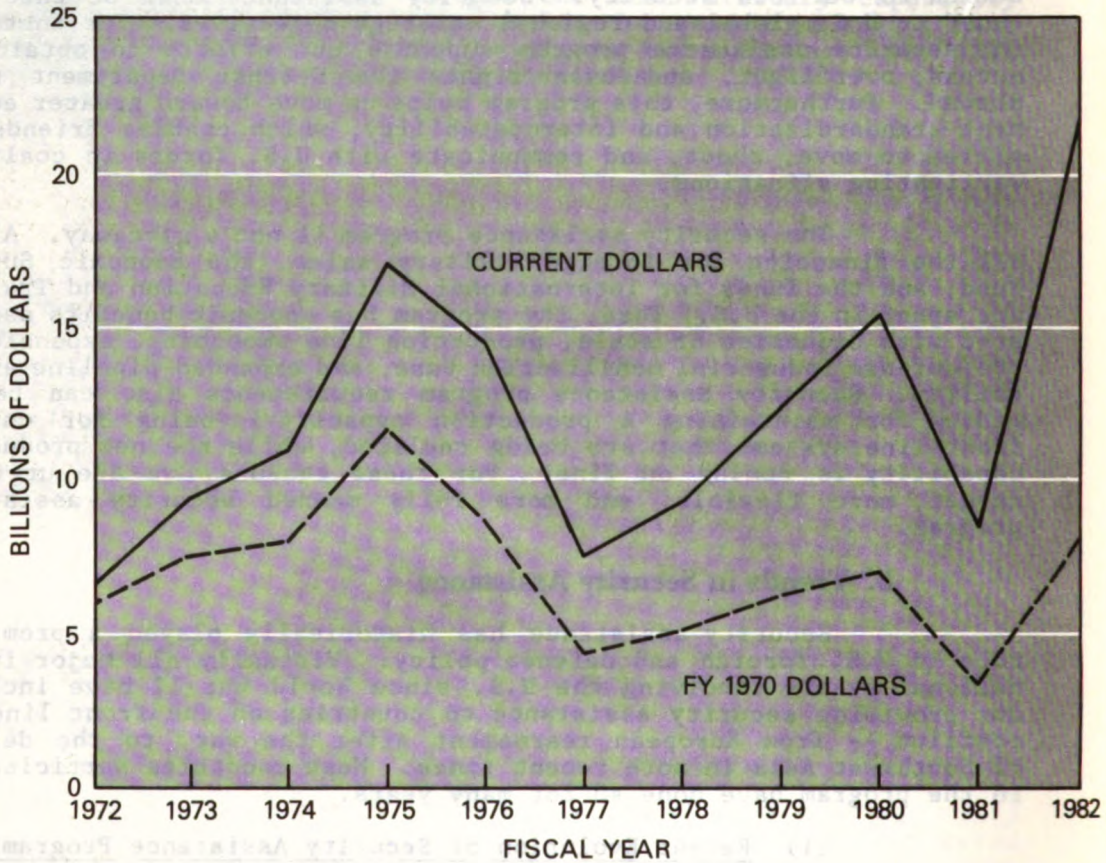
During the past decade, there has been little real growth in the monetary value of security assistance, including arms transfers, as can be seen in Chart III.M.1. The dollar value of U.S. transfers and the number of major weapon systems supplied to foreign governments have not risen in real terms. Although the value of U.S. arms transfers has been increasing in current dollar terms, this has not translated into equivalent increases in equipment transfers.

(2) Future Trends

The low level of U.S. financing, the stiff terms of that financing, the high cost of military equipment, and weaknesses in the international economy will inhibit or delay certain countries from seeking new military procurements. Other major suppliers can provide alternatives to U.S. assistance; however, given the quality of our equipment, the continuity of our support, and the quality of our training, plus a strong desire by many countries to be associated

Chart III.M.1

U.S. MILITARY SALES AND GRANTS WORLDWIDE



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with the U.S., the worldwide demand for U.S. security assistance will continue. We expect that our ability to respond to these countries' needs will, in the face of chronic economic shortfalls abroad, require more grant and concessional funding.

Overall, we foresee the need for a steady growth in security assistance. At the same time, we will need more and better planning with foreign governments to make best use of scarce resources to achieve sensible defense postures. Situations such as the conflict in Lebanon last year will also create the need for new or expanded programs. We need to improve our flexibility to respond to these continually arising situations. We may also propose creative approaches to meeting our funding and equipment requirements.

(3) Soviet Security Assistance Activities

The U.S. is not the leading arms supplier in the world. In the past few years, the Soviet Union has matched or exceeded the U.S. in the value of arms sales, in the number of foreign military nationals trained, and in the number of military technicians serving in Third World countries (a 20:1 ratio). Between 1977 and 1981, the Soviets exported far more major weapon systems to the Third World than we did. Some examples are shown in Table III.M.1. These arms, shipped to countries like Syria and Libya, pose major threats to neighboring countries. Although these trends do not mean we should enable countries we support to match their Soviet-equipped antagonists weapon-for-weapon or advisor-for-advisor, they do indicate that we must improve the quality of our programs. As in other defense areas, the qualitative superiority of U.S. security assistance must compensate for quantitative inferiority.

TABLE III.M.1

Soviet and U.S. Arms Deliveries to the Third World

(1977-81)

	<u>USSR</u>	<u>U.S.</u>
Tanks and SP Guns	7,065	3,220
Artillery	9,570	3,155
Combat Aircraft	2,525	955
Surface-to-Air Missiles	11,680	7,860
Helicopters	910	225

SOURCE: Conventional Arms Transfers in the Third World, 1972-81, August 1982, U.S. Department of State.

2. FY 1984 Program

a. DoD-Administered Programs

The Secretary of State, under the guidance and direction of the President, has the statutory responsibility to determine the direction and extent of the annual security assistance program

and to provide supervisory control of each program area. This includes integrating security assistance programs and foreign sales with other defense and foreign policy actions and objectives. For its part, the Defense Department must release equipment, provide for production, and implement the program. Moreover, as we have said, the security assistance program dovetails with our national security objectives and strategy. Therefore, the Defense Department has a vested interest in the program.

The Department of Defense administers the following programs:

(1) Military Assistance Program (MAP)

MAP provides defense articles and services, other than training, to eligible governments on a grant basis. This program was being phased out. However, some grant funds were made available by Congress in FY 1982 and FY 1983, and we furnished these to economically hard-pressed countries important to U.S. security interests. For FY 1984, we are proposing \$650.8 million in MAP funds for more than twenty countries, \$46 million for general costs, and a \$50 million reimbursement to DoD for grant emergency assistance. We are also proposing \$167 million as part of an FY 1983 Supplemental request, \$25 million of which would reimburse DoD for past emergency drawdowns.

(2) Foreign Military Sales (FMS)

Under the FMS program, the Department of Defense sells articles, services, and training to foreign governments on a direct cash basis. At the end of 1982, more than 100 countries (and three intergovernmental organizations) were authorized to procure through this program. A 3% surcharge is added to FMS sales to finance the program.

(3) Foreign Military Sales Credit Financing

FMS credit financing provides direct credits and guaranteed loans through the Federal Financing Bank (FFB). The latter are guaranteed by the Department of Defense and let at prevailing interest rates. These credits allow recipients to purchase equipment or services from the U.S. government or directly from U.S. contractors. We are recommending \$5.4 billion in FMS credits in FY 1984 for more than 40 countries, including \$1.0 billion in forgiven credits for Israel (\$550 million) and Egypt (\$450 million). Eighty-four per cent of the guaranteed credits are proposed for seven countries -- Israel, Egypt, Turkey, Greece, Spain, Pakistan, and Korea. In our FY 1983 Supplemental request, we are proposing \$525 million in guaranteed credits to meet critical requirements unfunded in the FY 1983 Continuing Resolution Authority (CRA).

(4) International Military Education and Training Program (IMET)

Through IMET, the Department of Defense provides training and training support to foreign military personnel as grant assistance. For FY 1984, we are proposing an IMET program of \$56.5 million to fund students from more than 80 countries. This is an increase of roughly \$11.5 million over the level in the FY 1983 CRA. Another \$1 million is being proposed in the FY 1983 Supplemental request.

b. Programs not Administered by DoD

There are other security assistance programs related to those administered by the Department of Defense but developed and implemented by the Department of State.

The Economic Support Fund (ESF) program is administered by the Agency for International Development (AID) under the direction of the Department of State. ESF is programmed for countries in which we have a special security or political interest, and funds may be designated as either grant or loan assistance. These funds are for direct cash transfers, commodity import transfers, and project assistance. In many cases, they complement ongoing development assistance programs.

Peacekeeping Operations (PKO) funds are administered by the Department of State and enable the U.S. to participate in voluntary multilateral operations set up to manage and reduce conflicts. These include the Multinational Force and Observers in the Sinai, the Multinational Force (MNF) in Lebanon, and the U.N. Force in Cyprus. We are also requesting funds for a program to combat international terrorist activities.

Finally, commercial sales of defense articles and services consist of direct exports by private firms to foreign governments of items approved by the Office of Munitions Control in the Department of State, in coordination with the Defense Department. The value of commercial license approvals has been rising in recent years and actual exports have also increased.

c. Security Assistance Programs by Type

When combined, the total security assistance program request for FY 1984 equals \$9.2 billion. Upon the subtraction of guaranteed loans, which are off-budget, this translates into a \$4.8 billion request in budget authority terms. These program proposals represent steady real growth over the FY 1982 and FY 1983 CRA levels. Overall, the FY 1984 request amounts to a 17.7% increase over the FY 1983 CRA program levels and a 20% increase in the critical military grant portion (forgiven credits, MAP, and IMET). We are also requesting a Supplemental appropriation of \$987.5 million in FY 1983. Less than half (\$462.5 million) of this request will be for on-budget funds, the remainder (\$525 million) in guaranteed credits. We are proposing \$251 million of this request for Lebanon to assist in the modernization of the Lebanese Armed Forces and to ease that beleaguered nation back to normalcy. The remaining funds (\$736.5 million) are needed to narrow the gap between known program requirements and the reduced funding levels under the FY 1983 CRA. Table III.M.2 shows the individual program areas.

TABLE III.M.2

Security Assistance Program
(Dollars in Millions)

	FY 1982	FY 1983		FY 1984
	<u>Actual</u>	<u>CRA</u> ^{1/}	<u>Supplemental</u>	<u>Proposed</u>
FMS Credit Financing	3,883.5	4,813.0	525.0	5,436.0
Guaranteed	3,083.5	3,638.0	525.0	4,436.0
Direct (Forgiven)	800.0	1,175.0	--	1,000.0
MAP	195.0	290.0	167.0 ^{2/}	751.8 ^{2/}
IMET	42.0	45.0	1.0	56.5
ESF	2,914.0	2,661.0	294.5	2,949.0
PKO	151.0	31.1	--	46.2

^{1/} CRA: Continuing Resolution Authority

^{2/} Includes \$50 million for MAP drawdown of DoD articles and services under the provisions of Section 506a of the Foreign Assistance Act in FY 1984 and \$25 million in the FY 1983 Supplemental.

d. Security Assistance by Strategic Objectives

The security assistance program has evolved over time on a country-by-country basis. Our decisions to enter a program with a country at any given time are driven by our perceived strategic interests at the time. In the past, we grouped the countries covered by our security assistance request along the usual regional lines. These regional divisions represented the five major nation groupings in the Department of State and the Department of Defense: Europe/NATO, Near East/South Asia, East Asia/Pacific, Inter-America, and Africa. This obscured the strategic goals we have been pursuing and substituted artificial global groupings for policy-based objectives.

Consequently, our FY 1984 request continues the process, established with the FY 1983 request, of explaining the proposal in terms of strategic objectives that often transcend normal regional boundaries. Given the diversity of the international system, it is understandable that we should have multiple goals -- some more pressing than others, some requiring different funding mixes, and others requiring continued but careful nurturing to forestall adverse developments. These strategic objectives are summarized in the following sections.

(1) Middle East Peace

Our policy in the Middle East is designed to pursue several interrelated objectives. These include the search for a lasting peace among all the states in the region, especially a reduction of the confrontation between Israel and regional Arab states. It also seeks to enhance the security of our friends in the area against regional threats, whether they are local in origin or inspired by Soviet pressures or through Soviet surrogates. In general, our assistance in the Middle East area is predicated on the principle of self interest: if states in this region are independent, stable, strong, and moderate in their orientation, our security interests

will be enhanced and the Soviets will be denied opportunities to exert their influence in the region.

Funding to further these strategic objectives comprises half of the security assistance proposal and more than half of the FMS credit request for FY 1984. This includes major programs in Egypt (\$1.3 billion) and Israel (\$1.7 billion). All the forgiven FMS credits would also go to these two countries. About half the Economic Support Funds would also be applied to furthering these objectives.

(2) European Defense

U.S. security assistance to the Mediterranean/Southern Tier countries in Europe/NATO supports our common effort to deter aggression and cope with threats to the Alliance within the larger NATO region and to encourage cooperative efforts in areas of common interest outside the geographic boundaries of the Alliance. Next to North America, Europe remains the most important strategic region for defense planning, since it is on the front line with the Soviet Bloc, and our assistance is necessary to enable member countries to acquire the equipment, training, and other services needed to strengthen the common defense.

Turkey lies at the nexus of our NATO, Southwest Asia, and Middle East strategies and must be assisted accordingly. The Administration is proposing an FY 1984 total of \$755 million to help Turkey modernize its armed forces. Both FMSCR and MAP grants for Turkey represent sizable increases over FY 1983. Turkey faces potentially grave security threats from several directions and requires large, well-equipped, and modernized forces to defend its territory and to meet its NATO commitments.

(3) Caribbean Basin Development

The security assistance proposed for the Caribbean Basin countries is designed to complement parallel initiatives in economic assistance and trade incentives. Our programs seek to assist in the development of the kind of security environment in which real sociopolitical progress and economic growth can take place.

In Central America, we are proposing a significant increase over FY 1983 levels. This includes increases in MAP grants for Honduras, FMS credits and MAP grants for El Salvador, and a new FMS credit program for Guatemala. Each country has been forced to cope with the internal and cross-border violence and turmoil that has spread throughout the region.

In the economically troubled Caribbean, our major effort is to provide grant assistance to those nations whose weakened economies make them especially vulnerable to regional and extra-regional pressures. We are proposing a sizable increase over FY 1983, a substantial portion of which is in MAP grants. An ESF proposal for \$398 million complements the military assistance.

(4) Southwest Asia/Persian Gulf Self Defense and Access

The energy produced in and exported from this region continues to be the lifeblood of the free world and a key determinant of its growth and stability. Our program recommendation, along with our arms transfers to the more affluent regional states, is based on

the need for them to improve their abilities to defend themselves, especially against air attacks, and on the need for continued access to the region. Our security assistance programs with Oman and Somalia are tied closely to agreements covering access to air and port facilities necessary for getting rapid deployment forces to the region in emergencies. We are recommending MAP grants for the Sudan and, outside the immediate region, sizable programs for Morocco and Tunisia, which face chronic threats from Libya or Libyan-equipped forces. Morocco provides crucial en route access to Southwest Asia. This year's portion of our multiyear program with Pakistan (\$300 million in credits, \$225 million in ESF) will help it to deter Soviet forces in Afghanistan by continuing its military modernization program.

We believe that the \$507 million in FMS credits and the proposed increase in MAP grants is the minimum necessary to further these objectives.

(5) Pacific Defense Efforts

We have had long-standing treaty relationships with several countries in this region, including the Philippines, where our unhampered use of base facilities supports defense objectives both in the Far East and in Southwest Asia. Economic and commercial interests throughout the area remain important to the U.S. and to our friends, and it remains an important task of the U.S. to ensure that the vital sea lanes connecting the Indian Ocean and the Pacific remain open.

More than half our \$436.5 million FMS request for the region is earmarked for the force modernization program in Korea (\$230 million), with the remaining major programs planned for the Philippines (\$50 million), Indonesia (\$50 million), and Thailand (\$94 million), which faces a spill-over of violence from Vietnamese forces in Kampuchea.

(6) Southern African Stability

Our security assistance recommendations for Southern Africa are aimed primarily at furthering the peace process in Namibia, ensuring continued access to critical raw materials throughout the region, and assisting Zaire to stabilize its economy (with ESF) and cope with episodic threats from insurgents operating across its borders. Although modest in funding terms (almost \$180 million in FMS, MAP, and ESF), the strategic objectives for the region are significant elements in U.S.-African relationships.

(7) West African Stability

As with our strategy in Southwest Asia, we are seeking to ensure that we and our friends have reliable access to oil from energy exporters in this region. We also plan to assist those countries resisting threats and other pressures from Libya. In the case of Liberia, we are recommending a sizable ESF program (\$35 million) to help it through a severe financial crisis.

(8) Other Strategic Objectives

We are proposing funding for strategic objectives elsewhere, especially in non-industrialized countries in South Asia, Africa, and South America. Several of these countries are in desperate

need of both economic and military assistance since they are grappling directly or indirectly with local conflicts and at the same time coping with troubled economies. Many of these states hold potentially vast reserves of untapped mineral resources.

TABLE III.M.3

Security Assistance By Strategic Objective
(\$ Millions)

<u>Strategic Objective</u>	<u>FMS/Grant</u>	<u>FMS/Loan</u>	<u>MAP</u>	<u>IMET</u>
Middle East	1,000	2,130	--	4.8
Europe	--	1,250	290	11.7
Caribbean Basin	--	45	109.8	5.1
Southwest Asia/ Persian Gulf	--	507	220	10.2
Pacific	--	436.5	5	9.4
Southern Africa	--	12	12	1.9
West Africa	--	11	19	2.8
Others	--	45	--	10.2
Miscellaneous	--	--	96	0.4
Totals	1,000	4,436.5	751.8	56.5

e. Advanced Procurement Planning: The Special Defense Acquisition Fund (SDAF)

The SDAF was established in FY 1982 to enable procurement of high-demand military equipment and services in advance of actual foreign requests. The purpose of the SDAF is to improve the quality of our responsiveness to unanticipated foreign requests and to provide quick deliveries in emergency situations. When fully capitalized, the SDAF will cut down on procurement lead times and minimize the number of drawdowns from U.S. military stocks, thereby reducing adverse effects on the readiness of our own forces.

At present, the SDAF is funded entirely from recoupments of non-recurring RDT&E costs and asset use charges.

Although obligations were limited to only \$125 million in FY 1982 and another \$125 million in FY 1983, this initial capitalization provides a minimum base for making the SDAF truly effective in the future. We need to expand the sources of capitalization and put our authority to obligate monies from the fund on a continuing basis.

3. Conclusion

There are few signs today that the international security environment will improve to the point where our security assistance

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APPENDICES

...systems, we anticipate that foreign needs
...forces will continue to grow. The
...following a sizable increase in
...concessional elements of our
... If we are to be responsive, given the
...and economic situations most of these
... DoD's budget requests.
... Treasury, are almost all spent in the
... and further the strategic interests abroad. In terms
... security interests, critical foreign
... in the defense
... fully committed to necessary growth
... because we believe the program is one
... of the most indispensable
... preserving our national security.

APPENDICES

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What we are proposing is a flexibility to arrive back after absorbing the first blow. This means we have to have and maintain a second strike force. Such a force should have sufficient flexibility to permit a choice of strategies, particularly an ability to (1) strike back decisively at the major Soviet target areas simultaneously or (2) strike back first at the Soviet nuclear bases, missile sites, and other military installations, and then, if necessary, strike back at the Soviet urban and industrial complex in a controlled and deliberate way.

In talking about global nuclear war, the Soviet leaders always say that they would arrive at the better complex of our military power including government and productive system, leaving our cities. If they were to do so, we would, of course, have no alternatives but to retaliate in kind. For we have no way of knowing whether they would actually do so. It would certainly be in their interest as well as ours to try to limit the terrible consequences of a nuclear exchange. By building into our forces a flexible capability, we at least eliminate one of the ways in which the Soviet Union could win. Such a capability would also be a deterrent to any Soviet attempt to avoid attack against our cities in a first strike. We want to give them a better alternative. Whether they would accept it in the event of a global nuclear war, we do not say. Considering what is at stake, we believe it is worth the special effort on our part to have this option."

APPENDIX A

-- VI 1964 Annual Report, January 24, 1965, pp. 28-30.

If anything, the need for systems which enable us to respond, and react then escalation to all-out nuclear war, or even to prevent the war from escalating to all-out nuclear war, is more important than ever. The Soviet Union now has the capability to its missile force to conduct selective attacks against targets other than cities. This gives us a new obligation, if we are to ensure the credibility of our strategic deterrent, to be certain that we have a comparable capability in our strategic systems and in our targeting doctrine, and to be certain that the world has no misunderstanding on this point.

But, if for whatever reason, deterrence should fail, we want to have the planning flexibility to be able to respond selectively to the attack in such a way as to (1) limit the amount of uncontrollable escalation, and (2) hit meaningful targets with a sufficient accuracy-yield combination to destroy only the intended target and to avoid widespread collateral damage. If a nuclear day should occur -- and we fervently believe it will not -- in order to protect American cities and the cities of our Allies, we shall give you the wartime period upon reserving our "assured destruction" force and proceeding, through intra-war deterrence, any potential foe not to attack cities. It is through these means that we hope to prevent massive destruction even in the cataclysmic circumstances of nuclear war."

-- VI 1973 Annual Report, March, 1974, pp. A-5.

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APPENDIX A

Excerpts from Previous Annual Reports of the
Secretary of Defense Related to "Flexible Response"

"What we are proposing is a capability to strike back after absorbing the first blow. This means we have to build and maintain a second strike force. Such a force should have sufficient flexibility to permit a choice of strategies, particularly an ability to: (1) strike back decisively at the entire Soviet target system simultaneously or (2) strike back first at the Soviet bomber bases, missile sites, and other military installations associated with their long-range nuclear forces to reduce the power of any follow-on attack -- and then, if necessary, strike back at the Soviet urban and industrial complex in a controlled and deliberate way.

In talking about global nuclear war, the Soviet leaders always say that they would strike at the entire complex of our military power including government and production center, meaning our cities. If they were to do so, we would, of course, have no alternatives but to retaliate in kind. But we have no way of knowing whether they would actually do so. It would certainly be in their interest as well as ours to try to limit the terrible consequences of a nuclear exchange. By building into our forces a flexible capability, we at least eliminate the prospect that we could strike back in only one way, namely, against the entire Soviet target system including their cities. Such a prospect would give the Soviet Union no incentive to withhold attack against our cities in a first strike. We want to give them a better alternative. Whether they would accept it in the crisis of a global nuclear war, no one can say. Considering what is at stake, we believe it is worth the additional effort on our part to have this option."

-- FY 1964 Annual Report, January 30, 1963, pp. 28-30.

"If anything, the need for options other than suicide or surrender, and other than escalation to all out nuclear war, is more important for us today than it was in 1960, because of the growth of the capabilities possessed by other powers... The Soviet Union now has the capability in its missile forces to undertake selective attacks against targets other than cities. This poses for us an obligation, if we are to ensure the credibility of our strategic deterrent, to be certain that we have a comparable capability in our strategic systems and in our targeting doctrine, and to be certain that the USSR has no misunderstanding on this point....

But, if for whatever reason, deterrence should fail, we want to have the planning flexibility to be able to respond selectively to the attack in such a way as to (1) limit the chances of uncontrollable escalation, and (2) hit meaningful targets with a sufficient accuracy-yield combination to destroy only the intended target and to avoid widespread collateral damage. If a nuclear clash should occur -- and we fervently believe it will not -- in order to protect American cities and the cities of our Allies, we shall rely into the wartime period upon reserving our "assured destruction" force and persuading, through intra-war deterrence, any potential foe not to attack cities. It is through these means that we hope to prevent massive destruction even in the cataclysmic circumstances of nuclear war."

-- FY 1975 Annual Report, March, 1974, pp.4-5.

Table 1
 Appropriations of Defense FY by Appropriation
 (Dollars in Millions)

	FY 1973	FY 1975	FY 1980	FY 1982
Current Dollars				
Military Personnel	23,167	25,430	31,065	42,879
Soldiers Pay	3,889	7,326	11,920	16,945
Operation & Maintenance	21,282	28,848	62,605	62,011
Procurement	18,526	21,033	31,310	64,106
Research, Development, Test & Evaluation	7,584	9,520	699	20,103
Special Foreign Currency Program	12	3	7	3
Military Construction	1,262	2,147	259	4,885
Family Housing & Homeowners Assistance Program	859	1,234	554	2,219
Revolving & Management Funds	--	135	--	347
Indirects	--	--	--	568
Total - Direct Program (206)	76,502	95,605	119	217,616
Special Programs (206)				
Special Operations	34,273	40,005	200	34,802
Special Operations - Vietnam	10,097	12,006	196	16,069
Special Operations - Cambodia	14,538	52,479	1,079	65,178
Special Operations - Laos	49,638	40,600	166	51,972
Special Operations - Other	17,891	16,609	891	22,041
Special Operations - Other	31	5	0	3
Special Operations - Other	3,905	4,763	2,760	5,360
Special Operations - Other	4,853	2,205	1,989	2,617
Special Operations - Other	--	245	--	384
Special Operations - Other	--	--	--	464
Total - Direct Program (206)	130,127	173,018	185,534	279,248

(Dollars Totals may not add due to rounding.)

...clear that no course
...of nuclear weapons, on any
...could lead to victory.
...power to devastate the full
...the United States would have the option
...that would exact a pro-
...the Soviet leadership prizes
...nuclear and conventional
...to sustain a war. ...Our
...options, ranging from small
...nuclear weapons aimed at narrowly
...of our nuclear forces
...of targets."

U.S. Arms Control Report, January, 1981, pp. 39-40.

APPENDIX B

TABLE 1
 Department of Defense -- TOA by Appropriation
 (Dollars in Millions)

	FY 1972	FY 1976	FY 1980	FY 1982	FY 1983	FY 1984
Current Dollars						
Military Personnel	23,147	25,430	31,065	42,829	45,485	47,946
Retired Pay	3,889	7,326	11,920	14,940	16,155	16,806
Operation & Maintenance	21,242	28,848	46,605	62,011	66,817	74,005
Procurement	18,526	21,033	35,310	64,106	81,879	94,088
Research, Development, Test & Evaluation	7,584	9,520	13,499	20,103	22,805	29,622
Special Foreign Currency Program	12	3	7	3	4	3
Military Construction	1,262	2,147	2,259	4,881	4,487	5,973
Family Housing & Homeowners Assistance Program	839	1,254	1,554	2,219	2,564	2,836
Revolving & Management Funds	--	135	--	347	909	2,799
Undistributed	--	--	--	--	-650	--
Total - Direct Program (TOA)	76,502	95,695	142,219	211,438	240,455	274,078
Constant FY 1984 Dollars						
Military Personnel	54,773	45,005	42,800	44,802	45,756	47,946
Retired Pay	10,097	12,904	15,194	16,069	16,425	16,806
Operation & Maintenance	54,539	52,476	57,499	66,178	68,785	74,005
Procurement	46,094	40,606	46,166	71,972	86,733	94,088
Research, Development, Test & Evaluation	17,651	16,609	17,091	22,061	23,900	29,622
Special Foreign Currency Program	27	5	8	3	4	3
Military Construction	3,003	3,763	2,790	5,360	4,691	5,973
Family Housing & Homeowners Assistance Program	1,943	2,205	1,988	2,417	2,691	2,836
Revolving & Management Funds	--	245	--	384	958	2,799
Undistributed	--	--	--	--	-684	--
Total - Direct Program (TOA)	188,127	173,818	183,534	229,248	249,257	274,078

(NOTE: Totals may not add due to rounding.)

TABLE 2
 Department of Defense -- TOA by Major Force Program

	(Dollars in Millions)				
	FY 1972	FY 1976	FY 1980	FY 1982	FY 1984
<u>Current Dollars</u>					
Strategic Forces	7,158	7,155	11,092	15,339	20,649
General Purpose Forces	25,518	32,851	52,417	88,058	100,850
Intelligence & Communications	5,452	6,671	9,122	13,939	17,057
Airlift & Sealift	1,114	1,262	2,121	3,954	4,189
Guard and Reserve Forces	3,255	5,374	7,877	10,358	11,363
Research & Development	5,755	8,645	11,799	16,921	18,683
Central Supply & Maintenance	8,663	9,714	15,316	18,717	21,290
Training, Medical, Other General					
Personnel Activities	15,198	21,499	29,302	39,602	42,530
Administration & Associated					
Activities	1,737	2,260	2,531	3,643	3,081
Support of Other Nations	2,652	264	641	908	763
Total - Direct Program (TOA)	76,502	95,695	142,219	211,438	240,455
<u>Constant FY 1984 Dollars</u>					
Strategic Forces	18,074	13,404	14,351	16,734	21,604
General Purpose Forces	62,507	60,954	68,469	96,332	105,134
Intelligence & Communications	13,391	12,026	11,679	15,154	17,740
Airlift & Sealift	2,826	2,344	2,764	4,284	4,347
Guard and Reserve Forces	8,074	9,751	10,195	10,989	11,618
Research & Development	13,410	15,087	14,983	18,528	19,547
Central Supply & Maintenance	21,947	17,676	19,008	20,038	21,964
Training, Medical, Other General					
Personnel Activities	37,331	38,075	38,040	42,280	43,358
Administration & Associated					
Activities	4,252	4,038	3,217	3,907	3,150
Support of Other Nations	6,314	463	829	1,001	795
Total - Direct Program (TOA)	188,127	173,818	183,534	229,248	249,257

(NOTE: Totals may not add due to rounding.)

TABLE 3

Department of Defense - TOA by Component

(Dollars in Millions)

	<u>FY 1972</u>	<u>FY 1976</u>	<u>FY 1980</u>	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>
<u>Current Dollars</u>						
Department of the Army	22,094	23,759	34,571	52,173	57,771	65,364
Department of the Navy	24,041	31,360	47,085	68,792	81,936	86,875
Department of the Air Force	23,834	28,432	41,690	64,963	75,231	92,884
Defense Agencies/OSD/JCS	1,745	3,487	5,268	7,881	9,428	11,416
Defense-wide	4,788	8,657	13,605	17,629	16,088	17,539
Total - Direct Program TOA	76,502	95,695	142,219	211,438	240,455	274,078
<u>Constant FY 1984 Dollars</u>						
Department of the Army	52,553	41,909	44,858	56,281	59,581	65,364
Department of the Navy	59,052	57,727	60,664	74,837	85,257	86,875
Department of the Air Force	60,320	52,884	54,045	70,539	78,282	92,884
Defense Agencies/OSD/JCS	4,016	6,048	6,614	8,585	9,783	11,416
Defense-wide	12,187	15,251	17,353	19,006	16,354	17,539
Total - Direct Program TOA	188,127	173,818	183,534	229,248	249,257	274,078

(NOTE: Totals may not add due to rounding.)

TABLE I
Department of Defense
General and Flag Officer Strengths

<u>Year</u>	<u>General and Flag Officers Strengths</u>	<u>General and Flag Officers Total % of Total Military</u>
1961	1,254	3.0
1962	1,303	3.4
1963	1,291	3.4
1964	1,294	3.4
1965	1,287	3.4
1966	1,308	3.3
1967	1,324	3.3
1968	1,333	3.3
1969	1,337	3.3
1970	1,337	3.3
1971	1,337	3.3
1972	1,324	3.3
1973	1,291	3.2
1974	1,249	3.2
1975	1,199	3.1
1976	1,184	3.1
1977	1,174	3.1
1978	1,152	3.1
1979	1,119	3.0
1980	1,114	3.0
1981	1,073	2.9
1982	1,073	2.9
<u>Unprogrammed</u>		
1983	1,073	2.9
1984	1,073	2.9

APPENDIX C

APPENDIX C

TABLE 1

Department of Defense

General and Flag Officer Strengths

<u>Actual</u>	<u>General and Flag Officer Strengths</u>	<u>General and Flag Officers Per 10,000 Total Military</u>
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
1977	1,174	5.7
1978	1,159	5.6
1979	1,119	5.4
1980	1,119	5.5
1981	1,118	5.4
1982	1,073	5.2
1982	1,073	5.1
<u>Programmed</u>		
1983	1,073	5.0
1984	1,073	4.9

*Estimated

TABLE 2
Department of Defense
Officer Strength - in Thousands

<u>Actual</u>	<u>Officer Strengths</u> ^{1/}	<u>Enlisted to</u> <u>Officer Ratio</u>
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
1977	279	6.5
1978	273	6.5
1979	273	6.4
1980	277	6.3
1981	282	6.3
1982	291	6.2
<u>Programmed</u>		
1983	298	6.1
1984	306	6.1

^{1/} Includes all officers on extended active duty.

TABLE 3

Department of DefenseManpower Levels

(End Year - In Thousands)

<u>Actual</u>	<u>Active Military</u> ^{1/}	<u>Civilians</u> ^{2/}	<u>Total</u>
1961	2,494	1,215*	3,709*
1962	2,808	1,244	4,052
1963	2,700	1,226	3,926
1964	2,687	1,176	3,863
1965	2,655	1,155	3,810
1966	3,094	1,261	4,355
1967	3,377	1,398	4,775
1968	3,547	1,393	4,940
1969	3,460	1,391	4,851
1970	3,066	1,265	4,331
1971	2,714	1,190	3,904
1972	2,322	1,159	3,481
1973	2,252	1,100	3,352
1974	2,161	1,109	3,270
1975	2,127	1,078	3,205
1976	2,081	1,047	3,128
1977	2,083	1,042	3,125
1978	2,074	1,022	3,096
1979	2,061	1,016	3,077
1980	2,050	990	3,040
1981	2,082	1,019	3,101
1982	2,109	1,030	3,139
<u>Programmed</u>			
1983	2,127	1,056*	3,183*
1984	2,165	1,072	3,237

^{1/} Excludes military personnel on active duty who are paid from Civil Works and Reserve Components appropriations.

^{2/} Direct and indirect hire. Excludes Civil Functions, special youth employment programs, and NSA employees.

*Estimated

TABLE 4

Active Duty Military Personnel, Reserve Component Military
Personnel, and Civilian Personnel Strength 1/

(End Years - In Thousands)

	<u>FY 1968</u>	<u>FY 1972</u>	<u>FY 1976</u>	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>
Active Duty Military								
Army	1,570	811	779	777	781	780	780	783
Navy	765	588	525	527	540	553	560	572
Marine Corps	307	198	192	188	191	192	195	197
Air Force	<u>905</u>	<u>726</u>	<u>585</u>	<u>558</u>	<u>570</u>	<u>583</u>	<u>592</u>	<u>613</u>
Total	3,547	2,322	2,081	2,050	2,082	2,108	2,127	2,165
Reserve Components (Selected Reserve)								
Army National Guard	389	388	362	367	389	408	417	421
Army Reserve	244	235	195	207	225	256	269	273
Naval Reserve	124	124	97	87	88	94	106	119
Marine Corps Reserve	47	41	30	35	37	40	40	42
Air National Guard	75	89	91	96	98	101	102	104
Air Force Reserve	<u>43</u>	<u>47</u>	<u>48</u>	<u>59</u>	<u>62</u>	<u>64</u>	<u>67</u>	<u>70</u>
Total	922	925	823	851	899	964	1,002	1,030
Direct Hire Civilian								
Army <u>2/</u>	462	367	329	312	318	322	332*	340
Navy	419	342	311	298	310	308	320*	323
Air Force <u>2/</u>	331	280	248	231	233	233	233*	236
Defense Agencies	<u>75</u>	<u>61</u>	<u>72</u>	<u>75</u>	<u>79</u>	<u>84</u>	<u>85*</u>	<u>86</u>
Total <u>2/</u>	1,287	1,050	960	916	940	947	969*	986

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

2/ 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 5

U.S. Military Personnel in Foreign Areas ^{1/}

(End-Year - In Thousands)

	<u>FY</u> <u>1968</u>	<u>FY</u> <u>1972</u>	<u>FY</u> <u>1976</u>	<u>FY</u> <u>1978</u>	<u>FY</u> <u>1979</u>	<u>FY</u> <u>1980</u>	<u>FY</u> <u>1981</u>	<u>FY</u> <u>1982</u>
Germany	225	210	213	234	239	244	248	256
Other Europe	66	62	61	61	61	65	64	67
Europe, Afloat	23	26	41	35	25	22	25	33
South Korea	67	41	39	42	39	39	38	39
Japan	79	64	45	46	46	46	46	51
Other Pacific	37	25	27	16	15	15	15	15
Pacific Afloat (including Southeast Asia)	94	51	24	26	22	15	25	33
Thailand	48	47	1	--	--	--	--	--
South Vietnam	534	47	--	--	--	--	--	--
Miscellaneous Foreign	<u>27</u>	<u>22</u>	<u>8</u>	<u>12</u>	<u>11</u>	<u>42</u>	<u>39</u>	<u>34</u>
Total	1,200	595	460	472	458	489	502	528

^{1/} Numbers may not add to totals due to rounding.

Table 2. Military Expenditures in Fiscal Years 1987-1989

(in billions of dollars)

	1987	1988	1989	1990	1991	1992	1993
Department of Defense	256	268	284	299	310	317	327
Other Federal Departments	63	64	65	66	67	68	69
State	33	33	33	33	33	33	33
Foreign Operations	28	28	28	28	28	28	28
Interest on National Debt	21	21	21	21	21	21	21
Interest on State and Local Debt	13	13	13	13	13	13	13
Interest on Federal Debt	32	32	32	32	32	32	32
Interest on Federal Reserve Bank Debt	22	22	22	22	22	22	22
Interest on Federal Reserve Bank Assets	22	22	22	22	22	22	22
Interest on Federal Reserve Bank Liabilities	22	22	22	22	22	22	22
Interest on Federal Reserve Bank Assets and Liabilities	44	44	44	44	44	44	44
Total	383	397	419	435	444	452	463

APPENDIX D

DEPARTMENT OF DEFENSE

STRATEGIC FORCES HIGHLIGHTS

	<u>FY 1972</u>	<u>FY 1976</u>	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>
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STRATEGIC OFFENSIVE

Land-Based ICBMS:

TITAN	54	54	52	43	34
MINUTEMAN	1,000	1,000	1,000	1,000	1,000

Strategic Bombers
 (Primary Aircraft Authorized):

B-52C/F/D	142	145	75	0	0
B-52G/H	255	241	241	241	241
FB-111	66	66	56	56	56

Fleet Ballistic Launchers:

POLARIS	464	240	--	--	--
POSEIDON (C-3 and C-4)	192	416	496	496	496
TRIDENT	--	--	48	72	120

STRATEGIC DEFENSIVE

Fighter Interceptor Squadrons:

Active:	8	5	4	4	3
F-106	--	--	1	1	2
F-15	--	19	--	--	--

Air National Guard:

F-4	--	2	5	5	7
F-101	6	5	--	--	--
F-102	9	2	--	--	--
F-106	2	6	5	5	3

Air Defense Batteries:

NIKE-HERCULES	40	--	--	--	--
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DEPARTMENT OF DEFENSE

GENERAL PURPOSE FORCES HIGHLIGHTS

FY 1972 FY 1976 FY 1982 FY 1983 FY 1984

LAND FORCES

Army Divisions:

Active 13 16 16 16 16
 Reserve 8 8 8 8 9

Marine Corps Divisions:

Active 3 3 3 3 3
 Reserve 1 1 1 1 1

TACTICAL AIR FORCES

Air Force Attack/Fighter Squadrons:

Active 66 74 80 80 81
 Reserve 32 37 41 43 43

Marine Corps Attack/Fighter Squadrons:

Active 25 25 28 27 28
 Reserve 8 8 8 7 8

Navy Attack/Fighter Squadrons:

Active 68 65 60 60 63
 Reserve 12 10 10 10 10

NAVAL FORCES

Active Fleet 596 422 439 434 443
 Naval Fleet Auxiliary Force 2 15 27 26 34
 Naval Reserve Force 53 60 43 35 36
 Other Ships (Active & NRF) 10 7 6 5 5
 Strategic Forces Ships 52 51 40 41 42
 Mobility Enhancement Ships -- -- 18 18 21

DEPARTMENT OF DEFENSE

AIRLIFT AND SEALIFT FORCE HIGHLIGHTS

	<u>FY 1972</u>	<u>FY 1976</u>	<u>FY 1982</u>	<u>FY 1983</u>	<u>FY 1984</u>
<u>STRATEGIC AIRLIFT 1/</u>					
C-5A	62	70	70	70	70
C-141	234	234	234	234	234
KC-10A	--	--	11	18	24
<u>TACTICAL AIRLIFT 1/</u>					
Air Force Active:	288	234	218	218	218
C-130	4	--	--	--	--
C-7A					
Air Force Reserve and National Guard:	188	262	288	294	302
C-130	32	64	16	3	3
C-123	32	51	32	16	--
C-7A	54	--	--	--	--
Other					
Active Navy and Marine Corps Tactical Support	134	90	38	47	47
Navy and Marine Corps Reserve Tactical Support	48	33	34	35	33
<u>SEALIFT</u>					
Ships, Active:	17	12	21	21	22
Tankers	24	19	14	14	14
Cargo and Stores Ships					
Controlled Fleet Charters:					
Tankers	21	14	10	10	10
Cargo	1	21	23	23	26
National Defense Reserve Fleet	100	139	181	183	189

1/ Primary Aircraft Authorized.

APPENDIX E

ACRONYMS

AAA: Anti-Aircraft Artillery
AAH: Advanced Attack Helicopter
AAO: Authorized Acquisition Objective
AAP: Affirmative Actions Program
AAW: Anti-Air Warfare
ABCCC: Airborne Command and Control Center
ABL: Armored Box Launchers
ABM: Anti-Ballistic Missile
ABRV: Advanced Ballistic Reentry Vehicle
ACCS: Air Command and Control System
ACDA: Arms Control and Disarmament Agency
ACE: Allied Command Europe
ACIP: Aviation Career Incentive Pay
ACR: Armored Cavalry Regiment
ACS: Artillery Computer System
AD: Destroyer Tender
ADCAP: Advanced Capability
ADM: Atomic Demolition Munitions
ADP: Automatic Data Processing
AEW&C: Airborne Early Warning and Control
AFAP: Artillery-fired Atomic Projectile
AFATDS: Advanced Field Artillery Tactical Data System
AFCEA: Armed Forces Communications and Electronics Association
AFLC: Air Force Logistics Command
AFRes: Air Force Reserve
AFSATCOM: Air Force Satellite Communications
AFQT: Armed Forces Qualification Test
AGFF: Frigate Research Ship
AGM: Air-to-Ground Missile
AGSS: Auxiliary Submarine
AH: Attack Helicopter
AHIP: Army Helicopter Improvement Program
AID: Agency for International Development
AIM: Air Intercept Missile
AIRS: Advanced Inertial Reference Sphere
ALCEP: AUTOSEVOCOM Life Cycle Extension Program
ALCM: Air-Launched Cruise Missile
ALCS: Airborne Launch Control System
ALMV: Air-Launched Miniature Vehicle
ALOC: Air Line of Communication
ALWT: Advanced Lightweight Torpedo
AMCM: Airborne Mine Countermeasure
AMHS: Automated Message Handling System
AMRAMM: Advanced Medium-Range Air-to-Air Missile
ANG: Air National Guard
ANZUS: Australia-New Zealand-U.S.
AOE: Multipurpose Stores Ship
APPSSA: Advanced Procurement Planning System for Security Assistance
AR: Repair Ship
ARS: Salvage Ship
AS: Submarine Tender Ship
ASARS: Advanced Synthetic Aperture Radar System
ASAS: All Source Analysis System
ASAT: Anti-Satellite
ASCM: Anti-Ship Cruise Missiles
ASM: Air-to-Surface Missile

ASPJ: Airborne Self-Protection Jammer
 ASROC: Anti-Submarine Rocket
 ASW: Anti-Submarine Warfare
 ASW/SOW: ASW Standoff Weapon
 ATB: Advanced Technology Bomber
 ATF: Advanced Tactical Fighter
 ATFD: Automated Tactical Fusion Division
 ATMG: Arms Transfer Management Group
 ATSD(R&O): Assistant to the Secretary of Defense
 (Review and Oversight)
 AUTODIN: Automated Digital Network
 AUTOSEVOCOM: Automatic Secure Voice Communication
 AUTOVON: Automatic Voice Network
 AVCAL: Aviation Consolidated Allowance Lists
 AVF: All-Volunteer Force
 AVM: Guided Missile Research Ship
 AVT: Training Carrier
 AWACS: Airborne Warning and Control System
 AWDS: Automated Weather Distribution System
 AWS: Advanced Warning System

 BA: Budget Authority
 BAS: Basic Allowance for Subsistence
 BAQ: Basic Allowance for Quarters
 BB: Battleship
 BCS: Battery Computer System
 BDS: Battlefield Data System
 BEA: Bureau of Economic Analysis
 BETA: Battlefield Exploitation and Target Acquisition
 BFVS: Bradley Fighting Vehicle System
 BLSS: Base Level Supply Sufficiency
 BMAR: Base Maintenance and Repair
 BMD: Ballistic Missile Defense
 BMEWS: Ballistic Missile Early Warning System
 BOS: Base Operating Support
 BVR: Beyond Visual Range

 C2: Command and Control
 C3: Command, Control, and Communications
 C3CM: Command, Control, and Communications
 Countermeasures
 C3I: Command, Control, Communications, and Intelligence
 CAMDS: Chemical Agent Munitions Disposal System
 CADIN: Continental Air Defense Integration North
 CAT: Conventional Arms Transfer
 CBAC: Combat Brigade Air Cavalry
 CCL: Commodity Control List
 CCP: Consolidated Cryptologic Program
 CEP: Circular Error, Probable
 CEWI: Combat Electronic Warfare Intelligence
 CFV: Cavalry Fighting Vehicle
 CG: Guided-Missile Cruisers
 CGN: Nuclear-Powered Guided Missile Cruisers
 CH: Cargo Helicopter
 CHAMPUS: Civilian Health and Medical Program of the
 Uniformed Services
 CINC: Commander-in-Chief

CINCCENT: Command-in-Chief, United States Central Command
 CINCEUR: Commander-in-Chief, European Command
 CINCLANT: Commander-in-Chief, Atlantic
 CINCPAC: Commander-in-Chief, Pacific Command
 CINCSPACE: Commander-in-Chief, Strategic Air Command
 CIS: Combat Identification System, Communication Industrial Services
 CIWS: Close-In Weapon System
 CMC: Cruise Missile Carrier (Aircraft)
 CMCHS: Civilian-Military Contingency Hospital System
 CMMS: Congressionally Mandated Mobility Study
 CMO: Crisis Management Organization
 CNAD: Conference of National Armaments Directors
 CNI: Communications/Navigation/Information
 COB: Collocated Operating Base
 COCOM: Coordinating Committee for Multilateral Export Controls
 COI: Community of Interest
 COMINT: Communications Intelligence
 COMEX: Communications Exercise
 COMSATCOM: Commercial Satellite Communications System
 COMSEC: Communications Security
 CONUS: Continental United States
 COOP: Continuity of Operation Plan
 COR: Command Operationally Ready
 CORE: Contingency Response Program
 COTS: Container Over-the-Shore
 CP: Command Post
 CPA: Continuous Patrol Aircraft
 CPI: Consumer Price Index
 CPX: Command Post Exercise
 CRA: Continuing Resolution Authority
 CRAF: Civil Reserve Air Fleet
 CSB: Closely Spaced Basing
 CSEC: Computer Security Evaluation Center
 CSOC: Consolidated Space Operations Center
 CSS: Combat Service Support
 CSW: Conventional Standoff Weapon
 CSWS: Corps Support Weapon System
 CUCV: Commercial Utility and Cargo Vehicle
 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
 DAS: Defense Audit Service
 DB: Deep Basing (underground)
 DCA: Dual-Capable Aircraft, Defense Communications Agency
 DCI: Director of Central Intelligence
 DCIS: Defense Criminal Investigation Service
 DCS: Defense Communications System
 DD: Destroyer
 DDG: Guided Missile Destroyer
 DDGX: Guided Missile Destroyer
 DDN: Defense Data Network
 DEB: Digital European Backbone

DECM: Defense Electronic Countermeasures
 DEERS: Defense Enrollment/Eligibility Reporting System
 DEW: Distant Early Warning (Line)
 DG: Defense Guidance
 DIA: Defense Intelligence Agency
 DIVAD: Division Air Defense (gun)
 DLA: Defense Logistics Agency
 DMIS: Data Management Information System
 DMSP: Defense Meteorological Satellite Program
 DNA: Defense Nuclear Agency
 DoD: Department of Defense
 DoDFCI: Department of Defense Foreign Counterintelligence Program
 DoE: Department of Energy
 DOPMA: Defense Officer Personnel Management Act
 DPC: Defense Planning Committee
 DPEM: Depot Purchased Equipment Management
 DPS: Defense Priorities System
 DRB: Defense Resources Board
 DRSP: Defense Reconnaissance Support Program
 DSAA: Defense Security Assistance Agency
 DSARC: Defense Systems Acquisition Review Council
 DSB: Defense Science Board
 DSCS: Defense Satellite Communication System
 DSN: Defense Switched Network
 DSP: Defense Support Program
 DTDMA: Distributed Time Division Multiple Access

 EAM: Emergency Action Message
 EC: Electronic Combat
 ECCCS: European Command and Control Console System
 ECCM: Electronic Counter-Countermeasures
 ECIP: Energy Conservation Investment Program
 ECM: Electronic Countermeasures
 ECWG: Emergency Communications Working Group
 EDEW: Enhanced Distant Early Warning
 EDS: European Distribution System
 EHF: Extremely High Frequency
 ELINT: Electronic Intelligence
 EMP: Electromagnetic Pulse
 EMPB: Emergency Mobilization Preparedness Board
 ENSCE: Enemy Situation Correlation Element
 ENTPS: Expanded Near-Term Prepositioning Ships
 EOC: Engineered Operating Cycle
 EOH: Equipment on Hand
 EPA: Environmental Protection Agency
 ER: Enhanced Radiation
 ER/RB: Enhanced Radiation/Reduced Blast
 ESF: Economic Support Fund
 ETACCS: European Theater Air Command and Control Study
 ETS: European Telephone System
 EURCOM: European Command
 EW: Electronic Warfare

 FAA: Federal Aviation Agency
 FAAD: Forward Area Air Defense
 FBM: Fleet Ballistic Missile
 FDP: Funded Delivery Period

FEMA: Federal Emergency Management Agency
 FFB: Federal Financing Bank
 FFG: Guided Missile Frigate
 FLIR: Forward-Looking Infrared
 FLTSATCOM: Fleet Satellite Communications System
 FMC: Fully Mission Capable
 FMS: Foreign Military Sales
 FMSCR: Foreign Military Sales Credit Financing
 FOC: Full Operational Capability
 FORDTIS: Foreign Disclosure and Technical Information System
 FRG: Federal Republic of Germany
 FRR: Force Readiness Report
 FRS: Fleet Readiness Squadron
 FSTS: Federal Secure Telephone System
 FTS: Fleet Training Squadron
 FTX: Field Training Exercise
 FVS: Fighting Vehicle System
 FWE: Foreign Weapons Evaluation
 FWS: Federal Wage Systems
 FY: Fiscal Year
 FYDP: Five-Year Defense Program

GDIP: General Defense Intelligence Program
 GDP: Gross Domestic Product
 GLCM: Ground-Launched Cruise Missile
 GLLD: Ground Laser Locator Designator
 GMCC: Ground Mobile Command Center
 GME: Greater Middle East
 GMF: Ground Mobile Forces
 GNP: Gross National Product
 GPS: Global Positioning System
 GWEN: Ground Wave Emergency Network

HARM: High Speed Anti-Radiation Missile
 HEMTT: Heavy Expanded Mobility Tactical Truck
 HF: High Frequency
 HMMWV: High Mobility Multipurpose Wheeled Vehicle
 HNS: Host Nation Support
 HTLD: High Technology Light Division
 HTTB: High Technology Test Bed

ICBM: Intercontinental Ballistic Missile
 ICC: Initial Communications Connectivity
 ICM: Improved Conventional Munition
 IFF: Identification, Friend or Foe
 IFV: Infantry Fighting Vehicle
 IIR: Imaging Infrared
 ILAW: Improved Light Anti-Armor Weapon
 IMA: Individual Mobilization Augmentees or
 Intermediate Maintenance Activity
 IMET: International Military Education and Training
 Program
 INF: Intermediate-Range Nuclear Forces
 ING: Inactive National Guard

INS: Inertial Navigation System
 IOC: Initial Operational Capability
 IONDS: Integrated Operational Nuclear Detonation
 Detection System
 IO/PG: Indian Ocean/Persian Gulf
 IR: Infrared
 IRBM: Intermediate-Range Ballistic Missile
 IRETS: Infantry Remote Targeting System
 IRMC: Information Resource Management Council
 IRR: Individual Ready Reserve
 ITAR: International Traffic in Arms Regulations
 ITEP: Interim Tactical ELINT Processor
 ITSS: Integrated Tactical Surveillance System
 IUS: Inertial Upper Stage

JCMC: Joint Crisis Management Capability
 JCS: Joint Chiefs of Staff
 JCSE: Joint Communications Support Element
 JINTACCS: Joint Interoperability of Tactical Command
 and Control Systems
 JLSP: Joint Logistics Support Plan
 JOT&E: Joint Operational Test and Evaluation
 JSTARS: Joint Surveillance and Target Attack Radar System
 JTACMS: Joint Tactical Missile System
 JT&E: Joint Test and Evaluation
 JTFF: Joint Tactical Fusion Program
 JTIDS: Joint Tactical Information Distribution System
 JVX: Joint Services Advanced Vertical Lift Aircraft

Km: Kilometers
 Kt: Kilotons

LADS: Light Air Defense System
 LAMPS: Light Airborne Multipurpose System
 LANTIRN: Low-Altitude Navigation and Targeting Infrared
 System for Night
 LAV: Light Armored Vehicle
 LCAC: Landing Craft, Air Cushion
 LEASAT: Leased Satellite System
 LF: Low Frequency
 LGB: Laser-Guided Bomb
 LHA: Amphibious Assault Ship
 LHD: Multipurpose Amphibious Assault Ship
 LKA: Amphibious Cargo Ship
 LLLGB: Low Level Laser-Guided Bomb
 LOAD: Low Altitude Defense Program
 LOC: Line of Communication
 LOCE: Limited Operational Capability for Europe
 LODE: Large Optics Demonstration Experiment
 LOGMARS: Logistic Applications of Automated Marking and
 Reading Symbols
 LPA: Amphibious Troop Transport Ship
 LPD: Amphibious Transport, Dock
 LPDX: Landing Platform Dock

LPH: Landing Platform Helicopter
 LRINF: Longer-Range Intermediate-Range Nuclear Forces
 LSD: Amphibious Ship, Dock
 LST: Amphibious Ship, Tank
 LTDP: Long-Term Defense Program
 LVS: Logistics Vehicle System
 LVT: Assault Amphibian Vehicle

MAB: Marine Amphibious Brigade
 MAC: Military Airlift Command
 MAF: Marine Amphibious Force
 MAGTF: Marine Air-Ground Task Force
 MAP: Military Assistance Program
 MASF: Military Assistance Service Funded Grant Program
 MAU: Marine Amphibious Unit
 MBFR: Mutual and Balanced Force Reductions
 MC: Mission-Capable
 MCC: Mobile Command Centers
 MCE: Modular Control Equipment
 MCM: Mine Countermeasures
 MCP: Military Construction Program
 MCTL: Military Critical Technology List
 MDS: Meteorological Data System
 MECOBO: Military Export Cargo Offering and Booking Office
 MENS: Mission Element Need Statement
 MEPCOM: Military Enlistment Processing Command
 MFO: Multinational Force Observers
 MGT: Mobile (Truck-Mounted) Ground Terminal
 MIDS: Multifunctional Information Distribution System
 MIFASS: Marine Integrated Fire and Air Support Systems
 MiG: Mikoyan Aircraft
 MILCON: Military Construction
 MILES: Multiple Integrated Laser Engagement System
 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
 MNF: Multinational Force
 MODFLIR: Modular Forward-Looking Infrared Seeker
 MOU: Memorandum of Understanding
 MPC: Maintenance Policy Council
 MPS: Maritime Prepositioning Ships
 MRASM: Medium-Range Air-to-Surface Missile
 MRBM: Medium-Range Ballistic Missile
 MRP: Master Restationing Plan
 MRR: Materiel Readiness Report
 MSC: Military Sealift Command
 MSH: Minesweeper Hunter Vessels
 MSO: Ocean-Going Minesweeper or Military Service
 Obligation
 MTC: Military Transportation Command
 MTMC: Military Traffic Management Command
 MULE: Modular Universal Laser Equipment
 MX: Missile, Experimental

NADGE: NATO Air Defense Ground Environment
 NAEW: NATO Airborne Early Warning

NAPR: NATO Armaments Planning Review
 NARF: Naval Air Reserve Force or Naval Air Rework Facility
 NASA: National Aeronautics and Space Administration
 NATO: North Atlantic Treaty Organization
 NAVSTAR: Navigation Satellite Timing and Ranging
 NBC: Nuclear, Biological, and Chemical
 NCA: National Command Authorities
 NCO: Non-commissioned Officer
 NCS: National Communications System
 NDRF: National Defense Reserve Fleet
 NDU: National Defense University
 NEACP: National Emergency Airborne Command Post
 NEARTIP: Near-Term Improvement Program
 (for MK-46 torpedo)
 NEXRAD: Next Generation Weather Radar
 NFAF: Navy Fleet Auxiliary Force
 NFCS: Nuclear Forces Communications Satellite
 NFIP: National Foreign Intelligence Program
 NIAG: NATO Industrial Advisory Group
 NICS: NATO Integrated Communications System
 NJCEC: NATO Joint Communications-Electronics Committee
 NMCC: National Military Command Center
 NMCS: National Military Command System
 NORAD: North American Aerospace Defense Command
 NPG: Nuclear Planning Group
 NPS: Non-Prior Service
 NRF: Naval Reserve Fleet
 NSA: National Security Agency
 NSA/CSS: National Security Agency/Central Security Service
 NSSMS: NATO Sea Sparrow Missile System
 NTC: National Training Center
 NTPF: Near-Term Prepositioning Forces
 NTPS: Near-Term Prepositioning Ships
 NUDET: Nuclear Detonation
 NWSM: Nuclear Weapons Stockpile

O&M: Operations and Maintenance
 OAD: Official Development Assistance
 OAS: Offensive Avionics System
 OASD: Office of the Assistant Secretary of Defense
 OECD: Organization for Economic Cooperation and
 Development
 OED: Operational Effectiveness Demonstration
 OJCS: Organization of the Joint Chiefs of Staff
 OMB: Office of Management and Budget
 OPEVAL: Operational Evaluation
 OPM: Office of Personnel Management
 OSD: Office of the Secretary of Defense
 OSHA: Occupational Safety and Health Act
 OSUT: One-Station Unit Training
 OTH: Over-the-Horizon
 OTH-B: Over-the-Horizon Backscatter
 OWRM: Other War Reserve Materiel

p3I: Pre-planned Product Improvement
 PAA: Primary Aircraft Authorized
 PACCS: Post Attack Command Control System

PACOM: Pacific Command
 PAL: Permissive Action Link
 PAPS: Periodic Armaments Planning System
 PARCS: Perimeter Acquisition Radar Attack
 Characterization System
 PAVE PAWS: Phased-Array Radars
 PCS: Permanent Change of Station
 PDIIS: Priority Defense Items Information System
 PECI: Productivity Enhancing Capital Investments
 PIF: Productivity Investment Fund
 PKO: Peacekeeping Operations
 PL: Position Location
 PLRS: Position Location Reporting System
 PLSS: Precision Location Strike System
 PMALS: Prototype Miniature Air-launched System
 PMR: Primary Mission Readiness
 POC: Programs of Cooperation
 POL: Petroleum, Oil, and Lubricants
 POMCUS: Prepositioned Overseas Materiel Configured
 in Unit Sets
 POS: Peacetime Operating Spares
 POST: Passive Optical Seeker Technique
 PPBS: Planning, Programming, and Budgeting System
 PPS: Post Production Support
 PRC: People's Republic of China
 PS: Prior Service
 PWRMS: Prepositioned War Reserve Materiel Stocks
 PWS: Performance Work Statement

R&D: Research and Development
 RAM: Rolling Airframe Missile
 RAP: Rocket-Assisted Projectile
 RCM: Reliability Centered Maintenance
 RCRA: Resource Conservation and Recovery Act
 RD&A: Research, Development, and Acquisition
 RDF: Rapid Deployment Forces
 RDJTF: Rapid Deployment Joint Task Force
 RDMF: Rapidly Deployable Medical Facility
 RDSS: Rapidly Deployable Surveillance System
 RDT&E: Research, Development, Test, and Evaluation
 REDCOM: Readiness Command
 REIS: Reconstitutable and Enduring Intelligence System
 ROCC: Regional Operation Control Center
 ROK: Republic of Korea
 RO/RO: Roll-on/Roll-Off
 ROTH: Relocatable Over-the-Horizon Radar
 RPMA: Real Property Maintenance Activities
 RPV: Remotely Piloted Vehicle
 RRF: Ready Reserve Fleet
 RSC: Reinforcement Support Category
 R/S/I: Rationalization/Standardization/Interoperability
 RV: Reentry Vehicle
 RWR: Radar Warning Receiver

S&F: Security and Facilities
 S&T: Science and Technology
 SAC: Strategic Air Command

SACEUR: Supreme Allied Commander, Europe
 SACLANT: Supreme Allied Commander, Atlantic
 SAGE: Semi-Automatic Ground Environment
 SALT: Strategic Arms Limitation Treaty
 SAM: Surface-to-Air Missile
 SAR: Search and Rescue
 SATCOM: Satellite Communications
 SAW: Squad Automatic Weapon
 SCEPC: Senior Civil Emergency Planning Committee (NATO)
 SCF: Satellite Control Facility
 SCN: Ship Construction - Navy
 SCT: Single-Channel Transponder
 SDAF: Special Defense Acquisition Fund
 SDS: Satellite Data System
 SEA: Southeast Asia
 SEAD: Suppression of Enemy Air Defenses
 SELRES: Selected Reservists
 SES: Senior Executive Service
 SF: Special Forces
 SGLI: Servicemen's Group Life Insurance
 SHF: Super High Frequency
 SHORAD: Short-Range Air Defense
 SIGINT: Signals Intelligence
 SINGARS: Single-Channel Ground and Airborne System
 SINGARS-V: Single-Channel Ground and Airborne System, VHF
 SIOP: Single Integrated Operational Plan
 SLBM: Submarine-Launched Ballistic Missile
 SLCM: Sea-Launched Cruise Missile
 SLEP: Service Life Extension Program
 SLMM: Submarine-Launched Mobile Mine
 SLOC: Sea Line of Communication
 SM: Standard Missile
 SNA: Soviet Naval Aviation
 SNF: Short-Range Nuclear Forces
 SNLC: Senior NATO Logisticians Conference
 SNM: Special Nuclear Material
 SOCOM: Special Operations Command
 SOF: Special Operations Forces
 SOSUS: Sound Ocean Surveillance System
 SOTAS: Standoff Target Acquisition System
 SOW: Standoff Weapon
 SQDNS: Squadrons
 SRAM: Short-Range Attack Missile
 SSBN: Ballistic Missile Submarine, Nuclear-powered
 SSGN: Cruise Missile Submarine
 SSIP: Ship Support Improvement Program
 SSN: Submarine, Nuclear-powered
 STANAG: NATO Standardization Agreement
 START: Strategic Arms Reduction Talks
 SUBACS: Submarine Advanced Combat System
 SUBROC: Submarine-Launched Rocket
 SURTASS: Surveillance Towed-Array Sonar System
 SVBP: Single-Variable Bypass Program
 SVIP: Secure Voice Improvement Program
 SWA: Southwest Asia

 T&E: Test and Evaluation
 TAA: Total Aircraft Authorization

TAC: Tactical Air Command
 TACFIRE: Tactical Fire
 TACAMO: Airborne Strategic Communications System
 TACJAM: Tactical Jamming
 TACS/TADS: Tactical Air Control System/-
 Tactical Air Defense System
 TACTAS: Tactical Towed-Array Sonar
 TARPS: Tactical Air Reconnaissance Pod System
 TARs: Training and Administration of Reserves
 TAFS: Stores Ship
 TAGM: Range Instrumentation Ship
 TAGS: FBM Support Ship
 TAH: Hospital Ship
 TAI: Total Aircraft Inventory
 TAK: Cargo Ship
 TAKX: Maritime Prepositioning Ship
 TAKR: Vehicle Cargo Ship
 TAKRX: Fast Sealift Ship
 TALS: Barge Cargo Ship
 TAO: Oiler
 TAOT: Transport Oiler Ship
 TARC: Cable Ship
 TCAC-D: Technical Control and Analysis Center-Division
 TCDF: Temporary Container Discharge Facility
 TCP: Tactical Cryptologic program
 TCS: Television Control Set
 TENCAP: Tactical Exploitation of National Space
 Capabilities
 TFW: Tactical Fighter Wings
 TGSM: Terminally-guided Submunition
 TIARA: Tactical Intelligence and Related Activity
 TJS: Tactical Jamming System
 TLCC: Thin-Line Communications Connectivity
 TNF: Theater Nuclear Forces
 TOA: Total Obligational Authority
 TOW: Tube-Launched Optically-Tracked Wire-Guided
 TRACE: Total Risk Assessing Cost Estimating
 TRAM: Target Recognition Attack Multi-Sensor
 TRIMIS: Tri-Service Medical Information System
 TRITAC: Joint Tactical Communications Program
 TVSU: Television Sight Unit

UCA: Uniform Chart of Accounts
 UH: Utility Helicopter
 UHF: Ultra-High Frequency
 USM: Uniform Staffing Methodologies
 USSR: Union of Soviet Socialist Republics
 USUHS: Uniformed Services University of the Health Services

VHF: Very High Frequency
 VHSIC: Very High Speed Integrated Circuit
 VLA: Vertical Launch ASROC
 VLF: Very Low Frequency
 VLS: Vertical Launch System
 VP: Navy Fixed Wing Patrol Squadron
 V/STOL: Vertical/Short Take-off and Landing

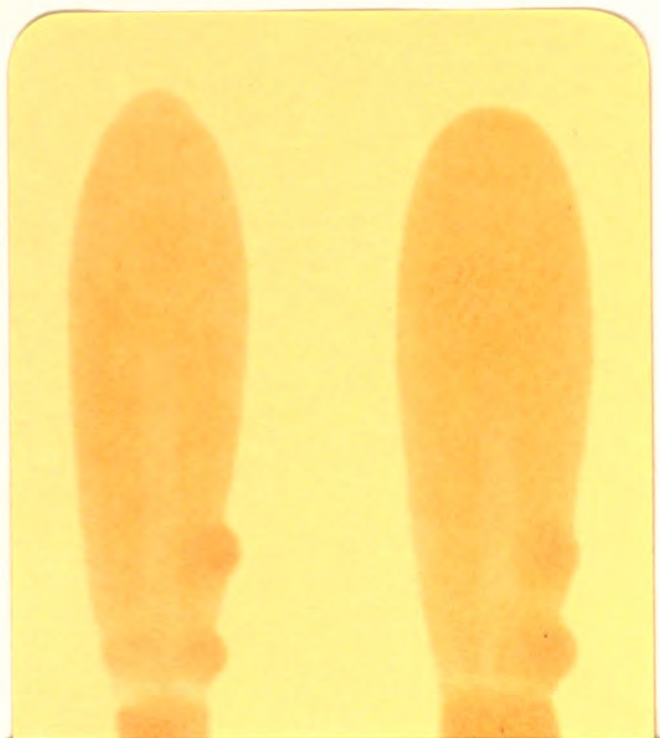
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