

STATEMENT OF THE HONORABLE DONALD H. RUMSFELD SECRETARY OF DEFENSE

Mr. Chairman and Members of the Committee:

I am pleased to present the proposed defense budget for FY 1977 and its implications for the defense authorization request for FY 1978, and a preliminary five-year defense projection for FY 1977-1981.

In FY 1977, the Department proposes a defense budget of \$112.7 billion in total obligational authority and \$100.1 billion in estimated outlays. The details of this request as well as its justification are set forth in the annual Defense Department Report. I will touch on some of the points of particular interest.

I. The Defense Budget

We estimate that because of a declining rate of inflation, the defense budget for FY 1976 could permit some small real growth in defense funding for the first time since FY 1968. The budget request for FY 1977 and the preliminary five-year defense projection reflect our conviction that there must be a real program growth in the years immediately ahead.

The Defense establishment is engaged in a crucial function of government -- providing for the common defense -- contributing to peace, stability, and the preservation of freedom. I know it will receive your most serious consideration.

Within roughly three months, as prescribed by the new budget reform guidelines, you and your colleagues in the House and Senate will determine the total federal spending level, and the portion of that total which will be devoted to defense and deterrence.

These two decisions are of enormous importance to the nation and the world. They will be of major significance today and in the years to come, and they will be among the most important decisions which will be made by the Congress this year.

After careful deliberation, the President and the Defense Department have made their judgments. We recognize the importance of your decision. Representatives of the Defense Department will be explicit and candid about the requirements of national security as they appear before you concerning this budget.

II. The International Context

It is useful to consider defense strategy, force structure, and budget requests within a broad international context, as is required by law. That context has five major implications for defense planning:

-- First, military power and the international appreciation of it remain basic arbiters of international disputes and major determinants of our capabilities to achieve the objectives of our foreign policy.

-- Second, the United States has political, economic, and strategic interests in the world which must be fostered through foreign policies which are supported by our military posture.

-- Third, U.S. interests remain under challenge, primarily by the USSR, which continues to add to its military capabilities qualitatively and quantitatively. These challenges can be seen in Europe, along the Mediterranean littoral, in the Middle East and Africa, in the Persian Gulf and, indirectly, in Northeast Asia.

-- Fourth, the United States cannot escape the principal role in defending interdependent interests and maintaining world stability: If we falter or fail, there is no other power to take our place.

-- Finally, the United States must maintain a military establishment which permits it -- in conjunction with allies -- to safeguard its interests in the face of a growth in adversary capabilities. The U.S. establishment must be both nuclear and non-nuclear. Much of it must be ready at all times. Security is not available at bargain-basement rates, and the instruments of security cannot expand and contract on short notice.

Today, there are a number of misunderstandings about the relationship between defense and the international environment. I want to address two in particular. The first misunderstanding is that there is an inconsistency between detente and a strong national defense. The second is that there is a contradiction between increases in the U.S. defense budget and the maintenance of international stability.

To deal with the first misunderstanding, it is important to be precise about the meaning of detente, this word borrowed from the French. Literally, in French, detente is applied to a number of things having to do with weapons. For example, the entire trigger mechanism of a pistol is called "detente" -- the part you pull to fire it, the hammer, the firing pin, and the spring mechanism. Detente is the word, also, for uncocking a cocked pistol -- that is, releasing the tension on the spring which moves the hammer. In similar ways, detente is used to describe relaxing the tension on a taut bowstring, or reducing the pressure of a gas in a closed container.

In none of these meanings is there any hint that detente means friendship, trust, affection, or assured peace. In all uses, detente means relaxation of tension that exists -- for real, not imaginary, reasons.

On our side, detente is also a hope and an experiment. In this age of nuclear weaponry, it makes sense to seek a reasonable accommodation of our differences with the USSR. But, keeping the basic meaning of detente in mind, we should be under no illusion as to when and how accommodations might be reached. Strength is a prerequisite to acceptable agreements. That is why there is no inherent contradiction among the three main objectives of U.S. policy: defense, deterrence, and the effort to see if it is possible to achieve some relaxation of tension -- detente. That is why successive Presidents, including President Ford, have emphasized the connection between strength and peace, between weakness and war.

A wise Frenchman recently noted, "that the Soviet Union today is one of the two main military powers in the world, and this power is ruled according to methods which are substantially and essentially different from... Western methods. Why therefore should it not be tempted to extend its influence, if not its rule, if it does not come up against any form of resistance on the part of a power comparable to its own?" That is why I have stressed that weakness, too, can be provocative.

To address the second misunderstanding, it is well to consider some conspicuous trends in Soviet military capabilities -- trends that are facts, not projections -- before making any judgments about the desirability of increasing U.S. strength:

-- Over the past decade, Soviet defense spending has been increasing steadily in real terms.

-- In that same period, the Soviet military establishment (not counting border guards and internal security forces) has expanded by a million men from 3.4 to 4.4 million men.

-- Between 1965 and 1975, Soviet strategic offensive forces have also increased:

- Intercontinental Ballistic Missiles (ICBMs) from 224 to 1,600 (an increase of nearly 1,400);
- Sea-launched Ballistic Missiles (SLBMs) from 29 to 730 (an increase of about 700);
- Strategic warheads and bombs, from 450 to 2,500 (an increase of about 2,000).

-- The momentum of this buildup shows no sign of slackening. Qualitative improvements continue, such as:

- The development of four new ICBMs, two of which are currently being deployed with multiple independently targetable reentry vehicles (MIRVs);
- The production of a new generation of Ballistic Missile Submarines (SSBNs), one version of which has deployed with a new 4,200 mile range SLBM;
- Accuracy improvements which could give their ICBMs a significantly reduced circular error probable (CEP);
- Large MIRVs with high-yield warheads;
- Development of a mobile IRBM (in the form of the SS-X-20).

-- Since the early 1960's, Soviet general purpose forces have also expanded substantially. Some of the significant developments have been:

- An expansion in the number of divisions from 141 to 168, with added tanks, artillery, and armored personnel carriers;
- An addition of nearly 2,000 tactical aircraft, combined with the introduction of more sophisticated fighter/attack aircraft;
- A similar growth in the sophistication of Soviet naval forces, with greater missile firepower, more nuclear-powered attack submarines, greater fleet range, more underway replenishment support, and the construction of three small aircraft carriers.

-- While much of the increase in ground and tactical air forces has gone to the Far East, Soviet forces oriented toward NATO have improved both quantitatively and qualitatively as well, and the Soviet Navy has become increasingly a worldwide force.

It must be emphasized that while these developments have been occurring in the Soviet Union, U.S. force levels and defense expenditures (in real terms) have been going down. The U.S. force structure is substantially smaller today than it was a decade ago, although it is qualitatively improved in some respects. The crucial issue, however, is not so much why these trends have occurred, or who has led whom into the competition. It is whether the United States is still able to meet its international responsibilities. The nation must also ask itself whether the United States will have a sufficient military capability for

defense, deterrence, and detente in the future if these adverse trends continue. This budget says it will not, and sets out to change the trends.

III. Defense Objectives

The primary U.S. objective is, of course, deterrence and international stability. We do not try to do everything, everywhere ourselves. We are not the world's policeman and we do not pretend to be. We do bear the principal burden of nuclear deterrence -- both for ourselves and our allies -- and hence have the responsibility, along with the USSR, for restraining nuclear competition and maintaining a stable balance of power.

The basic objectives for the strategic nuclear forces are four in number:

- To have a well-protected, second-strike force to deter attacks on our cities and people, at all times;

- To provide a capability for more controlled and measured responses, to deter less than all-out attacks;

- To ensure essential equivalence with the USSR, both now and in the future, so that there can be no misunderstandings or lack of appreciation of the strategic nuclear balance; and

- To maintain stability in the strategic nuclear competition, forsaking the option of a disarming first-strike capability and seeking to achieve equitable arms control agreements where possible.

Obviously, the United States is not responsible for the deterrence of all international disorders. Nor can U.S. nuclear forces credibly deter all contingencies of concern to the nation. For many purposes, non-nuclear forces must carry the main burden of deterrence. In order to plan the conventional forces with restraint and realism, we seek to maintain -- in conjunction with our allies -- two principal areas of strength and stability -- in Western Europe and in Northeast Asia. Insuring stability in these two vital regions requires forward deployed forces as well as strategic reserves.

If we and our allies have the forces to perform those tasks -- particularly in response to a major conventional assault on NATO -- the United States will also have the necessary capabilities (both active and reserve) to deal with other contingencies which might arise separately, as could be the case in the Middle East. A conventional force structure with this capability and flexibility will strengthen deterrence, enhance stability, and lower the probability of nuclear war.

IV. The Adequacy of Our Forces

An assessment of opposing forces is difficult and tentative in the best of circumstances. I will not presume to speak conclusively on this subject, nor with the certainty that flows from long study and thorough probing and analysis. Nevertheless, there are two judgments about U.S. capabilities that I want to convey. The first is that the current force structure is adequate to perform its missions at the present time. The second is that confidence in the future adequacy of our force structure is gradually declining. Because of the trends -- reductions on our part and Soviet military expansion -- there has been a gradual shift in the power balance over the past fifteen years. And, in light of the momentum of Soviet military programs of all kinds, it will continue to shift unless U.S. defense outlays are increased in real terms, as the President is recommending.

1. The Strategic Nuclear Situation

As of today, the U.S. strategic nuclear forces retain a substantial, credible capability to deter an all-out nuclear attack. Their ability to execute controlled and limited responses is being enhanced as a result of improvements in plans, command and control, and the increasing flexibility being introduced into the Minuteman force. However, there remains a basis for concern in three areas, and that concern will deepen in succeeding years.

-- First, the submarine and bomber forces are aging; at the same time the Soviets are improving their antisubmarine warfare capabilities and their defense against bombers.

-- Second, there is an increasing possibility that major asymmetries will develop between U.S. and Soviet strategic offensive forces because of the momentum in Soviet offensive and defensive programs, and that the Soviet strategic capability will come to be seen as superior to that of the United States.

-- Third, a continuation of current Soviet strategic programs -- even within the constraints of SALT -- could threaten the survivability of the Minuteman force within a decade. If that should be allowed to happen, our ability to respond to less-than-full-scale attacks in a controlled and deliberate fashion would be severely curtailed, and strategic stability could be endangered.

2. The Situation in Europe

The defense of Western Europe continues to be one of our fundamental interests. We are naturally concerned, therefore, about certain vulnerabilities that have developed along the southern flank of NATO. In

the crucial center region, we and our allies have the basic capabilities necessary to respond to a Warsaw Pact attack. Even here, however, there are two vulnerabilities which will grow in seriousness if we fail to take remedial action.

First, we do not have sufficient long-range airlift capability to deploy our reinforcements to Europe in a timely fashion.

Second, we are concerned that, unless we counterbalance them, increasing Soviet firepower and mobility will begin to give the Pact an unacceptable advantage in the two contingencies against which we design our forces: an attack coming with little or no warning, and one coming after a large-scale mobilization and deployment of Pact forces.

3. The Situation in Northeast Asia

The situation in Northeast Asia is directly influenced by the status of Sino-Soviet relations. At present, we do not anticipate that either power is likely to encourage or support North Korea in an attack on South Korea. If there is no outside aid to North Korea, South Korea should be able to repulse a North Korean attack with relatively modest U.S. assistance.

U.S. ground forces continue to have a deterrent and stabilizing effect on this balance. It would be unwise, therefore, to withdraw U.S. ground forces from the Peninsula and jeopardize the stability we have had in Northeast Asia during the last 20 years.

4. The Situation at Sea

A major non-nuclear conflict in Europe or in Northeast Asia would make it essential for the United States to keep open sea lines of communication to both regions, as well as to other continents and areas. A war in Europe might well become worldwide in character, but even if it were to remain contained, we would have to be concerned about Soviet land and naval deployments in the Far East. We require the major elements of a two-ocean Navy.

Maintenance of a fleet of the proper size and composition to fulfill that role is a problem which requires the most thorough consideration. The present assessment is that the current fleet can control the North Atlantic sea lanes to Europe, but only after serious losses to U.S. and allies shipping, and that our ability to operate in the Eastern Mediterranean would be, at best, uncertain. The fleet in the Pacific could hold open the sea lanes to Hawaii and Alaska but, because of a shortage of surface combatants, would have difficulty in protecting our lines of communication into the Western Pacific. This situation will presumably grow more precarious as the capabilities of Soviet nuclear attack submarines increase.

V. Proposed Programs

This general assessment of the planning contingencies which have been important to the shaping and testing of U.S. forces suggests where -- if not corrected -- our current and future vulnerabilities lie. It also suggests the direction that the FY 1977 budget should take. Accordingly, assessing the FY 1977 request requires examination of the larger picture which has been set forth. Judgments in the next few months which fail to weigh adequately the need to check present adverse trends will inexorably lead to a conclusion in the world that the United States has decided to allow the trends to continue to the point of imbalance, insufficiency and, possibly, ultimately, instability. We should not be surprised if the discounting of U.S. power and will, which would follow from such a conclusion, would bring unpleasant consequences.

Expert witnesses will be appearing before you to discuss the specific details of the FY 1977 request. In light of the objectives set forth, the expanding capabilities of the Soviet Union, and the trends described, my chief purpose today is to underline the importance of five major program areas I consider essential.

1. Strategic Nuclear Forces

U.S. strategic nuclear deterrence continues to be based on a Triad of strategic forces. These forces are designed to be able to ride out a surprise attack and retaliate in a controlled second-strike at Presidential direction. A combination of ballistic missiles -- land- and sea-based -- and heavy bombers is necessary to diversify the strategic forces sufficiently, so that neither system failures nor enemy ingenuity could prevent retaliation. Responsive command and control of these forces is essential to deal with the possibility of less than all-out attacks and to terminate a nuclear exchange at the earliest moment possible if, despite best efforts, deterrence should fail.

At the present time, one component of the Triad -- the Minuteman force -- is essential to both diversity and control. And, it is the Minuteman force that the increasingly sophisticated Soviet ICBM capability threatens to neutralize eventually. Accordingly, we must move steadily, but with deliberation, to retain the option to move toward a more secure basing mode for the ICBM force.

- The Trident program is necessary in any event to replace the aging SLBM forces in the mid-1980s. We are also concerned with possible Soviet advances in anti-submarine warfare capabilities, and the quieter Trident boat with its longer range missiles hedges against any significant Soviet ASW gains.

- The B-1 bomber represents a suitable successor to the B-52. Its ability to penetrate at low altitude and high speed will allow us to offset any Soviet air defense improvements. Most important, the B-1's advances in structural design, hardening against nuclear effects, and the ability to fly out from under nuclear attack, with minimum warning time, would represent a valuable improvement in survivability.

- The M-X missile, either in fixed silos or in a multiple-aim-point mode, with a combination of larger throw-weight and increased accuracy, should improve on the desirable features of the Minuteman, without Minuteman's potential vulnerabilities. We should develop M-X at a rate that would allow us to supplement part or all of the Minuteman force in the 1980s, should that prove necessary.

In order to keep open the option to diversify further the nuclear forces, exploiting new technology in which we lead the Soviets, we are developing two cruise missiles -- sea-launched (SLCM) and air-launched (ALCM).

With these major programs, we should be able to ensure a modern strategic deterrent force through the next decade, and remove, as necessary, the vulnerabilities that could increasingly degrade elements of our present posture. As our deterrent improves, so will our contribution to strategic stability.

2. General Purpose Forces

The primary U.S. contribution to the non-nuclear defense of Western Europe continues to be a combination of ground forces and tactical airpower. Because a war in Europe could break out suddenly, we keep the initial defense capability largely in the active force structure rather than in the guard and reserve. The added weight in men, armor, and guns that the Soviets have been providing to a potential assault force in Central Europe is a fundamental reason why the active Army is being expanded from 13 to 16 divisions (within a constant level of manpower). We are adding two combat brigades to the European deployments (also within the manpower constraints established by Congress). Two more steps need to be taken:

-- First, we should "heavy up" the additional Army divisions now programmed, to give them the increased firepower and mobility necessary for combat in the European theater.

-- Second, we should consider adding aircraft to fill out the Air Force's twenty-six fighter/attack wings, both to complement planned Army divisions and to increase firepower and mobility across the European front.

The present assessment of the situation at sea leads to the requirement for additional surface combatants and submarines in a two-ocean capability for simultaneous protection of Atlantic and Pacific sea lanes. The difficult remaining issue is one of determining how many vessels of what kind and mix will be needed to perform the mission. The basis for additional nuclear attack submarines and relatively inexpensive surface combatants, as well as the arguments for more mines and improved undersea surveillance equipment, are well-founded.

Questions concerning additional large-deck carriers, strike cruisers, and the broad adoption of nuclear propulsion merit close attention in the weeks ahead. You will find a tentative five-year shipbuilding forecast outlined in the Annual Report, as requested by Congress. It may prove to be the right program. However, we are examining some options within the Department now and it will be a few weeks before I am in a position to make specific recommendations to the President and the Congress.

3. Strategic Mobility Forces

Long-range mobility forces are critical to our capability, in conjunction with allies, to offset a major Warsaw Pact mobilization and deployment in Central Europe. There remains considerable difference of opinion as to how long it would take the Soviets to fill out and move the tank and mechanized divisions they retain in the western military districts of the USSR. For planning purposes, the United States should be able to reinforce NATO rapidly by moving a substantial number of divisions from the continental United States to the European theater within a few weeks. Current strategic lift forces cannot today fully meet that requirement for these reasons:

-- C-5A wing fatigue problems and flying hour limits reduce our capacity to move outsize cargo;

-- Strategic airlift squadrons are not manned or supported with spare parts sufficient for the requisite number of sorties; and

-- We have yet to achieve essential reductions in preparation and marry-up time (at CONUS and overseas terminals) to exploit the potential of the airlift and sealift resources we own.

The Department is moving to correct some of these defects. We continue to recommend modifications in the civil reserve air fleet (CRAF) so as to improve our capacity to move outsize cargo in the requisite amounts during the early days of a reinforcement effort.

In short, the faster we can move to reinforce, the better NATO's chances will be and the lower the probability that the Warsaw Pact will be tempted to undertake any kind of an attack. This is also why we need to continue large-scale mobility exercises which demonstrate reinforcement capabilities.

4. Readiness

Logistics capabilities undergird the readiness of forces and their ability to sustain combat. The logistics base is of particular concern at a time when competing demands on the defense budget require increasing combat productivity from both men and machines. Despite the resources previously allocated to logistics, the United States has not maintained the levels of equipment readiness and stocks of war reserves required for a fully credible posture of deterrence.

The precise impact of deficiencies in readiness on combat effectiveness is difficult to measure. However, it is widely agreed that:

-- Too many U.S. ships are overdue for overhaul, and the number is still growing;

-- Too many tactical aircraft are grounded awaiting repair, which in too many instances is delayed because spare parts are lacking;

-- The materiel readiness of U.S. land forces is improving, but remains substandard in some important respects;

-- Finally, we are running unnecessary risks because of shortfalls in war reserve stocks, especially of modern and more efficient munitions.

I will not belabor the reasons for the present level of readiness. I am persuaded that we must make a significant and sustained effort to correct the four major weaknesses just outlined. U.S. combat capabilities are already strained when judged against their tasks; we should not further reduce their effectiveness and ability to sustain themselves in combat because of weaknesses in logistics support.

5. Research and Development

A vigorous program of research, development, test, and evaluation is critical to the achievement of long-term U.S. national security objectives. The effectiveness of our strategic and general purpose forces in relation to the modernized Soviet forces depends on the quality of our R&D. We try continuously to hedge against the uncertainties of a rapidly changing future. We also attempt to reduce costs and improve effectiveness.

Overall U.S. technological leadership is as directly challenged by the Soviet Union as is our military capability. During the past decade, Soviet investment in military and space R&D appears to have at least equalled our own; now it is growing at a more rapid rate. The Soviets have been producing and deploying large quantities of advanced weapons, seizing the technological lead or closing the gap in almost every class of weapon.

Reversing these trends in R&D is vital, and FY 1976 appropriations appear to have halted the downward trend in the U.S. RDT&E program. Nearly \$11 billion is requested in FY 1977, an amount essential to correct the divergent U.S./USSR trends and provided real growth needed to:

- Strengthen the U.S. technology base to create options for future development;
- Demonstrate selected alternatives chosen from among new options;
- Select the best system or systems and manage the resulting development and production program efficiently and effectively;
- Concentrate on completing current U.S. development programs to achieve improved deployed capabilities.

VI. Restraints on Defense Planning

The improvements being made in the U.S. force structure, and the efforts to maintain a superior technological base through research and development, are essential if we are to have continued deterrence, stability, and detente in this period ahead -- a period which will almost certainly include increases in Soviet military capabilities. Without improvements, the vulnerabilities which can be anticipated from the momentum of present trends will become a reality -- with all that could mean. To reduce the danger, we must begin to act now.

I recognize that national defense accounts for about 25 percent of the President's proposed outlays for FY 1977, and that roughly half of the total increase in Federal spending from FY 1976 to FY 1977 is proposed for the Department of Defense. All of us wish that it could be otherwise. But the Constitution requires that we "provide for the common Defence," and war, as Alexis de Tocqueville pointed out, is "an occurrence to which all nations are subject, democratic nations as well as others. Whatever taste they may have for peace, they must hold themselves in readiness to repel aggression..."

This much we must continue to do, but we must do it with continuing attention to economy and efficiency. In order to improve our "readiness to repel aggression," and restrain our requests, we are recommending nine key measures to reduce Defense costs. We propose to:

- Restrain the growth in compensation levels for military and civilian personnel;

-- Eliminate 26,000 civilian positions by consolidating headquarters and other facilities;

-- Phase out subsidies for the operating costs of military commissaries over a three-year period;

-- Eliminate dual compensation of Federal employees on active duty for training with the National Guard or Reserve;

-- Reduce temporary duty and permanent change-of-station travel;

-- Decrease petroleum consumption for proficiency flying programs through greater use of smaller aircraft and ground training aids;

-- Narrow the scope of the civil defense program so that it concentrates on the support of measures at the state and local level to reduce losses from a nuclear attack;

-- Hold new military construction below the levels of FY 1976;

-- Reduce the paid drill strength of the Navy Reserve by 40,000.

These nine steps enabled us to reduce our request for budget authority by approximately \$2.8 billion in FY 1977. Most of the proposed actions require the approval of the Congress. These decisions will not be easy to make. It should be recognized, however, that if these actions are not approved, additional defense appropriations of up to \$2.8 billion, and total obligational authority of as much as \$116 billion will be required. Within the budget of \$112.7 billion that the President has presented, an amount of \$2.8 billion cannot be absorbed without a reduction in combat effectiveness.

VII. Conclusion

We live in an age of paradoxes, at a time when hope and peril run side by side. To be just and compassionate, we must be strong. As you consider this budget, you will inevitably consider the military environment, the state of our defenses, and the facts of the world situation, as I have done. The arithmetic is not encouraging; the facts are not kind, but the task is fundamental. I urge your support of this request.

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I. INTRODUCTION

Mr. Chairman and Members of the Committee:

This Annual Reports recommends to you the Defense Program and Budget for FY 1977. In compliance with the Congressional Budget and Impoundment Control Act of 1974, it outlines the Department's main requests for legislative authorization through FY 1978. It also submits an aggregate preliminary five-year projection of the nation's defense budget, estimated in total obligational authority.

The following table summarizes the budget request of the Department for FY 1977.

TOTAL REQUEST
(In Billions of Current Dollars)

	<u>FY 1977</u>
Total Obligational Authority	\$112.7
Outlays	\$100.1

In the sections which follow, justification will be provided for a defense budget which includes restraints at the same time that it allows for a real increase in obligational authority over the amount likely to be provided by the Congress in FY 1976. The Budget provides for real growth in defense outlays because the nations which could jeopardize our most basic interests, including the safety of the United States itself, are developing additional military capabilities that we and our allies must offset.

Soviet military strength has been expanding steadily for a decade. U.S. military forces are now smaller than they were in 1964. While we cannot set forth with precision what reasons the Soviets may have for making their growing investment in military force, the growth in capabilities cannot be ignored. This is not to say that we must match the Soviet effort dollar for dollar, imitate it detail for detail, or commit some arbitrary percentage of a growing GNP or national budget to outlays on defense. But, however great our other needs, the protection of this nation from external danger is the first and foremost responsibility of government. Rather than grapple with that responsibility in fits, starts, and crises, the nation must have the foresight and steadiness of purpose to respond systematically and patiently to long-term challenges. In doing so, Defense programs should be dictated by the country's interests and objectives as well as by potential threats and their trends.

There is a tendency in some quarters to equate strength with provocation. But history suggests that one can also provoke by being weak. Evident weakness on the part of the United States, just as belligerence, could provoke rivals into adventures that they might otherwise avoid.

The FY 1977 defense budget is a sober effort to cope with a serious but manageable problem. Accordingly, the Congress will surely consider with the utmost gravity not only the total being requested, but also the way it is distributed among programs. The Department's five-year plan is designed to reduce marginal activities so that scarce resources can be devoted to keeping pace with the growing military challenge from the USSR. A celebrated general is reported to have said: "Ask me for anything except time." The nation cannot afford waste. But, in a perilous world, it cannot waste time.

A. NATIONAL DEFENSE AND THE INTERNATIONAL SITUATION

While previous Annual Defense Reports have discussed the broad relationship between the international situation and national defense, Section 812 of the FY 1976 Department of Defense Authorization Act now requires that "the Secretary of Defense, after consultation with the Secretary of State, shall prepare and submit to the Committees on Armed Services of the Senate and the House of Representatives a written annual report on the foreign policy and military force structure of the United States for the next fiscal year, how such policy and force structure relate to each other, and the justification for each."

In compliance with this requirement, the President and the Secretary of State have been consulted and the defense requests for FY 1977 reviewed with a view to making the relationship between force structure and foreign policy more explicit. This first section of the Annual Defense Report is the result.

1. Foreign Policy and Defense

It should be stressed at the outset that the physical power of the United States is one of the fundamental determinants of U.S. foreign policy. The Congress has noted this when members have demanded that our commitments and military capabilities be appropriately related.

It is also worth remembering that the power potential of the United States is both enormous and unprecedented. If we were to allocate to defense the same percent of GNP that we did as recently as 1964, we would be spending over \$130 billion, or roughly a third more than we are planning for FY 1977. If we were to match what we think is the current Soviet percent of GNP devoted to defense, our request would amount to nearly \$200 billion. By either of these arbitrary standards, we are not proposing an excessive amount for defense. Nor are we engaging in an all-out competition with those nations who have declared themselves our rivals. Instead, we are striving to fashion a prudently designed foundation for policy which, like economic and diplomatic means, must be available to the government at all times.

We cannot fight crime without a police department, just as we cannot deter the international criminal or gain the confidence of our peoples (both at home and abroad) without the necessary, ready resources at hand, and the world-wide appreciation that they are at hand. Military forces are a fact of current international life, and will continue to be so into the foreseeable future. The United States must have what is needed.

We keep our defense establishment on an active status not only because of lead-time problems, but also because it plays an important

role in peace as well as in war. It was once a matter of amusement to some that the Strategic Air Command displayed a sign reading, "Peace is our profession." But the motto has merit. Military power appropriately developed and deployed can help to preserve the peace by demonstration and deterrence.

The Secretary of State has stated that in order for our foreign policy to promote global peace "in an age of continuing peril and exploding technology, we must maintain and improve our national defense." (Speech before the Economic Club of Detroit, November 24, 1975.)

The issue is not whether or not we should maintain a defense establishment. The real issue has to do with our security objectives and the necessary size and composition of U.S. military forces, their deployment, readiness, and effectiveness. A central question that we must try to answer here is this: How sensitive should these dimensions of military power be to considerations of foreign policy?

The answer, in general, must be that they are not very sensitive to short-run foreign policy considerations. We do not design these critical aspects of military power to respond (even if they could) to the ebb and flow of negotiations, the immediate tactics and day-to-day objectives of foreign policy, or the short-term relations among nations. Our strategic concepts, force structure, and budget do and should respond to such fundamental factors as the longer-term interests that our government defines, the threats to them that are seen, the role assigned to the United States, the allies that support us, the price we are prepared to pay to uphold our position and the progress we make in our negotiations with adversaries. We must then be willing to pay the price required.

2. The U.S. Role in the World

At one extreme, if we could isolate ourselves completely from the rest of the world, forswear any dependence on outside resources, and manage (with 215 million intelligent and energetic people, substantial natural resources, and a thriving economy) to attract no unwanted attention, our need for mobilized military power would be minimal -- leaving aside the problem of internal security which, in 1970, required the deployment of 365,000 policemen nationwide. In the beginning of this Republic, and until the early 20th century, many believed we had created that kind of circumstance and we did live with a small military establishment and a modest defense budget, except when we were fighting among ourselves. Even under those conditions, however, we eventually decided to build a Navy second to none, and nearly 60 years ago deemed it imperative to become involved in the first of two great and costly world wars.

As we look back we can see that the relative isolation of the 19th century resulted more from chance than from plan, and that our ability to stay aloof from international affairs was a function of distance and the quarrels among the great powers of Europe in addition to our foreign policy.

Today, those external conditions no longer exist. Whereas previously we may have depended, however implicitly, on European rivalries and remoteness to spare us the hard decisions of foreign policy, now we cannot escape the immediacies of conflict. Whereas in the old days disputes among Britain, France, Germany and Russia could excuse us from keeping and contributing to the balance of military power, now we must continually assess our weight on the scales. In former years we could ignore a conscription law in Republican France or a naval bill in Imperial Germany; we could dabble in international politics. Now we can no longer afford to play the dilettante. We are caught in the turbulence of the contemporary world. Interdependencies of an economic, political, and cultural nature are growing; if the United States does not resolve -- over the longer term -- to protect its security and way of life, they will not be protected. If the United States falters or fails, there is no one to rescue us as we aided others in 1917 and 1941.

Admittedly, the United States could try to isolate itself from foreign affairs and have a better chance of surviving than most nations. But our economy and standard of living would suffer; we would still have to ask where to draw the line against external encroachments; we would have to construct a wall of defenses -- without friends, but not necessarily without enemies -- and we would undoubtedly find ourselves spending more on defense than is now the case. Whether or not our traditional liberties could survive in such a garrison state is doubtful.

Rather than draw back to the Western Hemisphere, or even North America, rather than act as a bystander and observer while others decided our fate, the United States has chosen for the last 30 years to play an active role in protecting and furthering its interests. It is unlikely that we could have behaved otherwise. Friends were bound to woo us, as they did prior to our entry into the two world wars, and seek to involve us in their problems. Our citizens would have demanded the freedom to travel, trade, and invest -- and the right to protection. They would also have retained loyalties and commitments in addition to their devotion to America; we are, after all, a nation of immigrants. Western Europe and Northeast Asia, Cyprus and Israel would have aroused no less feeling here had the stated policy of the United States been to ignore them. Pressures to intervene, first diplomatically and economically, and then even militarily, would have grown. A more active role was virtually inevitable.

An active role does not by itself imply either the need for military power or any specific force size and composition. Even in the 19th century the United States engaged in negotiations, supported distant causes, and undertook verbal quarrels with other nations despite a minimal military establishment. But it could enjoy this license only because the great powers of Europe maintained large military establishments of their own and balanced one another off in such a way that the United States could indulge in verbal display and good works with relative impunity. Moreover, when a major conflict did occur, our friends could hold the front lines long enough for the United States to mobilize its strength and deploy it overseas. The United States, in effect, benefited from the military power provided by others. Those days are now gone.

3. U.S. Goals

It is imperative in this dangerous international environment to be as clear as possible about what we are trying to accomplish as we seek our fundamental objective of maintaining peace. The overall goals of U.S. foreign policy were outlined by the Secretary of State in testimony before the Congress. (Statement before the House International Relations Committee, November 6, 1975.) These goals are:

- To maintain our national strength and national purpose;
- To revitalize continually our bond to allies who share our tradition, values, and interests;
- To reduce the perils of nuclear war;
- To build a rational relationship with potential adversaries;
- To help resolve regional conflicts that imperil global peace;
- To resolve the crucial economic issues before us, in the context of a new era of global economic cooperation between all nations, industrial and developing, producers and consumers, east and west, north and south.

While the past year has seen the emergence of considerable debate in the country at large and in the Congress about the U.S. role in the world, most Americans would agree with this set of foreign policy goals. The defense strategy necessary to support them requires a powerful and secure strategic deterrent, general purpose forces deployed in the regions of the world judged to be most vital to our foreign policy interests, and a mobile force of sufficient strength to protect major U.S. interests elsewhere should they be threatened.

4. Regional Challenges and Objectives

a. Soviet Union

Wealth and power potential have gravitated to the two great continental powers: the United States and the USSR. With only two powers of the very first magnitude, and with force and the threat of force still a basic instrument of international politics, the United States has no choice for the foreseeable future but to serve as the main counterweight to the USSR. And there must be no doubt about that fact.

How much of the counterweight must be military depends not simply on the existence of another superpower. What matters is whether the other superpower harbors ambitions that conflict with ours and whether it sees force and the threat of force as a major arbiter of disputes. It would be comforting to report, in the case of the United States and the USSR, that there are no conflicts of aspiration and that force is not a factor in their relationship. But the facts speak loudly to the contrary. Since World War II, Soviet ambitions for the most part have run counter to our own. Since World War II, the Soviets have maintained enough military power to protect their own interests and threaten ours. After our pellmell demobilization of 1945 and 1946, and four years of weakness, we in turn felt compelled to build up enough military strength so that, in conjunction with our friends, we could contain Soviet power, deter attack, shield our territories, and bring about a sufficient degree of military stability to allow at least a serious effort to resolve our differences with the USSR by more peaceful processes.

The Soviet Union continues to pose the primary political and military challenge to U.S. interests worldwide. It is in our interest to seek ways to avoid confrontations. But there is no doubt that, at least for the foreseeable future, there will be limits to the extent to which our policies converge.

As in the past, the Soviet approach to the United States is likely to be characterized by:

- Relaxation but not eradication of tension;
- A probing for targets of opportunity and a readiness to exploit crises when it serves their interests;
- Avoidance of direct military confrontation, provided that major Soviet interests are not detrimentally affected;
- Hard bargaining in negotiations;
- Expansion of bilateral cooperation but with efforts to prevent a significant opening up of Soviet society;

-- Strenuous efforts to acquire advanced technology, some of which has significant military applications;

-- Steady growth in military expenditures, and an effort to enhance their position in the overall balance of military power.

On the U.S. side, policy is directed toward seeking to reduce military tensions and the risk of military conflict with the USSR in order to promote general international stability and enhance our security and that of our allies. Several steps to that end are already on the record, and the United States continues to hope that the Vladivostok understanding of 1974 will be translated into an equitable treaty and that the negotiations for Mutual and Balanced Force Reductions (MBFR) in Central Europe will move forward. The Department fully supports the President in these efforts, and it is to be hoped that we can achieve equitable arms reductions as well as arms limitation agreements, not only to increase stability and mutual confidence, but also to permit restraint in defense outlays.

It would be misleading, however, to pretend that U.S. objectives have been reached. While the existing and proposed strategic arms limitation agreements are important, they do not themselves solve all the problems of strategic stability. Moreover, the current negotiations must still deal with such contentious issues as the status of the Backfire bomber and cruise missiles, MIRV verification, and the definition of heavy missiles before other objectives can be achieved.

Negotiations on MBFR afford an opportunity to improve the security situation in Central Europe by achieving a more stable balance at lower levels of forces. But there are also serious potential risks involved which must be avoided. Only by giving these negotiations the most careful consideration and engaging in thorough consultations among the NATO Allies can security in Central Europe be improved and not diminished. The U.S. approach to MBFR takes into account the Soviet threat and the disparities in the existing military situation. Of particular concern are the presence in Central Europe of large numbers of Soviet forces and a Soviet/Warsaw Pact advantage of more than 150,000 ground force personnel and 10,000 tanks, together with the geographic proximity of the USSR. We have advanced proposals for withdrawals of Soviet armored forces and U.S. forces in the first instance and subsequent reductions to a manpower common ceiling between the two sides in Central Europe, together with stabilizing and verification measures. The Warsaw Pact has proposed an agreement which would in effect codify the existing military situation favoring the Soviet Union and her allies in Central Europe. We have recently advanced new initiatives, including a proposal to reduce U.S. nuclear armaments in Central Europe, in an effort to gain Warsaw Pact agreement to our basic objectives. In the conventional competition in Europe, we have seen recent increases in Pact manpower as well as a substantial program of modernization for the forces deployed in Eastern

Europe. These steps can in no way be rationalized as responses to Western defense measures in the area. Indeed, the Kremlin appears to see no contradiction between detente and increased military strength.

Detente needs to be understood for what it is: a word for the approach we use in relations with nations who are not our friends; who do not share our principles; who we are not sure we can trust; and who have great military power and have shown an inclination to draw on it.

We seek to reduce confrontations, to lessen dangers, to put relations on a somewhat less precarious footing, to see if there might not be some interests that we share. But where East and West are concerned, we must not forget that in many of the most basic matters, including the right to individual freedom, we are fundamentally opposed. Detente, in short, begins with an awareness of basic political differences, dangers, and tension. Detente leans heavily on deterrence, and deterrence depends on our having a strong and credible defense posture. President Ford has made this point on a number of occasions by underlining that in strength there is peace; in weakness lies the risk of war.

In this period of testing whether a relaxation of tension is sustainable, mutual confidence is bound to develop slowly. Confidence must be based on actions, not hopes. If we are to make real progress in the reduction of tension, we must continue to ensure that the use by the Soviets of their military weight to pursue political gains, ideological acceptance, or crisis advantage remains foreclosed. There must be no misunderstanding on this score. U.S. defense strategy and posture should be responsive to major changes in the international environment, and especially sensitive to fundamental changes in our relationships with other major powers. But we must not delude ourselves into believing that these changes will occur easily or rapidly. Even in this era of accelerated events, it would be a mistake to believe that after our experiences of the last 30 years, Soviet-American relations can suddenly become relaxed and amiable. We may hope to have left behind us the worst crises of the Cold War and entered a period of relative civility, cautious negotiation, and armed stability. But our relations with the USSR have not become so cordial and trusting that we can view the future with equanimity or engage in incremental unilateral arms reductions.

Rather, we should remain strong and vigilant, continue to work toward carefully formulated arms control agreements, accompanied by sound methods of verification, to bring about a reduction in uncertainty about future Soviet military programs. Short of such agreements -- and to some extent even with them -- we cannot escape relating defense plans and programs to the capabilities of prospective opponents and the contingencies which might arise in areas of interest to us.

b. Western Europe

Although the Soviet challenge has expanded to global magnitude, we cannot disregard the fact that its strongest elements are focused on Western Europe, the region with which the United States has its oldest, strongest and most complex ties. The maintenance of a stable, secure and confident Western Europe is vital to U.S. security. The furtherance of our interests requires a Western Europe that is militarily strong enough and confident enough to discourage attack from the East or to withstand any such attack if it should occur. Western Europe must also be confident of its ability to resist indirect coercion that could be applied by the Soviet Union in lieu of overt attack.

Twice during this century, the U.S. has found it necessary to intervene in wars in Western Europe in order to protect American interests and to preserve the civilization from which much of our cultural heritage springs. In the aftermath of World War II, we realized that a strong military deterrent in Central Europe, one that included U.S. forces as well as European forces, was necessary to prevent the eruption of yet another war. In support of this objective we ended our traditional isolation, broke our historic detachment from European politics and joined forces with our European allies in the North Atlantic Treaty Organization.

Neither the importance of NATO nor the significance of U.S. participation in that alliance has diminished with the passage of the years.

The U.S. force presence in Europe serves a number of purposes. First, these deployments help to deter a European war which would inevitably affect our security. Second, they strengthen our ties with our allies and enhance their confidence by providing them with tangible proof of our commitment to their security. Third, they provide a ready, in-place capability to meet aggression, should deterrence fail, and increase the likelihood that, if conflicts erupt, they can be limited and deterrence reestablished.

Today, no less than in the past, our military strategy, and hence the structure of our forces, must continue to support the NATO alliance. To do otherwise would be seen by friend and foe as a step toward withdrawal to that outmoded concept of isolation. It would undermine the very strength and confidence that we have in Western Europe, while encouraging the Soviet Union and her Warsaw Pact allies to exploit any weakness or division among our European allies.

Our unwavering support to Western Europe is all the more vital this year in view of the political and economic developments in Europe. It is essential that we continue our current efforts to improve the defensive strength that protects Western Europe. Through further support

of programs to achieve greater standardization and rationalization of defense efforts within NATO and by enhancing the combat capability of our forces in NATO (without increasing their total numbers) the United States can demonstrate clearly its continuing commitment. The NATO Alliance is a manifestation of the interdependence of U.S. and Western European security. We should not lose sight of the fact that NATO protects the United States as well as Western Europe.

c. Asia

There are some who hold the view that the Soviet Union's growing military power will be affected by the continuing differences between Moscow and Peking. To a degree, that may be the case, although the United States is not seeking to deepen or exploit the differences. At the same time, we must recognize that the People's Republic of China, despite its land mass, population, long history, and rich culture, does not possess the capability that the USSR does, and that the USSR has already managed to deploy strong nuclear and non-nuclear forces in the Far East without in any way diminishing its capability to threaten the United States, Western Europe, or the Middle East.

It will be recalled that in 1970 our adjustment in the U.S. strategic concept for general purpose forces -- going from the so-called 2 1/2 to the 1 1/2 war strategy -- took account of divisions between the USSR and the PRC. In subsequent years we reduced our baseline active ground, naval, and tactical air forces to accord with the change in strategic concept.

Whatever the original basis for the change in strategy, we have already extracted the maximum amount of prudent savings from the Sino-Soviet split, and should now ensure that our forces are adequate to promote our Asian objectives. It would be a mistake to believe that the size of our defense establishment should be any more sensitive than it already has been to this dangerous rivalry. With regard to our general posture in Asia, as President Ford noted this past Pearl Harbor Day: "America, a nation of the Pacific basin, has a vital stake in Asia, and a responsibility to take a leading part in lessening tensions, preventing hostilities, and preserving peace. World stability and our own security depend upon our Asian commitment." The President emphasized six points in a Pacific doctrine that affects force planning. The points were:

1. "American strength is basic to any stable balance of power in the Pacific. We must reach beyond our concern for security. But without security, there can be neither peace nor progress."

2. "Partnership with Japan is a pillar of our strategy."

3. A major premise "of a new Pacific doctrine is the normalization of relations with the People's Republic of China, the strengthening of our new ties ..."

4. "A... principle of our Pacific policy is our continuing stake in the stability and security of Southeast Asia."

5. Peace in Asia "depends on a resolution of outstanding political conflicts." We remain committed to peace and security on the Korean peninsula, "as the presence of our forces there attests." In Indochina, "the healing effects of time are required." But if the new regimes "exhibit restraint toward their neighbors and constructive approaches to international problems, we will look to the future rather than the past."

6. Peace in Asia "requires a structure of economic cooperation reflecting the aspirations of all the peoples in the region." This is especially the case since our trade with east Asia "now exceeds our transactions with the European community. America's jobs, currency, and raw materials depend upon ties with the Pacific basin. Our trade with the region is now increasing by more than 30 percent annually -- reaching \$46 billion last year."

In sum, as the President stressed, "the United States is a Pacific nation," and he pledged to "continue America's active concern for Asia and our presence in the Asian Pacific region."

From our small number of facilities in Japan, South Korea, the Philippines and Guam, our forces in Asia -- some 150,000 -- can react in a prompt and measured manner to achieve U.S. goals.

Japan, our principal ally in Asia, plays a vital role in maintaining regional stability. Japan's ability to act as a political leader without large armed forces stems directly from the protective umbrella provided to Japan by her security treaty with the United States. Her sense of security is directly related to her confidence in the strength and efficacy of the U.S. security commitment.

All the major powers of Asia have interests in the Korean Peninsula where, for over 20 years, the United States has maintained its pledge to South Korea and helped keep peace on the Peninsula. Our ground presence has been tangible evidence of support to the Republic of Korea, a formidable deterrent to North Korean attack, and a factor helpful to dissuading either the PRC or the USSR from condoning or supporting such an attack. Since the Japanese consider the security of South Korea to be intimately related to their own security, U.S. support to South Korea is essential to stability in Northeast Asia.

In South Asia U.S. objectives are to encourage peaceful relations among the nations of the area and to discourage superpower competition and confrontation. We are also interested in maintaining free transit through the Indian Ocean route from the Persian Gulf to Japan and the U.S. West Coast. Periodically, we deploy naval forces to the area to support these objectives.

d. The Middle East

The Middle East is an area of paramount importance to the United States. A renewal of Arab-Israeli hostilities could pose a direct threat to U.S. security, particularly if it resulted in a major power military confrontation or another embargo on oil to the West. Political and military instability within the Gulf area itself, if it were to disrupt the supply of oil, would be damaging to U.S. and allied interests.

Our objectives, therefore, are to encourage a just political settlement of the Arab-Israeli conflict, to ensure the supply of oil from the area, to enhance U.S. relations with the key nations of the area, and to limit Soviet influence in the area. Current programs of security assistance are designed to provide the key states in the area with the military strength to deter aggression. Our overall military strength plays an important role in limiting Soviet influence and in assuring the nations in the area of our capabilities to do so.

We seek to build constructive relations with the nations in the Persian Gulf with a view toward encouraging regional stability and security. Our modest naval forces in the Persian Gulf plus the Sixth Fleet in the Mediterranean are sufficient to support our present objectives. We rely upon diplomacy and assistance programs to encourage the nations of the area to support policies in our mutual interest. However, to be prepared for unforeseen developments, current military planning for the area stresses flexibility and the maintenance of a military capability to meet a wide range of contingencies extending from symbolic support of U.S. diplomatic efforts to major conflict.

e. The Americas

In the Western Hemisphere we seek a mature partnership with our neighbors in common diplomatic and military endeavors. The defense aspect of this partnership is to prevent the establishment of military power bases in the hemisphere hostile to our common interests and to prevent threats to regional lines of communication. The wider goal is to expand the degree of multilateral political and economic cooperation among all nations of the hemisphere.

Allocation of U.S. resources to security assistance has materially helped and in the future can continue to help us achieve our bilateral and multilateral objectives in the hemisphere.

f. Africa

The involvement of conflicting major power interests, the potential for instability, the natural resources and the lines of communication which traverse the area serve to make Africa an area of U.S. interest. From the perspective of national security, we are primarily concerned with increased Soviet influence there which could affect NATO security, especially along the Mediterranean, or impact on U.S. interests in the Middle East. At present, Soviet involvement constitutes a significant challenge to U.S. interests in only two areas beyond the Mediterranean littoral:

-- deepening Soviet military activity in Somalia, particularly its developing base at Berbera, will increase the flexibility of Soviet military operations in the Indian Ocean and the Persian Gulf;

-- expanding Soviet political and military involvement in Angola has encouraged continuing instability in that new nation.

Notwithstanding our interest in this region, we do not plan for the use of military force to support our policies. As in Latin America, minimal and selective U.S. security assistance can help us contribute to stability in the area.

g. The Oceans

Although we are not so dependent upon the seas as other nations such as Japan and Great Britain, the United States has significant and long-standing maritime interests. Many of the raw materials and energy sources vital to our economy reach us by sea and the seas provide essential links to our allies. The United States, together with its allies, therefore must maintain maritime forces that are capable of ensuring unhampered use of the seas. We must be able to resist the naval and maritime forces of the Soviet Union and its allies, for they pose the primary challenge to our maritime interests. Further we must ensure that neither friendly nor antagonistic governments have cause to doubt our capability to use the seas or our determination to employ seapower should this be necessary.

5. U.S. Defense Programs

A strong U.S. military posture is a vital ingredient in deterring adventurism by others in areas important to our interests and in providing

the necessary incentive for the Soviets and others to pursue policies of political cooperation and arms limitation negotiations with us.

Specifically, our major defense programs seek to ensure the military capability of the United States, in concert with its allies, to:

- maintain a strategic balance with the Soviet Union;
- maintain conventional combat forces which enable us credibly to deter, and if necessary, to defend against a conventional attack in Europe and which are sufficient to meet the most likely threats to our security and that of our allies elsewhere;
- maintain naval forces adequate to deter attacks on sea lines of communication, project forces ashore and keep essential sea lanes open;
- achieve a more stable military environment through negotiation of equitable arms control measures.

In its defense planning, the United States is following two parallel tracks: we design and deploy the forces necessary to maintain military equilibrium with the Soviet Union and its allies, while at the same time we explore the possibility of achieving, through mutual arms control agreements, a more stable balance at reduced levels of forces.

In military planning, the United States seeks to develop forces that can respond to a wide range of challenges and which are applicable with precision, control, and restraint. This flexibility is crucial if U.S. forces are to be perceived by ourselves, our allies, our adversaries, and the rest of the world, as providing us with the capability to respond appropriately to a wide range of threats. Without such flexibility, the deterrent would be degraded.

The difficult and classical force planning problem lies in deciding just how much defense is enough. The details of the Department's solution to this problem are reviewed in the body of this Annual Report. It should be noted that we have proposed only the most fundamental defense needs. For example, we do not program forces to deal with every conceivable contingency. Nor, with the exception of the strategic nuclear forces, do we attempt to counterbalance potential enemies with U.S. resources alone. One factor of importance in shaping our planning should be mentioned here. During the past 30 years, not only have we seen a rise in U.S. external interests, and an expansion of Soviet military power, we have also witnessed an explosion in the technology of warfare.

a. The Impact of Technology

Prior to World War II, we could spend less than 1 percent of our GNP on defense not simply because of the illusion of isolation but also

because military requirements appeared to be reasonably well understood and straightforward. Ground forces and navies were the product of long experience and gradual evolution. The increasing mobility of the tank and the long-range firepower of the aircraft were beginning to reshape the face of war, but even they were evolutionary platforms and had undergone trials in World War I and subsequent conflicts. Force planning could be, and was, largely traditional and incremental, although occasional and annoying innovators such as airpower and tank enthusiasts threatened to disturb the customary patterns of warfare by suggesting novel uses for newer military instruments.

Now, however, conditions are dramatically different. Because of technology we find ourselves in the position of having to maintain three basic types of forces -- strategic nuclear, theater nuclear, and non-nuclear -- and while the first two are more specialized in their functions than the third (and less costly), they add appreciably to the burden of defense. Technology also obliges us to examine closely proposals for totally new weapons, and frequently to replace old ones before the end of their previously anticipated life-cycles. We know the phenomenon of "trading up" in the automobile industry, but the pressures here are different. With so much of current military competition focused on qualitative improvements in weapons systems, the need grows stronger to stay abreast of the competitor, to avoid block obsolescence in major capabilities, and to modernize systematically.

We have passed well beyond the era of improving the horse. Not only must we contend with the awesome novelty of nuclear weapons, space platforms, and exotic sensors; we must also try to visualize, mostly without combat experience, the types of campaigns that an enemy might attempt to conduct, and the weapons he might decide to use. Only then can we seriously design our deterrent forces.

b. Strategic Nuclear Forces

Strategic nuclear forces occupy a unique position in the planning process. Owing to the power of nuclear weapons, the high technology involved in modern delivery systems, and the need to preclude the possibility of devastating surprise attack at intercontinental distances, strategic nuclear forces must be shaped much more by the specific capabilities of other nations and our deterrent goals than by the shifting currents of international politics and the tactics of U.S. foreign policy.

The facts about the evolution of the Soviet strategic forces should be well-known. Their growing technical sophistication -- with high-yield MIRVs and rapidly improving accuracies -- suggests a considerable interest in continuing force improvements and in flexibility. It is likely, moreover, that even within the limits foreshadowed by the

Vladivostok understanding, they will continue their rapid rate of strategic force modernization which will improve the capabilities of their forces against a wide range of targets.

Our basic objectives continue to be credible deterrence and continued strategic stability. The conditions under which our main offensive forces satisfy these objectives are when they:

- contain a highly survivable second-strike capability that can, if necessary, retaliate with devastating force against an enemy's basic economic and political assets;

- have the combination of warheads, accuracy, command-control, and retargeting capability so that, whatever the contingency, they can execute a variety of second-strike attacks on military and other targets of value to an enemy, and at the same time minimize collateral damage to civilian populations;

- are known to be equivalent to the enemy's offensive forces in the important dimensions of military power;

- remain well-hedged, through active research and development programs, against future vulnerabilities that an enemy might attempt to exploit.

The effectiveness of our strategic nuclear forces in providing credible deterrence and strategic stability continues to be of fundamental concern to the United States and its allies. Without the foundation of our strategic forces, the security and cohesion of our alliances could be jeopardized. The United States, as the strongest nation among the Western allies, bears a particularly heavy responsibility to ensure that its nuclear forces protect our allies as well as ourselves, and that they avoid present and future vulnerabilities. Deterrence needs to be comprehensive and credible. Too much is at stake to tolerate or tempt the serious consideration by opponents of even very high risk attacks.

Under present circumstances, and by these standards, we believe that we have an adequate strategic offensive force. Even after a well-coordinated surprise attack, the United States could (if necessary) retaliate with enough power to destroy its enemy as a modern, functioning society. Furthermore, because this retaliatory capability is diversified among a Triad of offensive forces, the potential for unprecedented damage is well assured.

At the same time, selected portions of our offensive forces are acquiring the flexibility to respond to more discriminating attacks. Not only is our inventory of preplanned options increasing; we are

acquiring the retargeting and command-control capabilities to respond rapidly to unforeseen events. No hostile and reckless power can assume that our hands will be tied because our only choices in response to a limited nuclear attack are inactivity or the holocaust. More appropriate options now exist. We propose to go on refining them -- and making systems improvements such as increased accuracy -- so as to ensure that any attack can be met by a deliberate and credible response.

This degree of flexibility, which is strengthening and broadening deterrence, necessarily includes the option and the capability to strike accurately at military targets, including some hardened sites. But it does not permit, and our programs do not aim to acquire, a disarming first-strike capability against the USSR. Such an objective is not even attainable at present because the Soviets themselves maintain a Triad of offensive forces -- along with massive active strategic defenses -- that preclude a successful simultaneous attack on all three forces.

We can pursue such a policy not only because of our non-aggressive stance in the world, but also because our primary capabilities for second-strike counter-economic and other types of targeting are currently well assured. In fact, precisely for these reasons, our strategic nuclear forces are roughly equivalent to those of the USSR. Despite the differences between the two offensive forces, the overall capabilities of our forces -- however measured -- compare favorably with those of the Soviets.

Whether or not this basic equivalence will continue through the next decade is the most serious issue that we face in our decisions about our strategic nuclear programs. We must now move forward with force modernization programs which ensure the maintenance of a strategic equilibrium for the future and thereby support our SALT objectives. Two difficulties we anticipate in this connection are of special significance. The first is that our heavy bomber force and SSBNs are aging. However, the B-1 and Trident programs give us a sound basis for modernizing these two essential parts of the strategic Triad.

The second difficulty is more profound. The modernization of the Soviet ICBM force that is now underway will increase the vulnerability of the Minuteman ICBMs. We would prefer to forestall any danger to both ICBM forces by mutual agreement. But if we are unsuccessful on that score, we must decide what to do about Minuteman. One superficially tempting option is unilaterally to phase out fixed, hard ICBMs without any replacement. However, that would heighten the vulnerability of our other forces and deprive us of the tight control, retargeting and accuracy that are

such important characteristics of the Minuteman. We would have diminished the means to respond to the more limited nuclear attacks with which we must be concerned, and our deterrent coverage would be less complete.

The consequences of a mistake or a failure of deterrence are so appalling that we cannot afford to ignore any significant vulnerabilities or prospective loss of capability. Accordingly, we must ensure that we have enough warheads for a second-strike to cover targets we deem important, and that we maintain the flexibility and control to deliver them as directed by the President. In a world containing totalitarian and antagonistic powers, vulnerable allies, and possible increases in nuclear proliferation, the capability for controlled and deliberate responses is essential.

Although we seek greater flexibility for the strategic nuclear forces, we recognize that they cannot credibly deter all of the threats that could develop in the future. To cover the full range of contingencies, we must maintain and strengthen our other capabilities.

c. The General Purpose Forces

Our general purpose forces do not need to be coupled as closely to their counterparts in the USSR as our strategic nuclear forces. In part, this is because of the major non-nuclear contributions made by our allies. But it is also the case because the Soviets currently orient a significant fraction of their general purpose forces toward the PRC. We therefore focus on maintaining two principal strong deployments outside the Western Hemisphere -- in Central Europe and Northeast Asia -- and on being able, in conjunction with allies, to hold a forward defense line against a major attack in either theater.

Of the capabilities currently deployed in the European theater, our NATO allies provide a vast preponderance of the ground forces, most of the ships, and 75 percent of the aircraft. A similar situation prevails in the other bastion of free world strength -- Northeast Asia. Without the contributions of our allies, either we would have to offset the military power of our adversaries entirely by ourselves -- with much larger defense expenditures than we are currently making -- or we would have to redefine our interests in much more restrictive terms and risk the erosion of our own security.

The day has passed when, because of overwhelming U.S. strength, we could look upon our mutual security treaties as guaranteeing the security of others by the pledge and the presence of the United States alone. We now depend on the defense contributions of our allies to provide the main barrier to hostile expansion in both Western Europe and Northeast Asia. Our general purpose forces are largely designed to complement theirs.

We believe that a conventional attack should be met by a conventional response, but that we should also maintain a backup theater nuclear capability -- not as a substitute for non-nuclear forces, but as a deterrent to the use of nuclear weapons and as a hedge against failure of our conventional defenses. This is particularly important in view of the extensive improvements in Soviet theater-level, nuclear-capable forces in the European region, such as the development of the SS-X-20 IRBM and the introduction of modern, dual capable aircraft to replace older tactical systems.

These objectives, which also support deterrence, stability, and a higher nuclear threshold, require that we maintain some forces deployed forward in those theaters where opposing strength already is or can readily be concentrated. We also maintain a central strategic reserve in the Continental United States (CONUS), long-range mobility forces, and the capability to protect our sea lines of communication.

It is essential that we maintain positions of strength both in Europe and in Northeast Asia. Because both great theaters are of fundamental importance to the security of the United States, we must size general purpose forces to assist in meeting a major contingency in at least one of these theaters while we help to garrison a forward defense in the other. But since we cannot preclude the use of the general purpose forces in other theaters and for other purposes, the basic objective of our planning must be to provide the forces to deter a major non-nuclear conflict, and in the process, gain the flexibility to deal with lesser contingencies. With this approach, we place a reasonable constraint on our force requirements while providing a capability that is sufficient, we believe, to deal with the most dangerous challenges of a volatile and uncertain international environment.

In recent years, some countries where U.S. forces are stationed have reexamined the terms of arrangements now in effect for the use of U.S. bases and facilities. As a result, we are now engaged in renegotiating agreements with several host nations, such as Spain, Greece, and Turkey. Although we believe that the outcome of these negotiations will prove mutually acceptable, the terms of the new agreements are likely to be shorter than in the past, and our freedom of use adjusted. The force structure we have developed and the programs we propose take these changing considerations into account.

Although general purpose forces are not tied to any single commitment or contingency, and can be used as directed, the most severe test of their adequacy arises in Central Europe. NATO faces a standing force of 27 Soviet and 31 East European divisions, comprising close to a million men, a tactical air force of some 3,000 aircraft, and what must be the

largest concentration of tanks in the world. With little advance preparation, this force could launch a substantial attack into Germany. After a short period of mobilization and deployment, it could be substantially reinforced by divisions and tactical aircraft from the Western Military Districts of the USSR. Thus we face two demanding but conceivable contingencies: first, an attack launched with little or no warning by the deployed forces of the Warsaw Pact; and second, an assault undertaken with the main immediately deployable strength of the Pact after perhaps only a few weeks of warning to NATO.

The United States would not have to face either of these contingencies alone. Allied forces in the Central Region (excluding forces located in France, Denmark and the United Kingdom) consist of about 600,000 men in the ground forces and about 1,300 tactical aircraft -- not counting 7th U.S. Army and the United States Air Forces, Europe (USAFE). By most of the measures of effectiveness and force adequacy, these allied divisions would not be able by themselves to halt an attack by the in-place force of the Warsaw Pact. The four U.S. divisions and three additional maneuver brigades deployed in Germany, along with 8 wings from USAFE, would make the critical difference in ensuring that force and firepower ratios do not favor the Warsaw Pact to an excessive degree.

This is not to say that the current mobilization day (M-day) situation is entirely satisfactory. In the event it were subjected to a surprise attack, if the West had larger ready forces with greater firepower and mobility, it would obviously lessen the risk of a major breakthrough. We are adding two brigades to 7th Army for that reason. But the bulk of any additional in-place capability will have to come from our allies. Unless such a contribution is forthcoming, our best judgment must be that while we cannot have high confidence of stopping a surprise Pact attack, the Pact cannot have high confidence of succeeding in one. Deterrence is served, but not as conclusively as it might be.

To deal with the contingency of a Pact mobilization and deployment, NATO has a reinforcing capability which, if brought to the front in a timely fashion, should be adequate to conduct an effective forward defense. Although the Pact could deploy three times as many tanks and a few more aircraft, NATO could actually have more men in the theater and an edge in fighter-attack aircraft. Whether this would actually be the lineup of forces depends critically on several factors: the time it would take the Pact to deploy and organize such a large attacking force; the amount of warning NATO would have of this effort and the speed of its reaction; and the ability of the United States, in particular, to deploy its active divisions and air wings to Europe.

In light of what our allies are capable of doing, the United States needs to deploy a substantial number of additional divisions and fighter-attack wings to the Center Region in a relatively short time. If we could

provide this force on line in a timely manner, NATO would have the manpower, the force and firepower ratios, the division frontages, and the operational resources necessary to conduct a strong, sustained defense.

The Department is providing the necessary number of active Army divisions for this purpose and improving their deployability. The Air Force plans to fill its 26-wing fighter-attack structure with additional aircraft to improve U.S. firepower still further. In order for us to have high confidence in our ability to deploy all the required ground forces in time to meet a full Pact attack, we need to improve our airlift capability to move outsize cargo.

We also face the problem that the length of a conventional war in Europe is quite uncertain. Despite confident forecasts of a short, intense conflict, it is within the realm of probability that we would have to sustain and support our forces in the Center Region over a period of many months, as well as provide reinforcements to the northern and southern flanks. How effective we would be in these functions depends critically on the availability of amphibious forces, supporting airpower, logistic resources and our ability to protect vital sea lines of communication.

In Northeast Asia we are concerned primarily about the military balance on the Korean Peninsula. North Korea has built up an impressive military capability and devotes almost 15 percent of her GNP to military purposes. Her military forces are armed with modern Soviet air and ground equipment. The North enjoys an advantage over the South in numbers of tanks, artillery and modern aircraft.

The Republic of Korea (ROK) has also improved and strengthened her military forces in the past decade. Her half million army is among the best trained forces in Asia and is numerically superior to the North Korean army. Moreover, in the event of attack from the North the ROK would be defending from prepared defensive positions. On balance we believe the ROK is in a strong position to defend itself against the North if timely U.S. support is provided. While South Korea now finances almost all its defense effort, it continues to need significant FMS credits to continue its force modernization program.

Under the Mutual Defense Treaty with the Republic of Korea, the United States maintains the 2nd Infantry Division as well as an Air Force tactical wing to supplement ROK air capabilities. The U.S. forces support our overall security objectives in Northeast Asia and are a stabilizing element in the area generally. As such they are important to Japan's sense of security (which is also bolstered by the presence of U.S. forces in Japan) and the continuation of moderate Soviet and Chinese policies toward the Korean peninsula.

Although our naval and amphibious forces provide us with enormous reach and flexibility, it is primarily in the context of a European

contingency that we measure their adequacy. It should be emphasized also that a war in Europe could spread to other areas and that, even if the actual combat were more closely confined, we would still be concerned with protecting the sea lanes to Northeast Asia, standing guard against the Soviet Pacific fleet, and maintaining access to the Persian Gulf.

These tasks are demanding, but we believe that the combined U.S. and allied naval forces could perform them at the present time. Our assessment indicates that our forces remain at least equal to their counterparts in the Soviet Union and the Warsaw Pact as a whole. The Soviet navy, with surface ships, submarines, and long-range aircraft, continues to maintain a powerful defense of Russian territory and nearby waters against U.S. sea-based tactical air and amphibious forces. It also continues to develop the potential to interdict U.S. and allied shipping. However, while NATO would probably incur major losses in an antishipping campaign, these losses would not be prohibitive -- as far as we can tell -- and the effect on our combat capability would be severe but not crippling. Existing U.S. and allied sea control forces should be able to take a heavy toll of the enemy's submarines and surface combatants and, within an acceptable time, re-establish full control of sea lanes in the Atlantic and Pacific.

These conclusions are essentially the same as last year, and must be qualified in the same fashion. The Soviets could do grave damage to our surface combatants if they were to attack by surprise, and they might well be able to deny us, at least temporarily, the use of certain seas. Moreover, our ability to continue at even the current level of effectiveness and protect the main sea lanes is directly related to a modernization and expansion of the U.S. Navy. Without such a program, U.S. control of the essential seas will inevitably decline.

d. Security Assistance

Security assistance (which includes grant materiel assistance under the Military Assistance Program, credits and sales under the Foreign Military Sales Act, and Security Supporting Assistance) continues to be an important instrument of U.S. policy. In its early years, grant aid was used to strengthen collective security arrangements against communist expansion by improving the conventional forces of European and Asian allies. Since then, security assistance also has been used to maintain regional security arrangements, help promote recipients' internal security, contribute to base rights and facilities for U.S. forces and, to a degree, increase U.S. influence in recipient countries.

Grant aid has declined as more recipients have reached the point of economic development where they can shift to Foreign Military Sales (FMS), either credit or cash, and to commercial sales. In the past few years, cash sales have grown rapidly, with the bulk of the increase occurring in the Middle East.

The change in character and in primary recipients of security assistance has raised some serious questions regarding the need to continue grant military aid as a policy tool and the wisdom of accepting the role of a major seller and exporter of defense articles and services. Additionally, because the total of recent arms transfers is large and because the materiel sought is often first-line equipment in demand both by U.S. forces and by friends and allies, military exports should come generally from production, or excess or overage equipment in order to avoid adverse impact on overall Defense Department programs and resources.

An evaluation of security assistance suggests that it has on the whole supported U.S. foreign policy. Security assistance has helped maintain a military balance between NATO and Warsaw Pact in Western Europe and contributes to a stabilized balance in Northeast Asia by helping to deter North Korea. In the Middle East, military assistance to Saudi Arabia and Iran has supported the development of regional security in the Persian Gulf area and assistance to Israel has been vital to her security.

Military assistance does not result in the unquestioning support of foreign governments for U.S. policies. Security assistance credits and sales are expected to help further our security interests by providing recipient states with sufficient confidence in their own military security to engage in regional political negotiations, and thus decrease opportunities for the Soviet Union or any other power to intimidate them or gain dominant influence over them.

The demand for articles and services (primarily through foreign military cash sales) is likely to continue as nations acquire the means. The United States is dealing with sovereign nations determined to establish their own defense requirements and who do not wish to be told how to allocate resources. The United States supports multilateral efforts including regional arrangements to limit arms transfers, but this is a sensitive issue involving strongly held feelings of national sovereignty, and progress will be slow and difficult. At the same time, we are decreasingly able, unilaterally, to influence the arms acquisition policies of other nations because military materiel is available from many communist countries and Western nations.

6. The Foreign Policy-Military Posture Relationship Reviewed

The U.S. military force structure is derived from U.S. national security and foreign policy objectives, our appreciation of the most likely threats to the achievement of those objectives, and an assessment of the military force that would be most effective in preventing those threats from materializing, in overcoming them if they should arise, or in generally sustaining U.S. diplomatic efforts to maintain a credible deterrent.

In strategic force planning, the pace and character of U.S. improvements are based on the degree of success we experience in restraining a strategic arms race through arms limitation negotiations and on our estimates of what steps are necessary to prevent Soviet strategic forces from upsetting the current strategic balance.

General purpose force planning is based primarily on our policies of deterring war in Europe and Northeast Asia, and on the necessity to maintain the flexibility to protect major interests elsewhere in the world should they be threatened. The security assistance program remains an important means of helping friends meet their own security needs and undergirding our other foreign policies.

The defense posture has been developed to meet the military requirements of U.S. policy as efficiently as possible, recognizing the range of demands on total national resources.

7. Budgetary Needs

Meeting the military requirements of U.S. foreign policy is a dynamic process created in part by changes in technology, military capabilities, and the international situation. There are no grounds for slackening current defense programs. On the contrary, our assessments strongly support the case for a properly focused real increase in the resources devoted to our military posture.

A rough balance now exists at the level of the strategic nuclear forces and whatever the ambitions of the USSR, essential equivalence is the foundation we must maintain. If challenged, we and our allies have the resources to defend the two bastions of Western Europe and Northeast Asia, and hold open the main sea lanes to our shipping -- although not without serious initial losses. To the extent that we could meet these two basic challenges, we should have in hand the capability to meet other and less demanding contingencies. But our posture, unless strengthened, has potential vulnerabilities such as aging of forces and readiness which is lower than it should be.

Debates no doubt will continue on how to compare Soviet defense expenditures with ours; differences will arise as to whether and when their outlays have exceeded U.S. expenditures. Much or little can be made of the Sino-Soviet dispute and the hard fact that the USSR has tripled its forces in the Far East during the past decade. What cannot be in question, however, are these trends:

-- Soviet defense expenditures have been increasing more or less steadily for more than ten years;

-- Soviet military power -- nuclear and non-nuclear, strategic and tactical, quantitative and qualitative -- has been expanding, not contracting;

-- Much of the expansion has taken place in the forces that constitute a direct threat to the United States and its allies.

We have responded to these developments by extracting greater combat power out of existing defense assets. If we are to maintain the necessary conditions of deterrence and stability in the years ahead, we must provide real increases to the defense budget. The need now is not so much for expanded force structure as it is for the replacement of aging systems and improved capability, readiness, and mobility in the structure that is now planned.

B. THE DEFENSE BUDGET

Department of Defense budget totals are summarized in Table IB-1:

	TABLE IB-1			
	FY 1975	FY 1976	FY 197Q	FY 1977
Total obligational authority (TOA)	87,902	98,261	23,064	112,709
Budget authority (BA)	91,469	100,704	22,957	113,765
Outlays	86,019	91,200	24,600	100,100

TOA and BA figures differ, largely because of the transactions of the Foreign Military Sales Fund.^{1/} Outlays (actual spending) lag because of the long-lead times for many items. TOA provides the most significant measure of the defense program. The FY 197Q figures shown above cover the period July 1, 1976 to September 30, 1976 -- the transition quarter necessary to convert to the new fiscal year. The significant comparisons, of course, involve the full fiscal years.

As indicated above, TOA rose by \$10.4 billion from FY 1975 to FY 1976. Most of this increase was necessary to cover pay raises and price increases and to provide for funding shortages in prior-year shipbuilding programs, limiting the increase in real purchasing power to about \$2 billion. TOA is projected to rise by \$14.4 billion from FY 1976 to FY 1977. About half of this increase is necessary to cover inflation (pay raises and price increases). The remainder -- about \$7 billion -- represents an increase in real purchasing power, necessary to modernize weapon systems, to improve the combat capability of existing forces, and to continue improvements in the equipment of Army divisions and tactical air wings. The budget also provides necessary increases for strategic forces, for continued development and initial procurement of the B-1 bomber; continued development and procurement of the TRIDENT missile and submarine system; and for a range of other strategic system improvements which can be deployed if necessary.

The budget, and the projections through FY 1981, reflect the continued resolve of the President to maintain a defense posture sufficient to ensure that the United States can fulfill its objectives of peace, mutual security and international stability. This budget meets the test of national security needed for the United States and demonstrates a steadiness of purpose and consistency of effort over time.

^{1/} Under the technical rules governing budgetary presentations, budget authority for this fund is the net of orders received from foreign governments and cash collections from those governments. All of these transactions will ultimately be paid in full by those governments. Under the technical budgetary rules just described, though, there are large swings in budget authority from year to year, quite aside from any changes in the defense program.

The increase in real purchasing power provided for FY 1976 is especially noteworthy. Last year marked the reversal of a ten-year downtrend in baseline resources, which reached a quarter-century low in FY 1975. This steady downtrend, in the face of the Soviet trend discussed elsewhere in this report, is a source of deep concern. To reverse the trend, the President proposed an FY 1976 budget that would have provided an increase in real baseline resources from the depressed level of FY 1975. After Congressional reductions in the FY 1976 requests, a real increase of about \$2 billion has resulted. In this connection, it is important to note that some of the Congressional reductions, such as those associated with the war in Vietnam, did not affect baseline U.S. defense programs.

In speaking of an increase in real purchasing power in this Report, it is important to note that we use the conventional definition of that term -- dollar increases over and above those necessary to cover pay raises and price increases. The definition does not imply an increase in manpower, which is in fact declining somewhat and then stabilizing after 1978. Nor does it imply an increase in the force structure, which is essentially stable. The term does not imply, necessarily, an increase in the number of weapons. These increases reflect, primarily, qualitative improvements and the provision of full materiel support to existing units. Modernization and enhancement of this sort are essential to maintain a capability responsive to a mounting threat. Equipment which is purchased to replace worn-out items must embody the technology needed to match the increasingly sophisticated Soviet forces. This necessarily involves defense budget increments over and above those required to cover pay raises and price increases. As noted, such an increment was provided from FY 1975 to FY 1976, although less than required, and the FY 1977 budget requests the increase needed to place us on a steady and orderly path of growth. For the period FY 1978-81, smaller annual increments will be necessary, approximating the size of that provided from FY 1975 to FY 1976.

To achieve the necessary improvements in military capability within existing fiscal constraints, the Department is emphasizing its efforts to obtain greater efficiency within the defense establishment. We will continue to seek opportunities for economies through base closures and realignments, streamlining of headquarters activities, and conversion of support resources into combat capabilities. Furthermore, the Department is sharing in the general restraints upon which the President's overall budget proposals are based. Examples include limiting military and civilian pay increases; a cutback of 26,000 in civilian employment; reducing petroleum consumption; holding new construction below FY 1976 levels; reducing the level of training for certain National Guard and Reserve positions; cutting back travel and transportation, with associated reductions in numbers of personnel; reducing various forms of payments to personnel; phasing out the subsidies for labor and utility costs of

military commissaries; and moving toward fair-market rental values in amounts withheld for occupancy of public quarters. If these actions -- some of which will require legislation -- cannot be accomplished, then additional amounts of about \$2.8 billion or more would have to be added to the FY 1977 budget totals projected here.

1. Baseline Force Trends

In appraising the defense budget trend, it is necessary to allow for pay raises and price increases, and to consider separately certain items which do not contribute to current and projected U.S. military capability. These adjustments are reflected in Table IB-2.

TABLE IB-2
TOTAL AND BASELINE PROGRAM - FY 1977 BUDGET
(TOA, \$=Millions)

<u>Current Prices</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
TOA	80,148	85,061	87,902	98,261	112,709
Prior-year shipbuilding	135	768	1,308	-1,353	-1,623
Comparable TOA	80,283	85,829	89,210	96,908	111,086
Retired pay	4,392	5,137	6,239	7,326	8,434
MAP	1,126	3,310	1,550	1,518	1,177
Military functions, SEA	5,171	1,290	270	-	-
Naval petroleum reserves	-	-	68	118	-
Total, nonbaseline	10,689	9,737	8,127	8,963	9,611
Baseline TOA	<u>69,594</u>	<u>76,092</u>	<u>81,083</u>	<u>87,945</u>	<u>101,475</u>
<u>Constant (FY 1977) Prices</u>					
TOA	111,567	107,321	100,695	105,317	112,709
Prior-year shipbuilding	135	768	1,308	-1,353	-1,623
Comparable TOA	111,702	108,089	102,003	103,964	111,086
Retired pay	6,666	7,109	7,567	7,993	8,434
MAP	1,564	4,357	1,780	1,622	1,177
Military functions, SEA	7,678	1,705	307	-	-
Naval petroleum reserves	-	-	79	128	-
Total, nonbaseline	15,908	13,171	9,733	9,743	9,611
Real baseline TOA	<u>95,794</u>	<u>94,918</u>	<u>92,270</u>	<u>94,221</u>	<u>101,475</u>

a. Current and Constant Prices

The top part of Table IB-2 shows TOA in current prices; the bottom portion shows the data in constant (FY 1977) prices -- that is, the amounts of dollars which would be required had FY 1977 pay rates and purchase prices been in effect in all years. Thus the program which cost \$80,148 million in FY 1973 would have cost \$111,567 million at FY 1977 pay rates and price levels. Inflation has added about 39.2 percent to defense costs over this period of 4 1/4 years. Details on the inflation assumptions will be presented later.

Table IB-2 also reflects the items which must be treated separately in order to focus on the baseline trend. The FY 1977 request includes \$1,623 million (and the FY 1976 total includes \$1,353 million) to cover funding deficiencies for ships in the FY 1975 and earlier programs. These amounts provide no new ships in the FY 1976 and FY 1977 programs. In order to compare program levels with other years, it is necessary to deduct these amounts from the FY 1976 and FY 1977 columns. What remains, after these deductions, are the new ships for FY 1976 and FY 1977, fully funded at price levels now anticipated. In order to make the FY 1975 and earlier columns comparable, the appropriate amounts must be added for these earlier years. (Some of these adjustments would apply to FY 1972 and earlier years, not shown in Table IB-2.) After these adjustments, the comparable TOA line includes the approved shipbuilding program for each year.

Nonbaseline items are grouped in Table IB-2. Military retired pay, a large and growing budget item, does not add to current military capability.

The military assistance program is included here because this program has included large amounts in recent years of a special or one-time nature, which do not contribute to U.S. military capability. Military assistance includes the large program for Israel in FY 1974 and a smaller one in FY 1976, amounts for South Vietnam in FY 1975, and other items. Aside from such special cases, the military assistance program is fairly stable. It must be carried separately in appraising the defense budget trend.

Incremental costs for the war in Southeast Asia financed under the military functions heading (that is, not under military assistance) were \$5.2 billion in FY 1973, declining to \$270 million in FY 1975 and, of course, disappearing thereafter.

The program for Naval petroleum reserves is financed under another (nondefense) budget heading in FY 1977 and thereafter. In the February 1975 projections, made in connection with the FY 1976 budget, the program was estimated to reach very high levels under the defense heading in FY 1977 and later years. It is necessary that this item be set aside here.

Nonbaseline items in current prices decline from \$10.7 billion in FY 1973 to \$9.6 billion in FY 1977. In constant prices, they decline from \$15.9 billion in FY 1973 to \$9.6 billion in FY 1977, a drop of \$6.3 billion or 40 percent. From FY 1976 to FY 1977, nonbaseline items grow by \$648 million in current prices, but decline slightly in constant prices. Changes in this area, while large in dollar terms, do not reflect trends in real U.S. military capability.

b. Baseline Trend through FY 1977

After adjusting for pay and price increases, and setting aside nonbaseline items, the baseline trend in terms of real buying power is shown in the bottom line of Table IB-2. The real baseline trend since FY 1964 is summarized in Table IB-3.

TABLE IB-3
TOTAL BASELINE TOA

(\$=Billions, Constant FY 1977 Prices, Fiscal Years)

	<u>Total</u>	<u>Baseline</u>		<u>Total</u>	<u>Baseline</u>
1964	\$115.4	\$110.4	1971	\$121.2	\$ 97.2
1965	112.6	105.8	1972	116.5	98.3
1966	140.3	102.7	1973	111.6	95.8
1967	149.0	108.2	1974	107.3	94.9
1968	150.2	106.5	1975	100.7	92.3
1969	148.0	104.3	1976	105.3	94.2
1970	132.7	100.7	1977	112.7	101.5

By FY 1975, real baseline TOA had fallen to \$92.3 billion -- down about \$18 billion, or one-sixth, from the pre-war FY 1964 level and at the lowest level since FY 1951. Even with the increase in FY 1976 and FY 1977, the FY 1977 program will still be well below the levels of the peacetime 1950s and 1960s.

Real baseline growth of \$7.3 billion is projected from FY 1976 to FY 1977. This includes net increases of \$1.6 billion for strategic forces, \$4.5 billion for general purpose forces, and \$1.2 billion for the other major defense programs. The major changes are as follows:

-- \$1.6 billion for strategic forces, largely for the Trident missile and the B-1;

-- \$4.6 billion for other major procurement, including \$2 billion for the Navy, of which \$1.9 billion is for shipbuilding; \$1.1 billion for Army procurement to proceed with the equipage and modernization of Army units and buildup of stocks necessary for readiness; and \$1.5 billion for Air Force procurement including continued procurement of the A-10 and F-15 and initial production of the F-16, plus augmented readiness through procurement of necessary materiel;

-- \$2.1 billion for operation and maintenance supplies and services, about half of it for the Navy, to improve readiness and reduce maintenance backlogs;

-- \$0.8 billion for RDT&E, to proceed with modernization efforts of critical importance, including development of a range of strategic force improvements which can be deployed, should that prove necessary;

-- \$1.9 billion, net, in reductions related to the constraints mentioned earlier. This includes reductions of \$0.6 billion in the civilian payroll, which help to offset the O&M increases noted above; \$0.8 billion in the military personnel area, largely related to cutbacks in transportation and travel costs and other economies; and \$0.5 billion in military construction and family housing.

It should be emphasized that the \$1.8 billion in cutbacks is calculated in terms of the pay rates and entitlement levels assumed to be in effect in FY 1977, which are themselves severely constrained. The projections as to pay rates and entitlements -- independent of the \$1.8 billion in cutbacks -- involve reductions of as much as \$3 billion in payroll costs alone when compared to entitlements under present law or earlier submissions. The total impact of these constraints and cutbacks is \$5 billion or more.

c. Comparison with FY 1976 Budget

During the last session of the Congress, the President's appropriation requests for national defense were reduced by \$8.3 billion. These cuts applied to the national defense function as a whole, including the defense-related functions of Energy Research and Development Agency and other agencies, and not exclusively to the DoD/MAP budget. Some of these reductions involved budget authority (financing) but not TOA. Moreover, it will be necessary (this is recognized in the budget resolution) to provide additional amounts in the next session to cover statutory cost-of-living increases for military retirees, plus higher pay increases for wage-board (blue collar) employees than assumed in the FY 1976 budget as submitted. All told, our present estimate of FY 1976 TOA is \$6.9 billion below the estimate of a year ago.

In addition, it is important to note that not all of the Congressional reductions impacted on the baseline program. This is summarized in Table IB-4.

TABLE IB-4

	FY 1976 TOA, \$=Millions		
	FY 1976 Budget, February 1975	Current Estimate	Change
TOA	105,161 ^{a/}	98,261	-6,900
Prior-year Shipbuilding	-2,269	-1,353	- 916
Comparable TOA	102,892	96,908	-5,984
Retired pay	6,936	7,326	+ 390
Military assistance	2,701	1,518	-1,183
Military functions SEA war costs	124	-	- 124
Inventory replenishment fund	300	-	- 300
Naval petroleum reserves	240	119	- 121
Total, nonbaseline	10,301	8,963	-1,338
Baseline TOA	<u>92,591</u>	<u>87,945</u>	<u>-4,646</u>

a/ Includes \$477 million for stock fund war reserves, which, in accordance with prior budget practice, was not reflected as TOA in last year's submission. Such amounts are now shown as TOA for all years, where applicable.

The reduction of funds requested to cover prior-year shipbuilding deficiencies did not involve deletion of any ships. This was merely a deferral of funding until later years. The reduction for military assistance stemmed from the end of the war in Vietnam. Taking account of these and the other items noted, the reduction in baseline TOA was \$4.6 billion, as shown in Table IB-4.

Thus, baseline TOA of \$87.9 billion was provided for FY 1976, an increase of \$6.9 billion from the FY 1975 level. Inflation (pay raises and price increases) is now estimated at 6.9 percent from FY 1975 to FY 1976, a considerably lower rate than the 8.4 percent estimate of last year. Even at this lower rate, inflation consumes most of the dollar increase from FY 1975 to FY 1976, leaving a real increase of about \$2 billion from the FY 1975 level.

d. FY 1977 Budget Comparison with Last Year's Forecast

The FY 1976 budget included a forecast for the years FY 1977-80. The FY 1977 forecast was \$116.6 billion, about \$3.9 billion more than the present FY 1977 budget request. In comparing these two amounts, it is necessary to distinguish between baseline and other changes, as shown in Table IB-5.

TABLE IB-5

	FY 1977 TOA, \$=Millions		Change
	Forecast in FY 1976 Budget (February 1975)	FY 1977 Budget Request (January 1976)	
TOA	116,576	112,709	-3,867
Prior-year shipbuilding		-1,623	-1,623
Comparable TOA	116,576	111,086	-5,490
Retired pay	7,914	8,434	+ 520
Military assistance	2,352	1,177	-1,175
Incremental SEA war costs, military functions	134	-	- 134
Inventory replenishment fund	100	-	- 100
Naval petroleum reserves	486		- 486
Total, nonbaseline	10,986	9,611	-1,375
Baseline TOA	105,590	101,475	-4,115

The shipbuilding item relates to funding shortages for ships in the FY 1975 and earlier programs. In February 1975, it had been planned to finance this entire item in FY 1976. Because the Congress deferred a large part of this funding in action on the FY 1976 request, and because the total requirement is somewhat greater than projected a year ago, it is now necessary to include \$1.6 billion for this purpose in the FY 1977 request. This item has nothing to do with new ships in either FY 1976 or FY 1977, and must be set aside in making program comparisons.

There is a net decrease of \$1,375 million for nonbaseline items. Retired pay is \$520 million greater than forecast a year ago. This results largely from a cost-of-living increase in August 1975, and another now contemplated for March 1976. Under the pay cap assumptions used in preparing the FY 1976 budget and out-year forecasts, these increases were not taken into account.

The decline in military assistance and in incremental war costs derives, of course, from the end of the war in Vietnam.

Legislation proposed for the inventory replenishment fund was rejected in the last session of Congress. Costs for expanded activities in the Naval Petroleum Reserves, which are part of the national energy program, are now carried under another (nondefense) budget heading.

After all these adjustments, baseline TOA for FY 1977 is now projected at \$4,115 million less than was estimated a year ago. This reflects reductions of \$2,745 million for personnel costs and \$1,370 million for materiel.

The cutback in personnel costs results largely from the constraints listed earlier. The major elements are as follows:

-- \$900 million, net, results from the fact that pay rates for FY 1977 are now projected at lower levels than they were a year ago. Pay rates for military personnel and for classified civil service employees are now projected at less than last year. Pay rates for wage board (blue collar) employees in FY 1977 are now projected to be higher than a year ago, in spite of very low raises now assumed in FY 1977 itself. This is because pay raises in this area were not capped as of January 1975, as was planned a year ago. The result of all these changes is that pay rates, for the personnel levels projected last year, would be a net of \$900 million less under present pay assumptions.

-- \$912 million results from reductions in personnel. Last year, employment was projected to continue at FY 1976 budget levels: 2,118,000 military personnel and 988,000 civilians, average employment. The current FY 1977 projections are for average employment of 2,096,000 military personnel and 950,000 civilians. That represents a reduction of 60,000 personnel, including cuts of 22,000 (1 percent) in military personnel and 38,000 (4 percent) in civilian employment. These cutbacks largely relate to the constraints and economies mentioned earlier. For example, the reduction in the number of personnel moves (permanent change-of-station) produces a reduction in military personnel requirements.

-- \$933 million results from other personnel constraints and economies. This includes cutbacks in travel and transportation costs, reductions in average grade, decreases in the enlistment bonus, cutbacks in reserve activities and in annual drills for the National Guard, elimination of dual compensation and administrative duty pay, and other economies.

The remaining baseline cutback from the earlier FY 1977 forecast involves a reduction of \$1,370 million (2 percent) in the materiel area. As to this item, it should be noted that purchase prices for FY 1977 are now projected to be somewhat lower than they were a year ago. On the other hand, the baseline growth planned for FY 1976 -- the starting point for last year's projection -- was not realized in full. Considering these factors together, the baseline buying power now estimated for FY 1977 is less in the materiel area than last year's projection would have permitted -- and is still heavily dependent, it must be emphasized, upon the assumption that present inflation estimates will not be exceeded.

To summarize, then, the present FY 1977 baseline request is \$4.1 billion lower than the projection for a year ago. About \$2.7 billion of this reduction is in the personnel area, including an overall (military and civil service) personnel reduction of about 2 percent. These reductions -- if the assumptions hold -- will not in themselves have an adverse

impact upon force levels or military capability. The remainder of the reduction -- \$1.4 billion -- is in the materiel area. This cutback will have some impact, dependent to a large degree upon future price experience.

2. Outyear Projections

Projections through FY 1981 are in Table IB-6.

TABLE IB-6

	<u>DoD/MAP, \$-Billions (Current Prices)</u>		
	<u>TOA</u>	<u>Budget</u>	
		<u>Authority</u>	<u>Outlays</u>
FY 1977	\$112.7	\$113.8	\$100.1
FY 1978	120.6	121.0	111.4
FY 1979	130.0	130.3	120.0
FY 1980	139.8	140.1	130.8
FY 1981	149.7	150.0	141.3

TOA and budget authority differ somewhat, as noted earlier, largely because of the technical budgetary treatment of the trust fund for foreign military sales. Outlays lag TOA owing to lead-times. The TOA trend is the important one for assessing the defense program.

It is also necessary to allow for inflation, and to sort out non-baseline changes. Table IB-7, shown on the next page, presents the data in these terms. The reasons for the shipbuilding adjustments and the setting aside of nonbaseline items have already been explained. It will be noted that the shipbuilding adjustment is not a factor after FY 1977.

In simpler terms, the TOA trend may be summarized as in Table IB-8.

TABLE IB-8

	<u>TOA, \$-Billions</u>			
	<u>Current Prices</u>		<u>Constant (FY 1977) Prices</u>	
	<u>Total</u>	<u>Baseline</u>	<u>Total</u>	<u>Baseline</u>
FY 1977	\$112.7	\$101.5	\$112.7	\$101.5
FY 1978	120.6	109.7	113.2	103.3
FY 1979	130.0	118.2	115.9	105.8
FY 1980	139.8	127.2	118.9	108.6
FY 1981	149.7	136.4	121.9	111.4

TABLE 1B-7

TOTAL AND BASELINE PROGRAM - FY 1977 BUDGET
(TOA, \$ Millions)

<u>Current Prices</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
TOA	80,148	85,061	87,902	98,261	112,709	120,623	129,983	139,819	149,721
Prior-year shipbuilding	135	768	1,308	-1,353	-1,623				
Comparable TOA	<u>80,283</u>	<u>85,829</u>	<u>89,210</u>	<u>96,908</u>	<u>111,086</u>	<u>120,623</u>	<u>129,983</u>	<u>139,819</u>	<u>149,721</u>
Retired pay	4,392	5,137	6,239	7,326	8,434	9,795	10,648	11,524	12,182
MAP	1,126	3,310	1,550	1,518	1,177	1,144	1,144	1,144	1,144
Military functions, SEA	5,171	1,290	270						
Inventory Replenishment Fund									
Naval petroleum reserves			68	119					
Total, nonbaseline	<u>10,689</u>	<u>9,737</u>	<u>8,127</u>	<u>8,963</u>	<u>9,611</u>	<u>10,939</u>	<u>11,792</u>	<u>12,668</u>	<u>13,326</u>
Baseline TOA	<u>69,594</u>	<u>76,092</u>	<u>81,083</u>	<u>87,945</u>	<u>101,475</u>	<u>109,684</u>	<u>118,191</u>	<u>127,151</u>	<u>136,395</u>
<u>Constant (FY 1977) Prices</u>									
TOA	111,567	107,321	100,695	105,317	112,709	113,155	115,901	118,924	121,913
Prior-year shipbuilding	135	768	1,308	-1,353	-1,623				
Comparable TOA	<u>111,702</u>	<u>108,089</u>	<u>102,003</u>	<u>103,964</u>	<u>111,086</u>	<u>113,155</u>	<u>115,901</u>	<u>118,924</u>	<u>121,913</u>
Retired pay	6,666	7,109	7,567	7,993	8,434	8,743	9,031	9,312	9,586
MAP	1,564	4,357	1,780	1,622	1,177	1,089	1,044	1,003	965
Military functions, SEA	7,678	1,705	307						
Inventory Replenishment Fund									
Naval petroleum reserves			79	128					
Total, nonbaseline	<u>15,908</u>	<u>13,171</u>	<u>9,733</u>	<u>9,743</u>	<u>9,611</u>	<u>9,832</u>	<u>10,075</u>	<u>10,315</u>	<u>10,551</u>
Real baseline TOA	<u>95,794</u>	<u>94,918</u>	<u>92,270</u>	<u>94,221</u>	<u>101,475</u>	<u>103,323</u>	<u>105,826</u>	<u>108,609</u>	<u>111,362</u>

The baseline program in constant prices (the column to the right) reflects a growth of 4 percent per year in the materiel area, offset in part by the full-year effects of personnel economies initiated in FY 1977, including increasing savings as the commissary subsidy is reduced.

The steady increase in the materiel segment of the baseline program, over and above the amounts needed to cover purchase inflation, does not involve an expansion in the force structure nor an increase in the number of weapons. It reflects qualitative improvements and the provision of full materiel support to existing units. Such modernization and enhancement are necessitated by advancing technology and the requirement to maintain an improved capability relative to a mounting threat. These projections are based upon analysis of past trends in technology and costs. Their adequacy for future projections will be carefully reassessed in the months ahead.

Comparison with Earlier Projections

The FY 1976 budget included projections through FY 1980. These are compared with the present projections in Table IB-9.

TABLE IB-9

	<u>TOA, \$-Millions, Current Prices</u>			
	<u>FY 1977</u>	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>
February 1975 projection	116,576	127,841	138,275	147,910
January 1976 projection	<u>112,709</u>	<u>120,623</u>	<u>129,983</u>	<u>139,819</u>
Total reductions	-3,867	-7,218	-8,292	-8,091
Nonbaseline changes:				
Prior-year shipbuilding	+1,623	-	-	-
Retired pay	+ 520	+ 870	+ 684	+ 560
Military assistance	-1,175	-1,158	-1,158	-1,158
Military functions, SEA war costs	134	- 141	- 147	- 153
Inventory replenishment fund	- 100	-	-	-
Naval petroleum reserves	- 486	-1,844	-2,321	-2,307
Net nonbaseline changes	+ 248	-2,273	-2,942	-3,058
Baseline reductions	<u>-4,115</u>	<u>-4,945</u>	<u>-5,350</u>	<u>-5,033</u>

The reductions from last year's projections are quite substantial, amounting to over \$8 billion in FY 1979 and FY 1980. However, a significant portion of these are nonbaseline reductions. The largest are for military assistance, related to the end of the war in Vietnam, and for Naval Petroleum Reserves, now carried under another (nondefense) budget heading. Baseline reductions range from \$4.1 billion in FY 1977 to \$5.4

billion in FY 1979. These baseline reductions are summarized in Table IB-10.

TABLE IB-10

<u>Baseline TOA, \$-Millions</u>				
	<u>FY 1977</u>	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>
Personnel	-2,745	-3,608	-4,113	-4,131
Materiel	-1,370	-1,337	-1,237	- 902
Total baseline reductions	<u>-4,115</u>	<u>-4,945</u>	<u>-5,350</u>	<u>-5,033</u>

The personnel reductions are for FY 1977. They reflect a combination of lower pay raise assumptions; the 2 percent strength cutback previously mentioned, associated with civilian and military economies; and the continuation of other economies. The new policy to curtail commissary subsidies will be fully implemented in FY 1979. There are no major employment cutbacks beyond those to be initiated in FY 1977. The remainder of the cutback is in the materiel area, as shown in Table IB-10.

3. Pay and Price Assumptions

In making any sort of comparison of defense spending, past and projected, it is critical to have a clear understanding of the pay rates and price assumptions used. For example, as shown in Table IB-7, current-dollar TOA is projected to rise by \$69.6 billion from FY 1973 to FY 1981. Real growth accounts for \$7.3 billion of that increase; inflation consumes the rest. The impact of inflation is not only huge in dollar terms; it is also extremely variable and difficult to predict. The estimates are subject to change because of economic trends, which cannot be forecast very well, and because of Congressional action or inaction on presidential proposals.

In addition to the normal hazards of projecting pay rates and price levels, there are a number of assumptions incorporated in these estimates which will require Congressional approval. These include the proposal to phase out the subsidies for labor and utility costs of military commissaries. That proposal will involve budget reductions (in current prices) of nearly \$400 million annually by FY 1979. Such economy factors are treated separately in these summaries from pay rates and price increases, but approval or disapproval of the proposal has a definite bearing upon the amount of military capability which can be provided with a given number of dollars.

a. Pay Rates

Pay increases for military personnel and for classified (general schedule) civil service employees are projected in Table IB-11.

TABLE IB-11

	Civil Service (GS) (percent)	Military (percent)
October 1, 1975 (in effect)	5.0	5.0
October 1, 1976	4.7	4.54
October 1, 1977	8.6	8.30
October 1, 1978	7.0	6.77
October 1, 1979	6.5	6.30
October 1, 1980	5.75	5.59

The 5 percent increase on October 1, 1975, was projected in the FY 1976 budget. However, for October 1, 1976 (the beginning of FY 1977), an increase of 8.75 percent was projected a year ago, as against the present estimate of 4.7 percent. The current Services budget for FY 1977 submitted in November 1975, reflected an increase of 11.5 percent on October 1, 1976.

The method for relating general schedule pay to rates in the private sector is to be changed by administrative action. This will provide for lower increases than the methods used heretofore. The budget assumes that these raises will be constrained on October 1, 1976, to provide not less than 3 percent and not more than 5 percent for each employee. On this basis, the October 1, 1976 pay raise is estimated at 4.7 percent for general schedule civilians. The 8.6 percent raise on October 1, 1977 would bring pay to full comparability under the new approach.

Under present law, military personnel receive pay increases equivalent to those provided to civil service employees under the general schedule. Thus, military personnel received a 5 percent pay raise on October 1, 1975. This raise applied to basic pay and the cash allowances for quarters (BAQ) and subsistence. For personnel occupying public quarters, the quarters allowance is not paid. These quarters allowances are far below the fair market value of the housing occupied. It is planned to bring them into line with the fair market rental on a phased basis, starting October 1, 1976. This will be accomplished by allocating a large portion of future pay increases to the quarters allowance, and lesser amounts to basic pay and subsistence. For personnel who do not occupy public quarters, there will be no dollar impact -- they will receive larger cash increases for BAQ than under present law, and smaller increases for

basic pay and subsistence, with a net increase overall. Personnel occupying quarters would receive smaller cash amounts than at present, since they would forfeit the higher BAQ amounts. Overall, the effective pay increase (in cash) for military personnel would be somewhat lower than for general schedule civilians, as shown in Table IB-11. This proposal, which would require legislation, would reduce the cash amounts required for military pay raises by about \$50 million in FY 1977 and by greater amounts each year thereafter, reaching \$385 million annually by FY 1981.

For wage board (blue collar) personnel, pay increases are projected as in Table IB-12.

TABLE IB-12

	<u>Percent</u>
FY 1976	9.4
FY 1977	3.4
FY 1978	3.4
FY 1979	4.5
FY 1980	6.5
FY 1981	5.75

These increases are much different from those projected previously. The FY 1976 budget, and the projections made at that time, assumed that wage board increases would be held to five percent from January 1, 1975 through FY 1976, with an 8.75 percent increase in FY 1977. Pay raises for the July 1975 - June 1976 period are averaging nearly ten percent at annual rates. These higher rates are in effect throughout FY 1977.

Legislation will be proposed to provide for changes in the manner of relating pay of wage board employees to pay for comparable jobs in the private sector. Under the new standards, the present pay for most employees would equal or exceed the pay rates for comparable private sector jobs. The legislation will propose that, during a transition period, pay increases of not less than three percent will be granted. A few employees will be entitled to larger increases. Thus, pay increases of 3.4 percent are proposed for FY 1977 and FY 1978, with larger amounts thereafter.

b. Military Retired Pay

For military retired pay, cost-of-living increases are projected in Table IB-13.

TABLE IB-13

	<u>Percent</u>
March 1, 1976	5.30
December 1, 1976	4.43
September 1, 1977	4.46
June 1, 1978	4.40
March 1, 1979	4.00
July 1, 1980	3.98
June 1, 1981	4.08

The March 1, 1976 increase (5.30 percent) is projected under present law. For each of the later increases, present law would provide one percentage point more than shown in Table IB-13 -- e.g., 5.43 percent instead of the 4.43 percent shown for December 1, 1976. This is because legislation is being proposed to delete the one percent increment, over and above the measured increase in the cost of living, which is now provided with each retired pay adjustment. This proposal will significantly reduce retired pay costs below what they would be under present law. The reduction is estimated at \$112 million for FY 1977, growing to \$559 million by FY 1981.

Retired pay is also influenced by the smaller raises proposed in military basic pay, since retired pay is based upon the rate of basic pay when the member leaves the service. Pay raises will be constrained to 4.5 percent in FY 1977, returning to the new comparability level in FY 1978 and thereafter. If, instead, pay were to be at the new comparability level in FY 1977 and be maintained at comparability thereafter, retired pay would be \$5 million greater in FY 1977 than now projected, and would be \$26 million greater by FY 1981.

The first two items involve reductions in retired pay costs below what they would be under present law. Legislation is also being proposed to modernize the retired pay system, which would involve higher outlays in the FY 1977-81 period but lower costs in the long run. This legislation would add \$40 million to retired pay costs in FY 1977; \$154 million in FY 1978; \$131 million in FY 1979; \$119 million in FY 1980; and \$93 million in FY 1981.

c. Purchase Price Increases

Through December 1975, these increases are determined on the basis of an index maintained by the Department of Commerce. Projections after that date are developed by using factors furnished for this purpose by the Office of Management and Budget, and represent the official forecasts of the GNP deflator.

On this basis, the trend in prices of goods and services purchased from industry is projected in Table IB-14.

TABLE IB-14

	<u>Outlays</u> (Percent)	<u>TOA</u> (Percent)
FY 1973 to FY 1974	11.2	12.7
FY 1974 to FY 1975	17.6	11.8
FY 1975 to FY 1976	7.4	7.0
FY 1976 to FY 1977 (15 mos.)	7.9	7.2
FY 1977 to FY 1978	6.2	5.4
FY 1978 to FY 1979	5.3	4.6
FY 1979 to FY 1980	4.3	4.1
FY 1980 to FY 1981	4.0	4.0

Inflation rates for TOA differ from those four outlays because TOA spends out over several years. Thus, for example, TOA granted for FY 1973 will be spent over the period FY 1973-77; TOA granted for FY 1974 will spend out over the years FY 1974-78. In developing the TOA inflation rate from FY 1973 to FY 1974, it is necessary to consider outlay inflation rates over all these years.

d. Summary of Pay Raises and Price Increases

Table IB-15 shows a summary of the pay raises and price increases by year from FY 1973 through FY 1981, under the pay and price assumptions used herein.

The pay raises indicated earlier are reflected in the pay data. The figures in Table IB-15 take account of the number of months during each fiscal year that the pay rates are in effect. For example, the October 1, 1975 pay raise (5 percent) was in effect for nine months during FY 1976, but will be in effect for all 12 months of FY 1977. The October 1, 1976 pay raise (4.7 percent) will also be in effect for all 12 months of FY 1977. The increase from FY 1976 as a whole to FY 1977 as a whole for general schedule employees is therefore six percent, as shown.

The military pay base reflects these annualizing adjustments, the assumptions with respect to quarters allowances described earlier, and the employer share of the social security tax, which rises faster than the remainder of the pay base.

The bottom of the table shows composite totals. These totals are summarized in Table IB-16, and are compared to the most common measures for measuring the impact of inflation:

TABLE IB-15
Pay Raises and Price Increases
 (Percentage increases, fiscal years)

	<u>1973</u> <u>-1974</u>	<u>1974</u> <u>-1975</u>	<u>1975</u> <u>-1976</u>	<u>1976</u> <u>-1977^{a/}</u>	<u>1977</u> <u>-1978</u>	<u>1978</u> <u>-1979</u>	<u>1979</u> <u>-1980</u>	<u>1980</u> <u>-1981</u>
Military pay base	8.1	6.2	5.1	6.2	8.5	6.8	6.3	5.6
Other military personnel expense	<u>11.3</u>	<u>17.0</u>	<u>6.5</u>	<u>8.3</u>	<u>5.5</u>	<u>4.8</u>	<u>4.2</u>	<u>4.1</u>
Total, military personnel	<u>8.5</u>	<u>7.4</u>	<u>5.3</u>	<u>6.5</u>	<u>7.8</u>	<u>6.2</u>	<u>5.5</u>	<u>4.9</u>
Classified civil service (GS)	6.1	5.4	5.1	6.0	8.6	7.0	6.5	5.8
Wage boards	<u>8.2</u>	<u>11.9</u>	<u>10.6</u>	<u>9.2</u>	<u>3.4</u>	<u>4.1</u>	<u>5.7</u>	<u>6.0</u>
Total, civil service	<u>7.1</u>	<u>8.3</u>	<u>7.5</u>	<u>7.4</u>	<u>6.6</u>	<u>5.9</u>	<u>6.2</u>	<u>5.9</u>
Military retired pay	9.7	14.1	11.2	9.1	12.0	5.2	5.0	2.7
Industry purchases:								
Outlays	11.2	17.6	7.4	7.9	6.2	5.3	4.3	4.0
TOA	12.7	11.8	7.0	7.2	5.4	4.6	4.1	4.0
Composite total:								
Outlays	9.4	12.5	7.0	7.7	7.2	5.7	5.0	4.5
TOA	10.3	10.1	6.9	7.2	6.6	5.2	4.8	4.5

a/ 15 months

TABLE IB-16

	GNP Deflator (Percent)	Consumer Price Index (Percent)	Wholesale Price Index (Percent)	Composite DoD Deflators	
				TOA (Percent)	Outlays (Percent)
FY 1973-74	8.1	8.9	16.1	10.3	9.4
FY 1974-75	10.8	11.1	16.9	10.1	12.5
FY 1975-76	6.2	7.3	6.2	6.9	7.0
FY 1976-77 (15 months)	7.6	7.5	8.7	7.2	7.7
Compound total, FY 1973-77	36.9	39.6	56.8	39.2	41.8
FY 1977-78	6.2	5.9	6.8	6.6	7.2
FY 1978-79	5.3	5.3	NA	5.2	5.7
FY 1979-80	4.3	4.4	NA	4.8	5.0
FY 1980-81	4.0	4.0	NA	4.5	4.5
Compound total, FY 1977-81	21.4	21.1	NA	22.8	24.3

The Defense projections (the two right columns) and the official forecasts for the economy as a whole anticipate much lower rates of inflation for the years FY 1977-81 than occurred in the FY 1973-77 period.

The relationships among the measures vary from one year to the next. Over the period FY 1973-77 as a whole, inflation estimates for the Defense budget are slightly higher than for the GNP deflator, about equal to the consumer price index, and far below the rate of inflation on wholesale prices. For the period FY 1977-81, the inflation estimates for the Defense budget are slightly higher than the official projections of the GNP deflator and the consumer price index.

For FY 1976-77, of most significance here, the projected outlay inflation rate for the defense budget (7.7 percent) is almost identical to the official forecast of the GNP deflator (7.6 percent) and the consumer price index (7.5 percent).

The defense inflation rate is, of course, strongly influenced by pay raise assumptions. In this connection the relationship between pay raises and the consumer price index (cost-of-living) is an important one to bear in mind. For example, Table IB-17 shows trends in pay rates for classified civil service employees (white collar, or general schedule) and the consumer price index.

TABLE IB-17

	General Schedule Pay Rates (Percent)	Consumer Price Index (CPI) (Percent)
FY 1973-74	6.1	8.9
FY 1974-75	5.4	11.1
FY 1975-76	5.1	7.3
FY 1976-77 (15 months)	6.0	7.5
Compound total, FY 1973-77	24.6	39.6
FY 1977-78	8.6	5.9
FY 1978-79	7.0	5.3
FY 1979-80	6.5	4.4
FY 1980-81	5.8	4.0
Compound total, FY 1977-81	30.9	21.1

Thus, over the four years through FY 1977, pay raises lagged the cost-of-living. There were sharp drops in real income. Some of this is projected to be made up in the period FY 1977-81. This is an important point to bear in mind in appraising the Defense inflation rates relative to others, and, in particular, in connection with the pay raise assumptions for FY 1977.

4. Hazards in Estimates and Assumptions

The Defense budget for FY 1977 contemplates real baseline growth of some \$2 billion from FY 1975 to FY 1976, further growth of \$7 billion from FY 1976 to FY 1977, and smaller increments of growth through the years to FY 1981. It must be emphasized, however, that this budget, the out-year projections, and statements such as those just noted concerning real buying power, are based upon certain critical assumptions. These assumptions must be clearly understood, because they are of central importance in appraising this budget and the out-year projections.

It is assumed here that the economy-wide rate of inflation for the period FY 1977-81 will be about half that for the period FY 1973-77. Should the inflation rate on industry purchases be just two percent per year more than projected, it would still represent a significant improvement as compared with recent price experience. But if that should occur: (a) there would be sharp real defense decreases in the out-years, rather than moderate increases, with the dollar totals now projected; (b) the increase in real defense buying power from FY 1976 to FY 1977 would be sharply reduced; and (c) the apparent increase from FY 1975 to FY 1976 would disappear. The dollars provided for FY 1976 simply would not buy as much as we now assume they will.

It is assumed that pay raises will be low for FY 1977: 4.7 percent for white collar workers and 4.5 percent for military personnel on October 1,

1976, and 3.4 percent for wage board (blue collar) employees during FY 1977. If, instead, pay raises were assumed to be at the new comparability line, with no change in the law governing wage boards, FY 1977 pay costs would rise by some \$0.8 billion. If, alternatively, the FY 1977 pay raises reflected in the Current Services Budget (submitted in November 1975) were to take effect, pay costs would be some \$2.6 billion greater than shown in FY 1977.

Annual defense expenditures are divided about equally between pay for military and civilian personnel and purchases of goods and services. Each half is treated differently with respect to inflation in developing the budget. As inflation and productivity improvement affect private sector wages, Defense manpower costs increase. Nonetheless, the inflation problem is primarily a question of how the purchase of goods and services from the private sector is funded because pay rate increases have in the main been covered by appropriated funds.

Not all proposed purchases in defense budgets include allowances for inflation. For example, 48 percent of the \$59.4 billion of requested purchases in the FY 1976 budget submission contained no allowance for continued inflation after budget preparation. In accordance with Office of Management and Budget rules, these purchases were priced at the actual prices current in the late summer and early fall of calendar year 1974 when the FY 1976 budget was prepared. Yet, these funds will be spent, on the average, almost two years later, and the total accounts will be underpriced by the amount of all the inflation that occurs during those two years. Furthermore, the FY 1977 budget may be affected even more severely by the impact of a zero inflation allowance for almost half its purchase funds. Owing to the impact of the fifth transition quarter in FY 1976, its funds will spend out, on the average, even further from the price levels current at its preparation.

In the case of those accounts that do include an inflation allowance, the underpricing problem has been exacerbated by the way that the budget authority granted to Defense by Congress becomes translated into actual outlays of cash. Only about 40 percent of the funds for Defense purchases authorized in any specific budget are actually spent during the fiscal year of that budget. This means that, in recent years, most of the expenditures in any specific year were authorized by budgets that had been prepared as many as four and five years in the past when no one was projecting the rates of inflation we experienced in 1974 and 1975.

Over half of the funds that Defense will actually spend in 1976 for purchases are based on estimates prepared in or before the summer of 1973. This was before the nation began to experience high, unanticipated inflation.

Taking into account both those items with no allowance for forward pricing and those that include inflation allowances, and if the inflation rate for FY 1976 is only six percent, Defense outlays for purchases in FY 1976 would still be underpriced by about \$2 billion. That is, Defense would

be short about \$2 billion in the funds to purchase the goods and services requested in the FY 1976 budget and approved in prior year budgets which spend out in FY 1976. If an inflation rate of eight percent were to occur, we would be short about \$3 billion in FY 1976.

To add another perspective, the President's budget lists the following steps being taken in the area of economy and efficiency:

- Restrain the growth in compensation levels;
 - Eliminate 26,000 civilian personnel positions by consolidating headquarters and other base facilities;
 - Phase out subsidies for the operating costs of military commissaries over a 3-year period;
 - Eliminate dual compensation of Federal employees on active duty for training with the National Guard or Reserve;
 - Reduce temporary duty and permanent change-of-station travel;
 - Reduce petroleum consumption for proficiency flying programs through greater use of smaller aircraft and ground training aids;
 - Reduce the scope of the civil defense program, while continuing to support nuclear attack preparedness activities at the state and local level;
 - Hold new construction below 1976 levels;
 - Reduce the paid drill strength of the Navy Reserve by 40,000.
- If these actions are not approved, then \$2.8 billion would have to be added to the FY 1977 budget.

In more detail, some of the actions proposed in this budget are:

- The housing system of the Department of Defense will be reformed gradually to eliminate inequities between the value of housing directly received and the allowances provided in lieu of housing. As a first step, future military pay raises will be allocated differently among the various pay components;
- Enlistment bonuses are being reduced, and the need to extend legislation authorizing annual bonuses for physicians as a recruitment and retention device will be re-examined;
- Legislation to replace the basic pay of cadets at the service academies with a method of compensation more appropriate for students -- the payment of expenses plus a monthly allowance -- will be requested;

-- Congress will be requested to enact the Defense Officer Personnel Management Act. This act is designed to match better the military work force with job requirements, in terms of rank and length of service;

-- New personnel policies will reduce the costs of military travel and the adverse effects of frequent transfers on the morale of military personnel and their dependents;

-- Training times will be reduced, personnel will be assigned to permanent duty stations as soon as possible after training, and training sites will be consolidated where feasible;

-- Legislation has been proposed to reform gradually the career incentives in the military retirement system. Legislation is also proposed to revise the formula for the cost-of-living adjustment for civilian and military retired pay. This will eliminate provisions that increase annuities by one percent more than the Consumer Price Index increase;

-- Legislation will be proposed to reform aspects of the law governing wage-board pay rates which result in Government civilian blue-collar workers earning more than their non-Government counterparts.

The dollar impact of all this is obviously very large. Using certain assumptions, as noted, the President's budget indicated that the FY 1977 budget would have to be increased by \$2.8 billion if these actions were not taken. If, alternatively, the Department were to make the same FY 1977 pay assumptions as in the Current Services Budget, this margin would grow to \$4.5 billion for FY 1977. If, in addition, it were assumed that purchase inflation would be just two percent a year greater than now projected, the margin would swell further to \$7 billion for FY 1977 alone. And the required add-ons would be much greater in the out-years.

These matters are emphasized to underscore the critical importance of favorable action in the pay area and in connection with the other legislative proposals and economy actions incorporated in the President's FY 1977 budget. If favorable action is not taken on the President's overall proposals, this would add large amounts to defense budgetary needs, both directly and indirectly. Direct add-ons would be necessary in the pay area, for example, and in the many other areas discussed. Indirectly, higher rates of inflation would add greatly to our budgetary requirements. It is simply not feasible, consistent with our national security needs, to absorb large additional amounts of inflation within the restrained totals presented here.

II. STRATEGIC NUCLEAR FORCES

The Department of Defense is requesting TOA of \$9.4 billion to cover the direct cost of our strategic nuclear forces in FY 1977. This total includes about \$3.7 billion for investment. The increase over the FY 1976 request is due primarily to proposals for the production of the B-1 bomber and the Trident I missile system. Beyond FY 1977, total direct funding for the strategic forces is expected to grow at an annual rate of about three percent in real terms, primarily owing to the need to continue modernizing those bomber and missile forces originally procured in the 1960s.

The current request should be put in context. During the early 1960s, when the U.S. was first buying the major part of the current generation of strategic offensive forces and replacing older long-range bombers with ballistic missiles, Defense spent over \$20 billion a year (in FY 1977 prices) to cover the direct costs of this essential program. Since then (as shown in Chart IIA-1), on the average, the strategic budget has declined at a rate of about five percent a year in real terms -- partly because of decisions by the Executive Branch on relative defense needs, and partly as a result of Congressional actions.

In FY 1976, about \$7.3 billion was requested to cover the direct cost of developing, purchasing, and operating the strategic nuclear forces. Of this total, some \$3.3 billion went to R&D and procurement. This was the lowest level of funding (in constant dollars) proposed for the strategic forces in the last 15 years (as shown in Chart IIA-2).

During this same period, the U.S. maintained a roughly constant level of offensive launchers and modernized its strategic capability through gradual and evolutionary change. This record underscores the restraint the U.S. has shown in the strategic competition.

Both the SALT agreements of 1972 and the Vladivostok understanding of 1974 indicate the continuing U.S. desire to place restraints on the further evolution of the strategic nuclear forces. As a nation, we would welcome equitable reductions in offensive capabilities at the earliest possible time. But no nation should mistake our desire to achieve equitable reductions for weakness. Whatever the circumstances, the United States will maintain an adequate strategic nuclear posture.

CHART IIA-1

STRATEGIC SPENDING WILL CONSUME 10-15% OF TOTAL DoD SPENDING

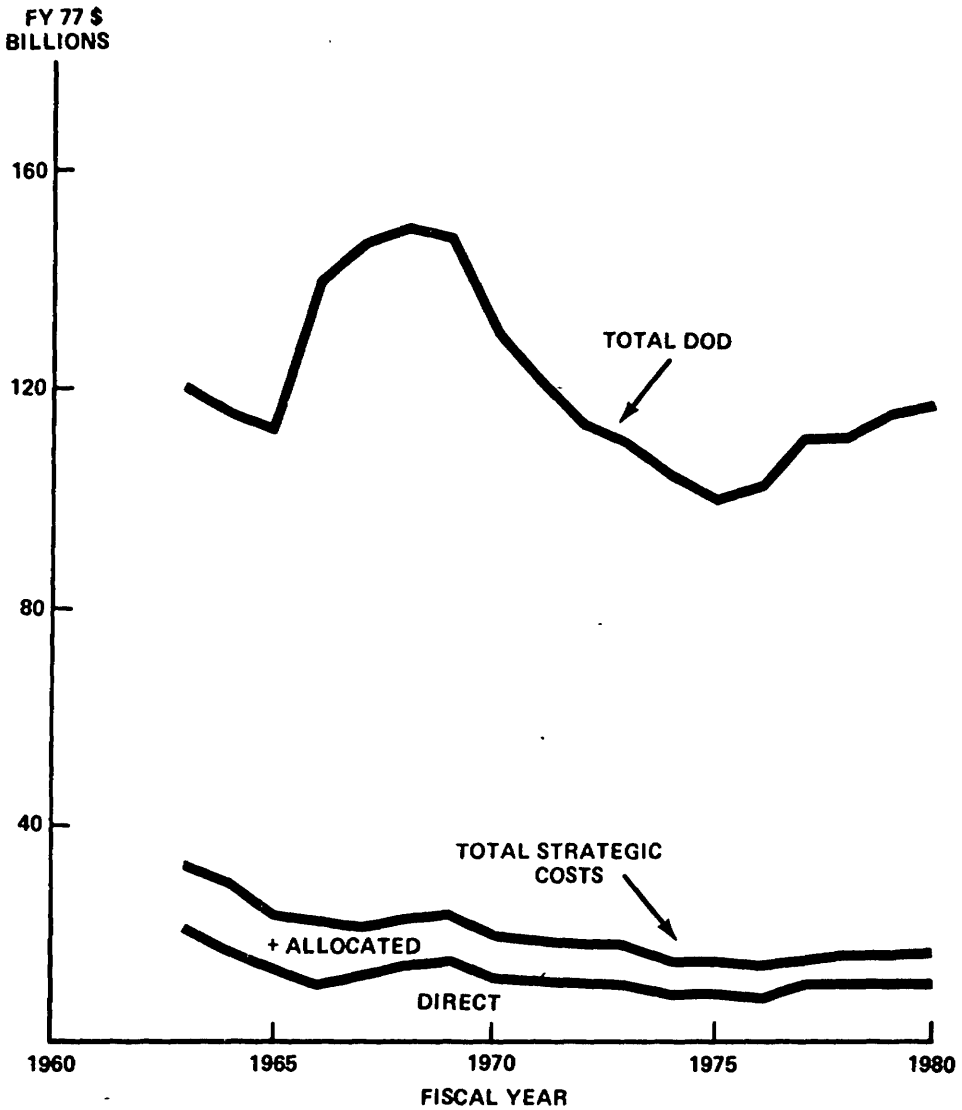
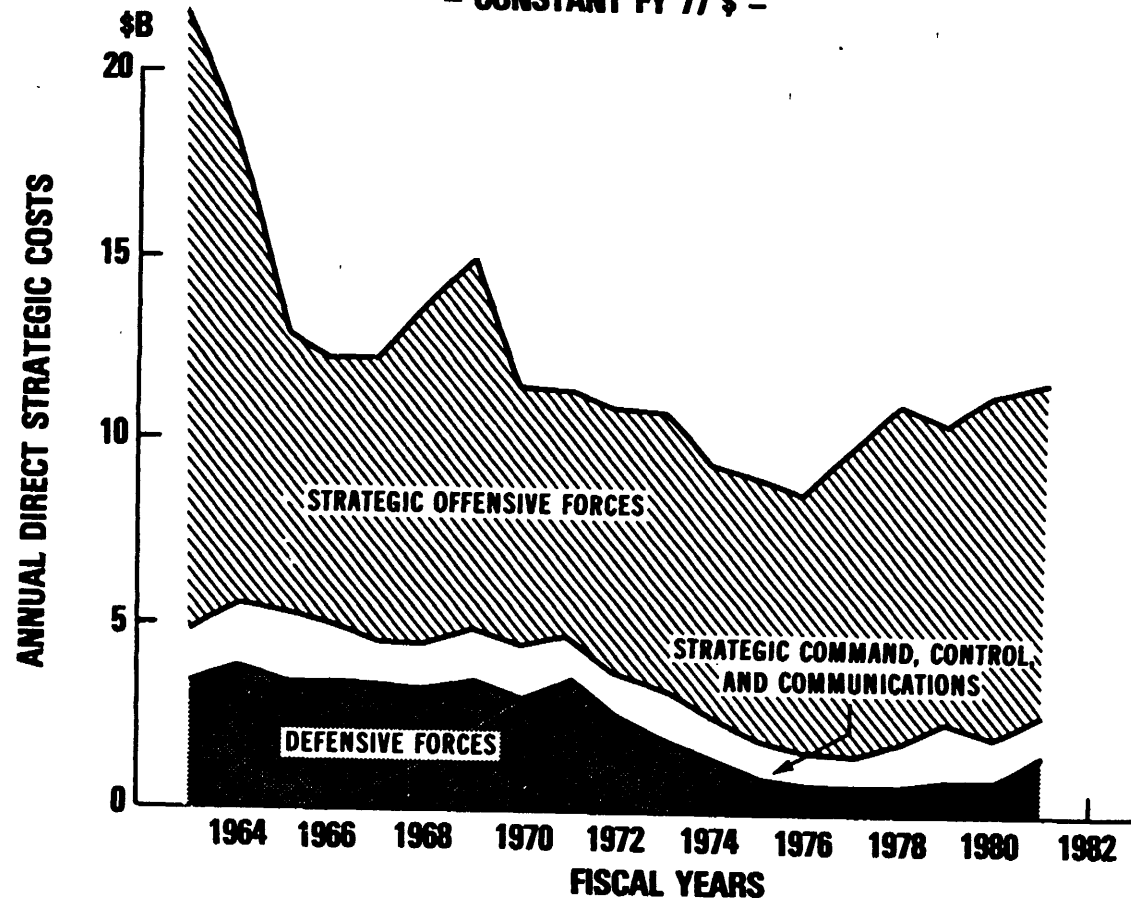


CHART IIA-2

STRATEGIC FORCES BUDGET TRENDS

- CONSTANT FY 77 \$ -



A. BASIS FOR THE STRATEGIC NUCLEAR FORCES

Without the foundation of adequate strategic nuclear forces, the United States and its allies cannot hope to deter aggression and contribute to some semblance of international stability. That much should be well understood and agreed. At issue are the measures of adequacy.

1. The Problem of Objectives

In the first five or more years after World War II, the United States regarded these forces as the main weapon in its defense arsenal and depended on them heavily, at least rhetorically, to deter a wide range of contingencies, non-nuclear as well as nuclear. Thereafter, it became evident that they did not have all-purpose utility. Although they still have other roles, their fundamental function is to counter the strategic nuclear capabilities of the USSR. Without a major strategic nuclear force in the armory of the free world, none of the other capabilities maintained by the United States and its allies would count for much. In the absence of U.S. ballistic missiles and long-range bombers, and the shadow they cast, the temptation to adventure and aggrandizement would be even greater than is now the case.

While many may wish that nuclear weapons had never been invented, the dangers of their presence are offset to some degree by the fear and uncertainty they inspire. Winston Churchill attempted to capture this paradox when he noted: "It may be that we shall by a process of sublime irony have reached a stage in this story where safety will be the sturdy child of terror, and survival the twin brother of annihilation."

Churchill may have been trying to make the best of a bad situation, but others -- less illustrious -- have argued that the paradox could be exploited by the proliferation of nuclear weapons, so that every nation could threaten great damage and ensure survival thereby. And, as nuclear proliferation occurs, although not at a rapid rate, the United States must address this vulnerability.

The acquisition of a large and diversified nuclear capability by the USSR has had especially profound and negative effects on U.S. security. Within agreements and without agreements, with detente and without detente, with restraint on our part and without it, the Soviets have pressed forward with the development of their forces. A comparison of the U.S. and Soviet force levels, present and projected through mid-1977, is shown in Table IIA-1.

What we must recognize in these circumstances is that even within the constraints of SALT, the United States must remain competitive not

TABLE IIA-1

U.S. AND USSR STRATEGIC FORCE LEVELS

	<u>Mid-1975</u>		<u>Mid-1976</u>	
	<u>U.S.</u>	<u>USSR</u>	<u>U.S.</u>	<u>USSR</u>
<u>Offensive</u>				
ICBM Launchers				
Operational <u>1/ 2/</u>	1034	1600	1054	1500
Others	0	0	0	0
SLBM Launchers				
Operational <u>1/ 2/</u>	656	730	656	850
Others	0	0	0	0
Long-Range				
Bombers <u>4/</u>				
Operational <u>5/</u>	497	160	421	180
Others <u>6/</u>	112	170	184 <u>7/</u>	175
Force Loadings <u>8/</u>				
Weapons	8500	2500	8900	3500
<u>Defensive 9/</u>				
Air Defense				
Surveillance Radars	59	4500	61	5500
Interceptors <u>10/</u>	412	2600	315	2600
SAM Launchers <u>11/</u>	-	10000	-	10000
ABM Defense				
Launchers	36	64	100	64

- 1/ Includes on-line missile launchers as well as those in the final stages of construction, in overhaul, repair, conversion and modernization.
- 2/ Does not include test and training launchers, but, for the USSR, does include launchers at test ranges which are probably part of the operational force.
- 3/ Includes launchers on all nuclear-powered submarines and, for the Soviets, operational launchers for modern SLBMs on G-Class diesel submarines.
- 4/ The following long-range bombers are placed in this category: for the U.S.: B-52s, FB-111, and B-1; for the USSR: Bear, Bison, Backfire.
- 5/ Includes deployed, strike-configured, aircraft only.
- 6/ For the U.S., includes bombers for RDT&E and in reserve, mothballs and storage. For the USSR, includes all variants of Bear, Bison and Backfire (tankers, ASW, trainers, reconnaissance, etc.) wherever located.
- 7/ Represents the maximum number of aircraft assuming no cannibalization.
- 8/ Total force loadings reflect only those independently-targetable weapons associated with on-line ICBMs/SLBMs and UE aircraft. Weapons reserved for restrike and weapons on inactive status are not included.
- 9/ Excludes radars and launchers at test sites or outside CONUS.
- 10/ These numbers represent Total Active Inventory (TAI).
- 11/ These 10,000 launchers accommodate about 22,000 SAM interceptors. Some of the launchers have multiple rails.

only in strategic nuclear capabilities but also in technological improvements. While we continue to seek further progress in the control of strategic arms, we must still plan and prepare for such possibilities as strategic nuclear threats or even attacks on the United States and its allies; continued nuclear proliferation which could cause new and different dangers for us; short-term vulnerabilities that a crisis might expose, and long-term weaknesses that an opponent might try to exploit; miscalculations that could bring us to the brink of hostilities.

The lead times associated with the development of strategic nuclear forces require prudence in planning ahead. It takes up to 18 months to prepare a missile silo, around two and a half years to build a B-1, and about four years to construct a Trident submarine. Faced with these lead-times, and a still longer cycle of R&D, we must estimate future trends and design appropriate forces. Current technology does not permit us to delay selection of an appropriate counter until an opponent has developed and fielded an improved system. We must decide now what systems we should deploy in the 1980s, and build into the U.S. nuclear posture enough adaptability to cope with unforeseen events.

These trends shape the objectives that we consider desirable and feasible to achieve with our strategic nuclear forces. The first and obvious objective is to deter nuclear attack or the threat of such attack. No nation has a greater stake in the avoidance of nuclear war than this one. The main challenge is not when and how to use nuclear weapons -- although we cannot ignore their possible use -- but how to deter the use of nuclear weapons by others without the sacrifice of U.S. rights and interests.

A second objective is to strive at all times for stability in the relationship between the strategic forces of the United States and the USSR. We seek a situation in which neither side will see any advantage in initiating the use of strategic forces.

In addition to deterrence and stability, we must assure that others understand clearly the nature of the strategic relationship. Whether we seek precise equality or rough equivalence, it is to the interest of everyone that there be no misapprehensions or miscalculations, no bomber or missile gaps, no need for abrupt and unsettling efforts to correct some unforeseen vulnerability. A strategic balance now exists; all interested parties should see that it is in their interest that it continue to exist.

Even though the future is uncertain, lead-times long, and forward information uncertain, we must plan for deterrence and stability in the years ahead. While our objective should be flexibility and the maintenance

of important options for improving and diversifying our strategic forces, we should work to improve the chances for further arms control. Finally, we should seek to attain our ends at the minimum feasible cost.

Deterrence and stability represent our basic strategic objectives. But the level at which they are achieved depends to a large extent on the other side. We ourselves would have been willing to forego further improvements in these powerful forces on condition of reciprocity; and we would welcome decreases on both sides provided that equitable and verifiable measures can be negotiated. We intend to remain prepared, but we are prepared to negotiate.

2. The Conditions of Effectiveness

These objectives do not represent any departure from the past. Most thoughtful Americans have agreed and will continue to agree on them. What appears to be at issue, and what must be considered with the utmost gravity, is the specific set of conditions that tend to satisfy our objectives.

a. Deterrence

To consider these issues, it is essential to define the requirements of deterrence. It should be evident, in this connection, that deterrence is not something that comes about of its own accord. Before we can have deterrence, we must demonstrate a capability to act, the ability to act effectively, a credible plan to act, and the will to act according to plan with the available capability. Only when we meet these requirements can we say that an opponent confronts a credible deterrent.

Whether an adversary will be dissuaded from hostile acts by such a deterrent cannot be certain. While we cannot put ourselves in the minds of our rivals there have been instances where opponents were willing to run high risks in order to achieve their objectives. Hence, where the stakes are so large, we must ensure to the degree possible that a response unacceptable to an adversary and tolerable to us will follow his action. Before our deterrent can be credible to him, it must be credible to us.

b. Assured Retaliation

Once the need for a credible deterrent has been accepted, the specific conditions of credible deterrence become more apparent. No one doubts that, at all times, the United States must have some minimum force which can survive even a well-executed surprise attack in adequate numbers to strike back with devastating force at an enemy's economic and political assets. Such a force is essential not only as the basic deterrent, but also as a capability that can be withheld so as to deter any attack on U.S. and allied cities and population.

The precise size and composition of this surviving force is always a source of some discussion. There seems little question, however, that it should be diversified, redundant, based on conservative assumptions about enemy effectiveness on a first strike, and capable, on a second strike, of delivering a substantial megatonnage against the enemy's basic economic or political targets. Such a capability is a minimum essential foundation of strategic deterrence.

In the past, the Department has judged that a Triad of ICBMs, SLBMs, and heavy bombers represented a reasonably conservative and well-hedged way to maintain this foundation for the U.S. strategic posture. At present, there is no reason to change the policy.

c. Options

While there is general agreement about the functions and characteristics of the basic deterrent, the second main condition of credible deterrence arouses a number of controversies. They center on whether, in addition to the capability for assured retaliation, the nation requires a capability to attack other types of targets and, if so, what those targets should be.

The United States has for some time maintained the options and forces necessary to retaliate against targets other than cities. But as Soviet forces expanded and became more flexible, the question arose as to whether these older and large-scale options still suited the current situation. The conclusion, reached after much study, was that further options should be developed, and that forces, command-control, and plans should be modified accordingly.

There are cogent reasons for supporting that conclusion. Although many people suppose that a massive surprise attack against our cities and forces is the only way in which a strategic nuclear exchange might begin, it is only one of a number of possibilities. In fact, while it serves an extremely useful purpose as a worst case for testing the adequacy of forces, it may be among the less likely contingencies of the future. In the case of a massive surprise counterforce attack, a U.S. retaliation which concentrated on people and cities would not necessarily be a wise response. The Soviets are gaining the capability in an initial counterforce attack to withhold a large percentage of their forces with which they could retaliate in kind. If we struck their cities, they would have strong incentives to do the same. In these circumstances, whatever the other objections to such a U.S. strategy, it would represent a response of uncertain credibility to anything but the most barbaric kind of attack and, as a consequence, cannot serve this country or its allies well as a deterrent. Clearly, other types of responses should be available.

Admittedly, we are talking here about high-risk possibilities for which there is little precedent. But as Lord Jellicoe remarked about the battle of Jutland and his handling of the British fleet in World War I: "I had always to remember that I could have lost the war in an afternoon." Unprecedented events such as the attack on Pearl Harbor and the Cuban missile crisis have occurred. Accordingly, in a realm where the stakes are so high, it is essential to take such events into account in designing the strategic deterrent. Threats to our allies or even to some portion of our own forces are certainly conceivable, and the nation should have available the ability to respond to them in as selective and discriminating a fashion as the occasion warrants.

It is convenient and comforting to some to believe that any use by anyone of strategic nuclear forces must be so apocalyptic that everyone will be deterred from thinking seriously about their employment. Unfortunately, however, we cannot count on others to refrain from inventing ways to attack a limited but vital set of targets, and we would be foolish indeed not to think of countermeasures that opponents and friends can recognize as plausible and credible. Deterrence is not weakened by flexibility; it is strengthened.

Since there has been so little public discussion of options and more flexible responses, there is a tendency to assume that the targets for strategic delivery systems fall into only two categories: cities and enemy strategic forces. Until recently, at least, cities have been regarded as "good" targets, and hard, point targets as "bad" targets. Anything that could hit a city was "good"; anything that could destroy a hard, point target was "bad".

The list of targets has never been that limited. But, in any event, we have now acquired the combinations of yield and accuracy that permit long-range delivery systems to strike at a wider range of targets, and to do so with relatively low collateral damage. No law of physics prevents an ICBM warhead from attacking a radar, a submarine pen, a command bunker, a nuclear storage facility, an airfield, or a division in bivouac. The list of potential targets is long; many of them are relatively isolated from population centers and of considerable value. Depending on the circumstances, it could make a great deal of sense to be able to target them, just as it has made sense in past wars to conduct specialized strategic bombing campaigns. Nor should we rule out coverage of some enemy silos, airfields, or submarine bases on a second strike. Contrary to a popular view, many of these targets would remain of interest after an enemy had struck, not only because some of the launch vehicles might have aborted or have been withheld, but also because some of the launch points -- bomber bases and certain ICBM silos, for example -- could be used to reload and recycle offensive forces.

It is also worth noting that targets -- whether strategic nuclear, general purpose, economic, or political -- vary considerably in their blast-resistance. They are not simply hard or soft. Aircraft runways must be hard enough to withstand frequent takeoffs and landings; nuclear storage sites should be hard enough to resist high-explosive detonations; missile silos obviously should be harder still. In the circumstances, it might be well to eschew such general terms as counterforce and hard targets, and specify the particular class of targets that are under consideration for a reentry vehicle with a specified combination of accuracy and nuclear yield.

Where the main ICBM forces of the United States and the USSR are concerned, it would be in the interest of both sides to forego the capability to destroy very hard missile silos. The United States, in fact, does not possess a significant capability against such targets because of the small payloads and the limitations on the accuracy and yield of our ICBMs. It made sense to exercise restraint in this respect as long as Soviet capabilities against our ICBM silos were also limited. We must continue an R&D program on more powerful reentry vehicles, and we should keep open the option to deploy RVs which combine sufficient accuracy and yield to cover a wide range of important targets.

In sum, the need for flexibility places certain requirements on our strategic forces over and above those generated by the mission of assured retaliation. Not only must we have a substantial number of additional warheads and survivable delivery systems; we must also acquire the yields and accuracies necessary to attack targets with discrimination. In addition, we need survivable command and control and retargeting capabilities to permit the execution of preplanned options and to respond in a controlled and deliberate fashion to unforeseen events. As long as these conditions are satisfied, an opponent should have no grounds for believing that he could launch either a crippling attack or one so selective and unnerving that we would find it impossible to respond in an appropriate and effective fashion.

d. Equivalence

Credible deterrence should operate under these conditions -- both for the United States itself and for its allies -- and be effective in a crisis as well as in less critical times. But we cannot be certain that friends and foes will make the same analytical judgments, or that they will even use the same criteria when they assess the relative effectiveness of the U.S. and Soviet offensive forces. For those who have studied closely the possible attacks that we strive to deter, it is evident that a mere counting up of forces is not a satisfactory way to determine the relative strengths of the two nuclear powers. Many other factors, such as accuracy,

reliability, survivability, and command and control, have as much impact on overall force effectiveness as the more obvious considerations of megatonnage, warheads, and delivery vehicles.

Unfortunately, however, the understanding of strategic analysis is not nearly as widespread as it should be. In the past, we have suffered from bomber gaps, missile gaps, and megatonnage gaps that have caused what some would regard as over-reactions to perceived vulnerabilities and disadvantages. Perhaps we have become more relaxed about such asymmetries now. But there remains the possibility that serious, real asymmetries or misconceptions about them could arise and lead to pressure, crisis, and confrontation.

Since it is desirable to forestall situations such as the Cuban missile crisis, we believe that our forces, in addition to meeting the conditions of second-strike assured destruction and multiple options, should be roughly equivalent to the forces of the USSR. We do not mean by this that our strategic offensive capabilities should constitute a mirror-image of Soviet missiles and bombers. Rather, we follow the dictates of Public Law 92-448 that they should not be inferior in their overall potential effectiveness. The Vladivostok understanding, as translated into an equitable SALT II agreement, would constitute a first step toward the kind of equivalence that would be more durable, even though the Department would be agreeable to lower levels of offensive forces. As should be evident, since we plan U.S. forces for second-strike missions, their size and composition are sensitive to Soviet forces and programs. Should the Soviet offensive capability decline in numbers, throw-weight, and effectiveness, we would need a smaller total inventory of delivery systems and warheads for second-strike coverage of what we consider appropriate targets. To have any prospect of such a result, however, we have to recognize that the Soviets negotiate seriously in SALT only when they face real (not paper) programs with significant military capabilities and Congressional support.

As a defensive power, the United States does not seek to acquire an exploitable advantage with its strategic nuclear forces. As long as we are not challenged to a life-or-death competition, our goals are essential equivalence and stability in the nuclear relationship. But we cannot and will not allow an effort to upset this stability.

The Soviets are now modernizing their large ICBM force at a rapid rate. The replacement of the SS-9 and SS-11 with the heavier SS-17, SS-18, and SS-19, combined with improved accuracies and high-yield MIRVs, means that our ICBM silos will grow increasingly vulnerable during the coming decade. At the same time, the Soviets continue to expand and modernize their sea-based missile force, produce the Backfire bomber, harden their command and control facilities, install redundant communications systems, expand their reconnaissance capability, install improved air defenses, and continue their research and development on new and more modern ABM systems.

We cannot, of course, state with confidence what the Soviets intend to do with this increasingly powerful offensive force. But we cannot ignore the capability that it will give them unless the United States responds. Despite the problems of fratricide, reliability, and command-control, they may be able, at some point, to destroy a significant fraction of our Minuteman force, all of our non-alert bombers, and any of our missile submarines in port. Their alerted air defenses would then be ready for our remaining bombers while they themselves would still have on hand a considerable follow-on force of missiles and bombers.

Our own SLBMs -- both on station and in transit -- would still be intact, and we believe that our alert bombers would retain a high probability of penetrating to Soviet targets. But our ability to disrupt the Soviet follow-on force and cover many other important targets of value would have diminished. Under these conditions, our flexibility would be small; theirs would remain substantial. Depending on the circumstances, we could still retain the ultimate sanction -- the ability to destroy the USSR as a modern society -- but the Soviets would have the ability to retaliate in kind. In addition, they could still retain other follow-on forces and the ability to exert pressure on our allies and on the United States.

Whether the Soviets could actually exploit this advantage, and whether the possible gains would seem worth the undoubted costs and risks of such a campaign must remain uncertain. But even though the probability may be low, it is a contingency which is bound to haunt us increasingly and is bound, therefore, to produce crisis and arms race instability unless we are able to deal with it.

The argument is sometimes made that it is the United States rather than the USSR which is in the best position to reach a large-scale hard target capability, and that what we are witnessing is a Soviet reaction to this potential. This argument tends to overlook the serious problems the United States faces in developing a major hard target capability. Restricted throw-weight, lower-yield MIRVs, and restrictions on reliability testing are likely to make the task of the United States more difficult than it should be for the USSR.

3. Future Plans

One of the major issues we face in planning future strategic nuclear forces is the extent to which we should proceed with a hard target capability. Before we can resolve that issue, there are two preliminary questions that need to be answered. First, should we supplement the Minuteman with a comparably flexible but more survivable system? Second, should we oblige the Soviets to come to grips with the same problems that we face?

One solution to the problem that is suggested would be to phase out the Minuteman force and not replace it, relying on the presumed invulnerability of the SLBM and alert bomber forces for second-strike deterrence. However attractive on the surface this approach might appear, it has several important drawbacks. Not only would we lose the warheads, precision, and flexibility represented by Minuteman; we would increase the vulnerability of our bombers, and an opponent could shift the allocation of resources from his ICBM force to antisubmarine warfare. A major, unfavorable, and unacceptable asymmetry in the two forces would have developed.

Another solution suggested would be to adopt a policy of launching our ICBMs from under attack. This, of course, is an option that the President has with any system. But it has been and continues to be the policy of this Department to design strategic offensive systems in such a way that they can either ride out an attack before being launched, or, if launched on warning, can be reliably recalled, as in the case of U.S. alert bomber. While tactical warning systems have become more diversified and reliable, they are neither perfectly reliable nor immune to countermeasures. It would be a mistake in these circumstances to eliminate our options and restrict the President's choices in the future. The decisions he must face on nuclear employment are already so difficult that we should provide him with as much flexibility and control as technology permits and contingencies warrant.

This principle points to the conclusion that we should be prepared to supplement Minuteman, or replace it in part, with a comparable but more survivable system. One option for doing so would be to continue with the production of the Trident submarine beyond the 10-boat program that we have projected. This is an option that we should keep under study, although it remains to be seen whether we can achieve the accuracy and control provided by the Minuteman in the SLBM force. Furthermore, we must be cautious about the number of assets we commit to one type of basing, however survivable it may presently seem to be.

Still other options exist on land and in the air. We should move in an orderly way to settle on the preferred option. Deployment decisions are still in the future, but we must decide soon on the type of missile to engineer, its basing mode, and the amount of flexibility to build into it. While the current strategic nuclear force may represent a high-confidence, second-strike capability for as much as another decade, we must be prepared to modernize it as Soviet accuracies and reliabilities improve.

The Soviets, in turn, must recognize that the large expenditure they are making on the modernization of their own ICBM force may be wasted. We do not propose to give them convenient and easy targets for their heavy and increasingly accurate MIRVs. We must ensure that our second-strike forces do not represent a tempting target and that we have no reason whatsoever for launching them prematurely.

Whether we should attempt to impose a similar discipline on the Soviets is a more difficult question. For longer-term strategic stability to be reasonably assured, both sides should probably adopt some form of survivable basing for their ICBMs.

We seek deterrence and stability. We believe that deterrence is best achieved by maintaining a well-designed, second-strike force which has the capability for assured retaliation and the flexibility to cover a wide variety of military, economic, and other targets with a minimum of collateral damage and a maximum of choice and control. The increasing sophistication of Soviet offensive forces and the dangers of nuclear proliferation call for no less. Uncertainty about the assessments that others will make as to the relative strategic power of the United States and the USSR requires that U.S. offensive forces be seen as roughly equivalent to those of our principal rival. We must also make certain that we do not fall behind the Soviets in the technologies essential to strategic force effectiveness. Hasty rejection of technological advances, especially where diminishing returns to scale have not yet set in, is just as unwise as a premature decision to deploy new weapons systems. We must be wise enough to do research and exploratory development on new technologies, yet strong enough to refuse production if the resulting systems are inefficient.

The United States does not need to strive for an advantage in the strategic arms competition as long as it maintains equivalence in its nuclear capabilities and an adequate posture in its general purpose forces. Provided that these conditions exist, we can continue to seek mutual restraint, stability, and equitable reductions in strategic forces. Strategic stability is in the best interests of both the United States and the USSR. Because that is the case, we shall strive to maintain it -- preferably by agreement.

The strategic balance, as represented by presently deployed forces, is stable and acceptable today. But if the Soviets continue their present programs with the effect of upsetting the balance, we are prepared to re-establish strategic stability by force improvements of our own. It is worth noting in this connection that both the number of our delivery vehicles and the number of U.S. strategic offensive and defensive warheads are about the same as they were 15 years ago, although our total megatonnage has gone down, our accuracies have improved, and the composition of our offensive force has changed significantly.

We do not look forward to a further adjustment in our strategic programs; we have competing uses for our resources. Provided that we are alert and careful, the Soviets cannot obtain an influential advantage. Our preference is to limit the competition and assure strategic stability at lower levels of force. Now or later, we are prepared to work to that end with the USSR. But we intend to remain alert, careful, and competitive.

4. Programs

The programs proposed by the Department should enable the United States to maintain its competitive position. Specifically, the current plan is to respond to the continuing evolution of Soviet strategic nuclear capabilities by:

- Modernizing the bomber and submarine forces at a pace dictated by the aging of current systems and the requirements of stable deterrence.

- Modifying the Minuteman force with improvements in its survivability and accuracy.

- Keeping to the numerical limits of the SALT I Agreement pending further arms control decisions.

- Maintaining a strong R&D and technology base for the longer term, with particular emphasis on a new ICBM (M-X) with multiple basing possibilities and a new SLBM (Trident II).

- Undertaking full-scale development of the intermediate-range cruise missile for aircraft or other deployment.

- Keeping other strategic defense spending at moderate levels while continuing a broad-based ABM and air defense R&D effort to ensure the technology base on which to develop full systems if they should be seen as needed in the future.

- Holding funding for strategic command, control, surveillance, and warning systems to modest increases in real terms by making improvements in efficiency and phasing out the more marginal capabilities as new systems become operational.

- Lowering the cost of operating the strategic forces through defense-wide efficiency measures, improvements in training, and continued use of Guard and Reserve units to supplement active forces in the performance of major missions.

The trends in the Soviet and PRC strategic nuclear forces, and our responses to them, are described in the next sections.

B. SIGNIFICANT DEVELOPMENTS IN FOREIGN STRATEGIC CAPABILITIES

1. The Soviet Union

The pace, character and scope of Soviet strategic programs strongly influence our own requirements for strategic forces. SALT agreements can reduce some uncertainties about the future and slow the pace of strategic arms deployments, but they cannot substitute for prudent force planning. While the Soviets advocate restraint in the development of new strategic weapon systems by others, they appear unwilling to practice restraint in their own strategic weapons development.

The strategic offensive forces of the Soviet Union have undergone continued improvements in 1975. The principal developments in these forces during the past year have been:

- ICBMs - deployment of their new generation of MIRVed systems has commenced;

- SLBMs - emphasis on SSBN construction has continued, with new submarine types and new missile types appearing; however, the longer-term force goals are uncertain;

- Long-Range Bombers - Backfire has joined the Long-Range Aviation and Naval Aviation forces;

- R&D programs are underway for both new and modified ICBMs.



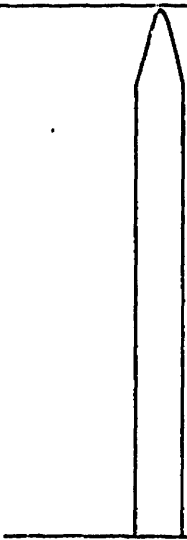

a. ICBMs

In 1974, four new Soviet ICBM systems were being flight tested extensively, silos were being both hardened and converted to accommodate the new missiles, and actual deployment of the missiles was imminent. In 1975, flight tests on all four systems continued, and three silo-based systems -- the MIRVed SS-17 and SS-19, and the single-RV SS-18 MOD 1 -- have now achieved operational status. The fourth new ICBM, the SS-X-16, which could be either silo-based or mobile, is probably capable of being deployed at any time.

Chart IIB-1 reflects our most recent best estimate of the new ICBM systems' characteristics. The Soviets employ two different launch techniques -- hot launch and cold launch. Thus far, hot launch has been the normal procedure; our Minuteman force and the Soviet SS-9/SS-11 force use this technique, in which the silo is damaged during launch, requiring refurbishment. Perhaps for this reason, the SS-18 and SS-17 have both been configured for cold launching. With cold launch, where the missile is "popped out" of its silo by a gas generator before the main booster motors are fired, the silo is not heavily damaged and is capable of being reloaded. This technique also allows the firing of a larger throw-weight missile from a fixed size silo than does a hot launch.

CHART IIB-1

SELECTED CHARACTERISTICS OF THE NEW SOVIET ICBMs

Characteristic	System					
	SS-X-16	SS-17	SS-18			SS-19
			Mod 1	Mod 2	Mod 3	
						
Launch Technique	Hot	Cold	Cold			Hot
Number of RVs/Missile	1	4	1	8	1	6

We expect that the Soviets will eventually complete deployment of near the 1,320 MIRVed missiles they are permitted under the terms of the Vladivostok Understanding, but we are uncertain at this time of the balance they will select between MIRVed SLBMs and MIRVed ICBMs.

The SS-18 program, in which both MIRVed and non-MIRVed payloads have been tested, has received a large amount of public and diplomatic attention this past year because of the verification issue in SALT. As a result of the verification problem and because we believe that deployment of the non-MIRVed Mod 1 and Mod 3 will be substantially less than the MIRVed Mod 2, our position in the SALT II negotiations has had to be that all deployed missiles which have been tested with MIRVs are presumed to be deployed with MIRVs.

The SS-X-16 ICBM and its derivative, the mobile SS-X-20 IRBM, continue in their test programs with recent Soviet emphasis on the SS-X-20. In contrast to the SS-17, SS-18, and SS-19 developments, the SS-X-16, because it is smaller and has a single RV, represents less of a threat to the Minuteman force. The SS-X-20 comprises the first two stages of the SS-X-16 and has a MIRVed payload. Although the SS-X-16 has a post-boost vehicle, there is presently no evidence that the Soviets have tested it with a MIRVed payload. The Soviets have additional R&D programs in progress for modified and new ICBMs.

The probability of kill against hard targets such as ICBM silos is most sensitive to missile accuracy. It is this feature of the new Soviet ICBM program which, with multiple high-yield warheads, translates into a potential hard target capability, unmatched by the U.S.. As the Soviets proceed with their expected ICBM deployment and continued improvements in accuracy, the combination of increased throw-weight, MIRVing and improving accuracy will increasingly threaten the survivability of our fixed-silo Minuteman force.



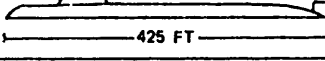
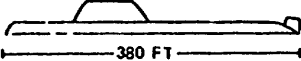

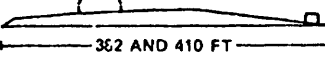
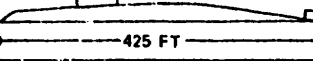
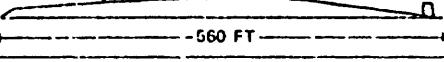
b. SLBMs

The evidence accumulated this past year on Soviet ballistic missile submarine (SSBN) and SLBM programs has shed light on some aspects of these programs and raised new questions about others. It is clear, however, that the Soviets have already commenced new long-term programs to upgrade their sea-based ballistic missile force. A comparison of U.S. and Soviet SSBN/SLBM systems is provided in the chart on the next page.

The Soviets are continuing a vigorous submarine construction program and have launched several units of a longer version of their 12-tube D-class SSBN. This longer version is about 500 feet long, compared with the 450-foot original D-class, and has 16 missile tubes. There is no evidence that any missile other than the 4,200 nm single-RV SS-N-8 will be carried in the near term by the new D-class version.

CHART IIB-2

BALLISTIC MISSILE SUBMARINES

USSR	YEAR OPERATIONAL	PROPULSION	MISSILE
D CLASS  500 FT	1976	NUCLEAR	16 SS-N-8 (4200 NM)
D CLASS  450 FT	1973	NUCLEAR	12 SS-N-8 (4200 NM)
Y CLASS  425 FT	1968	NUCLEAR	16 SS-N-6 (1300-1600 NM)
H CLASS  380 FT	1960	NUCLEAR	3 SS-N-5 (700 NM)
G CLASS  320 FT	1960	DIESEL	3 SS-N-4/5 (350-700 NM)
US POLARIS  362 AND 410 FT	1960	NUCLEAR	16 A-3 (2500 NM)
POSEIDON  425 FT	1971	NUCLEAR	16 C-3 (2500 NM)
TRIDENT  560 FT	1979	NUCLEAR	24 C-4 (4000 NM)

Regarding the overall size and composition of the future Soviet SLBM force, last year's basic judgment remains valid, that the Soviet Union probably intends to expand its SLBM force up to the limit of 950 launchers set by the Interim Agreement of 1972.

c. Long-Range Bombers

The Soviet strategic bomber program has not changed appreciably since last year, nor has that of the Soviet tanker force. The number of Bear and Bison bombers remains virtually unchanged. The Backfire continues to be the only new heavy Soviet bomber in production. It is estimated that over 50 Backfire B bombers have been produced to date. Most of them have been deployed, and are divided between Long-Range Aviation and Naval Aviation forces. Production of the Backfire B is continuing.

Recent performance assessments confirm previous findings and continue to show that the Backfire has the capability to strike the United States on intercontinental missions. Even without aerial refueling or staging from bases in the Arctic, Backfire bombers could cover virtually all of the U.S. on one-way missions, with recovery in third countries. Using Arctic staging and refueling, they could achieve a similar target coverage and still return to their staging bases in the Soviet Union.

d. Cruise Missiles

Cruise missiles constitute another system which has taken on added prominence. For some time the Soviets have had a large variety of submarine-launched and ship-launched cruise missiles. They are generally short-range.

The Soviets have deployed a fleet of about 40 SSGN nuclear-powered and some 25 SSG diesel-powered submarines designed specifically to launch the longer range cruise missiles. These submarines, together with a small number of guided-missile cruisers, are currently supported by a large inventory of SS-N-3s and a variety of other shorter range missiles. If the Soviets were to divert their sea-based cruise missiles from the antishipping missions to which we believe they are currently assigned, and extend their range, they could attack large portions of the U.S. population and industry.

The Soviets also have several air-launched cruise missiles, similar to our Hound Dog, for deployment with their Bear and Badger bombers. However, thus far the Soviets have not tested the intermediate-range cruise missiles, such as the ALCM and SLCM that we now are developing. Further, there is no evidence as yet that the Soviets possess the technology to pursue over the near term a strategic cruise missile development.

e. ABM

There is no indication that the Soviets are increasing the number of ABM launchers deployed around Moscow from the current 64 to 100 as permitted by the ABM Treaty. The failure either to expand or to improve significantly the Moscow system does not mean, however, that the Soviet Union is not engaged in a very active ABM R&D program.

Since the ratification of the SALT agreement, the Soviets have emphasized the development and testing of new radars which have an apparent ballistic missile defense (BMD) capability.

f. Air Defense

Soviet operational air defenses are continuing along the lines noted last year. Active SA-2 sites have declined further in number, but some additional SA-3 low-altitude and SA-5 high-altitude sites have been deployed. We expect that the Soviets will continue this modernization program.

The Soviets continue to modify and improve their current manned interceptor force and to augment this force with the newer Foxbat and Flagon E aircraft. However, we still cannot identify a look-down, shoot-down system for the Foxbat or any other interceptor, although we believe the Soviets are attempting to solve the difficult problems associated with such systems. The same general types of problems may plague their airborne early warning aircraft, the so-called Moss aircraft, which is operational in small numbers.

Given the Soviet predisposition toward extensive air defenses, we fully expect them to continue their efforts to develop a look-down, shoot-down capability for an interceptor and a look-down and track capability for an AWACS and eventually to deploy both. It is with this expectation that we are incorporating provisions for advanced defensive avionics in the B-1, which could face this threat within its lifetime. We are also considering the option of using the B-52 along with long-range ALCMs to saturate the area defenses, attack targets beyond the range of individual aircraft sorties, and thereby enhance the effectiveness of the B-52 and B-1. Use of the B-52 for this mission through the 1980s and 1990s would be appropriate because it would be expensive to maintain these aircraft as low-flying, penetrating bombers in the face of advanced air defenses.

The Soviets are also continuing with the construction of two large over-the-horizon radars which face the United States.

g. Antisubmarine Warfare

Although we are always wary of the possibility of an unforeseen technological breakthrough, the Soviet ASW threat is best characterized

as evolutionary, with each succeeding sensor and platform more capable than its predecessor. The Soviets continue to emphasize ASW against the U.S. SSBN force, and they deploy and exercise SSNs, surface ships, carrier-based helicopters, and shore-based aircraft in this role.

Presently, the Victor-class SSN is the most capable Soviet ASW platform. The Victor alone does not pose a threat to our Poseidon force. However, the continued Soviet emphasis on ASW, the gradual proliferation of platforms, and the evolutionary improvements in sensor technology must be watched with great care.

h. Civil Defense

An asymmetry has developed over the years that bears directly on our strategic relationship with the Soviets and on the credibility of our deterrent posture. For a number of years, the Soviets have devoted considerable resources to their civil defense effort, which emphasizes the extensive evacuation of urban populations prior to the outbreak of hostilities, the construction of shelters in outlying areas, and compulsory training in civil defense for well over half the Soviet population. The importance the Soviets attach to this program at present is indicated not only by the resources they have been willing to incur in its support, but also by the appointment of a Deputy Minister of Defense to head this effort.

2. The People's Republic of China

The slow pace of Chinese strategic developments has continued during the past year. They still do not have either operational long-range bombers, SLBMs, or CONUS-capable ICBMs. We continue to believe that SSBN/SLBM development is in an early stage. They have had an ICBM program for several years but again last year there was no major progress in either of the possible ICBMs, limited-range or longer-range. There were, however, successful firings of the longer-range missile in a space-launch role. Based on these facts, it appears that their development of an offensive capability against the continental U.S. is several years away.

They do have a modest theater nuclear capability against the USSR and other adjacent East Asian nations -- including a number of our allies -- consisting of some 50-100 bombers, SRBM/MRBMs, and IRBMs.

3. Nuclear Proliferation

We continue to be concerned about the potential development of nuclear weapons by other nations. The Indian example demonstrates that proliferation can continue and that the absence of safeguards permits a nation with the basic technical skills to develop a nuclear explosive capability.

Whether India will develop its "peaceful" nuclear explosive capability into weapons remains to be seen; there is no evidence yet that this will be the case.

The primary concern stems from an assessment that many other countries, like India, now have the basic technical skills to use, and potential access to, nuclear materials. We would not expect many of these countries to proceed in the direction of nuclear weapons development because we do not see it to be in the interest of their security to do so, and many are constrained by treaty obligations. Nonetheless, increased proliferation means increased risk, and we continue to support the strongest possible safeguards on the transfer of nuclear materials and technology, and increased physical security for weapons and civil nuclear facilities. We also believe it is prudent to maintain a capable surveillance and warning network and light CONUS bomber air defense. And we must continue to conduct ballistic missile defense R&D to explore new interception techniques.

4. Implications for the U.S.

It has been stressed in the preceding discussion that U.S. strategic force decisions are closely related to the evolution of specific adversary capabilities, primarily those of the Soviet Union, but also those of the PRC and potential nuclear nations.

As this relationship is often ignored, and sometimes misunderstood, it may be useful to emphasize those specific factors in threat development which have affected our decisions before proceeding to a discussion of U.S. strategic forces and programs.

There are five primary factors. First, the deployment of MIRVed Soviet ICBMs with increased throw-weight and improved accuracy has led the Department to pursue or investigate ICBM options for improved hard-target capability and options to reduce the potential for increased vulnerability of our strategic offensive mix.

Second, the continued expansion and modernization of Soviet air defenses has led us to develop the B-1 penetrating bomber, and long-range, air-launched cruise missiles to enhance bomber penetration.

Third, the emerging Soviet capability to operate a larger and more capable SSBN force dictates the requirement for a B-1 aircraft that has rapid-launch capability and hardening against nuclear effects to improve its pre-launch survivability.

Fourth, the continuing improvement in Soviet ASW capability has led to requirements for the quieter SSBNs and longer-range SLBMs in the Trident program.

Finally, the future threat posed by third countries, whether the Chinese or an emerging nuclear nation, requires a continued emphasis on surveillance and warning, together with R&D on light area defense.

C. U.S. STRATEGIC FORCES AND PROGRAMS

Strategic force planning must take a number of factors into account, including not only the capabilities of adversaries, but also the requirement to replace aging systems and the need to hedge against future uncertainties. Pending outcome of the SALT II negotiations, the Department has continued to plan U.S. forces within the bounds of the Vladivostok understanding, as well as within the more specific constraints of the agreements signed in Moscow in 1972 and 1974. Current estimates of the most likely Soviet force levels assume that the Soviet Union will also continue to plan and modernize its forces within the bounds of those agreements.

U.S. strategic forces programmed through FY 1981 are shown in a classified table provided to the Committee. A review of the strategic posture for consistency with national policy and objectives leads to the conclusions that:

- the U.S. must maintain a Triad of strategic forces to ensure a viable deterrent posture throughout the next decade;

- modernization programs must continue to be sound, prudently paced, and provide the nation with the proper mix of forces and capabilities to maintain its desired position of essential equivalence with the Soviet Union under the terms of negotiated agreements; and

- the U.S. must maintain a solid research and development program to hedge against future uncertainties and retain the current technological lead over the Soviet Union.

The following discussion of strategic programs emphasizes new program developments and those programs which will reach major development milestones in FY 1977. Funding levels for these programs are shown in Table IIC-1 which begins on the following page.

1. Strategic Offensive Forces and Programs

To accomplish the objective of a strong deterrent posture the U.S. maintains a well-diversified mix of strategic offensive forces consisting of land-based ICBMs, sea-based SLBMs and manned bombers and their supporting command, control, and communications (C³) systems. This diversified force, commonly referred to as the Triad, provides:

- assurance that a technological breakthrough against any one element will not negate the effectiveness of the entire force;

- a hedge against widespread failures of any element or its command, control, and communications (C³) system owing to unanticipated nuclear weapons effects;

TABLE IIC-1

Acquisition Costs of Major Strategic Forces Modernization
and Improvement Programs 1/

(Dollars in Millions)

	<u>FY 1975 Actual Funding</u>	<u>FY 1976 Planned Funding</u>	<u>Trans. Period Planned Funding 2/</u>	<u>FY 1977 Prop'd Funding</u>	<u>FY 1978 Prop'd for Authorization</u>
<u>Strategic Offense</u>					
Minuteman and Improvements (Silo Upgrade, Command Data Buffer, MK12A War- head, NS-20 Guidance Refinements)	728	804	105	472	317
Advanced ICBM Technology, including MX	37	36	13	84	184
Development of Advanced Ballistic Reentry Systems and Technology (ABRES)	110	91	24	106	117
Conversion of SSBNs to Poseidon configuration, Modification of Poseidon Missiles	179	84	18	51	29
Acquisition of Trident Military Submarines and Missiles (Trident II not included in total)	2029	1925	606	2933	3383
Development of Trident II Missile	-	-	-	3	21
SSBN Subsystem Technology Development	-	-	-	2	5
Acquisition of New Strategic Bomber, B-1	445	661	152	1532	1868
Development of the Air Launched and Submarine Launched Version of the Strategic Cruise Missile	96	144	50	262	362

TABLE IIC-1

Acquisition Costs of Major Strategic Forces Modernization
and Improvement Programs 1/ (Cont'd)

(Dollars in Millions)

	<u>FY 1975 Actual Funding</u>	<u>FY 1976 Planned Funding</u>	<u>Trans. Period Planned Funding 2/</u>	<u>FY 1977 Prop'd Funding</u>	<u>FY 1978 Prop'd for Authorization</u>
<u>Strategic Defense</u>					
Development and Procurement of the Joint Surveillance System	4	8	8	32	51
Continued Development of the Over-the-Horizon (OTH) Back-Scatter Radar	7	8	7	19	9
Development of Systems Technology (formerly Site Defense)	117	100	25	118	129
Development of Ballistic Missile Defense Advanced Technology	95	97	25	107	112
Continued Improvements in the Defense Support Program	122	71	9	57	154
Modernization of BMEWS (Ballistic Missile Early Warning System)	-	-	-	4	20
Development and Acquisition of the SLBM Phased Array Radar Warning System	42	47	2	14	6
Acquisition of Improved Space Surveillance System	19	13	4	43	72
<u>Command and Control</u>					
Development and Procurement of Advanced Airborne Command Post (AABNCP)	63	42	8	99	62

TABLE IIC-1Acquisition Costs of Major Strategic Forces Modernization
and Improvement Programs 1/ (Cont'd)

(Dollars in Millions)

	<u>FY 1975</u> <u>Actual</u> <u>Funding</u>	<u>FY 1976</u> <u>Planned</u> <u>Funding</u>	<u>Trans.</u> <u>Period</u> <u>Planned</u> <u>Funding 2/</u>	<u>FY 1977</u> <u>Prop'd</u> <u>Funding</u>	<u>FY 1978</u> <u>Prop'd for</u> <u>Authorization</u>
<u>Command and Control (Continued)</u>					
Development and Procurement of Satellite Communications (AFSATCOM I and II)	12	44	5	39	66
Development of ELF Communications System	8	15	4	30	17
Acquisition and Modification of TACAMO aircraft	9	41	13	25	24

1/ Includes costs of RDT&E, procurement of the system and initial spares, and directly related military construction.

2/ July 1 to September 30, 1976.

-- a compounding of Soviet offensive and defensive problems in attempting to defeat or defend against U.S. forces; and

-- reinforcement of the survivability of each element by the presence of the other two, thereby strengthening the deterrent posture as a whole.

The costs of maintaining a diversified strategic offensive capability are considerable, but these costs should be considered in relation to the mutually supporting characteristics of the Triad. Some have argued that the U.S. should reduce the costs of strategic forces by phasing the manned bomber force out of the strategic arsenal, thus relying entirely upon ballistic missiles for deterrence. However, not only would we lose those purely military advantages which flow from the dissimilarities among our Triad systems, but certain other consequences must be considered as well.

We could do nothing more in the short term to increase our missile force levels, thus leaving the U.S. with approximately 1,700 ballistic missiles and the Soviet Union with the option to retain 2,400 modern ballistic missiles and bombers under the Vladivostok understanding. This action would remove any incentive for the Soviets to negotiate a follow-on agreement for reductions in strategic arms. The Congress has already declared its opposition to such an inferior position. Moreover, a unilateral move of this character would permit the Soviets to concentrate their resources on acquiring the capability to defeat only ballistic missiles.

In the longer term we could, of course, maintain a total number of nuclear delivery vehicles at the 2,400 level by acquiring and deploying additional ballistic missiles. However, within the provisions of Vladivostok, this could only be done with non-MIRVed systems since the current U.S. program already will approach the MIRV limit (1,320 MIRVed ballistic missiles) in the early 1980s. Furthermore, since no additional ICBM silos can be built, these missiles would have to be transportable or placed on new nuclear submarines.

In view of these considerations, the prudent course for us to follow is the continued retention of all three elements of the Triad -- ICBMs, SLBMs, and bombers -- in our strategic force.

a. ICBMs

Minuteman III deployment has been completed, resulting in a force mix of 550 Minuteman III and 450 Minuteman II missiles deployed in fixed silos. R&D efforts on advanced ICBM technology are progressing as projected previously, and the Advanced Ballistic Re-entry System (ABRES) program is continuing at a constant level.

Minuteman

Last year funds were requested to continue Minuteman III production through the first ten months of the FY 1976 procurement period. The request was made to gain additional time to assess Soviet deployment intentions with respect to their new MIRVed ICBMs, to hedge against a possible breakdown in the ongoing SALT negotiations, and to provide the requisite Minuteman III operational test assets necessary to ensure a continuing follow-on flight test program into the mid to late 1980s.

A review of the situation last year resulted in a tentative decision to end Minuteman production. This decision was based on three considerations:

- Any additional deployments beyond the current level of 550 would not add significantly to the U.S. military capability, but would increase the strategic budget by more than \$300 million for each further year of production;

- Under the provisions of the Vladivostok understanding, additional deployments of Minuteman III would require offsetting reductions in Poseidon launchers in the 1980s;

- Since Minuteman will become more vulnerable in the future, any additional resources should be invested in the deliberate development of a new, larger, and more survivable ICBM.

Accordingly, the amounts shown in Table IIC-1, the Acquisition Costs Table, for the Minuteman program do not include any missile procurement funds. Nor do they include any closedown funds, since these were included in the FY 1976/77 approved budget. However, depending on the outcome of SALT II negotiations and our continuing assessment of Soviet ICBM programs, it may be necessary to make further short-term improvements in the U.S. ICBM posture by requesting supplemental funding to continue Minuteman III production.

The survivability of all Minuteman silos is being upgraded, and the Command Data Buffer System for Minuteman III is being installed. The Command Data Buffer should be completed by the end of FY 1977, and the silo upgrade program should be finished by the end of FY 1979. With these improvements, the U.S. will have the capability to retarget a single Minuteman III missile in 36 minutes and the entire force in less than 10 hours. The Minuteman silos will be capable of sustaining high static over-pressures without causing damage to the encased missile or electronic equipment.

Recognizing the need to replace or modernize the aging Minuteman II force in the 1980s, the Department is also initiating action to identify options to prepare for this contingency. Whether we recommend proceeding with one or more of these options will depend upon future Soviet actions and SALT agreements.

Improved Minuteman

Notwithstanding the continuing growth in Soviet strategic offensive capabilities, particularly in the area of projected hard-target kill potential, the Department proposes to continue a policy of restraint with respect to improving the U.S. hard target capability. Accordingly, it has been decided to continue improvements in the software for the Minuteman III guidance system. The MK-12A higher yield reentry vehicle will continue in R&D in order to provide the option to improve U.S. strategic capabilities should circumstances so dictate. A production decision for the MK-12A is being deferred pending our continuing assessment of Soviet ICBM capabilities.

Improving the guidance system is unavoidable if in the near term (through the early 1980s) we are to preserve an acceptable balance in strategic power between the U.S. and the USSR. A major concern is that the Soviets, by deployment of three new large throw-weight MIRVed ICBMs, the SS-17, SS-18 and SS-19, will achieve a hard-target counterforce capability against the silos of the U.S. fixed, land-based ICBM force. Such a counterforce capability would be far in excess of that possessed by the current Minuteman force, and could be deployed by the early 1980s.

Thus, if the U.S. is to seek restraint in future Soviet deployments and promote nuclear stability, we must provide forces which are effective, flexible, and on a par with those of any other nation. Improving the Minuteman III guidance system and retention of the new MK-12A reentry vehicle in R&D will contribute to maintaining equivalence and contribute to Soviet recognition of the consequences of their actions.

The software improvements in the guidance program should not be construed as an effort on the part of the U.S. to gain a disarming first-strike capability. The U.S. could not count on destroying in a timely manner a large enough portion of the Soviet hardened ICBM force to avoid severe damage to U.S. population and industry by retaliating Soviet ICBMs. In addition, the U.S. has no realistic prospect of being able to destroy all of the Soviet deployed SSBN force in a sudden attack. Finally, deployment of a heavy ballistic missile defense, an essential ingredient in a disarming first-strike strategy, is precluded by the ABM Treaty. With these considerations in mind, the plan is to incorporate the guidance refinements in Minuteman III missiles in FY 1978.

Of the \$472 million shown in FY 1977 for the Minuteman program in Table IIC-1, \$367 million is for the continuation of the Silo Hardness Upgrade Program and other related programs; \$49 million is for the continued development and initiation of guidance improvements for the Minuteman III missile system; \$37 million is for the continued development of the MK-12A RV; and \$19 million is for program support.

Advanced ICBM Technology and the MX

Last year Congress was advised that the Department would continue the development of new technology to ensure the availability of a realistic option for the modernization of U.S. ICBM forces in the 1980s and beyond. The importance of this program has recently been magnified by the continued deployment of new, high-yield MIRVed ICBMs by the Soviets. To ensure that there will be an option to deploy a modernized and survivable ICBM force in the future, it is necessary to examine the ways of basing ICBMs that will contribute to maximum force survivability in the face of the growing Soviet threat. Since some form of transportable system is the least destabilizing near term option the Department proposes to move forward in an orderly and deliberate manner with the research and development of the key components of air- and land-moveable ICBM systems.

The plan is to continue development of a guidance system needed to provide a high confidence capability for accuracy in transportable missiles. This effort will include design, fabrication, and testing of a preprototype guidance set capable of operating from multiple aiming points, and an advanced computer with the potential for significantly lower unit cost. The Department will continue development of new rocket motor technology, including design, fabrication and testing of lightweight motor cases, more efficient nozzles and higher performance propellants in order to achieve the greatest amount of throw-weight per pound of propellant. The land-based prototype development program initiated last year to demonstrate the technical feasibility of such a system and to ascertain total system cost will be continued, as will the air-launched development, with a view toward defining the technical requirements of this system.

Under this plan, the \$84 million provided for in FY 1977 will continue the advanced ICBM technology program (MX and related projects) in advanced development and will permit a decision as to the advisability of entering full-scale development in FY 1978. These actions will enable the Department to monitor Soviet developments and deployments while protecting the option to deploy an advanced ICBM in the mid-1980s.

Advanced Ballistic Reentry Systems

The Advanced Ballistic Reentry System (ABRES) program has enabled the U.S. to maintain a significant lead over the Soviet Union in the critical area of reentry technology. As the Soviet Union continues to make advances in this area, development of new reentry technologies for incorporation into U.S. strategic missile programs becomes increasingly important.

Having preceded the Soviet Union down the road of reentry development, the U.S. is better able to predict when Soviet developments might reach maturity. Accordingly, the plan is to continue this program at a fairly stable pace by requesting \$106 million in FY 1977. This will permit continued development of penetration aids; optical, radar and electronic countermeasure technology; supporting technology such as nosetips, heat shields and arming and fusing components; and advanced reentry vehicles as potential payloads for the MX or Trident II missiles.

b. SLBMs

Since the SLBM force continues to be the least vulnerable element of the strategic Triad when at sea, certain measures should be taken to ensure the continued survivability and operational effectiveness of that force. Accordingly, the Navy proposes to complete the Polaris to Poseidon conversion program; continue the Poseidon missile modification program; continue the Trident submarine construction program at a somewhat modified rate; commence production of the longer-range Trident I missile for initial deployment on the lead Trident submarine and for backfit into ten Poseidon SSBNs; and initiate conceptual design studies for a Trident II missile with significantly greater capability than the Trident I missile.

Poseidon

Of the 31 Poseidon conversions planned, 27 have been completed, of which 23 are currently deployed. Four more of the 27 are undergoing predeployment shakedown, and the remaining four are still in conversion. Deployment of the 31st boat is expected early in CY 1978.

As indicated last year, the Poseidon Modification Program was set up to correct the deficiencies encountered in the Poseidon Operational Test program in 1973. To date, 22 modified Poseidon missiles, selected at random from Poseidon submarines returning from patrol, have been flight tested. Although the number of completed tests is currently too small to permit a definitive statement of Poseidon missile reliability, preliminary results support the judgment that the deficiencies identified have been corrected.

Of the \$51 million shown in FY 1977 for the Polaris/Poseidon program in Table IIC-1, \$3 million provides for completion of the Polaris to Poseidon conversion program, \$12 million is for support equipment and facilities for the Polaris/Poseidon force, and the navigation satellite program, and \$36 million provides for continuing the Poseidon missile modification program.

Trident (Excluding Trident II Missile)

In view of other critical Departmental funding requirements in FY 1977, and to reduce funding peaks in the overall nuclear submarine construction program, the Trident submarine building schedule has been adjusted from two submarines to one in FY 1977 and from one to two submarines in FY 1978, continuing thereafter at a 1-2-1-2 a year rate. Accordingly, only one submarine is included in the FY 1977 budget and two submarines are requested for authorization in FY 1978.

The existing fleet of Polaris/Poseidon submarines will eventually have to be replaced, whether because of increased threats or because of age. While it is believed that these submarines can be operated safely and effectively through their 20th year of service and possibly longer, plans should be made to replace the entire fleet by the mid to late 1980's or early 1990's. It is evident, however, that if we have to phase out Polaris/Poseidon submarines after 20 years of service, we will suffer a substantial reduction in SLBM capability in the late 1980's and early 1990's even with continued Trident deployments. This reduction in SLBM capability can be somewhat alleviated if we continue to acquire additional Trident SSBNs or a new SSBN after 1985 and, as we hope, if we are able to maintain the current Polaris/Poseidon force operationally ready through 25 years of service.

Recognition of the requirement for an orderly replacement of the existing SSBN force after 1985 and consideration of numerous alternative SLBM deployment options has led to the conclusion that the Trident submarine is presently the most cost-effective sea-based strategic deterrent that can be designed within the limits of current technology. This is so because the high O&M costs associated with submarine operations are offset by the larger number of launchers per submarine; design of a smaller submarine with an equal number of launch tubes and a comparable capability and cost has, to date, proved infeasible. Accordingly, for force planning purposes the plan is to procure Trident submarines at the 1-2-1-2 rate continuously, consistent with SALT force levels.

With three Trident submarines now under contract, the Department is continuing to plan for an FY 1979 initial operational capability (IOC) for both the Trident submarine and Trident I missile; also unchanged are the plans to backfit the Trident I missile into ten Poseidon SSBNs beginning in FY 1979. The backfit program should be completed by the end of FY 1982.

As a hedge against future threats, the current plan is to continue a sustaining program to maintain the MK-500 Evader reentry vehicle technology and perhaps conduct occasional flight tests to assure compatibility with the Trident I missile. This will also retain a low-cost option to begin engineering development of the MK-500 at some later date.

Of the \$2,933 million shown for the Trident program in FY 1977 in the Acquisition Cost Table, Table IIC-1, \$595 million is for RDT&E (\$75 million for the submarine and \$520 million for the missile), \$2,181 million is for procurement (\$730 million to complete the funding for the fifth submarine, \$1,141 million for the initial procurement of 80 Trident I missiles, \$62 million for advanced procurement of long lead time components for the sixth through eighth ships, and \$248 million for outfitting the lead ship, procurement of support equipment and facilities for the Trident I missile system, and prior year escalation (due to abnormal inflation)), \$147 million is for military construction and construction planning for the Trident support facility, and \$10 million provides for initial flight tests to assure compatibility between the MK-500 reentry vehicle and the Trident I missile.

Trident II Missile

The Navy plans to initiate at a modest pace -- \$3 million in FY 1977 -- conceptual design studies of the Trident II missile in order to hedge against future uncertainties in strategic force-wide survivability. This new missile would more fully utilize the volume of the Trident SSBN missile tube and would provide an option to deploy a longer-range, higher throw-weight (greater than the Trident I missile), and more accurate SLBM in the mid-1980s. During FY 1977 and FY 1978, the program will concentrate on concept formulation to provide the basis for entering Advanced Development in FY 1979.

SSBN Subsystem Technology

Although continued procurement of Trident SSBNs beyond the planned force of 10 submarines will be necessary to avoid the possibility of block obsolescence of the aging Polaris/Poseidon force, we must continue the search for new technologies that could hold in check the life-cycle costs of future SSBNs. Accordingly, \$2 million has been provided in FY 1977 to initiate the SSBN subsystem technology program; primary emphasis will be placed upon conceptual development of new designs for effective low life-cycle cost submarines.

c. Bombers

Because of its significant contribution to credible, high confidence deterrence of nuclear war, we plan to continue to maintain an effective

strategic bomber force. Specifically, bombers provide for a measured warning in crises, offer an essential hedge against failure in our missile forces, and complicate Soviet attack and defense planning. They also provide a visible show of resolve and constitute a flexible, multipurpose system.

The current bomber force, particularly the B-52Gs and Hs, should be able to provide these capabilities into the 1980s. However, while the Air Force can continue to modify and improve the B-52Gs and Hs, these aircraft are likely to become less effective during the next decade. Equipping the B-52Gs and Hs with cruise missiles will alleviate to a degree any loss of effectiveness and contribute to stability. However, to maintain an effective bomber force beyond the 1980s, a new aircraft will have to be procured. Given this requirement to strengthen and modernize the bomber force sometime during the 1980s, extensive analyses have shown that the best alternative is the continued development and procurement of the B-1 bomber. Procurement of the B-1 would provide the capability to achieve deep penetration and destruction of the most heavily defended high value targets while the B-52s could provide supplementary penetration and attack with cruise missiles.

Operational plans and procedures are being re-examined to determine where savings can be made. Based on this continuing re-examination, the number of B-52G unit equipment (UE) aircraft has been reduced from 165 to 151 by transferring 14 UE aircraft to a support status. This transfer recognizes a "fact of life" shortage of B-52G support aircraft, due primarily to attrition. As a result of this change, the department will deactivate one B-52G squadron and reduce B-52G crews, flying hours and maintenance support, thereby realizing savings in both manpower and money at modest risk in readiness and operational effectiveness.

It should be noted that this reduction in B-52G UE has no effect on the size of the bomber force for SALT considerations, since total numbers of bombers are counted rather than UE aircraft.

There are other significant items of interest with respect to the current force of manned bombers. One of these, the transfer of 128 UE KC-135 tankers from the active force to the Air Reserve Components, is currently being carried out. Nine squadrons of eight UE aircraft each will have been activated by the Air Reserve Components by the end of FY 1977. Four more squadrons will be activated in FY 1978 and three in FY 1979. An evaluation of this concept is being made to see if further transfers are warranted.

Second, the reduction in bomber and tanker crew ratios is continuing toward the goal of about 1.3 crews per UE bomber and UE tanker. Based on the assessment that a Soviet surprise attack "out of the blue" is

unlikely under current circumstances, this crew ratio is the minimum which will ensure generation of the full bomber force in a short period of time.

Third, the structural modifications on 80 B-52D aircraft to extend their safe service life into the 1980s will be completed in FY 1977.

Last, the Department is continuing with the development and testing of a new short-range attack missile (SRAM) motor to replace those originally designed for a five-year service life. Although it is not clear how long the original solid fuel motors will retain their effectiveness, we may have to begin replacing some of them as early as FY 1977. The budget requests \$16 million in FY 1977 to continue this development and \$21 million to procure new SRAMs for the B-1. The B-1 SRAM program has been phased to correspond to programmed B-1 deployments; however, use of this funding would be contingent upon a B-1 production decision.

B-1 Bomber

As noted last year, the Department wishes to be certain that the B-1 will perform as expected before it is committed to production. To that end, the Air Force has undertaken an extensive flight testing program prior to a production decision which is now scheduled for November 1976. The flight test results on aircraft #1 have been especially reassuring. Since its successful maiden flight on 23 December 1974, the B-1 has completed 25 flights and has logged nearly 120 hours.

By November 1976, barring unforeseen problems, there should be more than 200 flying hours on aircraft #1, which has met every milestone to date and in most cases exceeded performance expectations. Aircraft #2, the structural test aircraft, has completed its ground proof load testing, and will commence flight testing in mid-1976. Aircraft #3, the offensive avionics test aircraft, has had the initial avionics equipment installed and has begun its preflight checkout in preparation for its scheduled first flight in early 1976. By the scheduled November 1976 production decision date, the Air Force expects to have demonstrated the B-1's ability to accomplish successfully its primary mission requirements including cruise characteristics, air refueling, high altitude supersonic capability, and low altitude high speed penetration capability. In addition, the program will have completed engine production verification testing of over 9,000 hours, fatigue testing of approximately two lifetimes, and a demonstration of offensive avionics capability.

Production of RDT&E aircraft #4 was started in September 1975 with delivery scheduled for early 1979. This aircraft will provide a test bed for defensive avionics and help maintain continuity between RDT&E

and production should it be decided to produce and deploy the B-1. Aircraft #4 is intended to become an operational aircraft after testing is completed.

As a result of the successful flight test program to date and the demonstrated B-1 performance capability, the Air Force wants to be in a position to initiate production in late CY 1976, if such a decision continues to be appropriate. Therefore, Congress is being asked to appropriate \$483 million for continued research and development and \$1,049 million for procurement of the first three production aircraft in FY 1977. The FY 1978 authorization request contains funding for procurement of the next eight aircraft. The plan is to build up over the FY 1977-82 period to a production rate of four B-1s per month. While none of the procurement funds will be committed prior to the production decision, it is essential to have the funds available if B-1 production is approved. Without these funds, the resulting delay in a production program would increase the cost substantially owing to the necessity of reconstituting the work force and the cost escalation that occurs from the resulting delay.

Cruise Missiles

The Air Launched Cruise Missile (ALCM) and the Sea Launched Cruise Missile (SLCM) will be kept in advanced development until the cruise missile concept has been satisfactorily demonstrated. Both programs are continuing, stressing maximum commonality in high cost areas such as the engine, navigation guidance package and warhead. The full-scale engineering development decision will not be made until early CY 1977, by which time a single development contractor will have been selected for the SLCM program and both the ALCM and SLCM will have demonstrated fully-guided powered flights.

During this past year the Congress has expressed concern about maintaining two separate cruise missile programs. Both the ALCM and the SLCM may still need to be developed, however, owing to the differences in sea-based and aircraft platforms and operational environments which are significant enough to warrant different airframe designs. The ALCM has been optimized for air launch from strategic bombers and stresses maximum compatibility with the existing SRAM avionics and ground handling equipment. The SLCM, on the other hand, has been optimized for launch at sea. Because of design differences, the ALCM cannot physically be launched from a submarine. The SLCM could be launched from a bomber; however, to do so would require modifications to the missile and the carrier aircraft resulting in a decreased cruise missile load per aircraft, and added costs for aircraft modifications and support equipment.

Both the ALCM and SLCM are an important issue in the ongoing SALT II negotiations. Pending outcome of these negotiations, we are proceeding with the two programs at a deliberate pace during the advanced development phase, when expenditures are relatively low compared to the engineering development phase; this will allow us to accommodate SALT developments and still maintain an orderly development effort. The FY 1977 funding request is \$79 million for the ALCM and \$183 million for the SLCM.

2. Strategic Defensive Forces and Programs

Strategic defense includes all forces for air defense and ballistic missile defense, bomber and strategic missile surveillance and warning, space surveillance and civil defense. U.S. strategic defensive forces and programs complement the strategic offensive forces and are essential if the Department is to:

- perform surveillance and peacetime control of U.S. airspace;
- provide warning and assessment of a bomber, missile or space attack;
- defend threatened areas overseas, including air and sea LOCs, in time of crisis;
- be in a position to deploy an ABM or space defense, if needed;
- reinforce the credibility of the flexible response strategy, enhance survival of the U.S. population, and assist in national recovery in the aftermath of a nuclear war.

Because of the ABM treaty, the Department will continue to reduce its emphasis on actively defending CONUS against an all-out strategic attack. A major antibomber defense of CONUS without a comparable anti-missile defense, in an era of massive missile threats, would not be a sound use of resources. Consequently, present active defense programs are aimed at a capability for peacetime airspace sovereignty and warning, and the maintenance of R&D hedges against future requirements. These programs provide the U.S. with forces for limited day-to-day control of U.S. airspace in peacetime as well as forces which can be surged in times of crisis to (a) defend against limited attacks, (b) raise the uncertainty that must be considered by offensive planners, and (c) deny any intruder a free ride in CONUS airspace.

A land-based air defense force also provides a cost-effective contingency capability for the protection of sea lanes, as well as air lanes, against air attacks in many regions of the world.

a. Air Defense

As proposed last year, the Air National Guard (ANG) F-101s will be phased out by the end of FY 1977. At that time the dedicated interceptor force will consist of 12 F-106 squadrons, 6 active and 6 ANG units. Operating at peacetime alert rates, they will establish alert sites around the periphery of the 48 contiguous states. Additional alert sites will be supported by F-4 aircraft from general purpose force tactical air squadrons. Also, one ANG F-4 tactical air squadron will provide an alert site.

The active F-106 squadrons can also support an overseas air defense mission. This capability was demonstrated this past September when F-106 aircraft were deployed from the air defense interceptor squadron at Minot AFB, North Dakota to Germany to participate in a NATO exercise.

The Department continues to maintain one active Air Force tactical F-4 squadron with an air defense mission and three active Army Nike Hercules batteries in Alaska, one ANG air defense squadron (F-4s) in Hawaii, and the active Army general purpose forces Nike Hercules and Hawk batteries now operational in Florida.

Last year the EC-121 airborne radar force was proposed for phase-out by the end of FY 1977, simultaneously with the planned introduction of AWACS. After a review of these plans, it became apparent that a gap would exist in coverage of the North Atlantic region if the EC-121s were phased-out before the AWACS were operational. Accordingly, the plan now is to retain ten EC-121 aircraft through FY 1978.

Follow-On Interceptor

By the end of the 1970s, attrition of the aging F-106 interceptor force is expected to reduce the number of F-106 aircraft in the inventory below the level required to maintain the peacetime alert sites in CONUS. Further, a reduced F-106 force level would severely limit the U.S. capability to use part of the force to defend threatened areas overseas. Thus, planning and programming actions are being considered to introduce a follow-on interceptor (FOI).

The new interceptor is expected to be a version of the F-14, F-15 or F-16. No new major RDT&E effort is planned for this program and no FY 1977 funding is requested. Initial deployment of the FOI force is envisioned for the early 1980s, with the phase-in of these aircraft paced by the need to replace the aging F-106 and consistent with production of the selected replacement aircraft.

b. Air Defense Surveillance and Warning Systems

Canada's adoption of a system similar to the Joint Surveillance System (JSS) and her continued support of an integrated NORAD command and control system are gratifying. The joint U.S./Canadian surveillance structure will now consist of seven regions -- two in Canada, one in Alaska, and four in the CONUS.

Joint Surveillance System (JSS)

The U.S. JSS and the Canadian equivalent system will provide the U.S. and Canada with the surveillance and command and control capability required to perform the peacetime air sovereignty mission for North American airspace. We are requesting \$32 million for this program in FY 1977.

In CONUS the surveillance element of the JSS will consist of 48 long-range radar sites, which will provide coverage around the CONUS perimeter. Of these, 43 sites will be operated and maintained by the FAA, but the radar data will be jointly used by FAA and the Air Force. The remaining five sites in CONUS will be under Air Force control. In Alaska there will be 14 sites: 12 Air Force, one jointly-used Air Force site, and one jointly-used FAA site.

Regional Operations Control Centers (ROCCs) will provide the command and control function required for the peacetime airspace sovereignty mission. Currently this function, along with the wartime battle management function, is performed by the six Semi-Automatic Ground Environment (SAGE) centers in CONUS and Canada and the Manual Control Center (MCC) in Alaska. Under the JSS system and Canadian equivalent, four ROCCs are to be located in CONUS, one in Alaska, and two in Canada. The ROCCs in conjunction with AWACS will replace the costly SAGE and MCCs and generate annual air defense savings in excess of \$100 million and 5,000 personnel. In the full JSS system, use of the AWACS is planned to augment the ROCCs and provide CONUS with a survivable wartime command and control system. Final deployment of the ROCC elements of the JSS will extend into 1981.

CONUS Over-the-Horizon-Backscatter (OTH-B) Radar

As mentioned last year, the Over-the-Horizon Backscatter (OTH-B) radar would increase warning of attack by air-breathing threats by extending U.S. surveillance coverage to more than 1,000 nautical miles from our coasts. The contract for the prototype radar has been awarded and all testing and validation of system concepts should be completed by 1979 at a cost of about \$50 million; \$19 million is requested in FY 1977 for this purpose. If the decision is made soon to deploy the system, two radars can be fully operational in the early eighties.

c. Ballistic Missile Defense (BMD)

The decision to deactivate the Safeguard system marks the end of a period in which the focus of our effort was the deployment of a ballistic missile defense system. We now need to maintain the technological lead we have attained by continuing a structured research and development program. We have entered an era in which Soviet efforts in ICBM development are not our only concern. Nuclear technology is proliferating and many countries possess the resources to obtain a strategic offensive nuclear weapon capability. Consequently, prudence dictates that we broaden our missile defense R&D efforts to consider these trends as well as the continuing efforts of the Soviets to surpass us in missile defense technology.

In the past, vigorous national debate accompanied the decision to deploy a missile defense system. Our efforts for the future do not focus on deployment of additional missile defenses; rather they involve R&D as a hedge against the uncertainties of the future. This R&D activity guards against a Soviet technological lead that might encourage an abrogation of the ABM Treaty. Further, it provides a technological base for missile defense against "third" country attacks should the trends we see today in nuclear proliferation lead to a threat to our security in the future.

Our ballistic missile defense (BMD) RDT&E effort provides a balance between an Advanced Technology Program, which is investigating new concepts and technologies, and a Systems Technology Program, which is addressing key systems-related issues. Both programs are necessary if we are to continue to advance the technological base of our BMD efforts. The Advanced Technology effort, for which \$107 million is requested in FY 1977, is oriented toward improving capabilities, investigating new concepts, and reducing costs. The Systems Technology Program, funded at \$118 million in FY 1977, is concerned with the technical demands of integrating complex BMD components into a smoothly-functioning system.

Safeguard

In accordance with FY 1976 Congressional direction, operation of the Safeguard system has been terminated. The Missile Site Radar is being deactivated and the interceptor missiles and warheads are being removed. The Perimeter Acquisition Radar (PAR) will remain fully operational in support of the NORAD warning and attack assessment mission. The PAR will provide more accurate information on the numbers of attacking RVs and their targets than is available from other warning systems.

Systems Technology

The Systems Technology Program is a reorientation of the former Site Defense Program. We have learned from past experience in missile defense development and from many other weapon system developments not to neglect the system aspect of the problem. An understanding is required of the interactions between complex subsystems, the command and control of the overall system, and the real-time allocation of system resources such as radar power, data processing capability, and interceptor missile inventory. This task is a technologically demanding and critical portion of BMD development. The role of the Systems Technology Program is to extend the systems technology base by addressing key issues involving the integration of complex BMD subsystems into a responsive operating system.

The program has been broadened to consider a range of potential systems concepts. Several key technical issues of terminal defense systems were identified in the Site Defense Program; the technical solutions to these key problem areas are still essential. Consequently, the current plan is to conduct a limited number of field tests at the Kwajalein Missile Range utilizing the Site Defense radar which is scheduled to begin operation in FY 1977 as a Systems Technology test facility. In addition, the program will respond to the concern about the proliferation of nuclear weapons by conducting an examination of what technologies should be considered for thin defense of the U.S. against limited attacks. The Department will also continue to consider future roles of missile defense systems against a full range of potential threats.

Advanced Technology

This broad-based R&D effort investigates and develops those new technologies which may form the basis for more advanced future systems. It also fosters improvements in the performance and cost of more conventional components of nearer-term BMD systems. Major research efforts are conducted in the areas of interceptor missiles, radar and optical sensors, data processing and those aspects of the physical sciences that involve missile defense phenomena. Key field experiments continue to be a necessary part of this program. Novel approaches to ballistic missile defense are receiving increasing emphasis in the program's search for revolutionary concepts and ideas which could yield technical breakthroughs. If and when such breakthroughs are found, it is imperative that we find them first and not be caught unaware or surprised.

d. Ballistic Missile Attack Warning Systems

Reliable warning of a missile attack remains important to our overall deterrent strategy. Therefore, we have adopted a policy of covering all relevant strategic missile launch areas with at least two different

types of sensors (sensing different phenomena). Such an approach minimizes false alarms and potential natural interference.

In line with the guidance provided by Congress last year, the Department programmed specific ballistic missile attack warning systems which will ensure the coverage specified by the policy. Reliance will continue on the early warning satellite system and the Ballistic Missile Early Warning System (BMEWS) radars for warning of ICBM attacks. For the present, surveillance and warning of SLBM attacks will be provided by two satellites and six CONUS-based 474N SLBM Detection and Warning System radars. It is planned that the six 474N radars will eventually be replaced by two new SLBM (Pave Paws) phased-array radars. Also, current plans call for the improvement of early warning satellites and BMEWS so that we can maintain our capability against changes in the threat and meet requirements for more precise data on the character of a missile attack.

Ballistic Missile Early Warning System

The BMEWS sites at Clear, Alaska, Thule, Greenland, and Fylingdales, England have been in operation since 1962, and have proved to be extremely reliable. To provide even more precise data on the character and size of a missile attack, the Department is now proposing a three-element BMEWS improvement program which would consist of upgrading the Tactical Operations Room, replacing the original computers that are becoming increasingly difficult and costly to maintain, and improving radar resolution. These modifications will ensure the continued usefulness of the system well into the 1980s. In addition to funds in FY 1977 in the operating accounts for continued operation of BMEWS, the Department is requesting \$4 million to begin these improvements.

SLBM Warning Radars

The contract is soon to be awarded for the two new SLBM (Pave Paws) phased-array radars, and the program is progressing on schedule. These two radars, which will eventually replace the six 474N obsolescent radars now in operation, will provide reliable warning of any SLBM attacks. The \$14 million requested in FY 1977 will allow continued deployment of this system.

e. Defense in Space

As space technology matures, space-based systems will play an even more important role in support of U.S. and Soviet military operations. In the future, dependence on these systems may increase to the point where their loss could materially influence the outcome of a conflict. Consequently, it is important to know of any threat to U.S. space activities and remain alert to Soviet space activities which threaten

our overall military posture. Defense is continuing R&D efforts to develop technologies for detecting, tracking and identifying objects out to geo-stationary orbit and for enhancing the survivability of satellite systems, at the same time abiding by the provisions of the various space treaties to which the U.S. is a signatory. The \$43 million requested for this program in FY 1977 includes funds for RDT&E and initiation of procurement of a ground-based electro-optical system which will vastly improve our high altitude space surveillance capability.

f. Civil Defense

State and local nuclear disaster preparedness is deemed essential to the conduct of life saving operations in an attack emergency situation. For this reason, the Defense Department has provided direction, guidance, and assistance (including direct financial aid) to support the operations and readiness of State and local disaster preparedness programs since 1961. Last year about \$43 million was provided to such State and local programs. This support has been used by State and local governments for both natural and nuclear disaster preparedness and has contributed to the development of a common nationwide State and local level preparedness base.

This approach is now being changed. Rather than continue Defense Department funding in support of the common total peacetime State and local level preparedness base, through funding provided in the Civil Defense program, the FY 1977 budget request reduces those elements of the program which should be supported by State and local governments. An example of funding that will be eliminated are those State and local programs primarily required for natural rather than nuclear disaster preparedness. We will continue to provide resources which are necessary to nuclear disaster preparedness.

Under this concept, reductions will be made in "matching funds" assistance to State and local agencies, staff personnel in State and local emergency preparedness agencies, procurement of emergency vehicles and equipment which are used for peacetime community rescue operations, and construction funds for Emergency Operation Centers in areas which have a low probability of being directly affected by nuclear attack. Headquarters staff and activities will also be reduced in line with the revised scope of the program. The Department will continue to assist activities at the State and local level which other Federal, State and local agencies would not be expected to support since they relate primarily to nuclear preparedness.

The goal of protecting the population will consist of two key program elements:

-- The continued development of plans for relocation of the population from high risk areas near key military installations and/or major metropolitan areas, including provision of fallout protection in areas where evacuees are to be temporarily relocated; and

-- Protection for the population of high risk areas (essentially in-place) in the best available shelter against all the effects of nuclear attack in situations where warning time or other circumstances preclude relocation, and protection against nuclear fallout for the population in the remainder of the nation. Shelter facilities (in existing buildings) must be identified and plans prepared for their emergency use by the public.

Supporting programs would include a national civil defense warning system, a nationwide civil defense communications capability, a radiological defense system, and development and maintenance of Emergency Operating Centers in high (nuclear attack) risk areas.

The current Civil Defense program seems best suited to a posture of planning in peacetime for surging in a crisis. Such a program will keep peacetime Civil Defense costs low, while at the same time providing the basis to permit expanding the peacetime disaster preparedness base to provide an increased capability in times of nuclear crisis.

The Department is requesting \$71 million for Civil Defense in the FY 1977 budget (compared to about \$87 million last year). The FY 1977 funding includes \$7 million for warning and communications which, prior to this year, has been in the Army's budget.

3. Strategic Command and Control

The strategic command, control, and communications (C³) system is part of the Defense Department's larger telecommunications systems. The more comprehensive command and control system is discussed in Chapter V. This section will deal specifically with some of the key elements of the total system that are fundamental to the assured command and control of our strategic forces.

The strategic C³ system assures the President continuous control of U.S. nuclear forces. The system is designed to permit the execution of large scale retaliatory strikes even if the C³ system itself is targeted (the Minimum Essential Emergency Communications Network, MEECN, is designed specifically for this purpose), and the control of escalation through its ability to transmit orders for limited nuclear options, when the C³ system supporting national level decisions is not directly attacked (the MEECN plus other elements of the Worldwide Military Command and Control System (WWMCCS) can be used for this purpose).

National level command and control of the strategic forces is exercised through the National Military Command System consisting of national level command centers, primarily the National Military Command Center in the Pentagon, and goes to the major military command centers (as, for example, the SAC Command Post at Offutt AFB, Nebraska). Communication from the national level command centers to the strategic forces normally passes through a fixed ground-based system of telephone and teletype cables and HF, UHF, and VHF radio stations. Such a ground-based system is, of course, vulnerable to direct nuclear attack. The radio links are also susceptible to jamming and degradation in a nuclear environment. Therefore, the ground-based system is backed up by an airborne command post system which is less vulnerable to direct attack, and by redundant multiple-path communications with differing propagation characteristics.

The Department is confident that today's C³ system can do what is expected of it. However, to ensure that the system will continue to operate after the more severe direct attacks and jamming threats that are projected for the future, several improvements are being undertaken. The four major programs for this purpose were described last year; they are the Advanced Airborne Command Post (AABNCP), Air Force Communication (AFSATCOM) system, Extremely Low Frequency (ELF) Communications (previously named Sanguine but now designated Seafarer to emphasize the redirection of this program to a less survivable system), and Tacamo.

Advanced Airborne Command Post (AABNCP, E-4)

The AABNCP's superior communications equipment, longer endurance, and increased hardness to nuclear effects will substantially increase the survivability of the airborne C³ system. Although increased costs have forced a reduction in the number of aircraft from the seven proposed last year to six this year, the plan is to continue this program because significant improvements to the U.S. strategic C³ system are still expected to accrue from introduction of the E-4 aircraft. This reduction in the number of aircraft without any degradation of capabilities is possible because of a change in the operational concept. All the AABNCPs will deploy from a single base, Offutt, under a single manager. One or more will be operated from Andrews AFB.

Communications equipment improvements continue to be made. Present plans call for the installation of the AFSATCOM and SHF satellite terminals and improvements for the VLF system on the E-4. Other communications improvements will be developed; these would be incorporated into the E-4 in 1983 if they are deemed necessary at that time.

In accordance with Congressional guidance, the development of further AABNCP Blocks has been delayed in order to concentrate on the development of the Block I capability. However, low level efforts (\$2 million in FY 1977) are being pursued to improve further the AABNCP program.

Air Force Satellite Communication/Survivable Satellite Communication Systems

The AFSATCOM I (Air Force Satellite Communication) program outlined last year is progressing satisfactorily. This deliberately redundant system of communications transponders carried on board other "host" satellites will provide greater assurance that essential instructions reach U.S. strategic forces. The first "host" satellite with an AFSATCOM transponder is on station and production of terminals will soon be underway. In FY 1977, \$39 million is being requested to continue development and deployment of the AFSATCOM system.

The follow-on system, AFSATCOM II, is intended to replace AFSATCOM I in the 1980s. The definition and design of the AFSATCOM II will be influenced by the final results of the Livermore Experimental Satellites (LES) 8 and 9, scheduled for launch in early 1976. In its final form, the system is expected to provide the degree of electronic counter-counter measures (ECCM) capability and the physical survivability necessary to ensure the effectiveness of the system through the 1980s.

Extremely Low Frequency (ELF) Communications

The ELF communications program is designed to alert and transmit orders to our ballistic missile and attack submarines and to free the submarines from the speed and depth constraints imposed by near-surface antennas. Due to cost growth, a decision was made to redirect this program from development of a highly survivable system, known as Sanguine to development and installation of the much less survivable Seafarer system. Although the site for the Seafarer complex has not yet been determined, we are continuing the development program with the goal of a 1980 initial operating capability. In FY 1977, we are requesting \$30 million for development and deployment of Seafarer.

Tacamo

The Tacamo program to improve survivable communication to the sea-launched ballistic missile force is being continued. We expect to acquire the total inventory of 14 Tacamo aircraft by FY 1978, and the major modification program to improve the Tacamo's operational capabilities is progressing on schedule. With these improvements and the availability of other complementary communications system improvements (for example, high power VLF transmitters on the AABNCP), Tacamo will complement Seafarer to assure that the SSBNs receive all instructions. Operation, maintenance, and improvement of Tacamo will cost \$25 million in FY 1977.

III. THEATER NUCLEAR FORCES

During the past few years the U.S. theater nuclear force (TNF) posture has received increasing attention, both outside and within the Defense Department. Concerns have centered on our policy for employment and deployment of these nuclear weapons as well as on their security and survivability. In effect, these questions are being asked: What is the contribution of theater nuclear forces to deterrence, and how do they relate to our conventional capabilities? How might they be used? What are we doing to modernize TNFs? Are the weapons secure in their peacetime sites and survivable in wartime? The answers to these questions begin with a review of the basis for U.S. theater nuclear forces.

A. THE BASIS FOR U.S. THEATER NUCLEAR FORCES

The United States maintains theater nuclear forces (TNFs) in conjunction with conventional and strategic forces, for deterrence of and defense against aggression in the Pacific and European theaters and to control escalation should deterrence fail. Today the greater part of our overseas TNFs are deployed in the European theater as part of the U.S. commitment to NATO.

Defense and deterrence of aggression are and always have been NATO's primary objectives. However, the NATO strategy, which defines the role for theater nuclear weapons, has changed over the years. During the early years of the Alliance, nuclear weapons were seen as deterring Soviet aggression by the threat they posed of massive strategic retaliation. The nuclear forces then were primarily U.S. B-36 and forward-based B-47 strategic bombers.

In the late 1950s and early 1960s NATO's in-theater nuclear weapons were seen as enhancing deterrence of Soviet aggression by providing superior firepower to compensate for what was considered an unfavorable conventional balance. NATO strategy for nuclear forces then involved primarily theater-based dual capable systems: these included the Army's 280 mm and 8-inch artillery, Honest John, Corporal and Lacrosse missiles, ADMs, and Nike Hercules SAMs; the Air Force's F-100 and F-105 tactical aircraft; and the Navy's carrier-based aircraft. In addition, nuclear armed Jupiter and Thor medium-range ballistic missiles were deployed in Europe.

By the late 1960s, as the Soviet Union approached strategic parity with the United States and deployed TNFs, NATO moved to improve its conventional forces and adopted the current strategy of flexible response. Under this strategy, we rely most heavily on conventional forces to deter

non-nuclear aggression. The theater nuclear capability is relied on for deterrence of Warsaw Pact nuclear use and further enhances deterrence of conventional aggression by increasing the risk to the Pact that conventional aggression could lead to nuclear conflict, and that this conflict could ultimately lead to the use of strategic forces. If deterrence failed, and the Pact used nuclear weapons or NATO's conventional forces could not contain Pact forces, we could consider the use of theater nuclear forces. The NATO objective in either of these situations -- war termination on terms acceptable to the Alliance -- would be sought by executing the appropriate options. These options would give NATO the capability to put more at risk for the Warsaw Pact nations than they would initially expect, should cause them to reconsider their actions by altering their assessment of an early victory, and thus could bring about a rapid termination and settlement of the conflict on acceptable terms.

Last year's Department of Defense Report to the Congress, and the Report on The Theater Nuclear Force Posture in Europe, prepared in compliance with Section 302(d) of Public Law 93-365, described in detail the current NATO strategy of flexible response and the nature of U.S. theater nuclear forces in Europe. As pointed out in those reports, NATO relies on a mutually supporting mix of conventional, theater nuclear, and strategic forces for deterrence. NATO's theater nuclear systems now include U.S. and allied in-theater dual-capable artillery, tactical air, ADMs, surface-to-air missiles, and short- and long-range land-based surface-to-surface missiles, as well as U.S. Poseidon and UK SLBMs.

The United Kingdom maintains four nuclear-powered fleet ballistic missile submarines similar to the Polaris submarine. Each is armed with 16 U.S.-supplied Polaris missiles, which carry UK-developed and owned nuclear warheads. The UK also has nuclear bombs which can be delivered by her Buccaneer and Jaguar tactical aircraft and Vulcan medium bombers.

France maintains several fleet ballistic missile submarines, a number of intermediate-range ballistic missiles, and bombers for strategic delivery of nuclear warheads. Her tactical nuclear delivery capability consists of fighter-bombers and the Pluton surface-to-surface missile system.

Most of our NATO allies participate in Programs of Cooperation (POC) under which the United States would provide the nuclear weapons for their delivery systems. These warheads remain in the custody of U.S. personnel until released by the U.S. President for actual use. Through these Programs of Cooperation, we assure that they have a capability to contribute to their defense if the use of nuclear weapons should be authorized.

The United States does not participate in Programs of Cooperation outside of NATO. Our Asian allies continue to rely on U.S. assurances of continuing protection which, in turn, have reduced their need for their own nuclear capabilities. The presence of nuclear capable U.S. forces in the Pacific area, together with the capabilities of our Pacific fleet, represent a credible deterrent to the use of nuclear weapons in this theater. Should deterrence fail, these forces broaden the range of options available for response in conjunction with our Asian allies.

The size, composition, and characteristics of our theater nuclear forces depend on a number of factors. Several of these, including the role of TNFs and the TNFs of our NATO allies, have been described. The most important of the other factors is the theater nuclear capabilities of potential enemies.

B. THE THEATER NUCLEAR FORCES THREAT

1. Soviet/Warsaw Pact

NATO understanding of Warsaw Pact military strategy and doctrine for a possible war in Europe is based on close study of Pact training exercises, force structure, organization, training, R&D, policy declarations and unclassified writings. Observations indicate that a major danger lies in a massive Warsaw Pact advance into Western Europe characterized by surprise, shock, and rapid air and ground exploitation.

-- Surprise. Doctrine and exercises indicate that the Warsaw Pact places high value on tactical surprise with nuclear weapons. Their doctrine states that if the Warsaw Pact believes NATO is about to launch a major nuclear attack, it will seek to preempt with nuclear strikes on military targets. Moreover, there are clear indications that the Pact fully appreciates the initial advantage to be gained by a first use of theater nuclear forces in the absence of NATO indications to use nuclear weapons.

-- Shock. Massive concentration of firepower on key military targets early in a conflict is a strong tenet of Pact planning. The objective is to rapidly disrupt and demoralize NATO's forces, creating opportunities for armored blitzkrieg attacks. Prime targets for Pact attacks are NATO nuclear delivery units, airbases, ground combat forces, command posts and support units.

-- Exploitation. Warsaw Pact armored forces and their immediate support (artillery, tactical air, SAM's) are postured and trained to exploit nuclear attacks by rapid, deep, multiple thrusts to destroy remaining NATO forces and seize NATO territory. These armored forces are equipped for operations in a nuclear and chemical environment, so as to maintain movement and keep constant pressure on NATO forces.

The question is whether, in a war in Europe, the Warsaw Pact actually would follow this highly escalatory doctrine, and if so, how effective would their attacks be. National leaders are not, of course, constrained to follow the doctrine their military commanders use to guide training or exercise forces in peacetime, nor do training exercises necessarily indicate most probable tactics. In fact, in past crises in which the United States or NATO nations have shown a determination to use the force necessary to protect their interests, Soviet leaders have acted cautiously. Nevertheless, Warsaw Pact forces are postured primarily for the type of theater-wide nuclear strikes pictured in their doctrine and exercises; this is evidenced, for example, by the Pact's strong dependence on surface-to-surface missiles estimated to have relatively poor accuracy and large yields.

Even as the Soviets have improved their conventional capability and may have recognized that conventional war in Europe need not necessarily escalate to nuclear war, their forces, doctrine and strategy remain fully capable of combined conventional and nuclear operations. The manner in which the Soviets have approached conventional force improvements has also provided them with significantly improved theater nuclear capabilities. Their TNFs appear to remain an integral part of their warfighting capabilities. Moreover, their equipment as well as their training for a radiological environment indicate their continuing seriousness about nuclear warfare.

Soviet TNFs, in addition to IRBMs, include tactical and intermediate-range aircraft, tactical rockets (Frog), surface-to-surface missiles (Scud, Scaleboard), land-based and sea-based medium and intermediate-range ballistic missiles, (SS-4s and 5s, SS-N-4s and 5s), and cruise missile configured surface ships and submarines. All these forces could be used for nuclear attacks on targets in Europe or Asia. The Soviet Union has provided her Warsaw Pact allies with Frog and Scud missile systems, and with nuclear capable tactical aircraft.

The Soviets continue to increase the flexibility with which they can use nuclear weapons. Older tactical aircraft are being replaced with modern dual-capable fighters and fighter-bombers such as the swing-wing Fitter C, Fencer and Flogger. Further, the quantity of delivery systems has been increasing. They are improving their theater-wide command, control and communications systems.

A new and unique Soviet development is a MIRVed mobile IRBM, the SS-X-20, which is addressed briefly in the Strategic Forces section. The SS-X-20 uses the first two booster stages of the SS-X-16 ICBM. It is believed that the system will be deployed in a mobile or road-transportable mode.

2. People's Republic of China

The People's Republic of China is expanding its capability to deploy and use nuclear weapons, although not as rapidly as previously estimated. As discussed in the section on Developments in Foreign Strategic Capabilities, presently deployed forces consist of some short-, medium-, and intermediate-range ballistic missiles and a sizable medium bomber force capable of delivering nuclear weapons. These forces provide the PRC with a meaningful regional nuclear capability against the USSR and Asian allies of the U.S. Possibly as a consequence of attaining a small but capable theater nuclear force, the PRC is now placing major R&D emphasis on fielding by the mid-1980s an ICBM and SLBM system. Nonetheless, some emphasis is also being placed on developing a short-range or medium-range ballistic missile, for use with ground forces, and a nuclear-capable aircraft.

3. Terrorist Threat

A different type of threat -- that of the terrorist -- has brought about a number of changes in the security measures for U.S. theater nuclear weapons. The number of identified terrorist organizations has been steadily increasing.

Nuclear storage sites are already well-guarded, and access to individual weapons is further inhibited by each weapon's own Permissive Action Link (PAL) locking device or combination lock. Nonetheless, a successful terrorist attack on a weapons storage site or theft of a nuclear weapon could have major repercussions and could jeopardize our whole deployment of nuclear weapons. To reduce this risk, we have initiated discussions with our allies and made plans to improve security procedures, and upgrade the physical security facilities at each of the remaining nuclear storage sites. Peacetime security of nuclear weapons is discussed later.

C. THE CURRENT APPROACH TO THEATER NUCLEAR FORCES

To ensure that TNFs continue to enhance deterrence, the following goals for TNF improvements have been formulated:

-- the Warsaw Pact must appreciate that NATO has an assured capability to execute its theater-wide nuclear war options in the event of a surprise nuclear attack, and

-- NATO must be capable of executing effective nuclear attacks against Warsaw Pact military forces, with discrimination and limited collateral damage, in response to major conventional or limited nuclear attack.

The first goal requires force survivability, under nuclear or non-nuclear attack, for a significant portion of TNFs and their essential support so as to provide a full range of response options. We are currently increasing survivability by a variety of means: through increased mobility, construction of hardened aircraft shelters, camouflage of fixed systems, active defenses and increased communications security.

The second goal requires greater flexibility in the use of existing nuclear forces for coordinated conventional-nuclear operations. The TNFs provide additional defense capabilities along the main Warsaw Pact axes of advance, and allow attack of selected military, political and economic targets throughout the theater. In these roles, TNFs must

provide significant advantage over conventional alternatives, particularly when the possibility of enemy nuclear response is taken into account. TNFs are not intended as a substitute for conventional forces. TNFs would support and complement NATO's conventional forces by interdicting forces on Warsaw Pact territory and by directly supporting those defending forces on the battlefield.

This goal implies that we must have capabilities for undertaking such options as destruction of armored units near the forward edge of the battle (FEBA), attack of rear echelon armored units which are moving toward the FEBA, suppression of Warsaw Pact tactical support to their armored units (artillery, SSMS and rockets, tactical air and SAMs), and interdiction of the forward logistics base needed to support a fast-moving Warsaw Pact attack. These options would include attacks capable of being limited with respect to the area of attack, the types and numbers of weapons employed, and the types of targets attacked. Any retaliatory attacks against selected rearward Warsaw Pact targets should impress upon the Warsaw Pact nations the risks to them inherent in the situation.

We are proceeding in several program areas to ensure that our forces are structured in consonance with planning goals. NATO's air assets will be made more flexible by the introduction of more secure nuclear bombs. The U.S. is also examining weapons with tailored effects, stand-off systems with terminal guidance for higher accuracy and improved nuclear warheads. These warheads would lower collateral damage and strengthen all-weather attack capabilities.

These goals are also furthered by ensuring responsiveness comparable to the positive control of strategic forces to assure timely and appropriate nuclear employment, and by exercising control over collateral damage to enhance the credibility of our TNF deterrent posture and reduce undesired damage should deterrence fail.

As we proceed to modernize our TNFs to attain these force characteristics the net result will be a force which could: cause significant loss to the attacker, including damage to his allies; cause him to reconsider his actions by demonstrating NATO's resolve and altering his assessment of early victory; and allow NATO to militarily exploit the use of nuclear weapons with conventional forces in order to bring about a termination/settlement of the conflict on terms which are advantageous to NATO.

Our NATO allies attach considerable importance to U.S. theater nuclear weapons in Europe; they regard them as concrete evidence of the U.S. commitment. We intend no changes which would undermine this commitment. Our allies will continue to share responsibility for the planning, deployment, and possible employment of theater nuclear weapons within NATO's defensive and negotiating strategy. Any adjustments to the U.S. nuclear posture in

Europe will be made only after full consultation with our allies and will be based on a careful military assessment of the NATO force posture and the status of opposing Pact forces.

-- In Europe any new initiatives and the manner in which we implement them should renew allied confidence in the U.S. nuclear commitment and the feasibility of achieving our objectives without undermining the common defense.

-- Any changes in Asia will recognize the need to maintain the credibility of our assurances to our Asian allies of nuclear protection and discourage our allies from developing their own nuclear systems.

D. MODERNIZING THEATER NUCLEAR FORCES

U.S. modernization goals fall into the several major areas discussed below.

1. Ground Force Battlefield Support Systems

Army ground force battlefield support systems can provide nuclear strikes near the forward edge of the battle area. They consist of tactical missiles (Lance), rockets (Honest John), and cannon artillery (155 mm and 8-inch). The U.S. will complete its planned deployment of Lance launchers and missiles in FY 1977. Most of these Lance launchers were deployed with U.S. forces in Europe as longer-range, more accurate, and more flexible replacements for Honest John and Sergeant launchers. Two Lance battalions will be based on the U.S.. In addition, we will continue to provide Lance as a replacement for Sergeant and some Honest John launchers in allied forces.

Nuclear cannon artillery contributes to deterrence of both nuclear and conventional attacks by providing an important capability for deterring the massing of Pact artillery and armor, and substantially blunting a Pact exploitation attack by destroying armored units and their supporting artillery. This capability derives from cannon artillery weapons being numerous, having a high rate of fire, and being able to strike targets located close to the FEBA where target acquisition is best and air defense is dense. There is a need for cannon artillery capable of firing modern projectiles with advanced nuclear warheads, which overcome the limitation of the current nuclear artillery stockpile.

Engineering development is continuing on a new 8-inch nuclear projectile which has significant advantages over the current round. The new projectile has a much longer range which provides greater target coverage while operating further from enemy forces. It has an improved warhead which greatly reduces undesired collateral damage. It is ballistically matched to the conventional round and will be highly accurate.

The FY 1977 Defense budget and ERDA budget contain funds to continue development and begin production of the new 8-inch projectiles. Designs for a new, longer-range 155 mm nuclear projectile are also being studied, but there are no current plans to proceed with engineering development. The number of new 8-inch projectiles to be produced has not been decided.

The introduction of Lance and the proposed new 8-inch artillery shell will result in major improvements to the capability of TNFs to assist in blunting a massive Warsaw Pact armored exploitation attack. Nonetheless, we still need to improve the responsiveness and rate-of-fire of our battlefield nuclear systems. In-place units should be able to provide a greater concentration of nuclear strikes to those sections of the forward edge of the battle area where they may be most needed. Nuclear-capable units and nuclear warheads should be more transportable to other sectors of the front, as necessary. We are developing and testing the doctrine to do both.

2. Theaterwide Interdiction Systems (Tactical Air, Poseidon, Pershing)

Considerable capability for preplanned strikes against a variety of targets in the theater is currently provided by U.S. and allied nuclear-armed tactical aircraft, U.S. and FRG Pershing missiles, the UK Polaris force, and Poseidon reentry vehicles currently committed to SACEUR for use in preplanned strikes in a theater-wide nuclear war. With these changes many of the land-based and carrier-based aircraft which might now be withheld for nuclear strikes on preplanned targets could be available to support a conventional campaign or battlefield nuclear use. This augmentation, combined with the introduction of the Air Force's A-10, F-15, and F-16 aircraft, should improve significantly our conventional airpower.

Tactical air has an inherent ability to concentrate firepower quickly in critical areas (for example, against breakthroughs) and so may be able to take advantage of the improvements expected to the timely exploitation of tactical intelligence. Defeat and disruption of enemy forces from the battle area to the assembly area are being emphasized in mission studies. However, effective use of tactical air nuclear support in this role requires solving several problems: acquisition and identification of non-fixed targets at long range, penetration to target despite heavy air defense, and operation in all kinds of weather. The U.S. is continuing to deploy the newer version of the B-61 nuclear bomb, which provides greater flexibility, improved safety features, and more sophisticated devices for enhanced security.

3. Other Nuclear Systems (Air Defense, ADMs, and ASW)

The use of any nuclear weapons would decisively change the nature of a conflict. If this most serious step were to be taken, it should

be done to induce the Soviet Union to terminate the conflict quickly. That is, it should be done with sufficient decisiveness and shock effect to cause the Soviets to reconsider their actions.

Nike Hercules

The U.S. currently has general purpose force Nike Hercules batteries in Europe, CONUS, Alaska, and in South Korea. Our NATO allies also maintain a number of batteries.

Fleet Nuclear Air Defense Weapons

The U.S. maintains nuclear and conventional antiair warfare (AAW) weapons (primarily Talos and Terrier) for fleet air defense on three aircraft carriers and 35 cruisers and destroyers. A reassessment of afloat deployment concepts and shipfill requirements for nuclear AAW warheads has resulted in a decision to replace some of the on-board Talos and Terrier nuclear warheads with existing conventional warheads. In the future, we will consider phase-out of additional nuclear AAW weapons as equally effective, improved conventional warheads are deployed.

Atomic Demolition Munitions (ADMs)

ADMs are nuclear demolition devices which are manually emplaced and detonated by timer or on command. They could be used to destroy bridges, cave in tunnels or defiles, cut roads, and otherwise supplement conventional barriers to slow enemy movements. ADMs would be most useful where it is difficult to bypass natural barriers, if nuclear release is given early in a conflict, and where time would not permit the installation of conventional obstacles (as would be the case in a surprise attack or unanticipated breakthrough). The utility of earth penetrator weapons in performing the nuclear barrier mission is now under study.

ASW Weapons

The U.S. maintains a variety of nuclear antisubmarine warfare (ASW) weapons. These include Subroc and Astor for use by submarines, Asroc for surface ships, and the MK-57 bomb for ASW aircraft. The MK-57 is also used by some allied ASW aircraft.

Effective ASW (whether with nuclear or conventional systems) requires detection, classification, and localization of enemy submarines before an attack can be made. Nuclear ASW weapons, because of their large lethal radius, allow for successful engagement of enemy submarines where localization is not exact. Nuclear ASW weapons also provide a hedge against hardening of enemy submarines and successful enemy countermeasures which reduce the effectiveness of homing torpedoes. Development of improved nuclear ASW systems will be considered where they provide significant advantages over conventional systems.

E. PEACETIME SECURITY AND STORAGE OF NUCLEAR WEAPONS

The Department places the highest priority possible on protecting nuclear weapons, and security procedures and equipment are being improved. The Munich tragedy of 1972 highlighted for the world a serious threat, and actions have been taken to counter the well-financed, armed, and organized terrorist unit. Congress, properly, has taken an active interest in the security of nuclear weapons and has urged greater security measures at the sites, reduction of the number of weapons and sites worldwide, and improved safety devices on weapons. The improvements which the Department has made and will continue to make should increase the already extensive and redundant security of our nuclear weapons.

The Department has an active program underway to upgrade the security of nuclear weapons while in storage, transit or on alert. A key element of the physical security program is the Permissive Action Link (PAL), a locking device integral to the weapon and designed to deny unauthorized access and prevent use of a weapon for a period of time. Theater nuclear weapons now in production have PAL devices which will disable the weapons permanently but non-violently if they are tampered with. Other measures to assure weapons security include the personnel reliability program (PRP), improved security criteria and standards for protecting nuclear weapons, and improved guidance for nuclear weapons movement, emergency evacuation, and destruction.

Peacetime security of nuclear weapons at storage sites continues to receive attention. The need for each storage site is reviewed regularly by the Department on a site-by-site basis. In evaluating further changes in nuclear weapons storage abroad, a number of factors are being balanced, including survivability of warheads in peacetime storage to a surprise Warsaw Pact attack, security of individual sites under terrorist attack, capability for weapons dispersal in a crisis, and funding implications. We want to consult with appropriate allies before making specific site consolidation proposals to the host nations concerned.

In FY 1976, 1977 and 1977, about \$230 million is programmed for improvements to the security of the storage sites we will retain. The quality of the security of these sites will be improved by better training of security personnel, improved perimeter sensors and lighting, additional guards with more firepower and better communications, quicker reaction capabilities for security forces, plus hardened guard facilities and defensive positions. This program of upgrading security should provide greater peacetime security for TNFs, without compromising their effectiveness for deterrence and war termination.

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IV. GENERAL PURPOSE FORCES

In FY 1977, the Department of Defense is requesting Total Obligational Authority of \$41.8 billion for general purpose forces (Major Programs II, IV). This amount is about four times larger than the authority proposed for the strategic nuclear forces. The capabilities acquired and maintained with these resources consist of active ground forces (Army and Marine Corps), naval forces (including aircraft carriers; surface combatants; maritime patrol aircraft, mine warfare forces, and attack submarines; amphibious forces; and logistics support ships), tactical air forces (Air Force, Navy, and Marine), and both long-range, or strategic, and tactical mobility forces.

We continue to believe not only that our general purpose forces are well worth their costs, but also that short of a reversal in the growth of Soviet general purpose forces, we must increase our capabilities. As Chart IVA-1 on the following page shows, the real program value allocated to U.S. general purpose forces has declined at a rate of almost two percent a year since FY 1963. This annual decline in real purchasing power for our baseline forces (with the costs of Southeast - Asia excluded) has meant a reduction in the size of our non-nuclear capabilities and serious problems in their readiness and in the rates at which we could modernize them. We have begun to reverse the trends in FY 1976. This budget will allow us to continue and expand on the necessary improvements that were recommended last year.

A. BASIS FOR THE GENERAL PURPOSE FORCES

The basic need for general purpose forces, and especially their non-nuclear components, is set forth below. Despite the efforts we have made to relax tensions with our principal rivals, they persist.

1. The Choices

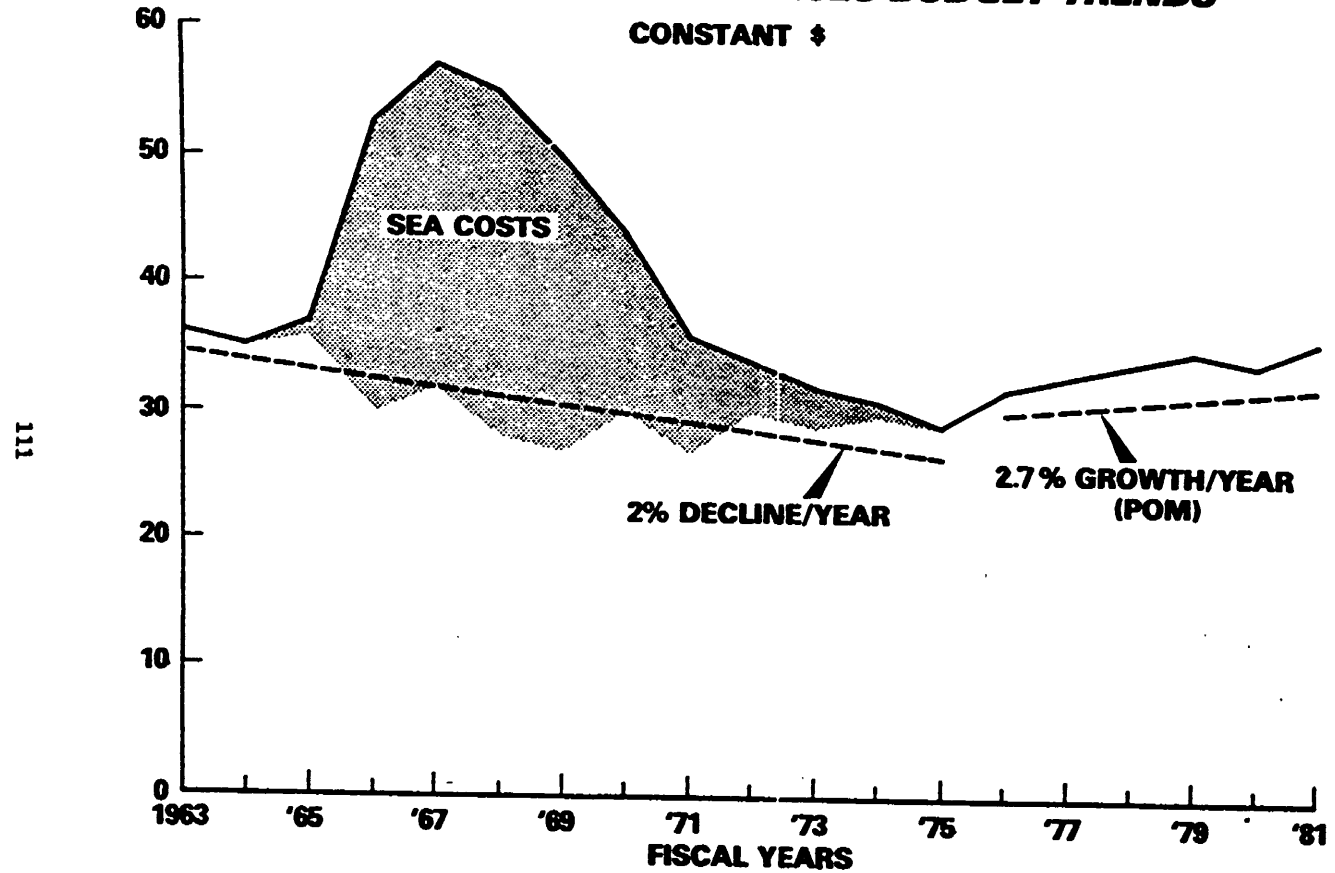
Nuclear equivalence could delude some into believing that this somewhat specialized stability minimizes any threat of force where our interests are at stake. But equivalence in nuclear arms has not led to any lessening of current rivalries. Instead, it has resulted in efforts to gain advantages in other forms of military power, and to exploit these advantages.

a. The Nuclear Option

In the face of this challenge, we could adopt the position that any serious attempt to erode our interests by military means would be met by

CHART IVA-1

DOD GENERAL PURPOSE FORCES BUDGET TRENDS



the tactical use of nuclear weapons. In fact, the U.S. took precisely that position at one time in the past, and there are those who still believe that the threat of an early nuclear response to any attack represents both a credible deterrent and the only way in which the free world can contain Soviet power on a continuing basis.

However tempting this view, and the lower defense budgets that it might promise, it is an illusion. While it is desirable to strengthen the deterrent to nuclear attack by improving the flexibility, discrimination, and control of our nuclear forces, we must not delude ourselves that the threat to use nuclear weapons -- even low-yield nuclear weapons -- is a credible deterrent to the entire range of attacks that we must guard against, or that the West would somehow have a greater advantage over the East in nuclear than in non-nuclear conflict.

Quite apart from the dangers of escalation once the nuclear threshold has been crossed, the collateral damage that could accompany all but the most limited nuclear exchanges, the uncertain but no doubt extraordinary political effects that would follow any further use of nuclear weapons, and the gravity of the decision to authorize their use, nuclear weapons do not particularly exploit basic Western strengths. Although we can lower their yields and refine their effects in various ways, we cannot be certain that enemies would treat them as other than very blunt instruments. As such, they can be much more voracious consumers of lives -- military as well as civilian -- than non-nuclear ordnance. They do not substitute for manpower on the battlefield. Perhaps a small force armed with nuclear weapons could defeat a much larger force which had no nuclear weapons. But it has been many years since we could count on a monopoly over this form of firepower. Where an enemy has nuclear weapons and larger forces, the advantage seems to remain on the side of big battalions.

We do not preclude even a first use of nuclear weapons in the defense of our interests. It should be clear, nonetheless, that while theater nuclear forces are necessary, they have not by themselves been a sufficient deterrent to the probes and tests faced in the past (when we had a substantially greater nuclear advantage). We may well have to face such challenges again. Strong non-nuclear forces are desirable not only to round out our posture of deterrence and defense, but also to ensure that we do not cross the nuclear threshold simply because of a lack of any serious choice between appeasement and that momentous decision. In fact, those who believe that the probability of nuclear war may be increasing because of recent operational and technical developments can best allay that concern if there is a strengthened U.S. non-nuclear defense and deterrent.

b. The Non-nuclear Option

While the principle of non-nuclear strength may be unassailable, there are two practical questions that must be answered before one can assert with confidence that our programmed non-nuclear posture is worth its substantial cost. The first is whether a non-nuclear defense by the United States and its allies is even feasible in light of the massive ground forces commanded by our rivals. The second is whether the current U.S. posture, or any major changes in it, make a significant difference to that defense.

The main concern here must be with the general purpose forces of the Soviet Union and her clients in the Warsaw Pact. In the past, we have also felt it necessary to take the forces of the PRC into account. But with our diplomatic initiatives and the Chinese preoccupation with the Soviet military buildup, we do not at present consider the PRC and Warsaw Pact as parts of a coordinated challenge.

The Soviet Union has added at least 800,000 men to its armed forces during the past 10 years and the strength of its military establishment, not counting border guards and internal security forces, now amounts to about 4.4 million men, more than twice the number in the U.S. armed forces. A significant portion of the Soviet military buildup since the Khrushchev period has been directed to the Far East. Nonetheless, the overall size of the Soviet military establishment and its ability to deploy substantial general purpose forces against Western Europe are impressive. Soviet general purpose ground forces currently contain about 1.7 million men, of which nearly 30 percent are stationed in Eastern Europe. Despite the deployments to the Far East, these forces have grown rather than diminished in strength. Indeed, it would be well if those who see the Soviets reacting defensively to provocative U.S. initiatives were to look occasionally at the history of Soviet deployments and modernization programs in both Eastern Europe and the Far East. One would be hard put to describe it as reactive and defensive.

While the United States has the people and resources to respond by itself to Soviet military power, there is no need for us to do so. In conjunction with our allies we can construct an adequate non-nuclear defense against the general purpose forces of the USSR and its clients, and provide it without a greater percentage of our growing resources than we are now allocating to our military establishments. As recently as 1973, the United States and its NATO partners had a total population of 545 million, while the Warsaw Pact countries had 355 million people. At that time, NATO defense expenditures probably exceeded those of the Pact (measured in U.S. prices), and NATO, somewhat surprisingly, had about 13 percent more men under arms.

We believe that since 1973, the USSR has increased still further both its real defense budget and its military manpower. Nonetheless, these basic comparisons suggest that we and our allies have already gone a long way toward providing the essential ingredients for a sound non-nuclear defense. This should not be taken to mean that all of the problems of a conventional collective security system have been resolved. It does suggest, however, that the real issue facing the United States and its allies is whether it is worth the relatively small additional effort required to make a full-scale defense solid and credible. We believe that it is, and that the forces we maintain and the increases we plan are critical to the success of the collective security enterprise. We expect and encourage our allies to make increased efforts as well.

2. The Strategic Concept

The general purpose forces are appropriately named. They must be trained, equipped, and supplied so that they can deploy and fight in a wide variety of environments against a range of possible foes. While it is understandable that some areas of the world should be regarded as unimportant from the standpoint of traditional U.S. interests, we still maintain defense commitments, formal and informal, in Latin America, North America, Europe, the Middle East, the Persian Gulf, and Asia. There is always the possibility, moreover, that just as Great Britain and France regarded Polish freedom and territorial integrity as the final test of German intentions in 1939, we ourselves will decide to draw a line in some distant place where expansion must be halted.

For these reasons, we must plan and prepare general purpose forces in the face of large uncertainties as to where, when, and how they might be used. It should be emphasized, however, that operational and contingency planning differ in significant ways from force planning. Operational and contingency planning deal with the use of forces that are already in hand or being programmed; force planning attempts to determine the size and composition of our forces despite all the uncertainties about their use.

While deterrence and stability are of as great interest to us at this level of potential conflict as they are at the strategic nuclear level, general purpose force planning must deal with a much more bewildering array of possible opponents and contingencies. What may be entirely appropriate as a response to a challenge in Asia may prove quite unsuitable in the different environment of Europe or the Middle East. Ways must be found to reduce this complexity and uncertainty to manageable proportions.

Our current approach to the problem is to support two main centers of strength -- in Western Europe and in Northeast Asia -- and to have the non-nuclear capability, in conjunction with allies, to deal simultaneously

with one major contingency and one minor contingency. We also plan, at a minimum, to keep the sea lines of communication open to these two vital centers in the face of a growing Soviet naval threat. We try to allocate resources in such a way that our active forces provide an initial defense capability and our reserve forces provide both important supplements to the more costly active units and the indispensable hedge against non-nuclear campaigns of substantial duration.

This approach, or strategic concept, provides the nation with several options. If a minor contingency occurs, we can respond to it without weakening our capability to join in defending against a major attack. If a major attack develops beyond the days or weeks that it is supposed to last -- as was the case in World War I when it was thought that the battle for France could not continue for more than six weeks -- the Guard and Reserve would become available to reinforce active units. With current deployments in Europe and Northeast Asia, we can contribute significantly to the deterrence of a surprise attack in both theaters. At the same time, we can hold a strong uncommitted strategic reserve in the CONUS which, if supported by adequate long-range mobility forces in the form of airlift, sealift, and amphibious lift, permits us to deal with unforeseen contingencies that we may wish to deter or resist.

We could, of course, achieve even greater flexibility by planning to cope with more contingencies. But in view of the current differences between the Soviet Union and the PRC, the current strategic concept sets prudent objectives for our general purpose forces, and should keep at a reasonably low level the risk that the U.S. would be the first to cross the nuclear threshold. A different course, as some critics urge, would be to assume a much more benign environment and resume reducing both deployments and the strategic reserve on the basis that they are no longer necessary. To do so would be to ignore the dynamics of expansion that are evident in the world today, and undermine the feasibility of a non-nuclear defense in those two great regions -- Europe and Northeast Asia -- which most agree are essential to the safety and well being of the United States itself. Surely, there are more constructive ways to ensure that, as a nation, we continue to use our power responsibly for deterrence and defense. Because the implements of power are alleged to have been misused in the past is no reason to deprive ourselves of those essential implements.

3. The European Contingency

While most may agree on the strategic concept that should govern the application of our general purpose forces, there remains the question of the conditions under which our objectives can be satisfied. What specific forces do we need to implement a strategic concept intended to deter the contingencies which most concern us, avoid major regional

instabilities, and minimize the probability of nuclear warfare if deterrence should fail?

Since the centerpiece of our strategic concept is to have the ability, in conjunction with our allies, to manage one major contingency, we believe that the most prudent way to arrive at the specific requirement for general purpose forces is to consider what we would need to establish and maintain a forward defense in Central Europe. The European contingency is a suitably realistic and severe test case for several reasons. Along with Japan (and by extension, South Korea), our allies in NATO, and the sea lanes leading to them, are at the heart of our international interests. The frontier in Central Europe remains one of the most heavily armed in the world, and we believe that the Soviet forces deployed in Eastern Europe are much larger than would be justified for defense or even the most repressive kind of occupation. To the best of our knowledge, moreover, the doctrine which governs these forces is offensive in spirit and inspired by the blitzkrieg tactics of World War II. There is, in short, a major military threat actually deployed in Eastern Europe which could be strengthened by the other members of the Warsaw Pact and reinforced in a short time by Soviet ground and air units from the western military districts of the USSR. The challenge is real, not hypothetical.

If we and our NATO allies can hold a forward non-nuclear defense against both the deployed and reinforced units of the Warsaw Pact, we should have a powerful deterrent in a crucial area and a sufficient level of active U.S. forces to deal with other contingencies -- provided that we are not obliged to commit our entire strength to NATO at all times.

Several factors govern requirements for the European contingency: the deployed forces of the Warsaw Pact; the ability of the Soviet Union to supply additional forces and the speed with which the reinforcement could take place; the contributions of our allies to the deployed and mobilized forces of NATO in the Center Region; the residual requirement for U.S. forces; and the time at which those forces would have to be on line in order to assure a solid forward defense. The specific role we see for the United States is to provide sufficient deployed forces to supplement those of our allies in blunting a sudden attack by the deployed forces of the Warsaw Pact; to have in reserve a ready force which can reinforce our allies in the event of a major Pact mobilization and deployment; to maintain the capability necessary both to move our reinforcements to the front in a timely fashion; and, along with our allies, to guard the air and sea lines of communication to Europe. In addition, since a European conflict could become worldwide in character, we consider it necessary to hold a forward defensive position in Northeast Asia and ensure that our lines of communication to that vital area remain open.

The forces needed to fulfill this role can best be understood by considering the two main cases that concern us in Central Europe: an attack which occurs after little or no warning or an attack that occurs after a large-scale Pact mobilization and deployment.

a. Surprise Attack

We estimate in the first case that the Pact (counting East Germany, Poland, and Czechoslovakia) can quickly concentrate a considerably larger force in the Center Region than can NATO. Measuring the course and outcome of a conventional campaign is an uncertain enterprise. But a rough criterion of the effectiveness of an attacking force is its ability to advance on the ground in the face of opposition, and its effectiveness depends heavily on its firepower and mobility relative to those of its opponent. The attacker may have the advantages of surprise and concentration, but the defender can have the advantage of prepared positions. On these assumptions, and when opposing forces are roughly comparable in equipment and training (which may not be the case in Central Europe), it is generally believed that the attacker must have an overall superiority all along the front in order to advance toward his objectives. As his superiority increases, so does the rate of his advance.

The deployed Pact forces would have a clear superiority over the non-U.S. NATO forces by this measure, and therefore might be expected to succeed in a sudden attack, if no U.S. forces were present. However, when 5 deployed U.S. divisions and 8 tactical fighter wings are added to the NATO total the disparity is greatly reduced.

This could still represent an unsatisfactory force relationship in our view, and it helps to explain why -- within current manpower ceilings in Europe -- we are adding two brigades and possibly more tactical aircraft to our deployed forces in the Center Region. Quite apart from other considerations, this relationship also explains why, on military grounds, it would be a mistake to withdraw unilaterally any of our combat forces from Europe.

b. Mobilization and Deployment

In the second case, where the USSR reinforces its deployed forces with divisions drawn from its western military districts, the total array of forces deployed against NATO in the Center Region would greatly increase. How fast this large force could get into position to jump off, and how soon we would react to the deployment, are two of the most critical uncertainties we face in planning.

In principle, the Pact mobilization and deployment could be completed in a very short time, which would force NATO to resist with its immediately

available forces and might oblige the allies to consider an early use of nuclear weapons to stem the attack. Such a mobilization and deployment has never been rehearsed, however, and it is more realistic to believe that the Pact would take a considerable period of time to make its mobilized force ready and put it on line. We would almost certainly be aware of a mobilization this large in a matter of hours. But, for planning purposes, we assume that it could take NATO a number of days to interpret the intentions of the Pact and order a counter-mobilization.

The planning objective, in these circumstances, is to maintain a stable force ratio in the Center through this demanding period, and to put our full countervailing force on line as soon as possible. The NATO allies by themselves could increase their deployed capabilities rapidly during this period. But without the contribution of our current deployments and planned reinforcements, the force ratio would remain sufficiently adverse to warrant the expectation of a successful Pact attack. Not only are deployed forces critical to the steady-state stability of the Center Region; they constitute a necessary foundation on which to build our reinforcements, and they provide some cushion against a more rapid Pact mobilization and deployment than we anticipate. But a substantial U.S. reinforcement would still be required in order to restore the force balance to a ratio that we consider prudent.

Sealift, while crucial, cannot contribute significantly to this early deployment before about M+20. Strategic airlift can, but it currently has just a marginal capability to deliver the requisite tonnage and outsize cargo within the time required for early reinforcement. To improve the capability for timely reaction, the Department continues to request the airlift improvement program recommended to the Congress last year, with particular emphasis on the modification of selected wide-bodied aircraft in the Civil Reserve Air Fleet (CRAF). With that modification, and the other changes in force structure that we are making, we should have moderate confidence that we can meet the hard test of an initial non-nuclear defense in Central Europe.

To stop there, however, would be imprudent. There is now considerable evidence that the Soviets are taking much more seriously than was the case under Krushchev the prospect of a relatively prolonged conventional campaign, and are improving their logistic support structure accordingly. This may also explain in part why they have been adding men, artillery tubes, and tanks to their divisions in Eastern Europe.

To respond to that trend, not only must we continue to improve our short-war (or active) posture; we must make sure that our long-war (or reserve) hedges are in order as well. We also must do more to ensure the readiness of our active forces and reduce our losses of on-line capability because of too little maintenance, too few spare parts, and too few full-scale training exercises.

c. The War at Sea

Deterrence of a major non-nuclear war means having the capability to keep the sea lanes open, at a minimum, to Europe and Northeast Asia. Yet the Navy faces this imposing task with the smallest number of ships since 1939 and with rapidly escalating shipbuilding costs. It is fortunate, in these circumstances, that the Soviet Navy has not expanded further in size in recent years (even though it has grown more capable), and that we can presumably count on allied navies to share the burden of sea control.

Even with these advantages, however, the Navy estimates that, in a war at sea which involved Soviet combatants in both the Atlantic and the Pacific, our prospects for sea control would be somewhat uncertain.

It is in Japan's interest to improve her capabilities for the conduct of an ASW campaign in the Western Pacific, and we hope to increase U.S.-Japanese cooperation in this field. But it remains essential, considering the importance to the United States of sea control and the high costs of modern ships, that we review our programs with the utmost care.

4. Requirements

Any analysis of our major force-planning contingency brings out a number of points about requirements. Five of them deserve particular attention.

-- A forward defense is important not only because of political considerations, but also because it is less demanding of U.S. forces than a strategy that would trade space for the time in which to mobilize and deploy our capabilities. The latter strategy would be less costly in the short-run because we could depend much less than we now do on active and ready forces. But such a strategy would be much less effective as a deterrent and much more costly in lives and treasure if deterrence should fail and we were obliged to recover the territory that we had traded in the first instance.

-- Because of the way in which Warsaw Pact forces are structured and deployed, we must depend primarily on active forces to join with our allies in the initial defense of forward positions. Except for selected units which train and are associated with active forces, the ground combat elements of the Guard and Reserve divisions cannot be expected to achieve a sufficient level of readiness to permit their early deployment in a crisis. However, because of the need for combat service support to our active units and for long-war insurance, their importance remains high. Their lower cost, in fact, makes them the ideal hedge against the possibility of a long war, and we should continue to strengthen them accordingly.

-- The basis for a 16-division active Army should be evident from the foregoing analysis. The extraordinary power of a U.S. division force is such that even a small change in the total number of U.S. divisions makes a major difference in the amount of terrain that the force can cover and the firepower that it can deliver. When, in previous years, the Army was reduced to 13 active divisions, inadequate account was taken of this loss in division frontage and firepower, and insufficient allowance was made for the improvements that were then taking place in Soviet ground forces. These challenges are now being addressed. Active ground forces are now only just adequate to deal with the early phases of basic planning contingency, provided that we can deploy them in a timely fashion. In fact, there already is a persuasive case for making more of our divisions heavy, even though we will still want some "swing" forces which can deploy rapidly to either Europe or Northeast Asia. If Soviet ground forces continue to expand, and grow more sophisticated in their weaponry, still further improvements in our posture (and certainly in that of our allies) will be required.

-- The rising costs of manpower, the constraints on military personnel imposed by the All-Volunteer Force and Congressional mandate, and the high value that we place on life mean that if we are to remain competitive with potential adversaries, we must become more capital-intensive in the production of combat effectiveness. In a theater such as Europe, where we face very large ground forces, we and our allies must provide a sufficient density of manpower on the ground to assure a continuous and solid front with a substantial reserve. But once we have reached that point, and can provide NATO with a reasonable central reserve, it makes sense for the United States to provide additional firepower by means of tactical airpower. As we improve our all-weather capabilities and expand our inventory of precision-guided munitions, tactical air becomes an exceedingly attractive investment. This is the case not only because it provides so much firepower for so few lives at risk, but also because it can go deep, concentrate rapidly on a small sector of the front, and help to counter the tank superiority of the Pact field armies. It is indeed precisely this potential of modern tactical airpower -- especially in the form of the A-10, the F-15, and the F-16, working in concert with the E-3A (AWACS) -- which gives us some ground for believing that we can maintain a balance in force effectiveness with the Warsaw Pact in Central Europe. Accordingly, as the active 16-division Army is rounded out, it is desirable to add sufficient aircraft (equivalent of 4 wings) to the current Air Force fighter attack structure of 26 wings so that these wings are fully effective. They will complement the three additional Army divisions with necessary tactical air support and increase the firepower that we can maneuver and concentrate to counter a heavy Pact tank attack. In addition, as we proceed with this improved ground-air team, we are developing a more integrated allied command-control structure for tactical air forces. National aircraft must not be confined to the support of national ground forces only. Allied commanders should be free to use them, as appropriate, on any part of the front.

-- Despite these improvements, which are being undertaken without increases in manpower, we may still find that we are not doing enough. Like it or not, we are currently faced with a highly dynamic military environment -- one in which the Soviets continue to expand and modernize their general purpose forces. In terms of military hardware alone, they are producing at a higher rate than the United States and its NATO allies combined. We continue to hope that through the negotiations in Vienna for Mutual and Balanced Force Reductions, we can slow this momentum and introduce an element of stability by setting common ceilings on the forces of both NATO and the Warsaw Pact in the potential area of reductions. However, it should be evident that if current trends in the Soviet military buildup continue, offsetting actions must be undertaken. Although our technological base remains superior to that of the USSR, and the quality of our equipment is better in many respects, numbers still count for a great deal in conventional conflict. It would be difficult to contend, for example, that the tanks and artillery of NATO are significantly more effective than their Pact counterparts, but we are outnumbered in both respects. Our position is better in other categories of weapons. But we may have to increase the production base still further so that the current trends in Soviet programs do not produce adverse ratios in force effectiveness. The utmost vigilance will be required.

5. Major Programs

a. Land Forces

We plan to continue the program to round out the 16 active Army divisions by transferring further support spaces to combat units within a constant Army manpower ceiling. In addition, we are now moving to "heavy up" several of the "light" infantry divisions so that they will be better able to cope with the armor-heavy Pact ground threat.

b. Tactical Air Forces

In the current Five Year Program, the Air Force is planning to add the equivalent of four wings of aircraft to the 26-wing structure and purchase F-15, F-16, and A-10 aircraft to equip them. Because we are now proceeding with a program to procure the F-18 aircraft for the Navy, we should be able to provide at acceptable cost adequate active and reserve fighter defenses for the multipurpose carriers we now plan to operate. As a result of this program, the future Navy fighter inventory will consist of a mixture of F-18s and the more capable but also more costly F-14s.

c. Naval Forces

Although inflationary pressures continue to inhibit progress toward the Navy's 600-ship goal, the Five Year Program still permits some

growth in the level of naval forces. The resulting Navy should be more adequate than is now the case to maintain a worldwide presence, respond to sudden emergencies, and defend the more critical sea lanes against efforts to interdict our shipping. The most significant growth will occur in two categories -- surface combatants and nuclear attack submarines -- both of which are essential to effective sea control. We are also planning a major and long-postponed modernization of our support ship force.

d. Mobility Forces

As has been emphasized, the timely reinforcement and support of our NATO allies would be impossible without adequate airlift and sealift. In order to obtain the capability to offset a rapid Soviet buildup in the European theater, and to do so at minimum cost, we will continue to emphasize improvements in existing military and civilian airlift. No program for the general purpose forces is more worthy of support.

The specific trends in Soviet and PRC general purpose forces, and how we propose to respond to them, are described in the next two sections.

B. GENERAL PURPOSE FORCES THREAT

1. The Soviet Union

Since the Soviet Union's general purpose forces have a major impact on how we size, upgrade and direct our general purpose forces, it is appropriate to present an estimate of the size, nature, capabilities and long-range trends in Soviet general purpose forces. These include Soviet general purpose ground, naval, and air forces and exclude strategic attack and defense forces and command and general support personnel.

Since the mid-1960s Soviet general purpose forces have grown by approximately 30 percent to a strength we now estimate at about 2.3 million men. This increase has resulted in part from the expansion of Soviet forces both along the Sino-Soviet border, where the number of divisions increased from 15 to more than 40 during the decade, and in Czechoslovakia, where the Soviets established a large force after the 1968 invasion. This increase also includes a growth in other Soviet troops in the Warsaw Pact area facing western Europe.

Moreover, the equipment changes which the Soviet general purpose forces have undergone in recent years leads us to believe that the Soviets are vigorously applying themselves to the development of new technologies, to putting these technologies in the field, and to using increasingly sophisticated tactics and training. While U.S. leadership in such areas as aircraft technology, pilot training, submarine quieting and ground combat experience still continues, changes in the mix of Soviet weapons systems during the past decade reflect advances that mark their transition from a relatively poorly armed and trained military force to one which can conduct sophisticated operations with complex weapons. This transition, or "maturing," is shown in such trends as: the design of aircraft which for the first time give the Soviets a meaningful ground attack and interdiction capability; the production of ships which provide substantial open water capabilities; and the construction of a sophisticated surface fleet whose presence can seriously challenge U.S. naval forces for control of the sea in certain areas -- particularly those near the Soviet land mass. Additional trends are reflected in advances in almost every major category of ground force weaponry. They made changes in organization, training, exercises and other practices which demonstrate that they are becoming increasingly able to utilize this new-found strength.

When considered in light of the current quantitative and qualitative momentum that the Soviets have sustained for 10 years with no visible slackening, the present Soviet and non-Soviet Warsaw Pact forces are imposing. Nonetheless, they are not invulnerable and do not possess an assured capability to defeat our forces in a conflict.

a. Soviet/Warsaw Pact Ground Forces

The Soviet general purpose ground forces number approximately 1.7 million personnel organized into 168 divisions and supporting forces distributed throughout the Soviet Union and Eastern Europe. Some of these 168 divisions are deployed in Military Districts in the USSR; others are organized into groups of forces in Eastern Europe. About a third of the divisions are fully-equipped active units deployed primarily to support their Warsaw Pact allies or along the Chinese-Soviet border. The remainder are at reduced or cadre strength and have varying percentages of active duty personnel and equipment assigned to them. We estimate that these divisions could pull together the necessary equipment and personnel in varying, but brief, periods of time. However, they would of course be less capable immediately after mobilization than their active front line full strength counterparts. In addition to this purely Soviet force, the other Warsaw Pact nations maintain 39 divisions immediately available for commitment, and 16 in a lesser state of readiness.

Essentially, about 90 Soviet and non-Soviet active divisions throughout Eastern Europe and the Soviet Union are immediately available for combat. For the longer term, about 130 more divisions could be deployed. Given either a surprise attack or sufficient mobilization time, this total force of about 220 divisions (which includes over 40 in the Eastern USSR and Mongolia) constitutes an undeniable and substantial military threat.

This total force appears to be larger than would be required for even the most stalwart of defenses, and its concentration is especially heavy opposite the Center Region of NATO. Almost one-half the Soviet total of front line divisions are deployed in Poland, East Germany, and Czechoslovakia. Together with non-Soviet Polish, East German, and Czech divisions, they can probably march on as little as a few hours notice.

Since the mid-1960s, the Soviets have introduced a variety of new ground force weapons. A new Soviet tank -- the T-72 -- is now being produced and introduced into divisions. Another new weapon, an armored personnel carrier called the BMP, was introduced into their force in the late 1960s and is so clearly superior to its predecessors that it is more properly identified as an armored fighting vehicle rather than as a personnel carrier. The BMP has a new gun system, a semi-automatic loader, a separate antitank guided-missile, and individual firing ports which enable troops to shoot at targets from inside the vehicle.

For air defense protection, the Soviets have introduced since the mid-1960s the ZSU 23/4 fully-tracked, radar-assisted, anti-aircraft gun, which performed impressively in the Middle East War. They have

also developed and deployed five new surface-to-air missiles, the SA-4, SA-6, SA-7, SA-8, and SA-9. Soviet artillery has also been improved with the introduction in the 1960s of a 40-barrel rocket launcher into their divisions, providing improved capabilities to deliver mass fires. In the early 1970s they began introducing self-propelled, armored versions of their traditional 122 mm and 152 mm guns. A number of divisions have already received the new self-propelled weapons, which provide a marked increase in mobility and survivability in combat. These two weapons and the 122 mm mobile multiple rocket launcher will probably become the three mainstays of Soviet divisional firepower.

Equally important, the Soviets have increased the overall numbers of certain weapons in their divisions by fielding advanced weapons while retaining older ones, and have made accompanying manpower increases. The Soviets have not fully implemented these planned changes; moreover, their divisional structures are not uniform in peacetime. Nonetheless, a major substitution of new weapons for old has already taken place. Increases in the number of weapons are most noticeable in the growth in antitank capabilities, largely brought about by the addition of the BMP, with its antitank weapon, to the Soviet inventory.

In the nuclear and chemical warfare environment, the Soviets are increasing both their delivery capability and their ability to protect men and equipment. Their capabilities for chemical warfare are particularly worrisome since we do not possess a similar capability. Although the Soviet Union is a signatory to the Geneva Protocol, the USSR currently has an unsurpassed capability to conduct chemical warfare. Highly toxic chemical agents have been developed and standardized. There is considerable information and firm intelligence to support the assessment that the USSR could initiate and sustain large-scale chemical warfare either in a conventional or nuclear conflict.

In the conventional area, the advent of self-propelled artillery, the BMP and new air defense weapons provide great increases in firepower; the improvements in crew protection in artillery and APCs greatly decrease the risk to their soldiers. Overall, what is being seen is an effort that improves mobility, firepower, support, and protection for men and weapons, which are essential inputs to combat success.

With these advances, the Soviets appear to have changed their exercise and training practices to emphasize longer periods of conventional conflict before escalating to a nuclear environment.

b. Soviet/Warsaw Pact Air Forces

Developments in Soviet and other Warsaw Pact theater air forces since the mid-1960s have been consistent with the increased Soviet emphasis upon achieving the capability to win widespread conventional warfare in Europe without necessarily resorting to the use of theater nuclear

weapons. Prior to the mid-1960s, Warsaw Pact theater air forces were limited principally to air defense of forward air bases and ground forces against attacking enemy aircraft, and were equipped with aircraft and armament which were limited in range, payload, and avionic capabilities. Doctrinal changes in more recent years have broadened theater air's mission responsibilities to include carrying theater war to the enemy by destroying NATO's theater nuclear reserves and tactical air forces, and providing tactical air support to advancing Pact ground forces. By the late 1960s, and with increasing tempo through the early 1970s, theater air forces have been receiving new aircraft and munitions with significantly improved capabilities while modifying some older aircraft to support these broader mission responsibilities. They have also been supplied with better equipment for air reconnaissance, electronic warfare, improved facilities in dispersed and hardened shelters for aircraft, and a resilient C³ system.

The number of tactical aircraft in Warsaw Pact operational units is now over 5,000. Since 1968 the number has grown by about 1,300 and now includes some 4,000 ground attack and counter-air aircraft, supplemented by approximately 1,000 reconnaissance and ECM aircraft.

This number includes the Soviet buildup along the Chinese border, where the number of aircraft has approximately doubled. Most of the Soviet tactical aircraft in Eastern Europe and the six western Military Districts confronting NATO are the more sophisticated and militarily more capable systems which have emerged since the late 1960s.

The new tactical aircraft, specifically the late model Fishbeds, Fitters, Floggers, and Fencers, have substantially improved range, payload, avionics and ECM capabilities. Most dramatic is the increasing ground attack capability which has enabled the Pact's tactical air forces to engage in a broader range of offensive as well as defensive missions, in particular the capability to conduct strikes against most of European NATO's airfields without prior redeployment. This capability will continue to improve as additional Floggers and Fencers (the latter are available now in only limited numbers) are introduced in the ground attack role.

The Pact's ability to carry conventional war to NATO through new tactical air systems is also being augmented by retaining and reorienting older systems which are still available in substantial quantities. The Soviet air force has begun replacement of Frescos with Fishbed D/Fs in ground attack regiments facing NATO's center and flank regions. This conversion provides these regiments with more than double the combat radius and a standoff weapons capability, overcoming some of the Warsaw Pact's shortcomings in support of armored breakthrough operations.

To complement their growing inventory of modern, more versatile ground attack aircraft, the Soviets are developing a variety of new air-launched weapons including a family of tactical air-to-surface missiles and bombs. The combination of these new armaments, together with the enhanced penetration capabilities of the new aircraft and an increased emphasis on ground attack training, should greatly increase the effectiveness of sorties, especially against hardened ground targets.

Beyond this increased emphasis on ground attack capability, other capabilities are also experiencing significant improvement. The Backfire bomber, which is being introduced into Long-Range and Naval Aviation, improves penetration of NATO air defenses. Theater air forces also possess an extensive, hardened air base system sufficient in numbers and logistic support in Eastern Europe to permit a variety of deployments, reinforcements, and air attack operations for extended periods. Command and control have been upgraded through extensive active and passive electronic defensive measures, along with hardening and improvements in C³ facilities which have enhanced overall battle management capabilities.

There are, of course, areas in which Pact tactical aviation has made no significant improvement in recent years. Moreover, in practically every specific aspect of tactical aviation technology, Pact capabilities remain deficient relative to their U.S. or NATO counterparts, even though they represent substantial improvements over Pact capabilities existing as recently as the late 1960s. Although ground attack training is receiving increased emphasis, Pact air intercept training retains its traditional emphasis on strict ground control intercept, with little attention paid to free air combat outside the control system.

Nonetheless, the last decade, and particularly the 1970s, has seen a broadening in the mission responsibilities of theater air forces and substantial quantitative and qualitative improvements in their capability to carry out these missions. Of particular concern for the future is the nascent but increasing capability to execute effective conventional deep strike ground attacks against NATO tactical air and nuclear reserve resources, and to do so through sudden attacks without prior redeployment.

c. Soviet/Warsaw Pact Naval Forces

The Soviets are continuing to develop a modern naval force. Beginning in the early 1950s with a large number of small ships and submarines designed to defend waters close to their homeland, the Soviets have improved their weapons and altered the composition of their Navy to the point where they now are able to pursue several broad missions. The Soviet Navy can, in time of war, threaten our Navy task groups in open ocean areas, and seriously threaten, but not cut, the lines of communication to U.S. allies. Moreover, the Soviets continue to have, together with

the navies of the non-Soviet Warsaw Pact countries, some 1,600 minor surface ships for seaward defense of their shores and support of landing forces. In peacetime, the Soviet Navy is now able to project a presence which can both challenge U.S. naval forces around the world and support Soviet policies in Third World areas.

The Soviet Navy has the world's largest and most diversified inventory of ship-borne guided-missile weapons, some 225 major surface combatant ships, the world's largest attack submarine force consisting of about 250 active units, a large and modern coastal force of over 600 patrol boats, and a well developed ship building industry with 15 major shipyards involved in production, overhaul and fleet modernization. Despite the rapid production trends they exhibit, we believe that the current Soviet naval force levels will remain fairly stable in the next few years, with older ships being rapidly replaced as newer ships become ready for deployment.

The Soviet Union appears to have decided to stabilize force levels in order to concentrate on modernization in two areas of great importance to them: antiship capabilities and antisubmarine warfare (ASW). In the first area, they have developed an antiship capability composed of both torpedo-equipped submarines and a mix of air, surface and submarine units equipped with modern antiship cruise missiles. For instance, they have for some years had close to 300 intermediate-range bomber aircraft equipped with antiship missiles in their Naval Aviation force; they are now deploying the modern Backfire bomber equipped with these weapons. In 1968 the Soviet surface fleet included about 20 surface-to-surface missile-equipped major combatants; over 30 may now be so equipped.

Today's Soviet submarine fleet contains over 60 antiship cruise missile attack boats. Of these cruise missile submarines, some deploy with long-range, surface-launched missiles, while newer versions are equipped with shorter-range, submerged-launched missiles. All of these missile-equipped submarines can be used for torpedo attack as well.

In the second area, the Soviets have devoted considerable resources toward developing an improved antisubmarine warfare capability. They have developed improved ASW sensors and weapons for their surface combatants, and they have a large submarine force that is increasingly nuclear-powered. In 1968 there were about 50 nuclear submarines in their general purpose fleet; today that number is over 75. Any number of their total of some 250 attack submarines can be used in an ASW role, depending on the type of torpedoes carried; this is especially true of their 187 non-missile-equipped attack boats. Also, they have deployed shore-based ASW aircraft, two antisubmarine helicopter cruisers, and are in the process of introducing the Kiev-class aircraft carrier. The first carrier appears to be oriented toward an ASW role, in which case it will use its helicopters to help locate and attack submarines and its V/STOL fighter aircraft for task force defense and air reconnaissance.

One of these aircraft carriers is now undergoing sea trials, a second is being outfitted, and a third has begun construction. In recent major exercises, the Soviets have employed various ASW systems, including submarines, in coordinated operational exercises.

We believe that the Soviets, while improving their Navy and extending its capabilities, still have areas of significant weakness. Their ASW capabilities remain inadequate, although improved over past decades; their submarines are still relatively noisy; they lack adequate fleet air defense; they have a poor capability for sustained combat operations; and many of their missile systems lack a reload capability. They have a limited ability to provide logistics support to their forces at sea, and their logistic ships are highly vulnerable. Finally, they have little capability to project power ashore in distant areas because they have no sea-based tactical air power, and their amphibious forces are designed for short duration amphibious lift near the homeland.

2. People's Republic of China

The general purpose forces of the PRC remain stable in size and deployment with modest modernization efforts underway. The PRC Army is basically an infantry force consisting of about 3.5 million men in some 210 divisions.

Current trends point toward increasing armament and personnel in selected combat units along with slightly decreasing total manpower requirements. The number of tanks and armored personnel carriers continues to increase, and we believe it is likely that mechanization of at least some existing infantry units will occur within the next five years.

Although most PRC fighter aircraft are assigned a strategic home defense mission, some tactical fighter aircraft in the PRCAF perform air superiority and ground support missions, including air strikes and reconnaissance. Tactical aviation in the PRCAF also plays an air defense role relative to naval forces, with the Beagle bomber and Fantan A fighter-bomber being the principal tactical aircraft. The Chinese air forces and naval air forces are giving growing emphasis to surface attack capabilities, but most of these tactical air forces are presently deployed to provide ground support to PRC divisions.

The PRC Navy is by far the largest indigenous Navy in Asia and its submarine force ranks third in the world after those of the USSR and the U.S. Although this force remains primarily oriented toward a defensive role, the PRC Navy is building toward a more modern and balanced fleet. China will not be able to oppose the U.S. or the USSR in open-ocean conflict for the foreseeable future, but the PRC Navy does have the capability to pursue military denial and blockade options against nations nearby, unless these nations were to be assisted by the U.S. or USSR.

C. U.S. GENERAL PURPOSE FORCES

1. Land Forces

The only military forces capable of holding or retaking territory are land forces -- that is, Army and Marine units. They are the backbone of any conventional military capability; substantial portions of our conventional air forces and naval forces, in addition to having their distinct combat missions, provide the appropriate level of close air support, combat support, protection, transportation, and augmentation for U.S. land forces.

Fortunately, there are no military threats from nations with borders contiguous to the United States. The most important objective for U.S. land forces is to deter attacks on our allies and overseas interests by means of a strong forward defense. Land force levels, therefore, are largely determined by our commitments to collective security and international stability. Approximately 35 percent of current active land force combat units are stationed beyond our shores to permit rapid reaction to military threats, to protect vital areas, and to demonstrate the strength and credibility of our commitments. A basic issue facing us in these circumstances concerns the level of forces required to achieve our objective.

Clearly, we must have some context within which to measure the capability and evaluate the adequacy of proposed force levels. We therefore attempt to establish a plausible contingency and assess our ability to cope with a specific situation without resorting to nuclear escalation.

Our view of what is needed to constitute a credible deterrent in Central Europe has changed significantly since the United States lost its decisive strategic nuclear advantage and reappraised the significant Soviet capability for chemical warfare. Not only have there been major quantitative and qualitative changes in both Warsaw Pact and NATO conventional forces; we have also seen new interpretations of the forward defense strategy in NATO, with increased emphasis on defending farther forward with a reasonable expectation of avoiding escalation to nuclear war.

A successful non-nuclear defense of Western Europe should be feasible, given the resources available within NATO. However, this judgment depends critically on NATO's ability to resist a major attack in the first days of a war. Warsaw Pact forces enjoy certain strategic and numerical advantages over NATO, which NATO must overcome through the quality of its personnel, equipment, and tactics.

Warsaw Pact forces are predominantly "heavy" forces, with emphasis on tank and motorized rifle divisions included in the forces opposite the Center Region. NATO, on the other hand, still has many units which are predominantly infantry. Warsaw Pact doctrine dictates great concentrations of power at the points selected for attack. By

necessity, NATO, on the other hand, is defense-oriented, and deploys its forces more or less uniformly until the pattern of attack becomes apparent.

The direct comparison of the Warsaw Pact and NATO division equivalents available after mobilization and augmentation is only part of the picture. These divisions also differ in size, equipment, doctrine, training, command and control, and many intangibles. It is impossible to assess with high confidence exactly how opposing ground forces would actually perform against each other in combat. Nonetheless, the best available assessments can be made by using the weapons content of a U.S. armored division as an index for rating the combat capability of all types of NATO and Pact divisions. Thus, we measure the combat capability of both sides in terms of an Armored Division Equivalent (ADE).

The United States provides less than 25 percent of the peacetime NATO ground force in Central Europe although our divisions constitute an indispensable part of the NATO deterrent to surprise attack. Equally evident is the advantage the Warsaw Pact derives from having all of its forces close at hand. NATO reinforcements must largely come from the United States.

If the opposing force balance is measured by division count alone, NATO would be outnumbered by much greater margins. However, the overall weighted balance should be sufficient to deny Warsaw Pact planners high assurance of success, particularly when the crucial (but less measurable) contributions of tactical airpower are included. Soviet strategic advantages nonetheless require us to focus with particular care on the rate at which we believe the opposing forces could reach the battlefield.

The disparity of forces that could arise in the early days of a NATO/Pact mobilization is the reason we maintain a certain level of active ground forces and request increased airlift capability.

Because we assume a rapid mobilization by the Pact, and a short warning time for NATO, an early U.S. capability for reinforcement is essential, which means that we must maintain predominantly active forces in a high readiness posture. Thus, we are striving to field 16 active divisions, and retain eight reserve divisions which can mobilize within the time required to marry up with the airlift and sealift forces as they become available. However, we would be unable to deploy all of these to NATO, owing to our other commitments and interests in the world. For this reason we retain some light divisions (Infantry, Airborne, and Air Assault) capable of rapid worldwide deployment by air or sea.

During the past three years the Department of Defense has, with the help of the Congress, attempted to obtain the maximum combat power from

the limited manpower available. As a result of previous initiatives the number of active Army divisions is increasing from 13 to 16 while the active strength has decreased by approximately 11,000 personnel. At the same time we have increased reliance on the Reserve Components. Four of the 16 divisions are programmed for two active brigades and one Reserve Component brigade. All other active Army divisions in CONUS have Reserve Component brigades or battalions affiliated for training and mobilization. These affiliated reserve units receive priority for equipment to make them compatible with their parent active divisions and to improve their readiness. Thus, they will be capable of early deployment with the parent divisions in any mobilization. We have begun to receive favorable reports from operational exercises involving affiliated units and it is now clear that both active and reserve units benefit from this relationship.

In FY 1975, support to combat conversions allowed deployment of an Army brigade to Europe. Plans are now proceeding to move an additional active Army brigade to Europe by the end of FY 1976. The U.S. will then have the equivalent of five divisions, instead of the 4 1/3 at end FY 1974 in the NATO Central Region. This redistribution of forward deployed and CONUS-based combat units is essential to deterrence.

The deployment of active Army divisions and separate brigades is shown in Table IVC-1; in addition, one active Marine Division is in the Pacific theater (Okinawa and Hawaii), while two are in CONUS.

TABLE IVC-1

	<u>Divisions</u>	<u>Brigades</u>
CONUS	10	2
Korea	1	
Hawaii	1	
Germany (NATO)	4 1/	1 (Berlin)
Panama		1
Alaska		1

1/ In addition, a brigade from each of three CONUS-based divisions is deployed to Germany.

The U.S. land forces in Europe constitute an essential part of the NATO forces in place. U.S. forces in the Pacific provide a visible sign to the world of our continuing commitment to that region and contribute to the stability of Northeast Asia. CONUS forces are capable of reinforcing either theater, and provide a base for the rotation of forces deployed overseas. CONUS-based active forces also are fully capable of deploying elsewhere in response to Presidential direction.

Currently, seven of our 16 active Army divisions and five of the eight reserve divisions are "light" (infantry, airborne, or air assault), and we plan to retain this mix of light and heavy forces in FY 1977. The U.S. has significantly increased the antitank capability of these forces through the introduction of Tow and Dragon antitank missiles. While these relatively light forces could contribute strongly to any defense of NATO, higher tactical mobility and firepower make heavy (armored or mechanized) divisions a better match for those Warsaw Pact forces and Soviet-equipped forces that we might face in many contingencies. Therefore, as soon as funds and equipment availability permit, the intent is to convert two active Army infantry divisions into heavy divisions.

The Army is currently analyzing the cost implications of these conversions, but initial procurement of equipment for these changes will not begin earlier than FY 1978. The active Army force would still contain an airborne division, an air assault division and three infantry divisions. These five divisions, along with the three active Marine divisions, should be sufficient to meet foreseeable requirements for predominantly infantry forces.

The rationale for the Marine Corps, unlike that for the major portion of the Army, is not linked principally to the central NATO battlefield. The focus of the Marine Corps' three active and one reserve divisions, each with its own air wing, is on the conduct of amphibious operations. Their capability to land by amphibious operations against opposition promises utility in a variety of contingencies. The Marines could also operate on the NATO flanks to supplement the capabilities of our allies with exposed coastlines. Once ashore, if reinforced with sufficient armor and anti-armor weapons, Marine divisions also would have capabilities analogous to those of Army infantry divisions. In short, they are one of our most flexible assets.

As with the Marines, there are some Army forces which are needed for tasks of national concern other than the central NATO battlefield. We maintain and forward deploy three such active Army brigades, one for the defense of the Panama Canal Zone, and one each in Alaska and Berlin. In addition, we retain one Army division in Korea. Although South Korea increasingly is assuming full responsibility for defending itself against a North Korean ground attack, the presence of the U.S. division on the Korean peninsula still performs several vital functions. It helps to deter aggression from the North and to demonstrate our commitment to South Korea and Japan. Beyond this, the division plays a useful role in fostering overall regional stability.

The total land force consists of 24 (16 active and 8 reserve) Army and four Marine divisions. While some risk is attached to the current force level, that risk is considered to be within prudent limits, so long as it is understood that a worldwide war with the Soviet Union could not be fought simultaneously in Europe and in

Northeast Asia: U.S. land forces are scaled to fight in one theater or the other, but not both, while retaining the capability to handle a lesser contingency elsewhere in the world.

a. Force Structure

(1) Initiatives

The Land Forces Program for FY 1977-81 continues the initiatives of the past several years. Our emphasis remains on increasing the responsiveness of our ground forces and their capability to stop Warsaw Pact armor heavy forces, while retaining the capability to react to contingencies elsewhere. This flexibility will be achieved within current active manpower levels and by continued reliance on the Reserve Components.

It should be understood that the formation, training, and equipping of major land force units requires a substantial period of time for thorough and deliberate planning. While Congress reviews and approves force level plans on an annual basis, many initiatives must be viewed from the perspective of, and are presented as, multi-year plans.

In FY 1977, two divisional combat brigades will be added to the force. When these activations are completed, each of the CONUS-stationed divisions will have all of their active elements at one post rather than divided between two posts as was planned for some last year.

Programs to integrate the Army Reserve Components with the active forces will continue. The major effort in this area is still the affiliation program. Results to date have been encouraging and in FY 1977 we will increase the number of affiliated Reserve Component battalions to 97 from 26 in FY 1974, the first year of the program.

In addition the Army will begin by FY 1977 a test to develop doctrine and tactics for antitank battalions designed around infantry antitank guided missiles. If the test is successful, reserve antitank battalions will be formed and planned for early deployment to Europe and will have high priority for receipt of Tow and Dragon ATGMs.

In Europe, the Army will be maintained at a stable troop level of about 199,000. We will continue to deploy in Germany four full divisions and one brigade from each of three CONUS-based divisions. Conversions in FY 1975 and FY 1976 of 12,175 Army support spaces to combat spaces as part of the Nunn Amendment have contributed significantly to the increase in forward deployed combat power. However, we may be at or near the point where further support reductions would be inadvisable. Therefore, it may be necessary to maintain the combat to support ratio at the post-Nunn Amendment level during a period of review.

U.S. land forces manpower strength on the Korean peninsula will be about the same as the FY 1975 level. However, we are shifting some manpower from combat support and support forces to increase the combat manning of the division deployed there. The increase in combat troops in this division will significantly improve its combat readiness.

In addition to structure changes and redeployments, training programs must include realistic demonstrations of our capability for strategic mobility, such as have been provided since FY 1967 by the annual REFORGER exercise. This exercise series is important. Strategic nuclear parity with the Soviets requires an increased emphasis on our capability to reinforce NATO with conventional forces, a capability which is the keystone of NATO planning. Annual testing of U.S. and NATO plans and procedures during REFORGER provides an excellent opportunity for U.S. forces to improve their combat readiness by working with our allies.

In FY 1977, we intend to modify this exercise by deploying equipment of selected elements of the 101st Airborne Division (Air Assault) to Europe by sea while the personnel will go by air. Exercising the capability to deploy a different type of force by sea, as opposed to past practice of deploying units by air to their prepositioned equipment stocks in Europe, will be profitable in two ways, over and above its unit training value. First, it will contribute to the understanding of the problems inherent in sending reinforcements to Europe by surface transportation. Second, it will underscore our capability to perform this vital operation. The need for annual strategic mobility exercises will remain valid in the future.

Despite these program initiatives, we do not seek an increase in the size of the forces. Our goal remains better use of available manpower. We believe that these increases in combat power, responsiveness, and sustainability are both prudent and achievable. However, there must be stability in personnel strengths if we are to continue to reverse the trend which has decreased the readiness of the land forces and their capability to perform their assigned tasks.

The program for Marine Corps land forces is similar to the program for the Army. With no increase in end strength, we seek to improve their combat capability, their ability to oppose armored forces, their sustainability, and their traditional responsiveness. We plan specific program changes which will result in manning companies which were previously in a cadre status, and increasing the manning level of CONUS-stationed Marine divisions. Marine antitank capability will be further improved by increasing the density of Dragon antitank missile trackers

from 16 to 24 per battalion within the division most likely to deploy early in a NATO conflict; the density of Tow missile systems will be increased overall by about 10 percent. The program also increases the planned procurement of M-60 tanks in order to increase active assets and retain a reserve tank battalion previously scheduled for deactivation. Procurement of the Tow-equipped attack helicopter, newly designated the AH-1T, will be completed in FY 1978.

(2) Force Structure Changes

The number of reserve and active divisions represents no change from FY 1976 -- 16 active and eight reserve for the Army and three active and one reserve for the Marine Corps. However, the Army divisions are further strengthened by the addition of the two new active brigades.

Rather than incorporate two existing separate maneuver brigades into two of the three new active Army divisions as previously planned, we now will retain them separately in the active Army force. This change in the program will still require retention of two Reserve Component brigades as the third brigades of the divisions at Fort Polk and Fort Stewart. Within the Reserve Components, we are planning to convert one of these "third" brigades, the 256th Infantry Brigade, to a mechanized brigade in FY 1978, which will make it compatible with the newly-formed 5th Division (M).

We do not plan any change in the active armored cavalry units, but the number of Reserve Component Armored Cavalry Regiments has been reduced from four to three as part of our realignment. Similarly, the number of active Special Forces groups remains constant while we plan to reduce the reserves by one group in FY 1978.

Programmed Air Defense units change only slightly from last year's program. We will retain through FY 1977 the Nike Hercules batteries in Germany which we had previously offered to the Federal Republic of Germany for their own forces. The only change in programmed Reserve Air Defense units is the timing of the first introduction of Chaparral and Vulcan to the Reserve.

The Marine Corps force structure remains essentially the same as presented last year, with the exception that we will retain a reserve tank battalion that was scheduled for phase-out last year.

b. Force Modernization and Readiness

Great dependence is placed on materiel acquisition programs to keep pace with improvements in Soviet land force capabilities. Owing

to the high cost of manpower, there are a number of areas where it is considerably cheaper to modernize forces rather than increase the size of the force to provide comparable improvements in capability. A strong and broad technological base is needed to continue to provide such modernization alternatives as well as to reduce the possibility of our being surprised by new Soviet warfighting technology. Beyond basic technology, however, it is wise to complete development on and procure only those items which offer cost savings and/or significant improvements in mission areas where there are serious deficiencies. For example, while continuing basic research and development in both larger and smaller caliber main tank guns, we are buying improved ammunition for existing 105 mm tank guns as the best way to improve the capability of the tank fleet to defeat improvements in Soviet armor.

The costs of modern weapons is rising, as is their related logistics support. At the same time, quantity is needed as well as quality. For this reason, money is invested in the procurement or modification of systems already fielded in order to maintain adequate inventory levels while providing near-term improvements in capability. The acquisition of more reliable and maintainable systems reduces maintenance needs and frees additional manpower for combat roles. Similarly, there will be continuing emphasis on equipment standardization within U.S. forces and with allies so as to reduce logistics requirements.

Inventory objectives are set at a level that will provide the unit equipment, maintenance float and war reserves our forces would need to outlast the Soviet Union in a conflict involving NATO and the Warsaw Pact. Since submission of the FY 1976 budget, several program changes have caused these inventory objectives to increase.

To improve U.S. antitank capability at the outset of a war with the Soviet Union, we have decided to increase the density of antitank guided-missile (ATGM) systems in Europe-deployed Army forces and Army forces with equipment prepositioned in Europe.

Total Army inventory objectives for some items such as tanks, armored personnel carriers and artillery have been adjusted owing to the need for this equipment in the two divisions we plan to convert from light to heavy. However, these conversions have no direct impact on procurement programs for FY 1977.

The Army's inventory objectives now include revised estimates of the war reserve stock requirements needed to replace combat losses. Last year's interim increases in the total inventory objective for tanks and APCs were estimates based on an initial evaluation of the very

heavy combat loss rates experienced by both sides in the 1973 Middle East War. This year's estimates for most items are the results of simulations of a war in Europe. While the new inventory objectives for tanks and APCs are higher than the interim estimates, they are still based on loss rates somewhat lower than those actually experienced in the Middle East.

The strengthening of the Marine divisions will also necessitate an increase in our inventory objectives. We now plan to retain the reserve tank battalion which was scheduled to be dropped from the USMC in FY 1977 and add two tank companies to the active force. These changes in planned force structure increase the Marine Corps inventory objective by approximately 150 M-60 series tanks. In addition we plan modest increases in the density of antitank guided-missile systems in the Marine Corps, with emphasis on the east coast division. Additional options for improving the Marine Corps capability to operate in an armored warfare environment are under study.

The net changes in combined Army and Marine Corps inventory objectives (I/O) resulting from the above programming changes are as follows:

TABLE IVC-2

	<u>Last Year's I/O</u>	<u>Current I/O</u>
Medium Tanks	10,300	14,400
Armored Carriers (M-113A1s and MICV)	16,500	21,400

(1) Close Combat

We believe that the land battle in a war with the Soviet Union will be dominated by mobile armored forces. Consequently, one of the most important goals is to improve both the offensive and defensive capabilities of our land forces for this kind of warfare. We propose, therefore, both quantitative and qualitative improvement in tanks, armored carriers, and antitank guided missiles. The acquisition costs of major land forces modernization and improvement programs are shown in Table IVC-3, beginning on the following page.

(a) Tanks

Several points need to be made in justification of the current Army and Marine Corps tank program:

- Total procurement over the last 10 funded delivery periods (9 1/4 years), including procurement of 1,209 kits for the conversion of 90mm M-48 series tanks to the M-48A5 configuration, amounts to less than 35 percent of our inventory objective.

TABLE IVC-3

Acquisition Costs of Major Land Forces Modernization
and Improvement Programs 1/

(Dollars in Millions)

	<u>FY 1975 Actual Funding</u>	<u>FY 1976 Planned Funding</u>	<u>Trans. Period Planned Funding 2/</u>	<u>FY 1977 Prop'd Funding</u>	<u>FY 1978 Prop'd for Authorization</u>
<u>Close Combat</u>					
Continued Modification and Procurement of M-60 Series Tanks (Including USMC)	259	511	165	571	555
Major Modification of M-48 Tanks	54	100	28	62	81
Development of New Main Battle Tank (XM-1)	65	52	39	141	213
Procurement of Armored Personnel Carriers (M-113A1)	7	61	26	89	78
Development of Mechanized Infantry Combat Vehicle (MICV)	12	16	3	30	38
Continued Procurement of Tow and Dragon Antitank Missiles (including Marine Corps), and Acquisition of a Thermal Night Sight for Tow	243	299	46	233	228
<u>Helicopters</u>					
Acquisition of Cobra-Tow Attack Helicopters	21	60	28	129	119
Acquisition of Sea Cobra Attack Helicopter (USMC)	-	26	13	64	26
Development of Advanced Attack Helicopter	61	56	11	112	115

Acquisition Costs of Major Land Forces Modernization
and Improvement Programs 1/ (Cont'd)

(Dollars in Millions)

	<u>FY 1975 Actual Funding</u>	<u>FY 1976 Planned Funding</u>	<u>Trans. Period Planned Funding 2/</u>	<u>FY 1977 Prop'd Funding</u>	<u>FY 1978 Prop'd for Authorization</u>
<u>Helicopters (Cont'd)</u>					
Acquisition of Hellfire Helicopter Launched Antitank Missile	9	4	1	17	40
Development of Aerial Scout Helicopter (ASH)	1	5	7	26	65
Acquisition of Utility Tactical Transport Air- craft System (UTTAS)	53	92	19	213	170
<u>Air Defense</u>					
Acquisition of the Stinger Missile System (Including USMC)	33	23	2	72	113
Procurement and Modifi- cation of Chaparral/ Vulcan Air Defense System	14	64	3	75	43
Acquisition of the US Roland Missile System	18	55	12	85	63
Development of Advanced Forward Area Air Defense Systems	11	4	1	2	5
Acquisition of Improved Hawk surface-to-air Missile Systems (Including USMC)	113	102	3	107	67
Continued Development of SAM-D surface-to-air Missile System	104	131	40	180	193

Acquisition Costs of Major Land Forces Modernization
and Improvement Programs 1/ (Cont'd)

(Dollars in Millions)

	<u>FY 1975 Actual Funding</u>	<u>FY 1976 Planned Funding</u>	<u>Trans. Period Planned Funding 2/</u>	<u>FY 1977 Prop'd Funding</u>	<u>FY 1978 Prop'd for Authorization</u>
<u>Air Defense (Cont'd)</u>					
AN/TSQ-73 Air Defense Command and Control System	10	6	1	42	45
<u>Fire Support</u>					
Acquisition and Modifica- tion of the Pershing IA Missile and Development of Pershing II	20	37	7	36	44
Acquisition and Modifica- tion of Lance Missile System	64	3	1	78	75
Development of a General Support Rocket System	-	-	-	1	17
Acquisition of New Cannon Artillery	17	26	-	25	82

1/ Includes costs of RDT&E, procurement of the system and initial spares, and directly related military construction.

2/ July 1 to September 30, 1976.

- Assets at the end of the FY 1977 funded delivery period, including M-48A5 assets but not counting our 90 mm M-48 contingency assets, will total less than 65 percent of inventory objective.

- Proposed procurement for FY 1977 and FY 1978, including a total of 1,058 M-48A5 kits and 1,629 M-60 series tanks, will bring us to 81 percent of the inventory objective.

M-60 Series Tanks

Increases in production capacity for M-60 series tanks, which were initiated with FY 1975 funds, are progressing on schedule and a production rate of 101 tanks per month should be reached in February 1977. FY 1976 funds for the laser rangefinder and solid state computer were removed from the budget pending validation of their cost effectiveness. This analysis is completed and we anticipate initiating a reprogramming action to begin procurement in FY 1976. We also plan to proceed with all of the other components of the M-60A1 product improvement program, including the thermal imaging night sight. Since M-60 series tanks will probably be retained in our inventory through the year 2000, we will continue to examine possibilities for additional improvements. The total request in FY 1977 for procurement of the M-60A1/A3 is \$494 million; this will buy 927 M-60 series tanks for the Army and 41 for the Marine Corps.

M-48A5

The M-48A5 is an M-48 series tank which has been upgraded with the same main gun, fire control and engine as the M-60A1 tank. Our M-48A5 program was initiated in FY 1975 and we had planned to procure 1,209 M-48A5 conversion kits through FY 1977. Verification testing has shown the M-48A5 to be an acceptable tank; it is comparable to the M-60 series in mobility, firepower, and protection. Since the conversion of old M-48s to M-48A5s is cheaper than procuring new M-60A1s, the modification is cost-effective and we now plan to convert all available M-48 series tanks to the M-48A5 configuration. Kits for the first 514 of these conversions are funded for \$62 million in FY 1977.

XM-1

The XM-1 is needed to help offset the quantity advantage in medium tank strength enjoyed by the Soviet forces. The competitive validation phase of development will be completed by July 1976 and the winning contractor will be selected at that time. Following selection of the winning candidate, one contractor will initiate full-scale engineering development. The XM-1 program is progressing on schedule, and with both contractors projecting accomplishment of performance and design-to-cost goals. Considering the magnitude of the potential improvements in force capability offered by this new tank, we believe it is prudent to plan to proceed with the XM-1 on our current schedule.

In September 1976 a modified Leopard II prototype will be subjected to a comparative evaluation against XM-1 requirements. The tests and evaluation will be identical to those accomplished by the U.S. candidates. Final results of the Leopard II evaluation are scheduled to be available by March 1977 and will be considered fully in the process of decision-making on tank procurement.

(b) Armored Carriers

M-113

Armored carriers are needed as infantry carriers, scout vehicles, and Tow carriers, as well as for other roles such as combat engineer, ambulance, and maintenance vehicles. The current standard vehicle for all these roles is the M113A1. The FY 1977 buy of 1,200 M113A1s will increase the asset position from 61 percent of the inventory objective at the end of the FY 1977 funded delivery period (FDP) to 67 percent at the end of the FY 1977 FDP. A buy of 1,000 M113A1s is planned for FY 1978. The FY 1977 and FY 1978 requests are to replace the obsolete M114s and 1/4 ton jeep substitutions in the scout role in CONUS; to fill reserve component requirements as a part of our continuing effort to upgrade the total force; and to partially reconstitute high priority POMCUS requirements. Funds are also requested in FY 1977 and FY 1978 for a high priority program to install the Tow system on the M113A1 and reduce the vulnerability of the crew on those M113A1s with Tow systems.

MICV

The mechanized infantry combat vehicle (MICV) will replace the M113A1 armored personnel carrier in mechanized infantry battalions in NATO and CONUS-reinforcing units, and will become the Army's first infantry combat fighting vehicle. Since the FY 1976/77 budget request, some technical problems have developed in the MICV development program. As a result, the Army has delayed this program approximately one year to solve these problems. The cost of the delay will be approximately \$5 million in FY 1977 dollars. Procurement funds previously requested will not be needed until FY 1978.

The Bushmaster program, which will provide a 25mm automatic cannon for the MICV, was reviewed by the DSARC in March 1975. The DSARC approved the Army's recommendation to enter engineering development. An externally-powered cannon will compete against a self-powered cannon in a comparative evaluation, or "shoot-off," prior to final cannon selection. Since the Army does not want to delay fielding of the MICV until the Bushmaster cannon is in production, 234 MICVs from initial production will require interim armament. At this time, the most economical solution to an interim armament for MICV is the product-improved M139 20mm gun.

Analyses done for the DSARC meeting on Bushmaster indicate that MICV equipped with Tow as well as Bushmaster is a very attractive concept. As a result, the Army has initiated a high priority program to

determine the feasibility, cost, and effectiveness of putting Tow on the MICV. The focal point of this effort will be an integrated Tow/Bushmaster armored turret (TBAT). The MICV in the scout role has been designated as the primary testbed vehicle. Assuming that a successful design can be achieved without degradation of the squad's capability, the TBAT will be considered for MICV squad carriers.

(c.) Antitank Guided-Missile Systems

Tow

The FY 1977 Tow procurement will provide a sufficient number of operational missiles and launchers needed to equip most of the active and Reserve Component forces. The FY 1977 request of \$108 million also includes procurement of 236 thermal imaging night sights for Tow; the remaining night sights are funded in FY 1978-81.

Dragon

The FY 1977 and 1978 procurement request of \$256 million for Dragon would achieve most of our inventory objectives.

RDT&E funds amounting to \$3 million are requested in FY 1977 to complete the technical data package for the Dragon and to develop and test a night sight using modules that are a standard part of the Tow night sight. These RDT&E efforts will significantly increase Dragon capability.

(2) Helicopters

Current helicopter programs are basically unchanged from last year and are aimed at the phased replacement of an aging inventory with a new generation of helicopters during the 1980s.

Interest in the helicopter as a weapon system on the modern battlefield is growing. Significantly, the Soviets have recently begun to field an armed transport helicopter designed for air assault operations, the MI-24 Hind, while the West Germans are seeking to provide their forces with an antitank helicopter. It is presently unclear whether this FRG helicopter will be a German or U.S. development.

Cobra-Tow

The Tow-armed AH-1 helicopter (AH-1S) or Cobra-Tow, is being procured to provide a near-term, high-mobility antiarmor capability and to serve eventually as the "low side" of a high-low attack helicopter force mix. The Advanced Attack Helicopter (AAH) will represent the "high side".

The AH-1S is basically an improved version of AH-1Q (Cobra-Tow) attack helicopter with an uprated engine, dynamics, and transmission. The Cobra-Tow program is structured to provide a total of 595 AH-1S aircraft through modification of 290 existing AH-1 aircraft and procurement of 305 new AH-1Ss. The FY 1977 budget includes \$10 million to complete the modification of the 290 AH-1Gs. The procurement program of new aircraft, which calls for \$129 million in FY 1977, will continue with 82 AH-1Ss. In FY 1978 and FY 1979, 83 and 74 AH-1Ss will be acquired and will complete the buy.

Sea-Cobra

The Marine Corps attack helicopter program also involves the modification of a standard ordnance helicopter, the AH-1J or Sea Cobra, to carry the Tow missile system. Of the 124 AH-1 attack helicopters the Marine Corps will finally procure, 57 will be the Tow-modified AH-1T (formerly designated the AH-1J+), and the remaining 67 will be AH-1J gun ships. The AH-1T will have an uprated engine and transmission and a lengthened forward section. Of the 57 AH-1Ts, 33 will be modified structurally and outfitted so that a Tow kit could be easily installed at maintenance depots and 24 will be procured fully-equipped to fire the Tow. The budget request of \$64 million in FY 1977 is for 23 AH-1Ts; the final eight aircraft will be procured in FY 1978.

Advanced Attack Helicopter (AAH)

The AAH, representing the "high side" of the Army's high-low attack helicopter mix, is proceeding with test flights of the two competing contractor prototypes. The approved program calls for the procurement of 472 helicopters. These aircraft, coupled with the programmed AH-1Ss and the remaining AH-1G gun ships, should provide sufficient attack helicopter assets to satisfy the Army's inventory needs for a 16 division active force although the Army is reviewing attack helicopter structuring doctrine. The FY 1977 request of \$112 million will allow the award of an engineering development contract to the winner of the Phase I competitive development. Funding in FY 1978 will allow for continued development and testing.

Hellfire Helicopter-Launched Antitank Missile

Like the ground-launched Tow missile, the helicopter-launched Tow missile is wire-guided. Consequently, the launching helicopter must remain in the line-of-sight of the target until missile impact, thus lengthening its exposure to ground fire. It would be highly desirable to equip attack helicopters with an antitank missile which would permit them to launch a missile and leave a hostile area or, in Army parlance, to "fire and forget." The Army, therefore, plans to start engineering development of a small, laser-guided missile, the Hellfire. The laser designator could be mounted in the attack helicopter itself, in a scout helicopter, or in a ground vehicle. When the laser designator is in some other aircraft or ground vehicle, the attack helicopter

could launch the missile toward the designated target and leave, while the laser operator guided the missile to its target with a laser beam.

Advanced Scout Helicopter (ASH)

As described last year, the Army has stated a need for an aerial scout helicopter which can capitalize on advanced target acquisition and designation technologies and which will complement the increased offensive capabilities of the AAH. The concept calls for a small, agile helicopter capable of day or night target location in battles of medium intensity, and able to designate these targets for engagement by other ordnance delivery systems, both conventional and laser tracking. The Army's proposed program has been reviewed; this review validated the need for an ASH, and the Department is requesting \$26 million for development in FY 1977. The Army has been directed to ensure that the ASH program fully investigates the feasibility of establishing a design for a common family of light helicopters.

Utility Tactical Transport Aircraft System (UTTAS)

The UTTAS is designed to replace the UH-1 (HUEY) in assault helicopter, air cavalry, and aeromedical evacuation units. With a crew of three, it can airlift a complete, fully-equipped Army infantry squad of 11 troops into combat, resupply these troops while they are in combat, and perform aeromedical evacuation. The UTTAS development program for FY 1976 consists of Government Competitive Testing (GCT) due to begin in March, source selection scheduled for November, and a DSARC decision on low-rate initial procurement to be made in December 1976. The FY 1977 request of \$213 million will provide for completion of the competitive development phase and procurement of the first 15 aircraft. Procurement funding will continue throughout the program years, with 24 helicopters in the FY 1978 request.

We believe that UTTAS could be highly effective in fulfilling other helicopter requirements. Accordingly, we are considering this aircraft as a replacement for the Marine Corps CH-46 troop lift helicopter and as a candidate for the Navy's proposed LAMPS MK III ASW helicopter. Although certain doctrinal and design considerations would have to be resolved before UTTAS could become fully effective for other than Army requirements (and industry must have a full opportunity to bid competitively on these additional Defense helicopter requirements), the potential exists for up to 85 percent commonality among various UTTAS variants.

(3) Air Defense

Theater air defense is provided by a mix of aircraft, SAMs, and AAA weapon systems supported by radars, command and control systems, electronic warfare equipment, and passive measures such as camouflage, decoys, and

dispersion. The objective of air defense is to limit the opponent's effectiveness in attacking critical assets and to allow land forces to maneuver.

Area air defense is best provided by manned aircraft operating in conjunction with highly capable early warning, surveillance, and command and control systems. Air defense against raids attacking specific high value friendly targets is more effectively performed by short-range, high rate of fire and high altitude ground-based missile systems.

The need for new systems or improvement of existing weapons systems is always evaluated within the framework of achieving an integrated, balanced, adequate air defense. To assure the interoperability of the ground and airborne air defenses, the Army and the Air Force are collaborating to study their air defense and airspace control systems and assess their ability to function during high levels of activity and in the presence of the ECM threat.

A number of improvements in air defense capabilities are being pursued. Replacements are in development for all the major field Army air defense missile systems: Stinger for Redeye, U.S. Roland for Chaparral, SAM-D for Nike Hercules and Hawk. The AN/TSQ-73 is designed to replace the AN/MSG-4 command and control system. The requirement for a new air defense gun remains to be determined.

Stinger/Manpads

The Army plans to procure the Stinger man-portable missile to replace the Redeye missile in the active forces and to equip the reserve divisions. Stinger will overcome major Redeye deficiencies by providing a forward engagement capability, reduced susceptibility to countermeasures, and an IFF (Identification, Friend or Foe) capability. In addition, the Stinger missile will be able to engage targets with greater speed and maneuverability. Man-portable system options include an alternate seeker and guidance approach to the current Stinger system. In FY 1977 we are requesting \$72 million for the Stinger program.

Chaparral/Vulcan

Chaparral and Vulcan are designed to provide mobile, short-range air defense in critical, non-divisional rear areas and for all of our divisions. The Chaparral system is scheduled to undergo improvements through modification. These improvements will give the system a forward engagement capability, improve the warhead, and incorporate a fuse that is less susceptible to jamming. Vulcan is the currently deployed SHORAD gun system. On-going product improvement programs will enhance reliability, availability, and maintainability of the system. The Army is continuing to assess the efficiency of improvements to Vulcan as an interim solution to a new air defense gun. The Army will procure 52 Chaparral fire units

in FY 1976 and is reducing the training base by one battery to provide the necessary fire units to equip completely the air defense battalions required for the new divisions. Acquisition funding requested for Chaparral and Vulcan in FY 1977 is about \$75 million.

U.S. Roland

In January 1975, the Roland II was chosen as the Army's new all-weather, short-range, air defense (SHORAD) missile system to replace and/or supplement Chaparral in the mid-1980s. This program is a significant milestone in cooperative efforts to achieve interoperability in the NATO alliance. In FY 1977, the request for development funding is \$85 million.

Advanced Forward Area Air Defense System (AFAADS)

The need for a new low altitude air defense system of the division area continues to be examined. It is not clear whether guns and/or missiles would provide the best defense for the late 1980s. Any proposed response to this need must take into consideration the decisions already made on new systems, such as Roland, Stinger, AWACS, and the F-16, that will fulfill some portion of the low altitude forward area air defense mission. Low level development funding of \$2 million is planned for FY 1977 to establish more definitive requirements in this area.

Improved Hawk

Nike Hercules and Improved Hawk continue to provide necessary high and medium altitude air defense coverage. U.S. systems are deployed in Korea, Germany, Alaska, and CONUS. Nike Hercules was first fielded in 1958 and last produced in 1964. We envision that it will be completely phased out of U.S. forces in the next few years as the SAM-D becomes available. However, we will still support our allies who have deployed Nike Hercules batteries.

Further modifications to Improved Hawk are being considered. Two battalions of Improved Hawk are to be procured, one each in FY 1976 and FY 1977. For development, modification and procurement of Improved Hawk \$107 million is being requested in FY 1977.

SAM-D

SAM-D is a longer-term air defense program which offers the potential for providing improved medium and high altitude defense into the 1990s. Full-scale engineering development was delayed last year pending the outcome of the "proof-of-principle" (POP) tests to demonstrate the technical feasibility of the TVM (track-via-missile) guidance. Four objectives were defined for the initial POP tests and sixteen GTVs (guidance test vehicles) were allocated to this test program.

The first six GTVs were all unqualified successes. These tests included demonstration of TVM performance against a single non-maneuvering target, a high-maneuvering target, non-maneuvering targets in formation, and a low altitude target. Continuation of the development program in FY 1977 calls for \$180 million. The first procurement funding of SAM-D is now planned in FY 1979.

There is increasing NATO interest in SAM-D. The FRG and U.S. have undertaken a study to collect performance and cost data from which the FRG can determine the role of SAM-D in NATO air defense as a potential replacement for Nike Hercules and Hawk systems.

AN/TSQ-73

The AN/TSQ-73 is a third generation command and control system specifically designed for Army air defense missile units. It is designed to replace the current system which is inadequate, obsolete, and costly to maintain and repair. Through the TAC/TADS program it will interface with the Air Force AN/TSQ-91 to enable the area air defense commanders to control and coordinate the fire of Nike Hercules and Hawk surface-to-air missile units. The AN/TSQ-73 is also being considered as the component of the SAM-D system which would provide central control for a SAM-D battalion. We will procure 12 AN/TSQ-73s in FY 1977 and are requesting \$42 million for that purpose.

(4) Artillery Fire Support

Included in this category are cannon artillery systems, surface-to-surface tactical missile and rocket systems, and associated target acquisition and fire control systems. These force elements must be capable of furnishing effective fire support to the maneuver forces with both conventional and nuclear munitions. Warsaw Pact artillery -- cannon and rockets -- outnumbers our artillery by a substantial margin in those forces assigned to oppose us in Europe. Therefore, several programs are under way to improve the performance of our smaller number of artillery weapons.

Pershing

Pershing intermediate-range missiles provide one of the more responsive and survivable nuclear delivery options for the theater commander. Funding provided in the FY 1976 and transition budgets completes the procurement of Pershing 1A. The advanced technology development program for the Pershing II terminally-guided reentry vehicle would continue in FY 1977 at a level of \$36 million. This program will provide extremely accurate warhead delivery through use of radar correlation terminal guidance. Because of the increase in effectiveness of the terminally-guided warhead, units equipped with the Pershing II will be able

to cover a larger number of targets than the Pershing 1A units and still achieve a high damage probability. The low yield and high accuracy of Pershing II will also permit a significant reduction in collateral damage while assuring sufficient damage to military targets.

Lance

The six Lance battalions in Europe provide a capability for nuclear artillery fires to the Corps commander. These systems are highly mobile and responsive. The program to modify existing Lance assets with an improved safety and arming device will continue with a request of \$2.4 million in FY 1977.

For some time the Army has had under development a non-nuclear warhead for the Lance missile. With Lance replacing the Honest John, the U.S. has no non-nuclear rocket assets for the U.S. European force. The procurement of non-nuclear missiles and warheads would allow the six Lance battalions to contribute to a conventional war by supplementing the fire support available from cannon artillery and tactical aircraft. Moreover, Lance can be used under all weather conditions and is less vulnerable to countermeasures. The Army proposes to procure 360 non-nuclear Lance missiles and warheads in FY 1977 at a cost of \$78 million.

General Support Rocket System

Most major armies of the world, but not the U.S., have free rocket systems as a supplement to their cannon artillery systems. Warsaw Pact countries in particular have deployed several such systems and are continually upgrading their capabilities. Such rocket systems can provide area fire at many times the rate of cannon batteries, albeit at generally lower accuracies. Although the Army phased out their free rocket systems after World War II, recent studies have shown that mixes of rocket and cannon battalions are preferred over the present pure cannon force. For these reasons the Army initiated a program to develop a General Support Rocket System (GSRS) with funds in the FY 1976 and transition budgets and anticipates continuing the effort in FY 1977 and 1978. We are requesting \$1 million for this effort in FY 1977.

New Cannon Artillery

Several programs are underway to improve the range and reliability of U.S. cannon artillery. The program to modify the 8-inch howitzer continues in FY 1977 and 1978. Recent testing has indicated the need for a muzzle brake on the 8-inch howitzer to achieve the full-range objective. Therefore, additional funding will be required in the outyears.

Two new towed howitzers are nearing completion of development -- the 155 mm XM-198 and the 105 mm XM-204. These howitzers are programmed to replace those currently in the light divisions, and the XM-198 is programmed for use as well in some battalions of non-divisional artillery.

The XM-204 is the first howitzer to incorporate the soft recoil principle, which uses a forward movement of the recoiling parts to absorb some of the recoil force. Several advantages, such as increased reliability and easier emplacement, accrue from this design approach. RDT&E will be essentially completed with FY 1976 funds and \$8 million is being requested to procure 54 XM-204 howitzers in FY 1977.

The objective of the XM-198 program is to provide a helicopter-transportable howitzer with a 30 km range using rocket-assisted projectiles and a 22 km range using improved conventional munitions. Operational testing of the XM-198 is under way and a DSARC review is scheduled for mid 1976 to decide whether this howitzer should be procured, and if so, how many. Seventeen million dollars is being requested to cover potential procurement of up to 72 XM-198s in FY 1977; an additional 220 are programmed for FY 1978.

Artillery Ammunition

Procurement of ammunition in FY 1977 will stress building up inventories of improved conventional munitions (ICMs), scatterable mines, rocket assisted projectiles, and propelling charges for the new long-range weapons.

The FY 1977 budget includes a request of \$118 million to renew procurement of the M-483 155 mm ICM after a production halt in FY 1976 for a design modification. Funds (\$41 million) are also requested for the 8-inch ICM. These rounds are much more effective against personnel than conventional high explosives and have an antitank capability; acquisition of these rounds is an efficient way to upgrade the capability of our large inventory of 155 mm and 8-inch howitzers. About \$24 million is requested to continue procurement of 155 mm rocket-assisted projectiles which would provide a much needed range increment for our 155 mm howitzers.

For procurement of new artillery-delivered antipersonnel and antitank mines, \$62 million is requested in FY 1977. These mines can be rapidly emplaced in front of or around attacking columns of infantry and armor in order to slow their attack and increase their vulnerability to direct fire weapons. Battle simulations show a large improvement in the performance of U.S. antiarmor forces when scatterable mines are used. In addition, funds are being requested to provide new high-energy propellants for the new 155 mm and 8-inch longer-range howitzers.

The Cannon-Launched Guided Projectile (CLGP) program was discussed extensively last year. This program will provide a revolutionary new capability for artillery in that a fixed or moving point target can be defeated with a single round through use of a semi-active laser homing mechanism in the projectile, combined with a ground-based or airborne laser designator for illumination of the target. Continued RDT&E funding (\$36 million) is requested in FY 1977.

Surveillance, Target Acquisition and Fire Control

Effective surveillance, target acquisition, and fire control systems are as important to success with field artillery as effective weapons. Efforts to improve U.S. capability in this area include: counterbattery and counter-mortar radars, advanced acoustic weapon locator sensors, moving target/stationary target radars, remotely-piloted airborne vehicles, the TACFIRE automated fire direction and control system, and a battery-level computer for fire direction. Other surveillance systems, such as Remotely Monitored Battlefield Sensors (REMBASS), night vision systems, and emitter locator systems, will contribute to target acquisition and battlefield surveillance.

The AN/TPQ-37 radar is a phased-array system in competitive prototype development with two contractors. This system will have the capability to locate hostile firing batteries with improved accuracy and will be linked to the TACFIRE control system to provide timely and accurate counter-battery fire. The AN/TPQ-36 counter-mortar radar is similar but optimized for locating mortars in the forward area. The existing AN/MPQ-4A weapon-locating radar is extremely limited in range, depends heavily on highly skilled operators, and is unreliable. RDT&E funding of \$17 million is requested for the two radars, as well as \$52 million for initial procurement of the AN/TPQ-37.

The Standoff Target Acquisition System (SOTAS) is an experimental helicopter-borne moving target radar system that can accurately locate moving targets with sufficient accuracy for artillery fire. Remotely piloted vehicles (RPVs) are being developed by the Army to acquire targets, adjust artillery fire, and ultimately to designate targets for CLGP or other laser-guided weapons. When developed these systems will add important new capabilities for attack with artillery of targets beyond visual range. Funding requests include \$8 million for SOTAS and \$7 million for RPVs.

The TACFIRE system provides for computer-assisted fire allocation and technical fire direction at battalion and at division level. Development is nearly completed. A decision on whether to procure this system, and if so, to what extent, will be made in a DSARC review after additional testing is completed.

(5) Chemical Warfare

Priority in chemical programs continues on developing adequate detection, warning, and protective equipment, and the proficiency required to take full advantage of such equipment. The requirement for U.S. military forces to operate in a toxic environment is being considered in force and logistics planning, training programs, and weapon system procurement. Funds for procurement of warning and protective equipment has increased in FY 1977 to \$74 million from \$9 million in FY 1976.

Although priority is placed on maintaining a good protective capability, the U.S. maintains chemical munitions to help deter enemy use of chemicals. The Soviet Union maintains the world's largest lethal chemical capacity; Soviet and other Warsaw Pact forces are well trained and well equipped to fight in a chemical environment. The FY 1977 budget request includes no funds for procurement of new chemical munitions. R&D programs on new chemical agents and munitions continue, however, as needs for modernizing the U.S. retaliatory CW capability are reviewed. The Department is continuing to work with other agencies of the government to prohibit chemical warfare through international treaty.

2. Naval Forces

It is essential for the United States, together with its allies, to maintain naval forces which are capable of protecting our security and mutual interests in the event of opposition by the naval forces of the Soviet Union and its allies. Furthermore, the U.S./allied naval force structure must be readily seen by both friendly and hostile governments as having this capability.

The seas are important to both the U.S. and the Soviet Union, but their dependence on free access to the seas differs markedly. We require the seas for commerce and reassurance of our allies in peacetime, and for sea lines of communications (SLOCs) to allies and power projection in wartime. The Soviet Union uses the seas for commerce, for influence of peripheral states, and for SLOCs to its emerging client states in peacetime. However, the Soviet Union and its allies are not dependent on sea lines of communications in a NATO conflict. Consequently, the Soviets might choose to focus on attacking SLOCs vital to the survival of the U.S. and its allies.

A nation's need for the seas, together with its available resources, determine its primary naval missions. The U.S. and its allies emphasize the missions of sea control for defense of SLOCs, projection of power ashore for use in wartime, and naval presence to control crises in peacetime. The primary Soviet naval missions, on the other hand, emphasize sea denial and defense against the U.S. capability to project power, by carrier air or amphibious operations, onto the European and Asian land mass. They are increasingly employing their peacetime naval presence for diplomatic influence as well, with Angola the most recent example.

Naval missions determine naval force structures. For sea control operations, the U.S. provides sea- and land-based aircraft, surface combatants to provide ASW and AAW support, attack submarines, mines, surveillance systems, and mobile logistics support forces. For the projection of power ashore, the U.S. provides sea-based aircraft and amphibious forces, together with escorting and supporting forces. Much of our force has utility in both the sea control and force projection roles and also carries out the naval presence and crisis control missions in peacetime.

For defense against our power projection forces, the Soviet Union maintains extensive surface and air surveillance systems, land-based aircraft, major surface combatants with long-range surface-to-surface missiles, attack submarines and mines. Their coastal defense depends on a large number of smaller surface combatants and land-based aircraft.

Soviet attack submarines and major surface combatants have some ASW capability and can also provide a naval presence for crisis control. The Soviet sea denial capability is based primarily on attack submarines and -- in some areas -- land-based aircraft. In areas near the Soviet Union such as the eastern Mediterranean, the Soviet surface fleet is now large enough to attempt sustained sea control operations.

U.S./allied naval forces are in an adequate maritime situation when:

- they can defend the SLOCs and ship cargoes at acceptable loss rates in time of war;

- they can bring sufficient naval power to bear to meet any requirement that might grow out of a crisis arising in peacetime;

- the U.S. can successfully project power ashore from sea-based forces when and where it is necessary to do so; and

- the U.S. and its allies deploy naval forces in peacetime which are and are seen to be at least equal in striking power and superior in sea-control capability to the naval forces deployed by the Soviet Union and its allies.

Subject to certain reservations, our assessment is that in most of the scenarios an acceptable maritime balance currently exists. Over the past several years various studies have concluded that:

- If the Soviet Union were to mount a campaign against our wartime SLOCs, U.S. losses would be significant but probably not prohibitive in most circumstances. In addition, the Soviets would lose many of their attack submarines and we judge that U.S./allied naval forces would ultimately maintain sea control;

- The evolution of crises is so dependent upon the sequence of events and the tactics employed by both sides that few generalizations can be made about their outcomes. However, we believe that U.S. and allied forces, properly employed, would be able to deal with a wide range of tactical situations. The same should be true of power projection situations, in which preparatory measures, both strategic and tactical, play a decisive role;

- Soviet naval peacetime presence increased sharply in the late 1960s but now appears to have stabilized at a level below that of the overall U.S. presence; however, in certain areas such as the Mediterranean the Soviet Union continues to deploy more forces than the U.S. When the peacetime fleets of allies on both sides are tallied, it is clear

that the U.S. and its allies deploy naval forces in peacetime which are superior to those deployed by the Soviet Union and its allies.

It is essential to realize that this interpretation of today's maritime balance depends on assumptions which are not wholly unfavorable to the U.S. and on having assessed with reasonable accuracy some of the key uncertainties surrounding the operational capabilities of both Soviet and U.S./allied naval forces. Nonetheless, given the present trends in the Soviet Navy, maintenance of a favorable maritime balance in future years will not be possible unless we modernize our fleet, maintain force levels, and improve significantly the readiness of existing ships.

The role of U.S. naval forces extends well beyond participation in a NATO conflict, and probably cannot be completely defined in the context of our standard force planning scenarios. On-the-scene U.S. naval forces can contribute to stability in politically turbulent areas of the world. Uncertainties concerning our future access to allied bases may compel us to place increasing reliance on sea-based forces in many contingencies. Naval forces, in short, have a worldwide role.

Despite that role, the size of the active Navy has been reduced from about 950 ships in mid-1968 to under 500 ships in mid-1975. However, the adequacy of our naval forces cannot be determined solely by the size of the fleet. The real issue is whether we can provide a balanced force capable of carrying out its missions when opposed by the Soviet Navy.

In order to estimate the impact of the reduction in the size of the active Navy since 1968, it is necessary to account for qualitative as well as numerical changes. There have been six major changes during the past seven years.

-- Eight ASW carriers, which embarked about 28 S-2 aircraft and 16 ASW helicopters each, have been decommissioned. The sea-based air ASW mission is now carried out by more capable S-3 aircraft and SH-3 ASW helicopters operating from attack carrier decks.

-- One hundred twenty-three amphibious ships were decommissioned and 23 new ones introduced into the force. The lift capability of the new ships surpasses that of the older ones on a per ship basis, so that the net reduction in amphibious lift capability has been mitigated.

-- Fifty-nine diesel-powered submarines were decommissioned and replaced by 29 nuclear attack submarines. The individual capability of SSNs in ASW operations is substantially greater than that of the

diesel submarines they replaced. In addition, the SSNs can operate in direct support of convoys, carrier task groups and other surface forces.

-- The largest reduction in combatant ships occurred in the destroyer/frigate class, primarily owing to the block obsolescence of World War II destroyers. Although 46 new FF 1052-class frigates with the high power SQS-26 sonar were delivered, 181 destroyers and frigates were retired. Despite the improved sonar, aggregate sonar search capability has decreased nearly 20 percent. Furthermore, the reduction in the number of destroyers and frigates was greater than the reduction in the number of ships to which they provide ASW support, and the gunfire support capability of the older destroyers has not been replaced.

-- There has been a net loss of 32 underway replenishment (UNREP) ships since 1968 as newer AOE, AOR and AFS ships replaced older AO, AE and AF ships. The capacity of the UNREP ships decreased by about 20 percent overall but the number of ships requiring support decreased by about 40 percent. The Navy believes, however, that the supply capability relative to requirements is inadequate.

-- Eighty-one mine countermeasures ships were decommissioned or transferred to the reserves. The mission of minesweeping in an amphibious landing area, or for other fleet support, is now assigned to 21 RH-53D helicopters.

While the U.S. fleet has decreased, there has been a substantial increase in the number and quality of Soviet antiship missiles and torpedoes and in the platforms which deliver them. In order to correct this situation, we must reverse the decline in the number of active surface combatants. Our shipbuilding program should be structured to do this. Emphasis is on a large number of less costly FFG-7 class frigates designed to cope with moderate threat levels, and a smaller number of more costly cruisers and destroyers armed with the Aegis missile system, designed to provide support in a high threat environment. The FFG-7 class, together with a proposed mix of nuclear and gas-turbine Aegis-configured ships, form the cornerstone of our five-year shipbuilding program. We also plan to fund two aircraft carriers and a number of support ships. In addition, the plan calls for upgrading older ships so as to extend their service lives and increase the readiness of existing forces. If our programs are fully funded, we should be able to expand the size of the fleet over the next decade, as well as make it more effective. There are certain factors, however, which are constraining the pace of the fleet buildup and modernization program. One factor, inflation in ship construction costs, has been severe, averaging approximately 14 percent from June 1974 to June 1975. This rate has apparently leveled off recently, but we still expect inflation to raise ship construction costs by 10 to 11 percent per year through the end of FY 1977.

Last year, emphasis was given to several problems associated with the shipbuilding industry which impeded our programs, and for the most part these problems remain. Heavy commercial competition for limited shipyard capacity, a shortage of some important skills, and cumbersome rules of contract administration still limit the ability and desire of shipbuilders to respond to Navy requirements.

Another issue is Title VIII of the Department of Defense Appropriation Authorization Act, 1975, which requires the Navy to use only nuclear power for new major combatants for strike forces. This requirement can be waived if the President advises the Congress that nuclear propulsion is not in the national interest for specified ships. Because Title VIII has a major impact on the fleet modernization program, certain observations concerning nuclear power for naval ships are warranted.

Nuclear-powered ships are superior in several ways to conventional-powered ships with equivalent weapons and sensors. However, we must consider whether the increased capabilities are required in the situations we are likely to face and whether the added capabilities are worth the extra cost. For submarines, the added capability conferred by nuclear propulsion, as compared with existing forms of non-nuclear propulsion, is clearly worthwhile. The situation is by no means as clear in the case of surface ships, for which the added cost of nuclear propulsion is substantial. The type of power for carriers and other surface combatants must be considered on a case-by-case basis, and if the added costs of nuclear propulsion are not warranted for certain ships or if the added capabilities are not needed, the President will be advised to certify to the Congress that nuclear propulsion for those ships is not in the national interest.

In accordance with Section 803 of Title VIII, the present Defense five-year plan for construction of nuclear-powered ships is shown in Table IVC-4 below.

TABLE IVC-4

FYDP NUCLEAR-POWERED SHIP CONSTRUCTION PROGRAM

	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>
Carriers	-	-	1	-	1
SSBNs	1	2	1	2	1
SSNs	3	2	2	2	2
Surface Combatants	-	1	-	-	1

Title VIII also requires that contract placement dates for nuclear warships be specified. Months in which contracts have been or are expected to be signed for nuclear ships funded in FY 1974, 1975, and 1976 are shown in Table IVC-5 below. For the FY 1977-81 programming period, the present plan is to contract for nuclear ship construction during the fiscal year in which construction funds are budgeted.

TABLE IVC-5

FY 1974 PROGRAM

CVN-70	April 1974
TRIDENT I (SSBN 726)	July 1974
SSN 706	October 1973
SSN 707	December 1973
SSN 708	October 1973
SSN 709	December 1973
SSN 710	October 1973

FY 1975 PROGRAM

CGN 41	January 1975
TRIDENT II (SSBN 727)	February 1975
TRIDENT III (SSBN 728)	February 1975
SSN 711	August 1975
SSN 712	August 1975
SSN 713	August 1975

FY 1976 PROGRAM

TRIDENT IV (SSBN 729)	January 1976
SSN 714	February 1976
SSN 715	February 1976

Another concern, since it involves the upgrading of present ships, is the continuing backlog of ships due for overhaul and aircraft out of service for reasons of supply. The net effect of this backlog is to reduce the military worth of the nation's capital investment in ships and aircraft. We have attempted to program for an orderly correction of this serious situation, but Congressional cuts in the FY 1976 budget have precluded significant progress toward a solution. The Department is seeking again in FY 1977 to program funds to reduce the backlog by 18 to 20 percent as the first step in a five-year plan to restore the material condition of these assets. Congressional support for this important action is essential.

The specific programs that we propose for funding in FY 1977 continue to be substantial. Table IVC-6 beginning on the following page provides the acquisition costs of the major modernization and improvement programs for our naval forces.

a. Aircraft Carriers

The second nuclear-powered carrier, the Nimitz, was delivered to the fleet in 1975, but our force level will fall to 13 because the two remaining Hancock-class carriers will be retired in FY 1976. Delivery of the Eisenhower is expected in FY 1977 and the last of the Nimitz-class carriers, the Vinson, is scheduled for delivery in FY 1981. We will maintain a force of 13 operational carriers in FY 1977.

The reduction in the carrier force level may require changes in deployment patterns. The United States, since the Korean War, usually has kept five or more carriers deployed in forward areas -- two in the Mediterranean, and at least three in the Western Pacific. Normally, with all carriers homeported in the U.S., a total of 15 ships would be required to support five deployed forward in peacetime. In order to meet our requirements with a force of 13 operating carriers, a concept of flexible employment is being examined which would deploy two carriers in the Mediterranean and at least two in the Western Pacific at all times. The second carrier in the Mediterranean could be available for excursions into the North and South Atlantic, and to participate in NATO exercises.

In the Pacific, one of the two deployed carriers would be homeported in Japan. The capability to surge additional carriers from the U.S. would still exist and would permit a flexible response to contingencies in the Western Pacific and Indian Ocean areas. The flexible employment concept will enable deployed forces to sustain more nearly a forward deployment rotation of one-in-three. It will also permit higher readiness in the remainder of the fleet by providing sufficient time to accomplish needed training and maintenance, and will increase the capability of the entire fleet to respond quickly in the event of a crisis.

One of the new general purpose helicopter assault ships (LHAs) will begin deploying to forward areas starting in CY 1977; eventually we will keep two of these constantly deployed. These ships are equivalent in size to the old World War II Essex-class carriers, match the size of the Soviets' new carrier, the Kiev, and, while not as formidable as a carrier in some respects, could perform a wide range of functions in a crisis.

TABLE IVC-6
Acquisition Costs of Major Naval Forces Modernization
and Improvement Programs 1/

(Dollars in Millions)

	<u>FY 1975</u> <u>Actual</u> <u>Funding</u>	<u>FY 1976</u> <u>Planned</u> <u>Funding</u>	<u>Trans</u> <u>Period</u> <u>Planned</u> <u>Funding 2/</u>	<u>FY 1977</u> <u>Prop'd</u> <u>Funding</u>	<u>FY 1978</u> <u>Prop'd for</u> <u>Authorization</u>
<u>Aircraft Carriers</u>					
Procurement of NIMITZ-Class Aircraft Carriers	25	65	1	232	15
Acquisition of the CVNX Aircraft Carriers	-	6	3	12	409
<u>Surface Combatants</u>					
Procurement of CGN (formerly DLGN) Nuclear-Powered Ships	181	53	9	84	11
Development and Procurement of Aegis-Armed Destroyers and Strike Cruisers (CSGN) and Development of the Supporting Combat Systems Engineering Development Site (CSEDS)	1	-	-	1147	-
Procurement of DD 963 Destroyers	15	76	15	1254	1223
	464	661	1	210	21
Acquisition of Guided Missile Frigate, FFG-7 (formerly Patrol Frigate)	186	964	9	1282	1279
Acquisition of Patrol Hydrofoil Missile Ship	110	156	-	43	-
Study and Development of Advanced Naval Vehicles (Includes Surface Effect Ship - SES)	46	38	17	48	69
<u>Antiship Missiles</u>					
Acquisition of the Harpoon Antiship Missile	153	156	45	186	197

TABLE IVC-6
Acquisition Costs of Major Naval Forces Modernization
and Improvement Programs 1/ (Cont'd)

(Dollars in Millions)

	<u>FY 1975</u> <u>Actual</u> <u>Funding</u>	<u>FY 1976</u> <u>Planned</u> <u>Funding</u>	<u>Trans</u> <u>Period</u> <u>Planned</u> <u>Funding 2/</u>	<u>FY 1977</u> <u>Prop'd</u> <u>Funding</u>	<u>FY 1978</u> <u>Prop'd for</u> <u>Authorization</u>
<u>Fleet Air Defense</u>					
Continued Development of AEGIS Ship Air Defense System	63	66	10	26	28
<u>ASW Aircraft</u>					
Development and Procurement of S-3A Carrier-Based ASW Aircraft	560	504	1	-	-
Continued Procurement of the P-3C Land-Based Maritime Patrol Aircraft	153	172	49	242	262
Modification of SH-3 Helicopter	20	51	10	30	85
Modification and Acquisition of the Light Airborne Multi- Purpose System (LAMPS)	30	26	2	83	111
<u>Undersea Surveillance Systems</u>					
Development and Deployment of SOSUS and Improved SOSUS and Development of SURTASS	122	131	20	125	47
<u>Attack Submarines</u>					
Procurement of SSN-688 Class Nuclear Attack Submarines	545	618	189	1338	672
Acquisition of Torpedoes	135	120	7	134	187
Acquisition of the AN/BQQ-5 Sonar System	61	57	43	65	-

TABLE IVC-6
Acquisition Costs of Major Naval Forces Modernization
and Improvement Programs 1/ (Cont'd)

(Dollars in Millions)

	<u>FY 1975</u> <u>Actual</u> <u>Funding</u>	<u>FY 1976</u> <u>Planned</u> <u>Funding</u>	<u>Trans</u> <u>Period</u> <u>Planned</u> <u>Funding 2/</u>	<u>FY 1977</u> <u>Prop'd</u> <u>Funding</u>	<u>FY 1978</u> <u>Prop'd for</u> <u>Authorization</u>
<u>Amphibious Lift</u>					
Development of the LX	-	.3	.7	2	6
Acquisition of the MCLWG	6	4	-	41	32
<u>Mines</u>					
Acquisition of the Captor ASW Mine	21	33	10	73	75
<u>Mobile Logistic Support Force Ships</u>					
Procurement of Underway Replenishment and Support Ships	224	557	--	685	541

1/ Includes costs of RDT&E, procurement of the system and initial spares, and directly related military construction.

2/ July 1 to September 30, 1976.

CVNX

To maintain a force of at least 13 carriers into the next decade, we will have to begin the replacement of the six Forrestal-class carriers, the first of which was delivered to the fleet in 1955. We are examining a range of alternative aircraft carrier designs to fill this need, including Nimitz-class ships as well as smaller and less capable nuclear carriers. We would plan to construct one of these carriers every two years. Accordingly, we have included \$400 million in the FY 1978 authorization request for long lead time funds for a new class aircraft carrier to be authorized in FY 1979 and delivered in FY 1985. Even with this program, the Forrestal-class carriers will have to complete an average of 34 years of service before they are retired from the force structure. Accordingly, the Navy is studying the feasibility of extending the service lives of the Forrestal-class carriers significantly beyond the nominal 30-year age.

VSS

Portions of the sea control function can be carried out by smaller ships, less expensive than carriers, with a small complement of V/STOL aircraft and ASW helicopters for use in areas where there is little enemy air threat. Congress has rejected the proposal to build a 14,000 ton Sea Control Ship. Consistent with Congressional direction, the Navy is now studying a new, small aircraft support ship currently designated the V/STOL Support Ship (VSS), which would permit a more flexible employment of sea-based tactical air in a wider range of low threat situations and also would have an antisubmarine capability. Plans for this ship are not yet firm.

b. Surface Combatants

In addition to aircraft carriers, the Navy's surface warship force includes cruisers, destroyers, frigates, and patrol combatants. These ships are essential to our concept of naval strategy, which combines offensive operations in the theater with tactical defense in depth. Consistent with this concept, aircraft and submarines in time of war would establish barriers around enemy naval bases and at strategically located choke-points, and exact attrition in the open ocean on deployed enemy units. Surface combatants would provide the ships needed for the numerically more demanding point defense of high value targets. The force level goal for surface ships depends on the number of high value targets to be defended; these include 13 carrier task groups, 1 1/3 amphibious task forces, 15 convoys at a minimum, and other high value forces which would require defense in wartime. Force levels

are also influenced by the need for peacetime deployments, crisis response capabilities, allied contributions, and the number of ships in overhaul.

In the past, the open-ocean Soviet naval threat consisted primarily of torpedo-firing submarines. As a result, policy called for an antiair warfare (AAW) capability on about a third of our active ocean-going surface combatants, and an ASW capability for all of them. With the great increase in the aircraft and antiship missile threat in recent years, we now consider it prudent to include at least an austere AAW capability on all our new open-ocean combatants. The proposed modernization programs will put this prudence into practice.

At the end of the current fiscal year, we will have a total of 193 major surface combatants (163 active and 30 reserve), plus 12 Coast Guard cutters which are configured for ASW and would come under Navy control in wartime. This deficit has resulted from the block obsolescence of our remaining World War II destroyers, 47 of which are still in commission.

Owing to the changing nature of the Soviet surface threat and decreasing U.S. carrier levels, the Navy also proposes to improve the offensive power of our surface combatant force. Virtually all existing and programmed surface combatants will receive the new Harpoon missile, which will provide a greatly improved capability over the current improvised antiship missile -- the Standard AAW missile employed in the surface-to-surface mode.

To aid in the process of rebuilding force levels, we are intensifying our efforts to make better use of Navy Reserve personnel by manning some of our active surface combatants at 80 percent of authorized strength and relying on Selected Reserve personnel to fill the remaining billets upon mobilization. Also, we are exploring the possibility of manning some Naval Reserve ships with about half as many active duty personnel as we now do. We are testing these concepts in FY 1976 and FY 1977. If they prove successful, we may expand the program in subsequent years. However, the Navy must retain a sufficient number of fully manned active ships to handle emergencies, meet early combat requirements in a major war, and support peacetime forward deployments.

CGN-38 (DLGN-38)

We now have in the fleet or under construction a total of nine nuclear-powered surface combatant ships -- CGNs 9, 25, and 35 through 41. When CGN 41, which is the last of this class of ship, is delivered in 1979, there will be a sufficient number of nuclear-powered surface combatants to provide ASW and AAW protection for two of the three nuclear-powered carriers which will then be in the fleet. This will give us two rapid reaction, all-nuclear-powered carrier task groups.

AEGIS

This year the Navy proposes to start the shipbuilding program associated with the Aegis air defense system, which is addressed in more detail in another section. The request is for two lead ships -- authorization and full funding for a gas turbine-powered DD-963 derivative (to be designated the DDG-47 class), and long lead time funding for a nuclear-powered strike cruiser (CSGN) to be authorized in FY 1978.

It is clear that these ships will be expensive. Their capabilities, however, will be such that procurement of limited numbers is well founded and in accord with our concept of a balanced force mix. The primary basis for these ships, of course, is the Aegis air defense system in combination with an effective ASW capability. The large size of both type ships also provides the potential for additional offensive capability, and the CSGN could conduct independent operations in peacetime deployments and in response to a crisis.

The Aegis ship program has been the "lightning rod" for Title VIII. During the past year the program has been subjected to review and an attempt has been made to reconcile the conflicting objectives of early Aegis capability in the fleet, arresting the decline in Navy force levels, sophisticated capabilities in individual ships, and a balanced array of ships and capabilities for the force as a whole. Our assessment is that the military value of an all-nuclear-powered Aegis ship program does not warrant the increased costs or, alternatively, the reduced force levels. Accordingly, we propose a mixed propulsion program to provide nuclear-powered CSGNs, which can undertake crisis response and other operations in areas far from supply bases, and conventional-powered DDG-47s to supplement the CSGNs in protection of high value forces (including carriers) under conditions of sustained conflict. The initial program calls for funding a total of two CSGNs and eight DDG-47 ships through FY 1981.

DD-963

The conventional-powered DD-963 class surface combatant will provide ASW protection for carriers and a surface warfare capability when Harpoon is backfitted and will be able to conduct shore bombardment in support of amphibious assault or land warfare forces. The last seven units of the 30-ship program were funded in FY 1975. This program, too, has encountered severe inflation problems as well as construction delays. The current best estimate is that the final ships in this program will be delivered in 1980, about one year late.

FFG-7 Guided Missile Frigate (Patrol Frigate)

Cruisers and destroyers, including Aegis ships, are designed primarily to defend carriers, which could be called upon to operate in areas of

a severe enemy air and submarine threat, and to conduct sustained independent operations. Other forces which require protection include underway replenishment groups, amphibious forces, and convoys which proceed at relatively slow speed and are generally expected to operate in areas of less intense air threats. The FFG-7 Guided Missile Frigate (formerly the Patrol Frigate) has been designed for this less demanding requirement and is the only low mix open-ocean combatant in our ship construction program. The lower cost of this ship will permit the Navy to acquire sufficient numbers, about 40 by 1984, to rebuild its surface combatant force to a minimum level.

FFG-7 frigates will have sensors and weapons which will be adequate for their projected AAW and ASW point defense missions. These systems have been tested extensively at sea and at land-based test sites. All major systems, including the MK-92 fire control system, will have completed an operational evaluation prior to approval for production. Deficiencies noted in the SQS-56 sonar are being corrected. In addition, FFG-7 frigates will carry the Harpoon missile which, together with their other weapon systems, will make them as heavily armed as any ships of their size in the world.

Congress has reduced the FFG-7 procurement for FY 1975 from seven to three ships and for FY 1976 from ten to nine, despite Departmental emphasis on orderly programming of this essential system. Last year, perhaps influenced by these cuts, only two contractors submitted bids on the FFG-7 program, and at higher prices than had been anticipated, so that the funds authorized will be sufficient to contract for only nine ships instead of the total of 12 authorized to date. The Navy is requesting approval for eight FFG-7s in the FY 1977 budget and eight in FY 1978. To protect our options in current contracts long lead funding is requested for three ships in FY 1977; authorization of fewer than that number could cause further cost growth in the FFG-7 program, the only low-mix combatant ship program.

Table IVC-7 showing the Navy's current five-year shipbuilding program is on the following page. This information is intended to satisfy the requirement imposed by Section 808, Title VIII, Public Law 94-106. The Department and the NSC will be reviewing the requirements and composition of the Navy in the 1980s and 1990s during the coming months. As a result of this review, appropriate recommendations will be made for consideration by the President and the National Security Council.

Related Programs: LAMPS and TACTAS

The Light Airborne Multi-Purpose System (LAMPS) program provides for the acquisition of helicopter aircraft to be operated from surface

TABLE IVC- 7FIVE-YEAR SHIPBUILDING PROGRAM

	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Total FY 77-81</u>
TRIDENT (SSBN)	1	2	1	2	1	7
SSN-688	3	2	2	2	2	11
VSS	-	-	-	1	-	1
CVNX	-	-	1	-	1	2
CSGN	-	1	-	-	1	2
DDG-47	1	-	2	3	2	8
LX	-	-	-	-	1	1
FFG	8	8	8	8	8	40
MCM	-	-	1	3	6	10
AD	1	1	1	-	-	3
AO	1	1	1	1	2	6
AS	1	-	-	-	-	1
T-ATF	-	4	-	-	-	4
T-AGOS	-	1	2	5	4	12
ARSX	-	-	-	-	1	1
ARX	-	-	-	-	1	1
AOE	-	-	-	-	1	1
TOTAL	16	20	19	25	31	111

combatants. Employment of LAMPS helicopters permits a significant extension of the parent ship's sensor and weapon coverage, particularly in ASW and antiship operations. The plan is to put LAMPS on over 180 surface combatants. The helicopter program itself will be discussed later.

Tactical towed array sonars (TACTAS) have shown significant potential as tactical sensors. Such arrays will be used by surface combatants in a tactical escort role to expand coverage of areas through which enemy submarines would have to penetrate to launch missile or torpedo attacks on protected forces. Results from at-sea tests show that towed arrays have a significant capability to detect submarines. These and other sonar systems are discussed in more detail later in this Report.

Patrol Combatants (PHM)

In previous years the Congress has authorized six U.S. PHMs. Although last year two more were requested, this program has now been re-directed because of inflation and cost growth for both the prototype and production PHMs. The current program is restricted to completion of the six PHMs authorized prior to FY 1976, thus freeing resources for allocation to higher priority programs. It is the Navy's intention to use the six authorized PHMs as a tactical squadron of small, high speed, high firepower patrol combatants to develop advanced tactics and gain technical experience with this type of craft. The information gathered will give a better understanding of the employment opportunities for this type unit and lead the way to an understanding of the optimum characteristics for hydrofoil vessels of the future.

Advanced Naval Vehicles

Many other concepts for Advanced Naval Vehicles have been proposed. However, owing to the lack of complete knowledge about their technical feasibility, military worth, and affordability, we are conducting an analysis and evaluation of several vehicle types to determine which if any of these vehicles meet all three criteria. Included in the study are the surface effect ship, hydrofoil ships, small water area twin hull (SWATH) ships, high efficiency long-range aircraft, wing-in-ground (WIG) effect aircraft, and airships.

c. Antiship Missiles

The Harpoon missile system is a major effort to counter the significant Soviet surface ship threat. This missile will provide new capabilities in that: U.S. surface combatants armed with Harpoon will be able to fight Soviet surface combatants directly, without air cover; a certain number of U.S. Navy land- and sea-based aircraft, configured with Harpoon, will have standoff ranges greater than the range of Soviet defensive

missile systems; SSNs will have missile, as well as torpedo, attack capability; and Harpoon deployment will break the Soviet near-monopoly on such missile systems. Moreover, the appearance of Harpoon throughout the fleet should do much to correct some currently-held views regarding the maritime balance.

The Harpoon development program continues to meet or exceed our expectations with regard to performance. However, we have deferred the production buildup until later in FY 1976 in order to engineer changes which will reduce missile procurement cost growth. We have also changed the scope of the program by reducing somewhat the number of patrol aircraft and surface combatants that will carry Harpoon and by adding a Harpoon capability to A-6E aircraft. As an all-weather platform with a range of almost 1,000 miles, the A-6E configured with Harpoon will far outrange even the most advanced Soviet antiship missiles.

We have also modified last year's proposal to give the B-52 a Harpoon capability. The original objective of this program was to deter Soviet adventurism by having a capability for quick reaction to Soviet surface ship deployments in the many areas of the world where U.S. naval forces do not normally operate. The same mission capability is now being proposed, but using a different weapon -- the GBU-15 electro-optical glide bomb. The GBU-15 will give the B-52 almost the same effectiveness in attacking surface ships and will do so at significantly reduced cost.

As a possible follow-on and complement to Harpoon, a tactical version of the Sea-Launched Cruise Missile (SLCM) is being developed. This missile as currently configured would have a much longer range and a larger warhead than Harpoon, and would provide some surface combatants with a capability to outrange all current and projected Soviet surface-to-surface missile systems, a particularly useful capability whenever surface combatants are operating without air cover.

The air-launched, electro-optically-guided Condor missile is to be procured to attack heavily defended land and sea targets. The Condor's 60 mile range will provide the A-6E with the additional capability to deliver ordnance on Soviet surface combatants from well beyond their air-defense envelopes. The jam resistant data link between aircraft and weapon enables the aircrew to vary the missile's trajectory en route, and select the most vulnerable impact point on the target.

d. Fleet Air Defense

This mission has received a considerable amount of attention during the past year, principally because of the Aegis procurement program and its implications. Fleet air defense needs have been reviewed thoroughly and two major conclusions have been reached.

First, the best defense against the current threat is one that is balanced and mutually supporting -- that is, balanced among the various defensive elements (such as surveillance, interceptors, area missiles, self defenses, and electronic warfare) which collectively contribute to the total air defense capability. The primary reasons are that each element has its own point of diminishing returns and that specific U.S. naval forces face differing threats depending upon geography, mission, and employment.

Second, the best hedge against the future threat is again a balanced total defense system that is designed for flexibility and growth potential to cope with uncertainties. The U.S. obviously cannot afford to lag the threat by a decade, a situation which has resulted in the past when programs were started only after actual observation of deployed Soviet systems.

The Aegis area air defense system should provide marked improvement in the capability to counter the current threat and provide the growth potential needed for the future as well. Aegis offers reduced reaction time, better resistance to jamming, and, most notably, greater missile firepower to counter high density attacks. More important, however, Aegis as a command and control system will permit the task force commander to coordinate all his air defense assets much more effectively. Against the threat of the 1980s and 1990s, Aegis will also provide the core around which we could tailor defenses as necessary to counter the threat as it materializes. Missile and launcher technology is promising, and Aegis will be compatible with developments in these areas.

In conjunction with Aegis, the air defense program focuses on systems which can provide antiship missile defense (ASMD) for surface ships. Included in this category are such Navy programs as NATO Seasparrow, Phalanx, and Guided Projectiles. These programs are driven in large part by two considerations: one, worthwhile close-in ASMD systems must have a very high kill probability; and two, these systems must be relatively compact, light and inexpensive so that each combatant has an appropriate degree of self defense capability with minimal impact on other missions capabilities.

The specifications for ASMD stem from the Soviet cruise missile submarine threat combined with the need to reduce the stringent design requirements for very costly "leakproof" area systems which would otherwise be required for defense against the numerically larger aircraft threat in certain geographical areas.

Accordingly, current ASMD systems are relatively austere, and we deliberately tend to forego capabilities such as mutual support, multiple target engagement, and effectiveness against the entire threat spectrum, in order to achieve low cost systems with a high kill probability at close range. The ASMD programs are structured to pursue development,

test, and procurement only where warranted in terms of technical risk, uncertainties about the threat, probable costs, and expected benefits.

In summary, fleet air defense is thought to be best served by a balanced program; this includes in particular the Aegis system/ship procurement and the development and procurement requests for systems for close-in ASMD, along with carrier-based fighters for long-range defense.

e. ASW Aircraft

The Navy's ASW aircraft force includes a mix of fixed- and rotary-wing aircraft which operate from carriers and other sea-based platforms and long-range maritime patrol aircraft which operate from land bases.

1. Fixed-Wing Aircraft

S-3A

Procurement of S-3A aircraft was completed with funding of the last 41 aircraft in the FY 1976 budget. One squadron (10 aircraft) is being bought for each of the multi-purpose carriers expected to be in the fleet in the early 1980s. During a major conflict, carriers operating in a high submarine threat area could be provided with two squadrons of S-3s by drawing down on the S-3 complements of other carriers.

Introduction of the S-3 aircraft into fleet squadrons is proceeding somewhat ahead of the schedule described last year. Eight squadrons are expected to be operational by the end of FY 1976, and the full 12 squadrons by the end of FY 1977.

P-3

The force level for land-based maritime patrol squadrons is based on providing sufficient aircraft to carry out a number of ASW and ocean surveillance tasks. These include patrol of geographically critical choke-point barriers, search of probable areas of submarine concentration, and direct ASW defense of shipping. Since large-scale ASW operations would be required only in a conflict with Soviet forces, it is appropriate to assign the land-based maritime patrol mission in part to the Naval Reserve forces. Therefore, the plan is to increase the number of reserve patrol squadrons from 12 to 13 in FY 1977 while maintaining our current posture of 24 active squadrons to meet emergencies, support pre-D-Day and early combat requirements in a major conflict, and maintain our peacetime forward deployments.

Funds for procurement of 12 P-3C aircraft are included in the FY 1977 budget so that overall modernization of the maritime patrol squadrons can be continued. Continuation of this program will permit replacement of the obsolescent reserve P-2 aircraft with P-3s by the end of FY 1980.

In order to limit force aging and take advantage of the increased effectiveness of the P-3C, an increase in the procurement rate to 16 in FY 1980 and 24 in FY 1981 is planned.

2. Rotary-Wing Aircraft

SH-3

By the end of FY 1976 the SH-3 ASW helicopter force will contain 14 squadrons of eight aircraft each -- 10 active squadrons used on multi-purpose carriers and four squadrons in the Naval Reserve. The Navy plans to continue the current modernization program to upgrade the avionics of the SH-3 airframes.

The Navy is currently investigating the feasibility of the Reserve Merchant Ship Defense System, a concept, to be implemented in wartime, in which commercial ships would carry small detachments of ASW helicopters for self-defense. In evaluating this concept the Navy plans to test the safety and ship compatibility of an SH-3 ASW helicopter in the summer or fall of 1976.

LAMPS

The light airborne Multi-Purpose System (LAMPS) program provides for the acquisition of new ASW-configured helicopters for operation from surface combatants. This concept permits a significant extension of the parent ship's sensor and weapon coverage in ASW and antiship operations.

Navy helicopter planning is directed toward the development of a single helicopter to perform both surface combatant (LAMPS MK III) and carrier-based helicopter missions. Since the Army's UTTAS airframe characteristics are compatible with LAMPS MK III projected missions, we are proceeding with a cost-reducing development program in which the UTTAS airframe will be considered as a candidate for the LAMPS MK III. FY 1976/77 Congressional action on LAMPS MK III development will result in program slippage of about 12-15 months. The Navy has, therefore, restructured the development schedule to accommodate the slippage and will ensure an open competition for the eventual airframe selection.

f. Undersea Surveillance Systems

Through the development of an extensive passive acoustic undersea surveillance system we are able to detect submarines. Also, early in any conflict involving naval forces, this system could facilitate more effective action by tactical ASW forces. Known as SOSUS, it is a geographically-fixed, passive detection system which can detect submarines.

It was decided in 1972 to improve SOSUS and develop completely new sensor systems. While this improvement program should increase SOS effectiveness, it is clear that the mobile system now in development, the Surveillance Towed Array Sensor System (SURTASS), will also be needed to supplement SOSUS. Mobile systems could also be used on a quick reaction basis. The Surveillance Towed Array Sensor System is in full-scale engineering development. The Navy has started design and fabrication of an engineering development model.

g. Attack Submarines

Nuclear attack submarines have a primary role of antisubmarine warfare and a secondary role of antisurface ship warfare. By establishing forward ASW barriers in waters under enemy air and surface control, SSNs can engage Soviet submarines and ships in transit between their bases and their ocean operating areas. Other SSN ASW roles include direct support of surface forces by SSNs which engage enemy submarines in open ocean areas distant from the forces being defended and, under appropriate tactical circumstances, direct support of surface forces by SSNs operating as escorts.

SSN-688

We are currently constructing the Los Angeles (SSN-688) class of submarines. Twenty-six have been funded through FY 1975 and we expect the first to be delivered in FY 1976. The Navy intends to procure three of these SSNs in FY 1977 and two in each subsequent year throughout the planning period. The SSN-688, with the new MK-48 wire-guided, acoustic homing torpedo and the new AN/BQQ-5 sonar system, will be superior to any other attack submarine in the world. This is essential in view of its demanding missions and the increasing capabilities of the Soviet submarine force.

h. Amphibious Lift

The U.S. amphibious force of 65 ships programmed for the end of FY 1976 has sufficient capacity (when including a ship non-availability factor of 15 percent due to overhauls) to transport simultaneously the assault elements of slightly more than one Marine Amphibious Force (MAF), that is, one Marine division/wing team and supporting elements. However, our amphibious ships are about equally divided between the Atlantic and Pacific Oceans. It would be necessary, therefore, to shift half of our amphibious shipping from one ocean to the other in order to conduct a single MAF-size lift and subsequent assault. This one MAF lift is a significant reduction from the one and two thirds MAF lift (excluding helicopters) which was available at the end of FY 1969.

We are now able to keep two Marine Amphibious Units (MAUs), battalion-size amphibious forces, afloat continuously, one in the Mediterranean and the other in the Western Pacific. Because of a shortage of helicopter decks, two additional Battalion Landing Teams (BLT), one in the Western Pacific and one intermittently in the Atlantic, are usually deployed without helicopters.

The program for amphibious lift aims to provide the capability to transport the assault elements of 1 1/3 Marine amphibious forces. This capability would enable us to conduct (after shifting ships from one ocean to the other) a MAF-sized amphibious operation in a major combat theater (for example, on the northern or southern flanks of NATO) and a limited assault elsewhere. When the five large general purpose Amphibious Assault Ships (LHAs) now under construction are delivered to the fleet, this amphibious lift objective will be essentially achieved. The overall lift capacity will be increased to about 1 1/3 MAFs (excluding provision for ships in overhaul), and the helicopter platform shortage will be nearly eliminated. The first LHA will be delivered during FY 1976; additional deliveries are now scheduled call for delivery of two LHAs in FY 1977 and one LHA in each of the two following fiscal years. When the last LHA is delivered, the amphibious lift will consist of 66 active ships and three Naval Reserve Force (NRF) ships, all with speeds of about 20 knots. With this force, we will be able to maintain four MAUs, all with major helicopter ships, continuously deployed.

Landing Ship (LX)

In the mid-1980s, it will be necessary to begin to replace our eight LSD-28 class ships as they reach the end of their 30-year service life. Conceptual design work is now underway for a new landing ship, currently designated the LX. If the effort proceeds as expected, procurement of LXs will begin with one ship in FY 1981.

Major Caliber Lightweight Gun (MCLWG)

This year we propose to start procurement of the 8-inch Major Caliber Lightweight Gun (MCLWG) for installation in DD-963-class destroyers. It will also serve as a complement to Harpoon for surface combatant warfare. The current program is to procure a total of 17 gun systems through FY 1981; we are requesting \$41 million in FY 1977 for initial procurement.

1. Mines and Mine Countermeasures Forces

Mines are sea control weapons which can be used to close ports and form deep sea barriers against surface ships or submarines. Mines can be very effective, and are relatively cheap to employ in terms of manpower and money. They provide a ready mechanism for performing important naval missions with great economy of force.

For these reasons the Navy is developing a new family of mines to replace the obsolescent ordnance now in stock and ordnance compromised in Vietnam. A family of mines is needed since different mine technologies are required for different water depths. The Navy is developing the Quickstrike family of air and submarine-laid mines. The design of these mines emphasizes economy, flexibility, quick reaction, and resistance to countermeasures. A propelled rocket ascent mine (PRAM) is being developed and the Captor ASW mine has already been developed. Captor consists of a MK-46 antisubmarine torpedo housed in a capsule which contains its own acoustic detection and classification system. Captor presents a severe threat to those who come within range of its sensors. Owing to the mobility of the torpedo, the Captor system has a damage radius several orders of magnitude greater than any more conventional mine.

A procurement objective has been established for Captor, but procurement objectives for the Quickstrike and PRAM have not yet been established. The two latter weapons will not be ready for procurement until the late 1970s.

Active and reserve mine countermeasures forces have undergone substantial reductions in recent years. Currently, the surface force consists of three active and 22 NRF ocean minesweepers. In part, this reduction has been offset by the greater use of mine countermeasures helicopters (specially equipped RH-53Ds), of which there are now 21 in the force. Our surface and airborne mine countermeasures forces at the end of FY 1976 represent only about one third of the capability of the similar forces in FY 1968. To correct the deficiency in mine detection and provide an improved capability to clear Soviet mines, the present plan is to procure ten modern ocean minesweepers, commencing with one in FY 1979, three in FY 1980, and six in FY 1981.

j. Mobile Logistics Support Force (MLSF)

Mobile Logistics Support Force ships provide both wartime and peacetime underway logistics support and mobile, forward maintenance and repair facilities for deployed naval forces. Forward peacetime deployments of UNREP ships generally total roughly 16 to 18 ships, several of which are homeported overseas. Peacetime forward deployment of tenders is generally limited to two ships in both the Atlantic and Pacific Oceans (in addition to tenders supporting ballistic missile submarines). In peacetime, forward deployments of minor fleet support ships are limited largely to a few submarine rescue vessels, ocean tugs and salvage ships. To meet these needs, the Navy operates a total of 113 MLSF ships, all of which are in the active force or operated by the Military Sealift Command (MSC). These include 50 underway replenishment ships, 20 major fleet support ships (tenders and repair ships), and 43 minor fleet support ships (primarily salvage ships, tugs, and submarine rescue vessels).

As a result of their lower priority and owing to severe fiscal constraints, modernization of the MLSF ships has been repeatedly deferred and now lags far behind modernization of the combatant forces. Over the period FY 1968-76, only 20 percent of the MLSF ships programmed for construction by the Department have actually been funded. As noted last year, a major effort to modernize the MLSF can no longer be deferred. There will be approximately 50 World War II-constructed support ships in the active fleet at the end of FY 1977 and the average age of MLSF ships will be about 23 years.

Accordingly, a substantial program in this area is planned. Funding for 17 ships would be provided for during the FY 1977-81 period. The program would include three Destroyer Tenders (AD), one Submarine Tender (AS), one Repair Ship (ARX), six Fleet Oilers (AO), one Fast Combat Support Ship (AOE), four Fleet Ocean Tugs (ATF), and one Salvage Ship (ARSX).

3. Tactical Air Forces

Since World War II, tactical airpower has provided a unique and significant military capability in support of U.S. defense policy. A basic tenet of that policy has been, and continues to be, to counter enemy threats to the U.S. and its allies as far forward as possible. Tactical air forces are particularly suited for this role, since they can deploy rapidly over long ranges. Once in a theater of operations, they can deliver firepower beyond the reach of our conventional ground and naval ship weapons and play a significant role in limiting friendly casualties at the battle-front and in "carrying the war to the enemy." Recently, rising manpower costs and constraints on the size of our active ground and naval forces have made tactical airpower even more attractive. It provides a potentially efficient means of employing additional firepower without relying on manpower-intensive systems and with a minimum number of people at risk.

Tactical air forces can respond to a wide range of military requirements. Forward deployed, they are useful in providing the peacetime presence necessary to assure our allies of our support and to provide a credible deterrent to our enemies. They also present the quick application of military power in a crisis to protect U.S. interests and prevent conflict escalation.

Most important, this force is a hedge against uncertainty about the timing and location of a possible conflict. Because of its versatility and flexibility, tactical airpower provides a significant part of our capability to prosecute a large-scale conventional war, such as a NATO-Warsaw Pact conflict centered in Europe, whether it commences "out of the blue" or after a prolonged period of international tension. In the case of a NATO war, land-based assets could be rapidly deployed to Central Europe to counter enemy air and ground forces, while both carrier and some land-based tactical air would be used to attrite Soviet Naval forces and protect our vital sea lines of communication.

In general terms, the purpose of these tactical air forces is to destroy or neutralize enemy air, ground and naval forces. More specifically, there are three primary missions for tactical aviation: close air support of ground forces, air superiority and interdiction. U.S. forces are sized to perform these missions in a balanced and flexible manner; they are distributed among our Air Force and Navy/Marine Corps to provide an operationally and fiscally efficient mix of dedicated land- and sea-based airpower.

Providing direct support to engaged ground combat forces is many times the most important mission of tactical air forces. In both quantity and quality, the potential ground threat continues to grow, especially in terms of armor and air defense, and necessitates increasingly extensive, responsive, survivable, and antiarmor-capable

ground attack systems on our part. The current plan, therefore, is to equip a sizeable part of our force with aircraft which have been optimized to provide this essential support to combat troops.

To do this we must simultaneously strive to attain and maintain air superiority in the combat theater. In many cases, this mission will become the most important, as in those situations where our close air support capability is contingent on our attaining air superiority in the combat area or where the very survival of our sea-borne forces depends on fleet air defense capability. Carrying out this counter-air mission over our own forces, whether they be at the front lines of combat, high value targets in rear areas, or on the high seas, entails the need for air superiority and air defense forces. In addition, we would hope to maintain air superiority on the enemy side of the front lines in areas of high strategic importance.

Air superiority is best provided by manned aircraft operating in conjunction with highly capable early warning, surveillance, command and control systems such as the E-2C and the E-3A. Countering enemy aircraft is a mission which must be performed over their own territory if they are to be kept away from our vital installations. Aircraft such as the F-14 and F-15 are ideally suited to this mission, but are characterized by high unit procurement and maintenance costs. Air superiority missions conducted closer to friendly forces, and more reliably under friendly command and control systems (both airborne, sea, and land-based), can be adequately achieved by the less costly F-16 and F-18 aircraft.

However, the enemy can always concentrate his resources to attack high value friendly targets either on land or on the high seas. Defense against these raids can be performed efficiently by high rate of fire ground- or ship-based missile and gun systems, such as Hawk, SAM-D, Standard Missile and its eventual replacement, Aegis. These systems, as well as the smaller, mobile and man-portable systems, were discussed in greater detail earlier. We recognize however, that the counterair effort over friendly territory or in defense of friendly forces requires a coordinated effort using both airborne and surface-based systems.

The third major mission for tactical air -- interdiction -- allows us to attack enemy forces and installations before they can attack friendly forces. These air interdiction missions require U.S./ allied delivery of conventional or tactical nuclear weapons during daylight, fair nights, and foul weather and have justified the retention of Naval A-6 aircraft for attacks against distant shipping, shore-based naval targets, and all-weather close support of engaged ground forces and Air Force F-111s and F-4s for deep interdiction or all-weather close support of ground forces.

To accomplish these three missions, the focus of our tactical air force structure is naturally on the fighter/attack force. Nonetheless,

other aircraft are needed for support in carrying out these missions. Different types of aircraft are needed for aerial reconnaissance, tactical refueling, electronic warfare, forward air control, and airborne early warning, control and communications.

In view of increasingly capable enemy air defenses and our limited resources it has been concluded that we must continue to give highest priority to systems capable of close air support and achieving air superiority. Clearly, however, depending on the tactical situation at hand, air-power can be used in vastly different ways. Hence, while it is economical and efficient to design and buy some portion of our aircraft for a specific mission, it is important to maintain a large segment of U.S. tactical air forces equipped with aircraft capable of performing more than one mission.

U.S. tactical air assets have been distributed between the Air Force and the Navy, including the Marines. Where it is less costly, aircraft have been designed to meet the specialized needs for a specific Service; every aircraft need not be able to accomplish every mission. At the same time, we have maintained the ability of our tactical air forces to perform well whenever and wherever called upon.

To the extent that the location of major conflicts can reasonably be predicted, and where land-basing rights can be assured (as in Central Europe), land-based tactical air forces make the greatest sense. In the event of a general war with the USSR, although the most likely focus will be on Central Europe, sea-based tactical air will be needed to maintain control of the seas. For other than European land conflicts, this sea-based air might be required to carry the brunt of initial operations while land bases and logistic pipelines are being established. Therefore, considering the differing attributes and costs of land- and sea-based airpower, the most efficient way to structure U.S. tactical air forces is generally to have some minimum level of sea-based airpower to cover situations where land bases are not available or cannot be set up quickly. The remainder of the force structure required to meet major threats should be made up of less expensive land-based aircraft.

Carrier-based tactical air has the advantage of providing a peacetime presence, a long-range antiship attack capability, a wartime power projection capability against targets ashore, and an air superiority force for other sea control forces without requiring rights to foreign bases. In addition, the mobility of carriers allows the rapid establishment of a base of combat operations in locations not predicted in advance. On the other hand, Navy and Marine Corps aircraft are generally more expensive than their land-based counterparts because of the basic design and operating characteristics associated with operations from aircraft carriers or hastily-built forward air strips.

It has been demonstrated repeatedly that, for equivalent mission capability, Navy/Marine aircraft must accommodate the special requirements for landing, takeoff, and storage aboard ship. The necessary additional weight and size is such that for any aircraft where production is expected to exceed a few hundred units, there are no dollar savings in insistence on full "commonality" of design with a land-based aircraft.

The coordination essential to amphibious operations suggests that dedicated tactical air units should train full time with their corresponding ground units to ensure the success of designated operations. For this reason, it is operationally advantageous to have tactical air units as an integral part of the Marine Corps structure. Congress has, therefore, set by law the number of Marine Air Wings at three active and one reserve to ensure proper integrated support of Marine Corps ground forces.

Although Marine Corps air wings are justified largely on the basis of amphibious operations, they play another important role in the overall tactical air force structure. Since they are capable of both land- and sea-based operations, Marine tactical air can act as a backup force. If not needed for support of committed Marine Corps forces and if we underestimate the amount of dedicated sea-based assets needed in a time of crisis, Marine air can be used to correct the deficiency. Likewise, Marine tactical air assets can be used to augment dedicated land-based assets as needed and available, just as land-based aircraft can be used to support amphibious operations.

We maintain two separate tactical air forces: one airfield-specialized (Air Force) and one carrier/expeditionary field-specialized (Navy/Marine). Marine aircraft are an integral part of Navy tactical air, rather than comprising a third and separate force. They are procured with Navy dollars, maintained and supplied from a common Navy supply system, and the pilots are trained in common Navy training facilities (except for the specialized unit training optimized for their primary operational use). This results in considerable cost savings through common development, procurement and support of similar equipment.

The majority of the Army's helicopter assets are primarily used for transportation functions on the battlefield. Approximately 15 percent of the Army's helicopters have been equipped with antitank missiles and anti-personnel weapons to provide additional protection for its maneuver forces. These forces are operated within the Army's training and doctrinal command and, as such, are uniquely "land-battle" oriented.

Before turning to the specific programs for U.S. tactical aircraft forces, four general points should be made about them.

First, except for the perturbations during the Vietnam war years, we have witnessed a continuing decline of our force levels over the past quarter-century. In the fifteen year period from FY 1962 through FY 1976,

total fighter/attack and tactical reconnaissance aircraft dropped from about 8,000 to less than 6,000. Annual aircraft procurements dropped to a dangerously low level by FY 1974, contributing further to the decline in forces and to their increasing age. It should be noted that we were procuring 600 to 700 tactical aircraft annually in the years prior to Vietnam, while in FY 1974 we procured less than half that number. Through the implementation of the "high-low" mix, we are now able to reverse the trend of declining procurements and force levels.

Second, the current plan is to achieve a major modernization of the Air Force within the five-year program period. It should be possible to do so because the Air Force plans to buy large numbers of aircraft at the low end of the "high-low" mix spectrum, specifically A-10s and F-16s.

Third, there is still no assured plan for the modernization of naval tactical air forces. Within the current five-year plan, the average cost of the naval aircraft to be procured for carriers approaches about \$17.0 million a copy (including the E-2), while the average Air Force tactical combat aircraft to be procured will cost about \$8.5 million (including the E-3A). During the same time period, the average age of naval aircraft in the force will increase from 8.4 years to 9.8 years, while the average age of Air Force combat aircraft will decrease from 9.3 years to 8.2 years. Our major hope for a reversal of these trends in naval aircraft rests on the rapid development and large-scale production of the F-18 aircraft. Failure to proceed with the F-18 program at this time would result in an eventual decline in the force levels of Naval/Marine aviation. Moreover, modernization of the Naval and Marine reserve units would be delayed to the point where the continued utility of these units would become dubious because of their extremely limited contribution to any realistic warfighting scenario. To cover this potential interim shortfall, Marine aircraft can be deployed aboard naval vessels in peacetime and in certain high threat scenarios.

Fourth, our ability to apply sufficient resources to the maintenance activities which keep our tactical aircraft in fully operational flying status is a matter of increasing concern. While this issue is discussed in detail in the logistics section of this Report, it should be noted here that there is an evident imbalance between the funds being provided for new systems, and the funds available to maintain existing systems. A continuation of this trend is not practical in either the short or the long run.

a. Air Force Tactical Air Structure

Even though the Air Force plans major quantitative increases and qualitative improvements in its general purpose tactical air forces over the next five years, budget limitations and basic differences

in aircraft design philosophy mean that the U.S. and our NATO allies will not achieve absolute parity with the Warsaw Pact in numbers of aircraft. However, planned improvements in the quality of equipment should help balance the numerical shortfalls on the NATO side. The improvements and increases will take place within anticipated manpower and funding constraints.

The Air Force also plans to bring the 26 organizational wings currently in its active force structure up to full strength by 1981. Nominally, each of these wings would be equipped with 72 unit equipment (UE) aircraft. Currently, the force is short the equivalent of about four aircraft wings, largely because of the postwar drawdown and the greatly increased number of aircraft taken to fulfill expanded U.S. military sales and grant aid commitments. Achieving a fully equipped 26 wing active force is necessary to: neutralize the increasingly sophisticated tactical air forces of the Warsaw Pact; support our divisions against the growing quality and numerical superiority of the Pact's armor and mechanized infantry; and retain the ability to interdict enemy rear areas in the face of new and proliferating air defense systems.

This increase in equipment can be achieved within programmed manpower and budget ceilings. To do so, the Air Force plans a complementary mixture of higher cost, but more capable, aircraft to provide qualitative superiority over any potential threats, and lower cost aircraft to keep pace with the size of the threat. In addition, new aircraft design technology has increased aircraft reliability and should permit decreased maintenance manning requirements and life-cycle costs. Finally, the Air Force is aggressively converting non-combat resources to either fighting or direct support assets.

By the end of the current five year program period, we would have five active wings primarily for close air support, six active wings primarily for air superiority and four active wings primarily for deep interdiction. Each mission can then be augmented, as required, by active and reserve wings of multi-purpose aircraft.

This force mix is designed to fulfill the needs generated by predictable combat missions as well as unforeseen contingencies. A minimal number of aircraft will almost certainly be assigned to particular functions in a large-scale conflict; for these missions, cost savings can be realized and capabilities improved if aircraft can be designed and personnel trained to emphasize a specific mission. Examples of this approach are: the A-10 for close air support of ground forces to counter a predictable enemy armor threat in Europe; the F-111 for night/all weather air interdiction of known targets; the F-16 for local air superiority; the F-15 for air superiority over an enemy fighter force; and the E-3A, RF-4C, EF-111, and F-4G aircraft (specializing

in command and control, reconnaissance, electronic warfare support, and defense suppression, respectively), for missions required to prosecute a successful conventional campaign against a multi-faceted threat.

If the number of aircraft required for each mission in all future conflicts could be precisely predicted, we would purchase only aircraft specialized in particular missions. However, because of uncertainties in how the enemy will allocate his force, and in how each particular conflict will develop, the number of aircraft required for various missions will vary above some minimal level. Accordingly, some aircraft in the force structure must be capable of a variety of tasks. Air Force aircraft which fulfill this role are the F-4, which is capable of performing both air-to-air and air-to-ground roles, and the soon-to-be-introduced F-16, a high performance air superiority fighter which will also have a ground attack capability.

While the active Air Force must play the major role in conflicts which are preceded by short periods of mobilization, air reserve forces owing to their capability for rapid mobilization and employment, also would contribute significantly to immediately available fighting power. In recognition of this, the Air Force plans a thorough modernization of Air National Guard and Air Force Reserve units by FY 1981 using first line fighter and attack aircraft (A-7s, A-10s, F-4s). The Air National Guard will also convert seven squadrons now equipped with other type aircraft to modern tactical fighter and attack squadrons.

In addition to modernization of reserve equipment, the Air Force will also test the ability of reserve personnel to augment active fighter and attack squadrons in wartime. This is a departure from the current situation where reserve personnel operate and maintain fighter and attack aircraft belonging only to reserve units. This augmentation concept is designed to achieve the high aircraft sortie levels required for intense, sustained campaigns while not incurring the extra costs associated with larger peacetime manning of the active force. We have already had success with this type of program in our strategic airlift units.

The Air Force not only plans its force structure toward the goal of conventional deterrence; it is also adjusting force deployments toward the same end. In accordance with provisions of the Nunn Amendment, Air Force headquarters and support personnel in Europe are being exchanged for greater combat capability. Specific changes planned are:

- Increases in tactical airlift aircraft;
- Deployment of Loran-D to Germany to assist all-weather navigation and bombing;

- Increases in aircrews for fighter and attack aircraft;
- Deployment of an additional tactical air control system (TACS) unit to Germany;
- Stationing a squadron of F-5s in the UK (these aircraft are similar in performance to Warsaw Pact MIG-21 aircraft and would be used to simulate enemy tactics for U.S. combat training).

In addition to these changes, the Air Force will deploy its most sophisticated fighter, the F-15, to Europe earlier than previously planned. This will provide an earlier increase in NATO force capability, and also demonstrate to our allies and adversaries our commitment to a strong European defense.

In sum, the Air Force plans a mixed force. Some aircraft will be specialized in certain missions and some will be multi-mission aircraft capable of acting as a swing force. This force will also be mixed from the standpoint of high-low capabilities and costs. The following section discusses in detail the proposed major acquisition programs which are necessary to fill out the planned force structure outlined above.

b. Air Force Acquisition Programs

To improve the quality of its equipment, the Air Force plans to modernize the force with F-15 and F-16 aircraft which incorporate advanced airframe, engine, and avionics technology. These technological advances will ensure that our aircraft retain a substantial performance advantage for the foreseeable future. In addition, major improvements in air-to-ground attack capability, which have been incorporated in the A-10 close air support aircraft, will enable tactical air to influence more directly the outcome of ground combat.

The Air Force not only plans to introduce improved fighter/attack combat aircraft into the force, but also plans to introduce support aircraft, such as the E-3A Airborne Warning and Control System (AWACS) aircraft, which will markedly improve the overall performance of our combat aircraft in air warfare. This aircraft will improve combat capabilities across the board by providing warning of enemy air attack, friendly and enemy aircraft position, and centralized, timely management of air assets throughout the theater. Table IVC- 8 on the following page depicts the major Air Force tactical air modernization and improvement programs.

New aircraft technology is becoming more sophisticated and more expensive and difficult to develop. Nonetheless, there is still a considerable number of new allied designs in development and production

TABLE IVC- 8

Acquisition Costs of Major Air Force Tactical Air Modernization
and Improvement Programs 1/

(Dollars in Millions)

	<u>FY 1975 Actual Funding</u>	<u>FY 1976 Planned Funding</u>	<u>Trans. Period. Planned Funding 2/</u>	<u>FY 1977 Prop'd Funding</u>	<u>FY 1978 Prop'd for Authorization</u>
<u>Air Force Systems</u>					
Development and Procurement of the F-16	32	216	70	620	1128
Acquisition of the F-15 Air Superiority Fighter	1098	1602	327	1540	1382
Modification of F-4 and F-111 Aircraft	149	259	49	263	253
Acquisition of the A-10 Close Air Support Aircraft	266	457	81	618	927
Development and Acquisition of E-3A AWACS 3/	610	465	81	584	456
Development and Procurement of F-4G Wild Weasel Modifications	33	72	4	92	47
Development and Procurement of EF-111A Modifications	38	5	5	37	158

1/ Includes cost of RDT&E, procurement of the system and initial spares, and directly related military construction.

2/ July 1 to September 30, 1976.

3/ Does not include costs of directly related military equipment.

which will further enhance NATO capabilities. These include, for example, the Alpha Jet, the Jaguar, the Multiple Role Combat Aircraft (MRCA) and the British Harrier. Eventually, however, it is possible that our NATO allies will wish to depend more on U.S. aircraft design and development, while sharing with us the production of those items where justified by the numerical demand. The F-16 is a good example of standardized procurement with a co-production arrangement. We also expect future sales of the E-3, and possibly the F-15, to our allies in Europe.

If this kind of trade is to continue, however, it is important that the Congress permit us to acquire allied systems which represent advanced military hardware suitable for application against the common threat. If such offsets are not available purely within the realm of military weapon systems, then we should be free to look further afield to achieve offsets.

F-16

The General Dynamics F-16 has been selected for full-scale development as the Air Force's Air Combat Fighter, to fulfill the requirement for a low cost, multi-purpose aircraft to complement the more sophisticated F-15 through the 1980s. The first of eight full-scale development F-16s should be delivered in December 1976, and the first production aircraft is scheduled for delivery in August 1978.

On June 10, 1975, a four-nation NATO consortium -- the Netherlands, Belgium, Denmark and Norway -- signed a Memorandum of Understanding to buy 306 F-16s with options to increase that purchase to 348. The Air Force intends to buy at least 650 F-16s and a number of other allies have expressed an interest in purchasing the aircraft.

For FY 1976 and FY 1977, the Congress has appropriated \$286 million to continue the full-scale development effort. The budget request for FY 1977 is \$620 million for continued development and for procurement of the first 16 production F-16s. Procurement of F-16s over the next five years is planned at the rate shown below.

TABLE IVC-9

Period	FY 77	FY 78	FY 79	FY 80	FY 81
Aircraft Procured	16	89	145	175	180

F-15

The Air Force F-15 Air Superiority Fighter Program is proceeding as planned. The major milestones have been completed on schedule,

and its demonstrated performance has confirmed an ability to fulfill its intended role. The development, test and evaluation program, now nearing completion, has been highly successful.

The F-15 armament and Tactical Electronic Warfare System (TEWS) have been approved for production, and operational testing of its primary missiles, the AIM-7F Sparrow and AIM-9L Sidewinder, is now in progress. The standard M-61 Gatling gun is presently being installed in production F-15s but development is in progress on an improved, higher rate of fire M-61 which would be installed on all F-15s when completed. The F-15 production rate for the FY 1977 procurement period, which was reached during the end of the FY 1974 buy and maintained through FY 1975 and FY 1976 with the approval of Congress, will remain at nine per month. The current plan is to acquire 729 F-15s (plus 20 RDT&E aircraft) to equip 19 active squadrons.

Air Force Aircraft Modifications

In addition to the major improvements represented by the F-15 and the F-16, modifications to be made to the F-4 and F-111 will serve to extend greatly the utility of these tested systems. In many cases, modifications delay the obsolescence of current aircraft by providing improvements which enable the system to operate effectively for several years beyond its planned technological life. Such funds are well spent, since they give the aircraft an improved capability without the expense of total system procurement.

The plan is to modify F-4D and F-4E aircraft with a self-contained laser designator -- also called PAVE SPIKE -- pod. Our night/adverse weather tactical air warfare deficiencies will be eased during the next five years by modifying F-4E and F-111F aircraft with PAVE TACK equipment which will provide a wide angle, high resolution, forward-looking infra-red (FLIR) system with a laser ranger/designator. This system, coupled with laser-guided, modular glide bombs and a forward-fired weapon, such as the imaging infra-red (IIR) Maverick, will provide an excellent capability for the night acquisition and attack of ground targets.

A-10

The last of six development aircraft has been delivered and systems integration for the A-10 is progressing satisfactorily. The Air Force Test and Evaluation Center has completed its independent operational assessment. The Air Force is confident that the A-10's blend of lethality and survivability has been optimized for the close air support mission. The remaining development and operational testing is aimed at completing the refinement of the A-10 armament -- including the Maverick missile and the 30 mm GAU-8 gun -- and ensuring its utility in an operational environment. Follow-on operational tests began in January 1976.

Only one potentially serious problem was uncovered during the test program. In September 1975 the A-10 fatigue test article experienced a failure of the fuselage frame. The primary cause of the failure was an underestimation of loads and out-of-plane bending. However, based upon analysis and stress survey testing of the damaged area, both a retrofit and in-line production redesign were accomplished within the current forging design and overall aircraft dimensions. The fatigue article was repaired and one full lifetime (6,000 service hours) was completed in October 1975, with the exception of the fuselage frame failure area. The test article was inspected and no evidence of other problems was found. In order to verify the integrity of the frame redesigns, a component test article is being built with the retrofit configuration on one side and the production configuration on the other. This article will begin fatigue testing in April 1976, with one lifetime to be completed in May and four lifetimes in August 1976. It is believed that the remaining risk is sufficiently small to warrant proceeding into full production.

The first production aircraft was delivered in November 1975. Acquisition of 95 aircraft is provided for with the funding available through FY 1977. The request for FY 1977 is \$618 million for an additional 100 aircraft. As a result of higher-than-expected inflation rates and scarce budgetary resources, the previously programmed procurement for FY 1976, 1977 and 1978 has been reduced by a total of 155 aircraft. However, the total program, which calls for acquiring 733 A-10 aircraft, remains as planned. This acquisition program will equip both active and reserve forces.

E-3A (AWACS)

The E-3A Airborne Warning and Control System (AWACS), which provides "big picture" vision and understanding for battle management through its unique all-altitude surveillance and command, control and communications capability, is scheduled to enter the operational inventory in November 1976. The first six production aircraft were funded in FY 1975 and four more in FY 1976. A total of fifteen E-3As are needed to form an initial minimum force which was certified last February as being cost and mission effective for non-NATO U.S. requirements. It remains to be seen, however, whether 15 E-3As would provide a force sufficient either to support U.S. forces in Europe or a number of other requirements, such as small contingencies, protection of the North Atlantic sea lanes, and augmentation of NORAD in time of national crisis. Certainly, this force would be inadequate to fulfill simultaneously any lesser requirements and support U.S. forces in a major conflict in Europe.

Acquisition of more than 15 AWACS aircraft would permit us to meet some of our non-NATO requirements and support U.S. forces in Europe at the same time. These highly flexible aircraft, which will be operated

from a central pool, will be rotated to CONUS Regional Operational Control Centers for air defense training, and to a European operating base for peacetime training in the tactical air control mission. They will be available for rapid deployment with fighter/attack aircraft to Europe or any other area of the world to support contingency operations as the National Command Authorities shall direct.

To gain the assistance of our allies in procurement of this expensive system we have offered AWACS to NATO to meet their airborne early warning requirements. Our offer has generated enough interest to warrant initiation of a NATO Contract Definition effort with AWACS serving as the basis for the work. In accordance with the present schedule, we anticipate that our NATO allies could reach a decision on AWACS by June 1976. It is desirable to continue procurement of AWACS to meet minimal United States' requirements and to sustain the production line at a relatively low rate should NATO decide to purchase these aircraft. By procuring six E-3As in FY 1977, both of these objectives can be achieved.

In the absence of a firm NATO program, we should at least plan to meet the most essential U.S. requirements with U.S.-owned aircraft. In either event, we must be prepared to continue to produce AWACS aircraft. Therefore, we are requesting funds in FY 1977 for procurement of six more E-3As and spares to buy long lead time items for six AWACS in FY 1978, and to support continued RDT&E.

F-4G Wild Weasel and EF-111A

U.S. tactical aircraft currently configured primarily for defense suppression are the F-105G and F-4C Wild Weasel. However, these systems cannot cope with the intense air defense environment that we would expect to encounter in a European war. It is being proposed, therefore, to replace the two squadrons of F-105Gs and two squadrons of F-4Cs with four squadrons of F-4G aircraft equipped with the latest defense suppression systems. A total of 116 F-4Es would be modified to the Wild Weasel configuration (F-4G) over a three-year period. This conversion program will provide an effective defense suppression capability at less cost than would be required for procurement of new systems. The first squadron would become operational in FY 1978 and all four squadrons would be operational by 1980. In addition to the standard F-4 electronic countermeasures equipment (warning sensors, jamming pods, and chaff dispensers), the F-4G Wild Weasel aircraft will be equipped with direction-finding antennas, computer-controlled receivers, signal activity monitors and SAM-launch warning devices, and also be equipped to launch antiradiation missiles (i.e., Standard Arm, Shrike and Harm) as well as conventional ordnance and guided bombs. With this equipment, these aircraft will be able to accompany our strike aircraft into intensely defended areas and suppress enemy defenses by locating and attacking enemy SAM sites.

The program to modify 42 F-111A aircraft with electronics counter-measures equipment is continuing. If the two prototypes are successful technically and are judged as being cost-effective, we will outfit 40 more for an area jamming role in support of our strike and Wild Weasel aircraft. These 42 aircraft are presently assigned to a training role.

Aircraft Shelters

We have reduced the pace of the shelter construction program in Europe in recognition of Congressional concerns regarding NATO's cost sharing of the program. To date, 649 aircraft shelters have been built or funded to protect those U.S. aircraft stationed in Europe which are expected to be committed to NATO within three days after mobilization. We have programmed \$250 million over the next five years to prefinance additional shelters for in-place U.S. aircraft and those expected to arrive in Europe shortly after mobilization. The FY 1977 request of \$38 million would construct a portion of those shelters. This schedule is a reduction from the previous 3-year program and conforms to expected resource constraints. We hope to recoup a large part of these U.S. outlays as NATO agrees to make additional aircraft shelters eligible for infrastructure funding.

c. Naval Aviation Force Structure

The size of our naval tactical aviation force is primarily a function of the numbers and types of aircraft carriers in the fleet and the air support required by our Marine Corps ground forces.

The mix of these forces is being influenced by the growing capability of Soviet naval power and the advent of new tactical weapons delivery methods -- including surface-to-surface missiles (SSMs) and tactical nuclear weapons along with the steadily increasing range and endurance of land-based aviation, capable of standoff delivery of air-to-surface missiles (ASMs). These factors have brought about a renewed awareness of the importance of naval aviation in sea control. With resources limited for both aircraft and aircraft carriers, it is clear that the Navy must give primary emphasis to those systems which will yield the greatest offensive capabilities against Soviet forces while protecting maritime forces from submarine, surface, and air attack and while conducting amphibious operations. Sea control must be the Navy's paramount function because it is a prerequisite to power projection and to the logistic support of armies and land-based tactical air in a major Warsaw Pact/NATO conflict. It is for this reason that the Navy needs a long range, all weather antiship and air-to-surface attack capability and an air superiority and antimissile capability in aircraft aboard our carriers. The qualitative edge provided by aircraft is particularly important because of growing Soviet capabilities.

Despite growing Soviet naval capabilities, we are currently proposing to maintain 13 active air wings within the Navy to equip the planned level of 13 operational carriers in FY 1977. This may entail a certain risk; a larger number of carriers and air wings may be required to carry out current national strategy successfully.

The Navy plans its overall force around the concept of a multi-purpose Carrier Air Wing which is capable of handling a wide variety of tactical situations through a mix of aircraft types. Specifically, the nominal multi-purpose carrier air wing is constituted as follows:

TABLE IVC-10

- 2 Fighter Squadrons
- 2 Light Attack Squadrons
- 1 Medium Attack (all weather) Squadron
- 1 Antisubmarine Warfare Squadron
- 1 Helicopter Antisubmarine Squadron
- 1 Electronic Warfare Squadron
- 1 Airborne Early Warning Squadron
- 1 Reconnaissance Detachment
- 1 Airborne Tanker Detachment

This distribution of assets is used for planning purposes, although changes in the mix of assets are frequently in order as carriers are actually deployed for specific operations. Since the introduction of a new class of carrier would not occur before Forrestal replacement in 1985, we envision no near term change in the aircraft mix presently being procured for our multi-purpose carriers.

The current plan is to fulfill Navy and Marine fighter squadron requirements with a mix of the F-14, F-4, and F-18. The force at present is made up of F-8s, F-4s, and F-14s. Current plans call for 18 Navy F-14 squadrons in the early 1980s as F-8s and F-4s are phased out of the force. The remaining six active and four reserve Navy fighter squadrons will begin transition to the F-18 in FY 1982. Until F-18 production can fill the gap, the planned F-14 production rates and retirement of F-4 aircraft at the end of their extended service life will result in five fewer fighter squadrons than are required to fully equip our carrier and Marine air wings.

A mix of the more expensive F-14s and lower cost F-18s is proposed for the Navy fighter force in the mid to late 1980s. This mix will provide the required number of fighters within fiscal guidelines, and give the force sufficient capability to counter potential enemy threats into the 1980's.

The Navy active light-attack squadrons are currently equipped with A-7 aircraft. In the 1980s, however, this aircraft will reach the end of its useful life and will need a replacement. The Navy feels the engine/airframe of the F-18 with appropriate avionics changes would be an excellent replacement for the A-7. This proposal is particularly attractive because the attack version of the F-18 will still have most of the performance of the fighter version, and this multi-role capability would enhance the ability of the carrier air wing to adapt to the dynamic changes of combat. Furthermore, the research and development monies already spent on the fighter version of the aircraft would not have to be spent in developing a new attack aircraft. Having a common airframe and engine for both fighter and attack aircraft will greatly improve maintenance efficiency and reduce the amount of support equipment required aboard ship.

The A-6 will continue to fulfill the requirements for a carrier-based all-weather attack aircraft. The option to reinforce the Navy medium attack force with Marine A-6 assets in sea control scenarios will reduce the risks associated with the lower force level that we must program because of budget constraints.

While a good deal of attention is focused on major Navy force structure issues and acquisition programs, other initiatives on the part of the Navy should also be noted. The Navy is pursuing a low cost, highly effective dissimilar air combat maneuvering training program in CONUS and in the deployed fleets to increase the training and readiness of the fighter attack squadrons to perform in combat against numerically superior forces. To this end it is employing the A-4, the T-38 and the F-5 in formal adversary training programs. In addition, Navy initiatives have established an Air Combat Maneuvering Range which permits instantaneous readouts of pilot and aircraft performance in air combat, and allows aircrews to obtain the maximum possible degree of training for every flight hour expended in air combat training. One range is in place on the West Coast, while another is programmed for the East Coast for Atlantic Fleet training.

The Navy also plans to modernize its Reserve Carrier Air Wing with more up-to-date aircraft. Specific modernization plans for the two reserve attack wings are:

- Complete conversion of all F-8 squadrons to the F-4N in FY 1978;
- Transition of all attack squadrons to A-7s by FY 1978;
- Introduction of EA-6A electronic warfare aircraft in FY 1978;
- Conversion of airborne early warning squadrons from the E-1Bs to the E-2B during FY 1977.

Details of the different aircraft planned for Navy tactical air forces are shown in a classified table given to the Committee. Discussion of new equipment planned for procurement is given later in the Acquisition Section.

A major function of the Marine Corps' tactical air arm is to support Marine amphibious and ground operations. Consequently, the Marines have distributed their assets (30 active and 8 reserve squadrons) among three active Marine Aircraft Wings, and one Reserve Wing. Each of these air units is designed to support a Marine Division. In order to support these units under a variety of circumstances, the Marines plan a mix of tactical air resources capable of performing close air support, local air superiority and battlefield interdiction missions. The specific mix of squadron types in the Marine active and reserve forces are shown in Table IVC-11.

TABLE IVC-11

12 Active, 2 Reserve Fighter Squadrons
 8 Active, 5 Reserve Light Attack Squadrons
 5 Active Medium All-Weather Attack Squadrons
 3 Active, 1 Reserve Aerial Refueling Squadrons
 1 Active Reconnaissance Squadron
 1 Active Electronic Warfare Squadron
 Tactical Air Control Detachments (30 aircraft)

Active and reserve Marine units share the shortage of fighter aircraft expected in the early 1980s. The F-18 is scheduled to begin replacing aging F-4s in the Marine inventory as it becomes available beginning in FY 1982. Until this past year the Marines planned to convert four of their fighter squadrons to F-14s as opposed to F-18s. It was decided, however, to allocate all the F-14 assets to the Navy. This decision was based on our assessment of the threat, on cost and logistics considerations, and on the desire of the Marine Corps for a less complex force. The Marine light attack force will consist of five squadrons of A-4Ms and three squadrons of AV-8As through FY 1981. Starting in FY 1982, the Marines plan to replace all of their light attack aircraft with the AV-8B.

To ensure that reserve elements of the Marine tactical air structure remain effective combat assets, the Marine Corps has planned modernization of Marine reserve units as follows:

- Replacement of all aging F-8s with F-4s by the end of FY 1976;
- Modernization of reserve light attack units with A-4Es and A-4Fs during FY 1976;
- Retirement in FY 1976 of C-119 transport aircraft to be replaced with KC-130 aerial refueling aircraft.

d. Naval Aviation Acquisition Programs

It is well understood that the requirement for carrier operations strongly influences the cost and design characteristics of Navy aircraft. Naval aviation requires aircraft that can operate under more restrictive conditions than land-based aircraft. For example, naval aircraft are designed with greater structural strength and with special low speed landing characteristics to meet the demands of carrier operations. The limited availability at sea of aerial refueling support and drop-tank supplies make it desirable for naval aircraft to have greater internal fuel capacity. These considerations increase the size and weight of naval aircraft over comparable land-based counterparts, and usually make them larger and more costly. These considerations, together with our assessment of the threat and the status of U.S. technology, determine the nature of our acquisition programs. Shown in Table IVC-12 on the following page are the major naval tactical air force modernization and improvement programs.

F-18

To equip fully our 13 active and 2 reserve Navy carrier air wings and our three active and one reserve Marine air wings, a total active inventory of 2,477 aircraft would be required. At the end of FY 1977, we plan on an inventory of 2,471 aircraft. However, with the present procurement programs, we could drop to a lower inventory by FY 1981. Because of peacetime fiscal constraints, we are attempting to make up this potential shortfall by developing the F-18 as a lower cost complement to some of our more costly carrier aircraft, such as the F-14.

The F-18 is intended to replace the F-4 and to complement the F-14 in the Navy's fighter inventory. In addition, an attack variant of the F-18 will be considered for development as a replacement for the A-7 attack aircraft. The Navy's F-4 and A-7 aircraft will reach the end of their expected extended service life during the 1980s.

We started full-scale development of the F-18 in 1975 and current plans call for the first test flight in the summer of 1978, with a deployed, operational aircraft in 1982. It is anticipated that more than 800 fighter and attack aircraft will be programmed into the fleet in the 1980s.

F-14

The F-14's primary role in maritime air superiority is to destroy enemy missiles and airborne launch platforms at a considerable distance from friendly ships. Additionally, the F-14 has exceeded expectations for close-in combat and is one of the most capable fighters in the world.

TABLE IVC-12

Acquisition Costs of Major Navy Tactical Air Modernization
and Improvement Programs 1/

(Dollars in Millions)

	<u>FY 1975 Actual Funding</u>	<u>FY 1976 Planned Funding</u>	<u>Trans Period Planned Funding 2/</u>	<u>FY 1977 Prop'd Funding</u>	<u>FY 1978 Prop'd for Authorization</u>
<u>Navy and Marine Corps Systems</u>					
Development of the Navy F-18	20	110	23	347	651
Procurement of F-14 Multi- Mission Fighter Aircraft	735	621	138	708	728
Procurement and Modification of A-6 Attack Aircraft	9	33	19	80	112
Modification of A-6 Attack Aircraft	212	300	56	168	167
Procurement and Modifica- tion of A-7E Attack Aircraft (Recce Pods, TRAM)	133	178	30	237	271
Procurement and Modifica- tion of A-4M Aircraft	11	13	10	106	71
Development of V/STOL Attack Aircraft	13	22	6	41	60
Procurement of E-2C Fleet Early-Warning Aircraft	125	161	23	171	171
Procurement and Modification of EA-6B Electronic Counter- Measures Aircraft	131	116	14	170	157

1/ Includes cost of RDT&E, procurement of the system and initial spares, and directly related military construction.

2/ July 1 to September 30, 1976.

It has now been successfully deployed to the fleet, and in recent operational missile firing exercises the total F-14/Phoenix weapon system performed extremely well.

As a continuation of last year's program, we are holding F-14 procurement for our own forces to three per month during FY 1977. After the Iranian orders for 80 aircraft have been filled, the F-14 production rate will gradually decline, since U.S. forces will then be the only scheduled recipient. It is now planned to acquire a total of 403 aircraft through FY 1981. The 13 aircraft requested in FY 1981 are in addition to last year's program total of 390 and represent the attrition buy required to maintain 18 squadrons through FY 1981. A total of 270 F-14 aircraft have been procured for the Navy through FY 1976. The \$708 million requested for FY 1977 will provide for the procurement of 36 aircraft and for advance procurement for 33 aircraft in FY 1978.

Navy and Marine F-4 Modifications

The Navy is planning "Conversion in Lieu of Procurement" (CILOP) programs for its F-4 fleet to improve the capability of these aircraft as well as to extend their service life until they can be replaced by F-14s and F-18s. Specifically, the plan is to extend the service life of 300 F-4Js by about 96 months, and to add maneuvering slats to these aircraft so as to improve capability in close combat.

Modification of Marine RF-4B reconnaissance aircraft is planned to extend the service life of the aircraft and update selected avionics/sensor equipment, and thus provide the Marines with a viable reconnaissance capability through the early 1980s. Thirty aircraft will be modified, extending their service life by about 96 months.

A-6E

As stated last year, we have decided to terminate new A-6E production and limit the size of the force. However, we plan to continue conversions of older A-6 series aircraft to the more capable, more reliable A-6E configuration, and to install the TRAM (Target Recognition and Attack Multisensor) in all the old and new A-6Es. The TRAM will provide a night-time attack capability with precision-guided weapons. We are requesting \$168 million for continuation of these conversions.

A-7E

The A-7E program total has been revised upward to a total of 692 aircraft through FY 1981, from the previously planned 666 aircraft. The A-7Es will be procured at the rate of 30 a year, a procurement schedule which will provide enough A-7Es for the continued modernization of 24 operational light attack squadrons, as well as 49 reconnaissance

versions to fulfill fleet requirements beginning in FY 1978. We have funded 542 of these aircraft in prior years. The 30 A-7Es to be procured in FY 1977 will be equipped with provisions for the new forward looking infrared system (FLIR) to provide for a night, precision weapon attack capability. Changes to the 49 A-7Es to provide for reconnaissance sensor interface and control are minimal and will be accomplished through a retrofit program.

A-4M

The older A-4Es and A-4Fs in the Marine light attack inventory do have limited service life remaining, and are being used to modernize the reserves. The replacement A-4Ms are more combat-capable aircraft owing to their better speed and agility, and their Angle Rate Bombing System (ARBS) which improves ordnance delivery accuracy. To meet Marine light attack requirements, the plan is to procure 21 and 12 A-4Ms in FY 1977 and FY 1978 respectively. This procurement program will support the Marines' light attack force until a new aircraft enters service in the 1980s.

VSTOL Aircraft

The Navy has three VSTOL programs in advanced development. The lift-fan program, in concert with NASA, is in the definition stage and is funded at a low level. Progress in the thrust-augmented wing program should allow a first flight of this prototype VSTOL jet aircraft in late CY 1976. The ultimate goal of the program is an aircraft with supersonic VSTOL performance. Acquisition of such a VSTOL is not now programmed owing to the exploratory nature of our efforts. The AVX program, with the AV-8B as the primary candidate, is directed at providing a VSTOL light attack aircraft as a potential replacement for the Marines' A-4M/AV-8A force in the mid-1980s. The AV-8B development program aims at building upon the AV-8A program to produce a vectored-thrust attack aircraft superior to the A-4M and superior to the AV-8A in STOL and VSTOL performance. If the AV-8B is approved for development rather than a conventional light attack aircraft, first flight of the prototype YAV-8B could be in early FY 1978; if this schedule is met, the AV-8B could be in the operational inventory by FY 1984.

E-2C

The total planned procurement of the E-2C Hawkeye has been increased from 49 to 67 aircraft. This will be accomplished by procurement of six aircraft a year through 1980. The present total acquisition program, however, would provide only three UE aircraft per carrier. Recent experience has shown that this number per carrier is not sufficient to meet all the demands placed upon the E-2C in the sea control or power projection mode of operation from a carrier; four per carrier probably

will be required. The aircraft is currently on its second operational deployment and the fleet is reporting readiness, utilization, and direct maintenance manhours per flight hour that are greatly improved over the preceding E-2B model. The airborne early warning and control capability provided by the E-2C is essential to proper management of our Phoenix-equipped F-14s in defeating the distant but lethal threat posed by long-range bombers carrying extended range air-to-surface missiles and by cruise missiles carried aboard enemy surface combatants and submarines.

EA-6B

The funds requested for the EA-6B program through FY 1977 permit the continued procurement of this aircraft at the rate of six per year to complete equipment of the carrier wings with 36 UE aircraft. However, the Navy needs a total of 90 of these aircraft to provide for its carrier wings and a 15 UE aircraft squadron for the Marine Corps. The last six aircraft required to fill this total inventory objective are scheduled for procurement in FY 1980.

Harpoon and Condor/A-6 Interface

An all-weather, antishipping, attack capability by Navy tactical aircraft is required to succeed in the vital sea control mission. The incorporation of the Harpoon missile system in the A-6E will combine the sophisticated features of the A-6 and the 60-mile active-seeker Harpoon missile to satisfy this requirement. The planned A-6E Harpoon modification program will provide the A-6E with a capability to carry and launch Harpoon missiles while standing off outside enemy defenses. The missile will be married first to the A-6 platform when one prototype A-6 is modified during FY 1977 utilizing R&D funds. Additional A-6Es will be modified in FY 1978, FY 1979 and FY 1980.

The Harpoon is an all-weather missile for attack of targets at sea. Therefore, in order to provide the capability to destroy heavily-defended, high-priority targets which are located on land or at sea, at acceptable levels of aircraft/aircrew attrition, we intend to develop and procure terminally-guided stand-off conventional munitions. The Condor missile represents a uniquely capable, surgically-accurate weapon system whose operational advantages enhance aircraft survivability and provide a high degree of tactical flexibility.

There are presently some concerns about the reliability, vulnerability and the operational utility of Condor. Authorization for production is being withheld pending additional testing on existing pilot production missiles and a Navy plan to alleviate these concerns.

4. Mobility Forces

Mobility forces include the strategic and tactical airlift forces of the Military Airlift Command (MAC) and the Civil Reserve Air Fleet (CRAF); the sealift forces of the Military Sealift Command (MSC), the U.S. Flag Merchant Fleet, the National Defense Reserve Fleet (NDRF) and the Effective U.S. Control (EUSC) Fleet; and the large logistic helicopters used to move forces and materiel within a combat theater. These mobility forces are a vital element of the general purpose force structure. They enable us to move combat forces rapidly to overseas theaters, to maneuver and sustain these forces once deployed, to meet security commitments, and to protect overseas interests with fewer U.S. forces and lesser amounts of materiel positioned abroad.

The principal focus of general purpose force planning is on achieving and maintaining a conventional force balance in Europe. Mobility forces make a critical contribution to the NATO side of the balance. Even given reasonably optimistic assumptions, the current balance in Europe is not in NATO's favor. By mobilizing covertly, the Pact might gain a lead in building up its forces. Because these reinforcements would travel a shorter distance, the Pact could increase its front-line strength more rapidly than NATO. Thus the primary role of the mobility forces, and the basic rationale behind most of our mobility improvements, is to drive the margin of early Pact superiority in the NATO theater down to a level where Soviet/Pact planners would have no assurance of a quick victory. We also rely on mobility forces to provide a long-term sustaining capability for our deployed forces, thus hopefully depriving our principal adversary of any realistic hope of winning a long war as well.

In the past several years the Department has placed considerable emphasis on improving U.S. mobility forces, thus increasing their visibility in the Congressional and public dialogue over the Defense program. This has tended to create the mistaken impression that excessive resources are being poured into mobility programs. Such is not the case. In every mobility area we have sought to improve existing capability at relatively low cost before recommending new programs.

To maintain an adequate capability at a relatively modest cost, the FY 1977-81 program for mobility forces continues to focus on improving present lift capability and the transportation potential inherent in the U.S. civil sector. These efforts include examination of methods to accelerate unit movement from CONUS bases to ports of embarkation; cooperation with allies to increase their assistance in operating in-theater transportation terminals and lines of communication; integration of tactical airlift assets into plans for inter-theater lift during the early stages of a deployment; and planning with our allies, the Maritime Administration (MARAD), and the U.S. maritime

industry to increase the numbers of ships readily available for military use in a contingency. All of these efforts are designed to improve the efficiency of mobility operations at little or no cost to the Defense Department.

In our major programs, the emphasis continues to be on improving strategic airlift, since it makes the largest contribution in reducing the Pact's early edge in a NATO contingency. Accordingly, the Strategic Airlift Enhancement proposals have been modified to accord with Congressional guidance and are being presented again for consideration. These programs are not inexpensive, but the capability they add to existing military and Civil Reserve Air Fleet strategic lift is well worth their total cost.

a. Strategic Airlift

Military strategic airlift forces consist of four active squadrons of C-5As (70 unit equipment (UE) aircraft) and 13 active squadrons of C-141s (234 UE aircraft). In addition to these active units, there is an equal number of C-5A and C-141 Reserve Associate Units, which have no aircraft but do have a full complement of reserve personnel associated with the active units. When mobilized, these reserve associate units permit a rapid increase in the rate at which the active aircraft are used; in peacetime, they contribute on a part-time basis to the operation and maintenance of the active aircraft as part of their normal training.

U.S. commercial airlines have committed 243 long-range aircraft to the Civil Reserve Air Fleet (CRAF). Of these, 91 are passenger-only aircraft and 152 are cargo or passenger/cargo convertible aircraft. The CRAF would be available to assist in military airlift operations under conditions of mobilization or when otherwise activated. In less serious contingencies, CRAF aircraft are customarily made available on a voluntary basis to fill in for military assets which must be shifted to support activity in a crisis theater.

Because shipping could not begin to deliver large tonnages until several weeks after NATO mobilization, U.S. strategic airlift is essential in offsetting the Pact's early advantages of lead time and geography. Current proposals for increasing strategic airlift are contained in the Airlift Enhancement package, which is designed to maximize the lift potential inherent in the existing force.

The present military and civilian strategic airlift fleet is not optimized to deploy the military equipment of our land and tactical air units in a balanced manner. In a large-scale deployment to NATO of several divisions and aircraft squadrons, the C-5A force could deliver all of the very large ("outsized") equipment in less than half the time required for the remainder of the airlift force to deliver the somewhat smaller ("oversize") items which would comprise the major

share of the airlifted tonnage. Consequently, in a balanced deployment, the C-5As would end up carrying oversize cargo in order to minimize the time taken to complete the movement.

Analysis of the present strategic airlift force and cargo movement requirements of a NATO contingency indicates that the deployment rate in the first 30 days would be maximized if the C-5A force were completely dedicated to the task of carrying oversize cargo (which only the C-5A can carry) and oversize capability were added in the amount required to match the faster outsize rate, at the highest feasible utilization rate for all aircraft types. Beyond this, to achieve a still more rapid deployment rate would require increasing the present outsize cargo capability, and this would require acquisition of more aircraft the size of the C-5A.

The Airlift Enhancement program is the least costly way to maximize the rapid-reinforcement potential inherent in the strategic airlift force. If fully implemented, this program would increase the C-5A wartime utilization rate to the highest achievable level, and then balance the resulting C-5A outsize cargo capacity with an equivalent oversize deployment capacity by: (1) using some C-130 aircraft from the tactical airlift force, since these aircraft are capable of carrying small oversize payloads from the United States to Europe and the entire C-130 inventory would not be needed for in-theater lift during the early stages of a deployment; (2) increasing the C-141 force's oversize capability through a "stretch" modification, provision of aerial refueling, and raising the wartime utilization rate; and (3) modifying long-range, wide-bodied commercial passenger jet aircraft to an oversize cargo configuration. This last initiative, the CRAF modification program, adds more oversize cargo capability per dollar expended than any of the other proposals. In the aggregate, implementation of the entire Airlift Enhancement package will roughly double our strategic airlift cargo capability, and maximize its efficiency within the inherent constraint of C-5A outsize capability.

The Airlift Enhancement program is not based upon meeting a specific, well-defined set of requirements for early reinforcement of NATO. The amount of NATO combat power that will actually deter aggression, or successfully counter a Pact attack, obviously cannot be stated with precision. It is quite possible, however, that the Pact could field superior forces at the outset of a confrontation, and we know that strategic airlift is the only way that we can move substantial U.S. forces to the NATO theater within the first two weeks after mobilization.

If Defense were given larger resources we would probably try to reduce the risk in the NATO theater with further increases in the force level for strategic lift. However, within the tight fiscal constraints on our FY 1977-81 program, we are unable to undertake a major new program

to improve our lift. But we can make more efficient use of the existing force, and that is exactly what the Airlift Enhancement program is structured to do.

In general, the Airlift Enhancement and other modernization efforts in the area of strategic airlift have not changed drastically from last year. Modifications and near-year funding of these programs are outlined below.

Increased Wartime Utilization Rates

The additional peacetime cost for crews, maintenance personnel, and flying hours to achieve higher wartime utilization rates for the C-5A and C-141 force will be about \$81 million per year when the program is fully implemented in FY 1978. The additional operating costs would be \$60 million in FY 1977.

As shown on Table IVC-13, a total of about \$45 million is included in the FY 1977 budget for the acquisition of the additional war reserve spare parts needed to support the higher aircraft utilization rates desirable in wartime. These spares are an essential element of the program, but as a result of Congressional cuts in spares funding in FY 1976, coupled with our own "belt-tightening" in the preparation of the FY 1977 budget, the resulting C-5 and C-141 wartime utilization rates will be considerably short of the goals we have set.

C-141 "Stretch" Modification

We are continuing essentially the same "stretch" modification effort described for the C-141 force in last year's Report. FY 1978 funds allow for initial procurement of about 70 modification kits. Currently we plan to modify all 275 C-141s, with production starting in FY 1978, at a total cost of about \$700 million. We are doing everything possible to encourage competition among contractors for this program.

CRAF Modifications

As desired by Congress, we have reexamined U.S. airlift needs, and the utility of the CRAF in meeting these needs. We have found that the single most cost-effective way of providing the additional oversize cargo capability required to balance the oversize deployment capability of the C-5As is to modify about 100 wide-bodied, long-range passenger jets. Such a program would produce over half of the capability increase sought in the entire Airlift Enhancement program at less than one-third of the total cost. Buying and operating dedicated military assets with equivalent capability would cost at least ten times as much. Consequently, we are again proposing to modify, properly at Government expense, existing commercial wide-bodied passenger aircraft, and to include them in the CRAF program.

TABLE IVC-13

Acquisition Costs of Major Mobility Forces Modernization
and Improvement Programs 1/

(Dollars in Millions)

	<u>FY 1975 Actual Funding</u>	<u>FY 1976 Planned Funding</u>	<u>Trans Period Planned Funding 2/</u>	<u>FY 1977 Prop'd Funding</u>	<u>FY 1978 Prop'd for Authorization</u>
<u>Strategic Airlift</u>					
Procurement of Additional Replenishment Spares for C-5 and C-141 Aircraft	-	-	-	45	-
"Stretch" Modification to C-141 Aircraft to Increase Capacity	25	17	-	-	96
Modification of Civilian Wide-Bodied Passenger Air- craft to a Convertible (Cargo-Passenger) Configuration	-		-	29	96
Planning and Initial Engineering of C-5 Wing Modification	8	22	10	23	83
Development and Procurement of a new Advanced Tanker/ Cargo Aircraft (ATCA)	2	5	1	45	354
<u>Tactical/Logistical Helicopter Airlift</u>					
Prototype Development of Advanced Medium STOL Transport (AMST)	56	85	11	29	90
Acquisition of Navy Carrier-Onboard Delivery (COD) Aircraft	1	15	8	171	132
Engineering and Test of Army CH-47 Helicopter Modernization	3	10	2	26	26
Acquisition of Navy/ Marine Corps CH-53 Helicopter	47	10	21	116	121

1/ Includes costs of RDT&E, procurement of the system and initial spares, and directly related military construction.

2/ July 1 to September 30, 1976.

The Defense Department has relied for some time on the U.S. maritime industry to provide the bulk of our sealift force in a time of national emergency. In recognition of this fact, the Congress has authorized subsidies for the shipping industry to ensure the availability of merchant marine assets in emergencies. We believe that similar reliance can be placed on the civil sector for cargo airlift support in emergencies, now that large numbers of wide-bodied, long-range aircraft suitable for use in military unit deployments are available. Reliance on the civil sector for a large portion of U.S. emergency lift needs permits savings in procurement and, even more significant over the long term, savings in operating and maintenance costs.

The cost to the Government for the entire CRAF modifications program is estimated at about \$800 million. Most of this is for hardware changes, which would commence with a prototype effort in FY 1977; the remainder would cover compensation to participating airlines for economic disadvantages resulting from the modifications.

C-5A Wing Modification

In order to solve the wing fatigue problem in the C-5A aircraft, plans are continuing to replace the inner and center sections of the C-5A's wing structure. There is simply no known workable alternative to this program, given the key role of the C-5A in our strategic airlift effort. The current estimate is that the reworked wing will provide a virtually "new" aircraft which will be the workhorse of the strategic airlift force well into the next century.

The cost of modifying all of the C-5As to solve the wing fatigue problem will amount to about \$1 billion in budget year dollars. The FY 1977 funding request supports continued design and testing of the proposed modification. The plan is to initiate full-scale wing modifications in FY 1981.

Advanced Tanker Cargo Aircraft

Although it will have a cargo capability, the Advanced Tanker Cargo Aircraft (ATCA) is being proposed primarily as a tanker. Its main contributions to strategic airlift would be to expand the range/payload capability of cargo-carrying C-5As and C-141s and to support the inter-theater deployment of tactical aircraft. It would dramatically reduce our reliance on foreign bases for support of tactical or cargo aircraft being used in a force projection role.

The current ATCA program calls for air refueling design studies as well as selection of one of the candidate wide-bodied aircraft in FY 1977, followed by initial procurement in FY 1978. Ultimately we envision buying about 50 of these aircraft, enough to handle projected

aerial refueling missions for airlift and tactical aircraft. Assuming Congressional approval of the proposed CRAF modifications program, buying ATCAs to carry cargo would only be required if we were to decide that a major increase over our programmed "enhanced" airlift capability is required.

b. Sealift

Notwithstanding the current heavy emphasis on strategic airlift, an adequate and responsive sealift capability is critical to the deployment and support of U.S. forces. Sealift complements the early movement of military equipment by airlift and is the dominant mode of sustaining forces in any lengthy contingency. In a NATO-Warsaw Pact conflict, many of the deploying forces would have to move by sea, as would the bulk of the resupply and any POL for NATO forces not prepositioned in Europe.

The Department's Military Sealift Command (MSC) is scaled to meet peacetime movement requirements. We also plan for MSC to operate up to seven ships in a reduced operational status to provide for peacetime surge requirements. The current assets of the MSC are insufficient to support a major contingency, and would, at a minimum, necessitate heavy reliance on the U.S. merchant marine. In the event of a NATO conflict we would also have to augment U.S. sealift assets with shipping from the commercial fleets of NATO allies. Under the NATO Planning Board for Ocean Shipping (PBOS) NATO ships have been precommitted to the U.S. by our allies, commencing with the initiation of hostilities. This augmentation is expected to provide enough sealift to meet the demands of the NATO contingency, although the time phasing is not completely responsive to early movement requirements.

For minor contingencies not involving the declaration of a mobilization by the President or the Congress, the Military Sealift Command (MSC), under its Sealift Readiness Program, has obtained commitments from the commercial shipping lines to make 117 ships available in 60 days, with at least half of these to be ready for loading in the first 30 days. One of the key difficulties in this program is the risk that commercial operators would lose some portion of their business on the regular trade routes to other U.S. or foreign lines if they took their ships off those routes for any substantial period of time.

A revitalized National Defense Reserve Fleet (NDRF) would alleviate this risk. With the mothballed ships of the NDRF available, we would have to rely on the commercial shipping industry only until the NDRF ships could be broken out of their reserve status and placed back in service. This arrangement would reduce to a degree the harmful effect on the cocompetitive position of the commercial operators. Therefore, as part of the budget this year, a low-cost, joint DoD/MARAD program

is being proposed to increase the readiness of 30 NDRF ships so that they could be broken out on short notice to provide an immediate contingency sealift capability for situations short of mobilization. In addition, we are exploring contracting options for assuring earlier availability of ships from the Sealift Readiness Program.

It should be noted that the commercial fleet is essentially composed of modular (container) ships while the dry cargo ships in the NDRF are basically of break bulk configuration. Consequently, the replacement of modular ships by ships from the NDRF requires careful planning and may alter normal logistical support operations to some extent.

c. Tactical Airlift

The Air Force tactical airlift forces will remain as described last year with 15 active C-130 squadrons, 18 Air Force Reserve and 19 Air National Guard tactical airlift squadrons.

We are continuing with the consolidation of tactical airlift forces under the Air Force which was begun last year. We have transferred all Air Force tactical airlift forces from the Tactical Air Command to the Military Airlift Command (MAC) and are developing detailed plans for MAC to assume worldwide responsibility for the tactical airlift requirements of all Services by FY 1978. The Navy and Marine Corps will retain some of their more modern Fleet Tactical Support airlift aircraft, and they will operate these aircraft only in a base and command support role. The Navy will continue to operate four squadrons of Carrier Onboard Delivery (COD) aircraft, and both the Navy and Marine Corps will continue to operate their present tanker aircraft.

AMST

We are continuing the Advanced Medium STOL Transport (AMST) prototype program. The objectives of this program are: to demonstrate new STOL technology, to obtain cost and operational data associated with STOL performance, and to provide an option to modernize the C-130 tactical airlift force.

Although we are primarily interested in the AMST as an intra-theater lift aircraft, both of the prototype designs have an outsize cargo capability. Consequently, if we ultimately decide to proceed with either of these new STOL designs, rather than with a modernized version of the C-130, our capability for augmentation of the strategic airlift force will also be expanded slightly in the critical outsize category.

Because of differing technical approaches to powered lift, the construction and testing schedules of the two prototype contractors are not in phase. McDonnell Douglas has completed fabrication and

flown both its prototypes. Initial testing is scheduled to be completed in August 1976. The Boeing prototype is scheduled for its first flight in August 1976, and testing will be completed in July 1977.

The FY 1977 request includes funds to complete the prototype phase and begin on R&D transition period during which studies and analyses will be conducted to assist in the choice of the optimum path for subsequent development. This would permit us to proceed without interrupting the program and without disbanding engineering design teams. However, no engineering development recommendation will be made until competitive flight tests have been made and the Defense Department has confirmed the cost-effectiveness of the AMST models relative to other alternatives for modernizing the tactical airlift force. The Air Force is currently exploring innovative ways of decreasing the projected development cost of the AMST.

Carrier Onboard Delivery (COD)

We have been evaluating successor aircraft for the Carrier Onboard Delivery mission for some time. Based on this evaluation, we have decided that a derivative of the S-3A ASW aircraft -- the US-3 (the basic S-3A less its ASW equipment) -- provides the best buy, given budgetary constraints and operational requirements.

The FY 1977 funding request provides for limited further testing and procurement of the first 12 US-3s. In FY 1978 and FY 1979 we plan to buy 18 more to provide a total US-3 COD force of 30 aircraft.

d. Helicopter Air Logistic Forces

In addition to strategic and tactical airlift forces, the Defense Department maintains medium and heavy lift helicopter forces for air movement of troops, equipment and supplies within a combat theater. These forces include the Army's CH-47 and CH-54, and the Navy/Marine Corps' CH-53 helicopters.

CH-47 Modernization

As stated last year, we plan to modernize the Army's CH-47 helicopters. The present CH-47 fleet of A, B and C models will be upgraded to a standard configuration which allows us to obtain the maximum benefit from prior investments by extending the useful life of present air frames. The refurbished CH-47s will be almost the equivalent of new production aircraft, and will postpone development and procurement of a CH-47 replacement by fifteen to twenty years. Currently we plan to modernize about 360 CH-47s. FY 1977 funds will support continued development and prototype testing of the desired modifications.

CH-53E

To provide the Navy and Marine Corps with a shipboard-compatible heavy lift helicopter, we plan to acquire the CH-53E. The increased lift capability provided by the CH-53E will permit the Navy and Marine Corps to move essential combat and support equipment which is beyond the capacity of the CH-53A/Ds which are now in inventory.

Engineering development of the CH-53E has begun and should be completed in November 1976; the initial production decision is scheduled to be made in February 1977. Our FY 1977 request provides for the procurement of the first ten CH-53Es in a total buy of approximately 70 helicopters.

V. OTHER MISSIONS

A. INTELLIGENCE

President Ford acknowledged the importance he places upon the need for quality intelligence support to the policy-maker by nominating a second Deputy Secretary of Defense to supervise the Department's operations. This step was taken because the President is determined to assure that the United States has an intelligence capability that is effective and efficient and which he is confident is functioning within the law.

I have assigned the second Deputy Secretary of Defense responsibility for reviewing and making appropriate recommendations concerning:

- the utility of the Department's intelligence product to potential users;
- the protection of the Department's intelligence sources and methods;
- the efficiency of the Department's intelligence activities in terms of the value returned for dollars expended, with attention to any unnecessary duplication and to possible improvement in management arrangements; and
- the adequacy of existing management controls with respect to the Department's intelligence activities, including responsiveness to senior management and compliance with the law, Executive Branch regulations and policy guidance. In addition, he will represent the Department, as appropriate, on various intergovernmental groups and committees concerned with this subject matter.

1. The Defense Intelligence Role

In view of Congressional and public interest in the U.S. intelligence community, and because the Defense intelligence organizations are integral components of that community, a detailed discussion of the role played by Defense intelligence should be helpful.

The scope of the Defense intelligence role is broad. Not only must it serve multiple levels of intelligence consumers; it must also satisfy a wide variety of needs for each of those consumers. In general terms, these consumers can be grouped into four categories: national security policy-makers, weapons developers, defense planners, and the commanders of strategic and tactical combat forces.

The commanders of U.S. strategic and tactical combat forces require accurate and prompt intelligence specific to their scope of activity.

Since their function is to provide, as necessary, the prompt and efficient application of force, their requirements emphasize detailed, up-to-the-minute intelligence on actual and potential enemy activity. With this information, field commanders are able to plan realistically prior to an actual outbreak of hostilities, and to respond effectively to enemy activities during actual combat.

The intelligence requirements of U.S. defense planners -- encompassing the OJCS Joint Staff, senior Service officials, Director of Defense Research and Engineering and the Assistant Secretaries of Defense -- are broader in scope. Their needs are generated by a variety of responsibilities, ranging from the longer-term planning necessary for research and engineering proposals, to near and far-term planning for the mutual defense forces of our allies. They must know the relative capabilities, the pertinent daily activities, and, insofar as possible, the short- and long-range objectives of both hostile and allied nations.

Defense weapons developers require a great deal of precise information about the technical and operational performance and capabilities of foreign weapons systems. This is necessary to ensure that the weapons we design and procure will provide efficient and effective deterrence against potential threats.

The Defense intelligence requirements of U.S. national security decision-makers are especially complex. The need for timely, accurate intelligence is intrinsic in the day-to-day oversight of U.S. security interests, and it is of critical importance to the NSC and the President for effective crisis management. Not only must they have immediate knowledge and details of a specific crisis underway, they must also be made aware of the earliest warning signs of a potential crisis. This intelligence, therefore, must be comprehensive and its significance carefully analyzed for presentation to the decision-makers. We must rapidly gather, transmit, digest and present intelligence ranging from indications of shifts in foreign political attitudes to overt actions at all levels by a foreign nation.

National security decision-makers must also focus on such issues as strategic arms limitations, peace in the Middle East, and mutual and balanced force reductions in Europe. Each of these issues generates its own peculiar intelligence requirements. To protect our national security interests successfully, the decision-maker must have pertinent intelligence which not only accurately portrays and evaluates data concerning opposing forces, but is capable of detecting the hidden intentions of a negotiating partner, and can support activities such as SALT verification requirements.

2. Intelligence Collection

To support the varied requirements of these consumers, there are four basic information collection categories for intelligence: human resources, signals intercept, imagery, and open sources.

Human intelligence (HUMINT) collection is conducted on several levels, from open observation by a Defense Attache, to clandestine espionage, done with maximum security and concealment. Most HUMINT is in the overt category, and provides at very modest cost a valuable means of tracking foreign military developments and improvements in foreign technology.

Signals intelligence (SIGINT) collection exploits the technological advances which have been made in the electronics field. Sophisticated electronic equipments are an integral part of the strength of modern armed forces and societies. The communications and electronic emissions of specific nations can be monitored and information valuable to national policy-makers and essential to our military commanders can be gathered and assessed. Military commanders depend on SIGINT to provide them with time-sensitive warnings and information on the disposition, capabilities and intended activities of potentially hostile forces. SIGINT also has a direct impact on the U.S. force development and training process, particularly in the area of electronic warfare. Here, SIGINT can help our Defense planners to develop special training and tactics, and to design effective means of overcoming enemy electronic countermeasures.

As a source of information, imagery intelligence is usually highly reliable. Through imagery -- essentially photography -- valuable data across the entire intelligence spectrum can be gathered. For tactical purposes, imagery intelligence can range from providing order of battle and targeting information, to helping assess bomb damage during combat. Improvements are currently underway and the utility of imagery in combat situations will become increasingly significant.

Obtaining intelligence information from open sources -- TV, radio, newspapers and other publications -- is less esoteric than other methods, but it can provide a significant amount of useful information. Such collection, however, is time consuming and requires not only a great deal of patience and perseverance but also a high degree of competence in analyzing and putting together individual pieces of information.

3. Protection of Sources and Methods

Much has been said in recent months concerning the secrecy necessary in our intelligence operations, particularly regarding efforts to protect our intelligence sources and methods. The importance of protecting these sources cannot be emphasized too strongly. The loss of important information that would be experienced if U.S. sources were exposed is, of course, a serious concern to both the intelligence community and the intelligence consumers. Equally serious, however, and far less recognized, is the significant impact the loss of this information would have on the Defense budget. By basing defense planning on a reliable

assessment of the threat, we are able to ensure the sufficiency of our own forces at minimum costs. If we know where the enemy is putting his emphasis, we can make the most effective use of our limited Defense dollars. The less we know about the other side, the more we must spend to hedge against uncertainties.

4. The Defense Intelligence Organization

The Defense intelligence organization consists of three separate and distinct structures -- one for determining intelligence requirements, one for the operational mechanism, and one for program management -- which support the entire intelligence network. This separation of organizational structures has evolved as the result of our efforts to satisfy the various intelligence needs addressed earlier.

In determining requirements, Defense intelligence is structured to respond both to the national requirements established by the Director of Central Intelligence (DCI), with the advice of the United States Intelligence Board (USIB) and to the requirements of defense planners, weapons developers, and military commanders. A diagram of the operational structure is shown on the following page.

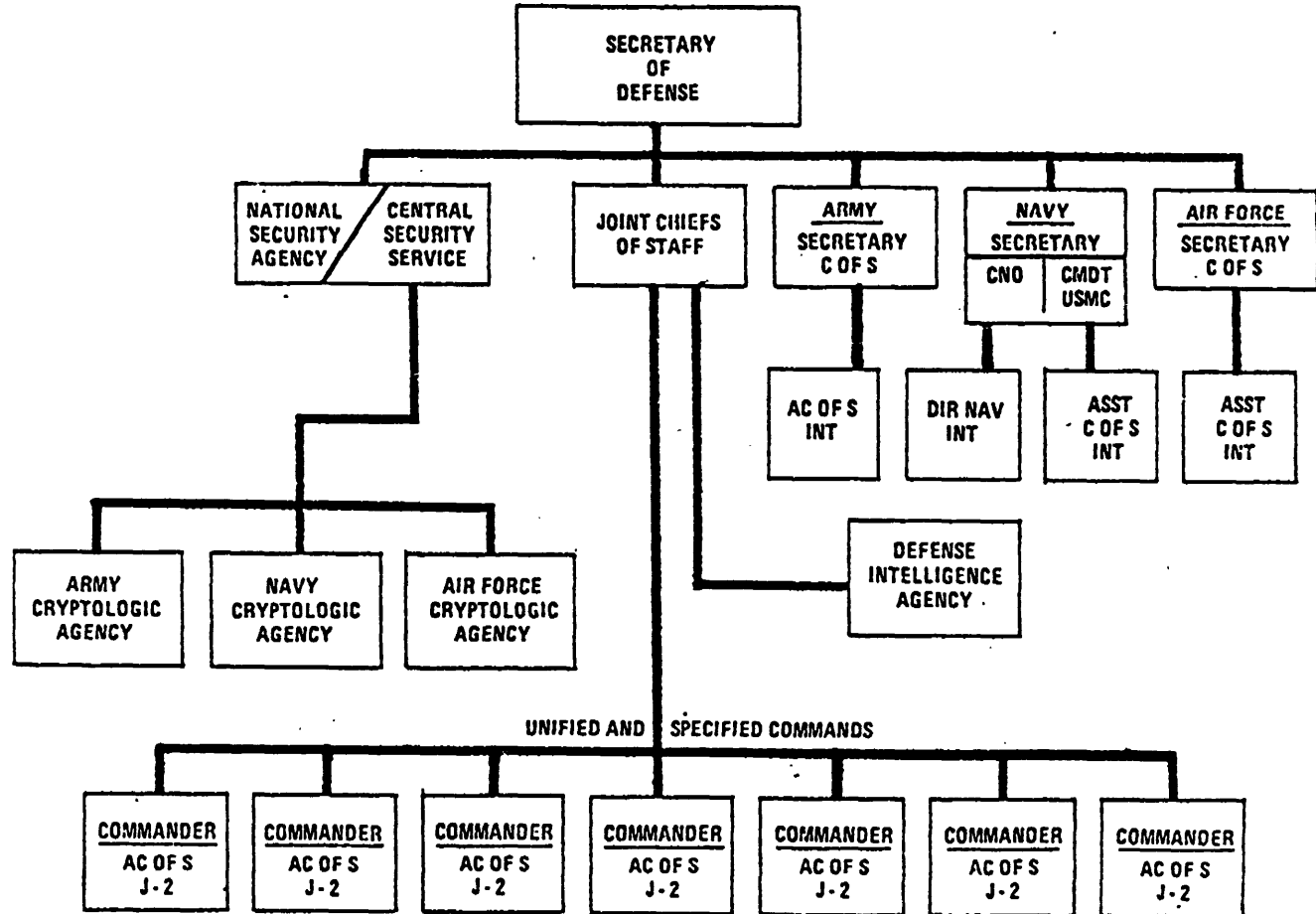
Defense intelligence program management, as well as all other intelligence activities of the Department, is carried out in close coordination with the national intelligence community. The Director of Central Intelligence is responsible for the overall coordination of this community, and has been provided an Intelligence Community Staff (ICS) to formulate and integrate the programs that will satisfy our necessarily diverse national intelligence requirements.

Within the Department of Defense, an Assistant Secretary for Intelligence has been serving as principal staff adviser for the management and allocation of Defense intelligence and monitoring intelligence-related resources. His office was established to ensure that the Defense Department's intelligence programs are both efficient in the use of resources and effective in responding to national and defense needs for intelligence support. Its responsibilities also extend to review of resources for our "intelligence-related" activities, which fall under the rubric of tactical intelligence, and to ensuring the efficient use of these resources as complemented by the intelligence community's national level programs.

The national-level intelligence programs of the Department of Defense have been guided and reviewed by the ASD(I) and are referred to collectively as the Consolidated Defense Intelligence Program (CDIP). This program, which is the Intelligence portion of Defense's major Program III (Intelligence and Security), does not include "intelligence-related" activities which

CHART VA-1

OPERATIONAL STRUCTURE OF DOD INTELLIGENCE



belong in the combat force and other major programs which they are designed to support. However, the ASD(I) has provided both management guidance and review in these areas. Chart VA-2 on the following page depicts the resource allocation structure as it has been organized.

5. The CDIP

The CDIP includes a number of major program areas which include the Consolidated Cryptologic Program (CCP) and the General Defense Intelligence Program (GDIP). The management of Signals Intelligence resources and activities in the CCP is carried out by the Director of NSA who acts as the program manager. In this role, he determines the resources required by NSA and the Service Cryptologic Agencies (SCAs) which collect signals intelligence in the field.

The General Defense Intelligence Program, which is made up of the Defense Intelligence Agency (DIA), Service intelligence organizations, and some of the intelligence activities of the Unified and Specified Commands, has been monitored by the ASD(I). The GDIP is the primary program for the management of requirements and coordination of collection activities, the analysis of collected intelligence data and its conversion into meaningful intelligence products and services for Department of Defense consumers. It is concerned with current intelligence, intelligence estimates, long-range studies, and the analysis of foreign scientific and technical progress. Included here are the Defense Attache System and special elements from each of the three Services that engage in collection of human intelligence.

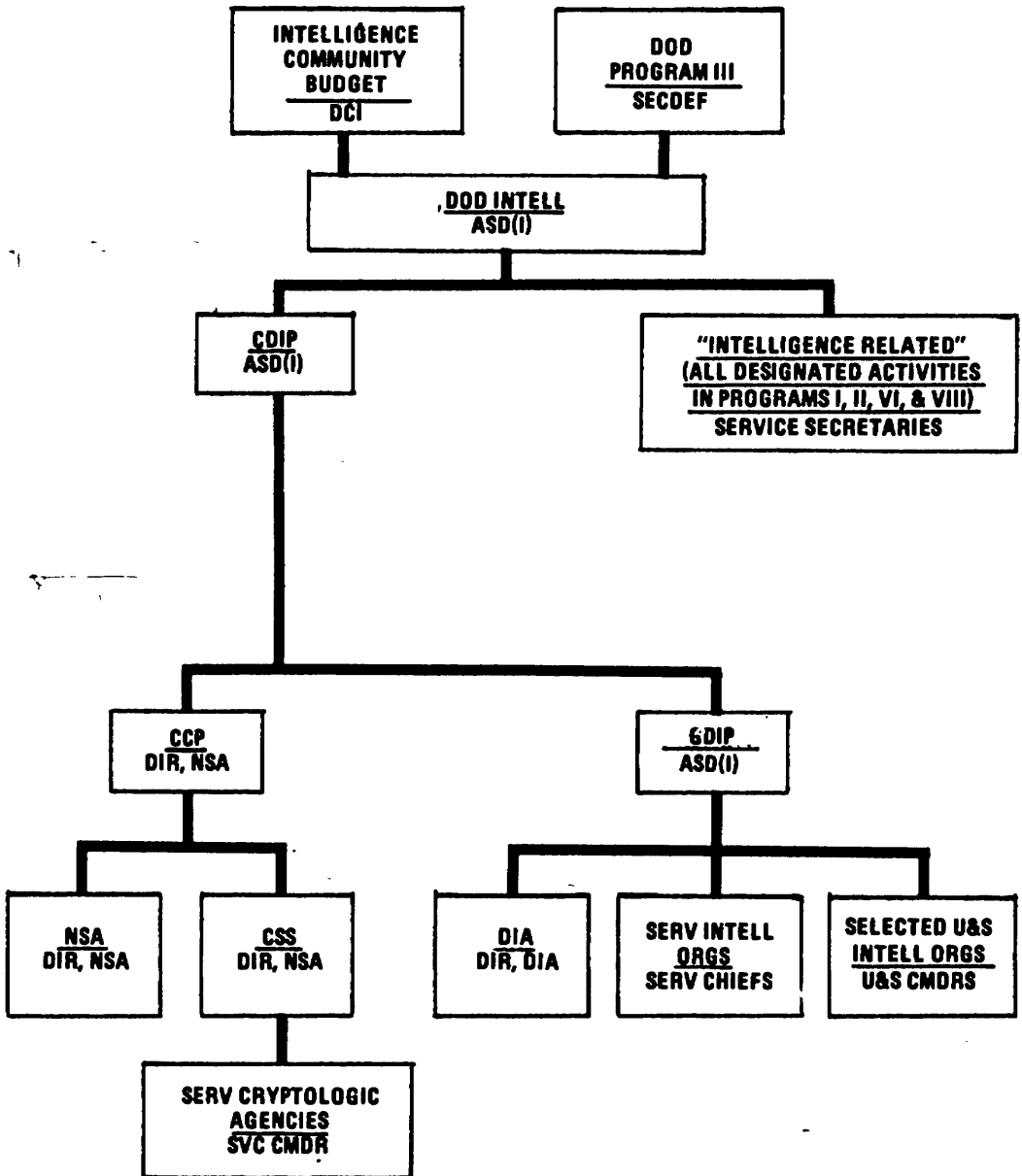
The Service intelligence organizations, in addition to providing intelligence for the coordinated DIA intelligence product, are responsible for ensuring the collection and reporting of intelligence that concerns their individual military missions.

While ASD(I) has advised on overall intelligence and intelligence-related management and resource allocation, it does not produce intelligence. The Defense Intelligence Agency (DIA) is responsible to the JCS and the Secretary for integrating and producing coordinated Defense intelligence. This distinction between the roles of these two organizations is important to the understanding of how the business of Defense intelligence is conducted.

6. "Intelligence-related" Activities

There are activities in the Strategic Forces, General Purpose Forces, Training and Research and Development programs which we now designate as "intelligence-related" activities since they are designed to provide intelligence support to military forces. As mentioned earlier, we plan to

CHART VA-2

RESOURCE ALLOCATION STRUCTURE

manage these activities in an intelligence frame-work as well as in their basic force structure program. The Deputy Secretary responsible for intelligence will maintain overall cognizance over these activities and review their development and resource allocation. However, R&D for these activities will remain under the cognizance of the DDR&E, who will work in close coordination with the ASD(I) to develop and maintain a balanced effort in this area.

There are seven functional categories and specific activities which are now labeled "intelligence-related" and others are being considered for inclusion as well. The seven categories are:

- (1) Tactical Warning - Those operational assets, such as the Ballistic Missile Early Warning System (BMEWS) radars and the Early Warning satellites, intended to provide tactical warning (30 minutes or less) of strategic nuclear attack on the U.S. by bombers and land-based or submarine-launched missiles.
- (2) Airborne Reconnaissance - Those military aircraft employed to search, detect, locate, categorize and/or target hostile or potentially hostile elements. Included here are the Air Force RF-4C and SR-71, Navy EP-3 and RA-5C, and the Army OV-10.
- (3) Ocean Surveillance - Those activities responsive to operational commanders and designed to collect and report information on military movements on, over, and under the ocean. A major example is the Navy's Sound Surveillance Under Sea System (SOSUS).
- (4) Data Relay Satellite - A system currently under development which relays strategic command and control communications and other important and perishable data.
- (5) Headquarters/Other - Intelligence and intelligence-related facilities and staff personnel serving, and organizationally contained in, the Unified and Specified Commands and Service Component Commands. Their function is to provide intelligence support specifically to fulfill the requirements of the Commands to which they are assigned.
- (6) SIGINT Direct Support - SIGINT units subordinate to tactical combat commanders. These units are designed to support combat forces in wartime, and are organized and equipped according to the size, composition, missions, and operational doctrine of the forces they support.
- (7) Intelligence Training - Operation of those facilities with a primary mission of intelligence training and education in support of Defense intelligence requirements. These facilities qualify military and civilian personnel for occupational specialties in intelligence and enhance the intelligence career fields.

The activities in each of these categories satisfy specific requirements which tie them more explicitly to combat force readiness and weapons systems than to a consolidated intelligence function. Their proximity and responsiveness to the force structure they support, particularly in wartime, are more of a consideration in determining their location in our program structure than is their relationship to peacetime intelligence activities.

7. Intelligence Programs

Surprise Attack

Recent developments have added new dimensions to the problem of providing timely warning of surprise attack. The previous focus had been primarily on warning of surprise nuclear attack. We had reason to believe that any major attacks on NATO would be by reinforced Warsaw Pact forces and that both the preparations for reinforcement and the actual reinforcement would provide indications sufficiently early to prevent tactical surprise. However, analysis of Warsaw Pact exercises and other intelligence information acquired since the late 1960's indicates a changing threat to NATO forces, particularly in the European Central Region.

A number of trends over the past several years have emphasized a need to consider seriously the threat of a minimum-warning attack against NATO. Central to this threat is a growing Soviet emphasis in doctrine, procurement, and training exercises on the development of a capability to attack without a prior major reinforcement. Given that our current systems are focused on indications of reinforcement and increased readiness, this could result in a significant decrease in the warning of an impending attack.

In addition, the NATO concept of flexible response and control of escalation requires even more detailed and timely intelligence support to decision-makers than would a policy of massive retaliation. If our growing capability to collect information can be focused and the results processed and correlated in time, it can give the military or political decision-maker more opportunities to defuse and control a developing crisis.

A significant part of our effort to respond to this changing threat to NATO and the increased information flow is the upgrading of the National Military Intelligence Center (NMIC). Improvements include collocation with the National Military Command Center, installation of improved communications and automatic data processing equipment, and acquisition of necessary software to utilize better the capabilities of near real-time intelligence collection systems. These improvements should increase the probability of acquiring and recognizing the indications of potential military actions as well as providing more effective support for crisis management.

Support to Operational Commanders

Operational commanders require direct intelligence support to carry out their mission effectively. In the past, both tactical and national intelligence systems have been deficient in making optimum use of the resources in each other's systems. We are therefore instituting specific provisions which will afford operational commanders a greater utilization of our national intelligence systems in emergency and combat situations and ensure maximum support to national level decision-makers from tactical intelligence-related systems. One ongoing project to use tactical resources to aid national decision-makers is the Ocean Surveillance Information System (OSIS). Currently, this system specifically supports fleet commanders-in-chief and numbered fleet commanders with processed, all-source ocean surveillance information on a worldwide basis.

Intelligence Support

Military intelligence in support of defense and national planning traditionally focused on analyzing the balance of military power between ourselves, the Soviet Union, and the People's Republic of China. Emphasis on these balances will continue. We are, however, seeking to broaden our capabilities.

We continue to face increasing military threats from abroad. But in forming an accurate estimate of our rivals, we must also take into consideration the differing problems of morale, leadership, internal politics, and financial structure that they confront. Initiatives to improve our analysis of other countries are also underway and new methods of measuring the impact on behavior of such factors as foreign training and technology transfers are being sought.

As foreign military forces employ more highly developed technology, develop new doctrines, and change their deployments, we must ensure that all of our staffs and planners are working from the same set of information. Machine-aided translation and processing of raw data are minimum essential requirements.

Resource Considerations

Both fiscal and manpower constraints make it imperative for intelligence program planners to achieve the greatest possible economy of operation. We have already effected significant manpower reductions, and further reductions seem unavoidable. Cutbacks are being concentrated in management and overhead personnel, while manpower required for new tasks elsewhere in the intelligence structure is being obtained through reallocation from these areas. Since 1971, intelligence manpower has been reduced on the order of 30 percent.

Even with these severe reductions, we are striving to counter further increases in manpower costs by increasing our rate of investment in advanced technology. The production of intelligence is a complex function requiring the processing, assimilation, and fusion of myriads of pieces of information from scores of sources. To assist in this process, intelligence producers use automated tools whenever possible. The Intelligence Data Handling System (IDHS) is the umbrella under which all expenditures for these vital services are maintained. This increased investment will provide a better assessment and analysis of intelligence data for decision makers, and show savings in manpower and equipment costs as old equipment is phased out and consolidated, and manpower-intensive operations are automated.

Last year the Appropriations Committees held hearings on the national intelligence budget. I regret the reductions that were made. These reductions occurred at a time when intelligence is exceedingly important to our national security.

Professionalism

We recognize that professional analysis continues to be essential to the effectiveness of our intelligence operations. To ensure this quality, we are concentrating on improving the caliber of personnel and reforming evaluation procedures to make sure the experts are heard clearly and unambiguously by those who rely on their intelligence judgments.

Improved recruiting, training, executive development, and "track record" measurement should strengthen our personnel base. In addition, we have expanded efforts to vary assignments and to provide sabbaticals in the intelligence community. In addition, specific measures are being proposed to improve the overall efficiency and productivity of intelligence personnel. One of these is a request for Congressional legislation which would permit the "selecting out" of individuals who fail to meet high standards. Another proposal under consideration would include the professional intelligence discipline as an exception to supergrade quota authorization under 5108 (C) (5), U.S.C.. These measures would enable the community to maintain a staff whose professional qualifications keep pace with the changing technology employed in intelligence collection, processing and production.

We believe that evaluation of intelligence will improve as we ensure direct access by analysts to senior intelligence officials and to policy planning staffs, and as we allow internal intelligence community dissent to rise to the policy-making level. While intelligence must remain objective, its personnel need not remain isolated.

Enhanced professionalism will also result in increased stature for the intelligence community. Efforts are being undertaken to ensure the provision of pertinent intelligence information to interested members of Congress, and a corresponding effort is being made to restrain the over-classification of data.

B. COMMAND, CONTROL AND COMMUNICATIONS (C³)

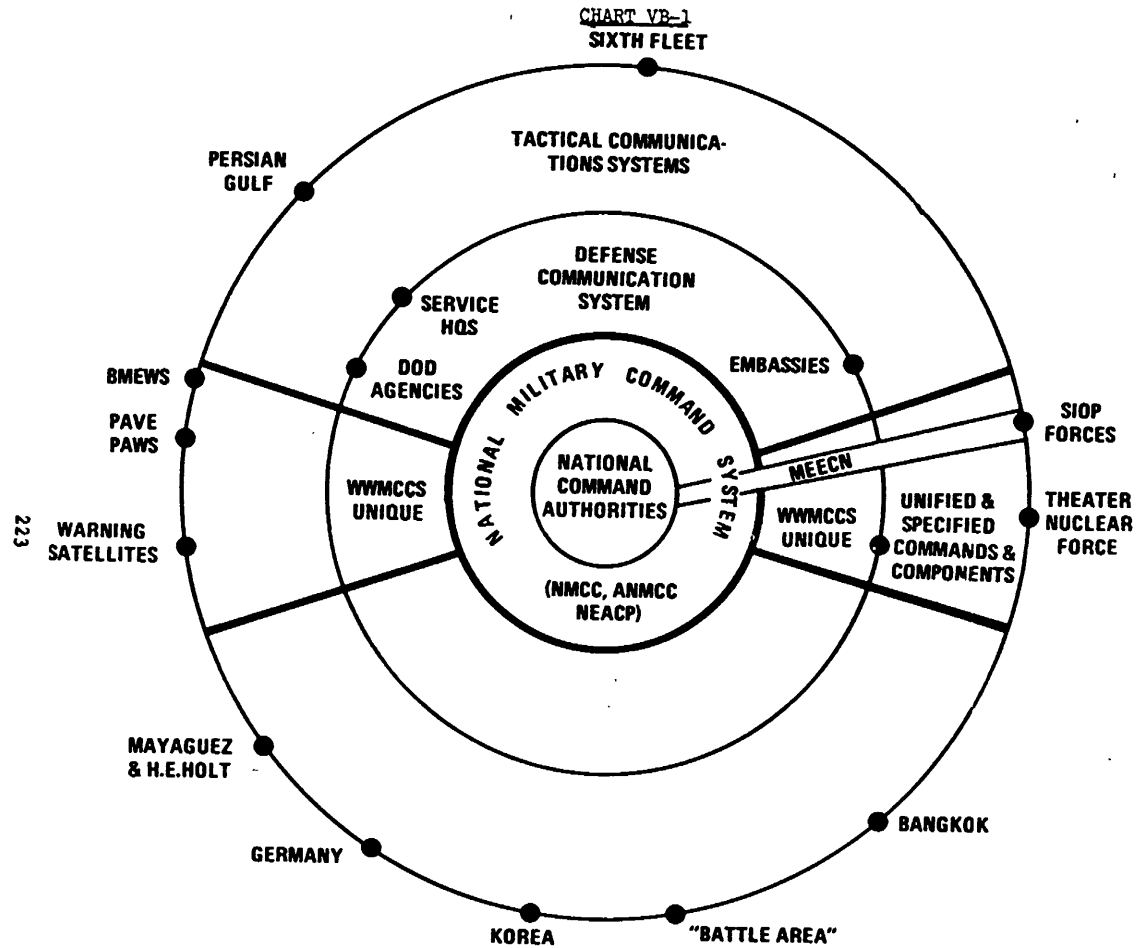
1. The Need

Telecommunications provide an effective worldwide military command, control, and communications (C³) system for the President, as Commander-in-Chief. The telecommunications system must permit the secure and timely flow of information and directives to points both inside and outside the Department of Defense. It must support not only the day-to-day management of our armed forces, but also be capable of controlling U.S. forces in crisis situations and conventional or nuclear conflicts. These capabilities are particularly important now. It should allow for consultations with NATO and other allies, contact with the leadership of potential adversaries, positive control of all theater nuclear elements deployed with allied units and, most important, control of our strategic forces. Even when the system is under stress or attack, it still must ensure the ability of the National Command Authorities to order appropriate responses by U.S. forces.

The complex requirements that we must impose on our C³ system are complicated further by the possibility of worldwide use of our forces as well as by the global nature of potential sources of vital intelligence information. To meet these needs, we are requesting \$3.7 billion for the FY 1977 Telecommunications and Command and Control program. This is an increase over the \$3.3 billion approved for FY 1976, and is necessary if we are to address shortcomings and sustain our initiatives for the future.

2. The Systems

A simplified overview of our C³ structure is portrayed in the diagram on the next page. At the center are the National Command Authorities (NCA) -- the President and the Secretary of Defense. The NCA exercise command and control over deployed forces through the Joint Chiefs of Staff. The JCS are supported directly by the National Military Command System (NMCS), which consists of the National Military Command Center (NMCC), the Alternate National Military Command Center (ANMCC) and the National Emergency Airborne Command Post (NEACP), along with their interconnecting telecommunications and Automated Data Processing (ADP) support. These facilities provide the personnel and equipment which can receive, evaluate and display information as well as execute national decisions for direction and control of the forces. Alerting procedures and the redundancy of the facilities, coupled with the NEACP's airborne capability, provide for an important degree of survivability if the system should come under attack.



WORLDWIDE MILITARY COMMAND AND CONTROL NETWORK

The second diagrammatic ring around the NCA represents the Defense Communications System (DCS). The DCS is the "in-place" worldwide system which serves as the foundation for wartime communications while concurrently satisfying peacetime communications needs. It provides for common-user communications requirements and extends high volume command and control capability throughout the United States, Europe and the Pacific. Included are subsystems for voice communications by the Automatic Voice Network (AUTOVON), secure voice communications by the Automatic Secure Voice Network (AUTOSEVOCOM), and secure message and data transmission by the Automatic Digital Network (AUTODIN). For the most part, these systems are fixed equipment and facilities and interconnect the primary and alternate fixed or mobile command posts of key decision-makers. These systems will begin to employ, in the 1980s, equipment developed under the Joint Tactical Communications (TRI-TAC) Program. Overseas, the system is mostly government-owned; in the U.S., it is leased from commercial carriers. It serves the entire Defense community with over 1,500 AUTODIN terminals and 17,000 direct AUTOVON subscribers. The systems which comprise the DCS have a preempt capability so that, essential command and control messages can be accorded precedence over routine traffic.

The last ring in the diagram represents primarily the mobile and transportable facilities and tactical networks organic to the military field forces. The communications networks of the operating forces are the means by which our highly mobile forces are maneuvered by their commanders. We are seeking to ensure the capability to link our various tactical systems, making them interoperable, through the DCS to the NMCS to allow the National Command Authorities to communicate with unified commanders in crisis spots and then to the on-scene commanders represented on the outer ring. Also included here are the post, camp, station and base fixed, internal communications systems.

The pie-shaped segments in the diagram consist of the Worldwide Military Command and Control System (WWMCCS), encompass the systems of the Unified and Specified commands, and include systems for special control of our nuclear forces. This segment of our communications has survivability characteristics which are too expensive for incorporation in all systems but which are necessary for execution of essential functions in the event of stress, degradation, or deliberate attack. Some of the survivability characteristics are physical hardening, mobility, redundancy, antijam protection and electromagnetic pulse protection. That portion of WWMCCS designated the Minimum Essential Emergency Communications Network (MEECN) encompasses the maximum survivability and reliability features needed for essential network performance in a stressed environment. The MEECN is dedicated to providing the highest possible assurance of command and control of our strategic forces during and after any nuclear attack on the United States, which includes an attack on our communications systems.

3. The Problems

Current systems have a number of problems which have arisen because of the piecemeal acquisition process and the more strenuous demands we are now making on our C³ systems.

Each of the major communications systems employs a variety of transmission means which have evolved as a response to operational needs, advancing technology, and the threat environment. Voice and record communication via radio, cable, and satellites can be found at all levels of the systems portrayed in the circular diagram. A continuing effort is being made to provide the most efficient and effective mix of these means of transmission and to phase down those which are least effective.

It is known that our potential enemies have the capability to exploit any non-secure communications transmission. Effective employment of forces requires that decision-makers receive all pertinent information by the best available means and be able to discuss the choices before them. Hence the requirement for secure voice transmission.

We must solve the equally important problem of protecting our transmissions from enemy countermeasures. Experience with the jamming of Voice of America transmissions has shown the ability and willingness of potential adversaries to deny us the use of radio communications. There is every reason to believe that they will attempt to block our military communications whenever their interests dictate.

4. The Objectives

While we have made considerable progress toward solving some of our command and control problems, much remains to be accomplished. Accordingly, we have developed an overall set of telecommunications and command and control objectives as a guide to our decisions on management structure and resource allocation.

Budgetary requests are designed to provide capabilities which satisfy the following requirements:

- A planning and management structure to guide the systematic research, development and acquisition of command, control, and communications assets. This includes a System Engineer, Service architectural programs and improved theater level planning.

- Improvement of the availability of essential intelligence to all users. This includes improved intelligence communications system performance, a more widely distributed interface between the intelligence and operations communities, and means to interact with our allies.

-- Additional capabilities to ensure positive control of our nuclear capable forces, including the custodial units supporting allied forces. This includes more survivable, electronic countermeasures-resistant satellite communications, improved communications with submarines, adequate command facilities and better procedures to ensure continuity of command and the flexible use of our nuclear weapons.

-- Improved tactical communications. This includes increased communications security, automated message processing, interoperability with non-tactical systems, such as WWMCCS, optimal transparency to key decision-makers, and elimination of duplication in development and acquisition.

-- Improved ADP support for decision-makers. This includes continued emphasis on definition of information requirements, improved evaluation of ADP performance, improved computer communications services, and improvements in the ability of different systems to exchange data.

-- Improved security of military, national, and appropriate allied voice, record and data communications.

-- Adequate communications service via "common user" voice, record and data systems while reducing overall operation and maintenance costs. This includes the application of automation, uniformity in manning and equipment standards, reduction of dedicated networks and systems, and use of telecommunications to reduce other Defense costs such as travel and overseas stationing of personnel.

-- A more effective evaluation system which will allow us to test the system to determine its strengths and weaknesses and make timely adjustments and corrections.

The program efforts that follow reflect our allocation of resources toward achievement of these objectives.

5. Worldwide Military Command and Control System (WWMCCS) Programs

WWMCCS consists of those systems which assure communication between the NCA, the JCS, and the Unified and Specified commanders, and support the NCA in execution of the Single Integrated Operational Plan (SIOP) and other time-sensitive operations. These systems allow the NCA to go directly to the forces as well as to the Unified and Specified Commanders. Other systems which interface with and support WWMCCS, but which exist primarily for other purposes, such as the Defense Communications System and tactical systems, are addressed more explicitly in the two following sections.

a. WWMCCS Architecture and Engineering

In general, C³ resources have been introduced sporadically in the past as a quick response to an increased threat or to take advantage of suddenly available technology. While existing assets have the flexibility to be used effectively, they still need to be integrated more fully into an overall plan.

In recognition of this situation, a decision was made to develop an architecture, in effect a master plan, for the WWMCCS. The initial architecture is nearing completion, but a modest continuing design effort is needed to ensure that the architecture remains related to changing threats, policy and technology.

In addition, funds are being requested to continue staffing an engineering office which will, on a continuing basis, translate the approved architecture choices into efficient system designs. This year's request is for initial minimum manning of the engineering office; a gradual increase is expected over the next five years as the level of effort is determined more precisely. The amounts requested for the next year are \$4.5 million for the continuing architectural effort, a decrease of \$.9 million from last year, and \$7.5 million for the WWMCCS Engineering Organization, an increase of \$7.4 million over last year.

b. National Military Command System (NMCS)

The core and priority component of WWMCCS is the NMCS, which consists of the national level command centers and the communications which link them to intelligence systems and other subordinate command centers. At the command centers, information from various sources is processed and put in a form to facilitate decision making by the National Command Authorities (NCA). Key inputs are warning information on potential or actual adversary action, friendly and enemy force status, and relevant information pertaining to crisis or contingency situations. The key decision-makers, the President, the Secretary of Defense, or other properly designated authority, need not be physically located at any of the command centers as long as sufficiently capable communications exist between those centers and the decision-maker to transmit and present the information in an appropriate format.

Included within the NMCS are the communications to the command posts of the Unified and Specified Commanders and their alternate, more survivable counterparts such as hardened bunkers and airborne command posts. Those commands having responsibility for the command and control of offensive nuclear forces (CINCLANT, CINCEUR, CINCPAC and CINCSAC) utilize airborne command posts in addition to their ground alternate command centers. These airborne command posts, with the NEACP, and communications relay aircraft, form the World Wide Airborne Command Post system.

In order to maintain flexibility and control of escalation, it is important that the National Command Authorities have confidence in the continuity of force control whatever the level of conflict. The three NMCS command centers must provide for this continuity all the way from normal day-to-day operations to massive strategic nuclear exchange. To ensure that the NMCS can provide this support, the three command centers have varying but interrelated capacities and degrees of survivability. Improvements in all three command centers are being made to increase these capabilities.

NMCC

The National Military Command Center, located in the Pentagon, is the hub of day-to-day and crisis management capability. A program has been underway since 1973 to improve the NMCC and provide for an effective interface with the intelligence community through the new National Military Intelligence Center (NMIC). Construction changes are largely complete and an operating capability is expected by March 1976. For further enhancement of the NMCS and to provide for integration of crisis management capabilities, we are requesting FY 1977 funding of \$2.0 million for the NMCS Information and Display System. The system will include an automated provision for the distribution of incoming messages, a direct connection with the NMIC for exchange of operational and intelligence data, an automated access to the WWMCCS computer data base, and a television display of critical information to key decision-makers throughout the expanded NMCC.

ANMCC

The Alternate National Military Command Center (ANMCC) is interconnected fully with the NMCC and provides a remote facility which can be augmented rapidly with personnel to assume control of operations. Critical data bases of the NMCC are also located in the ANMCC and communications from the NMCC to the worldwide forces are routed physically through the ANMCC to permit instantaneous assumption of control at the ANMCC if needed.

Since 1974 a program has been underway to include the ANMCC message processing facility as a fully integrated portion of the program to consolidate and automate message facilities at the Pentagon. The facility will also provide a backup message processing capability to the central computer complex at the Pentagon for AUTODIN and other message traffic. The FY 1977 funding request is for \$3.1 million to complete prior year initiation of the ANMCC portion of this consolidation/automation program.

NEACP

The National Emergency Airborne Command Post (NEACP) is unique in that it is an important feature of both the NMCS and the MEECN. Presently, it is based and supported at Andrews AFB, Maryland. The WWMCCS Council recently made a decision to combine the management of both the SAC Airborne Command Post and NEACP at a single operating base at Offutt AFB, Nebraska. Under this concept, the NEACP aircraft would be dispersed to airfields sufficiently close to the Washington area, such as Andrews AFB, to support the National Command Authorities in crises. This new dispersal plan will not degrade the survivability of the NCA and it will increase the efficiency of operations and maintenance support of the NEACP aircraft. A substantial increase in flexibility and capability will be provided when the three E-4 Advanced Airborne Command Posts (AABNCP), presently supporting the NEACP mission, are retrofitted to include advanced command and control and communications capability.

c. AABNCP (E-4)

In order to maintain continuity of command and control over the nuclear capable forces at high levels of nuclear exchange, a substantial improvement in the capability of the airborne command post (ABNCP) for both the NEACP and SAC alternate command post is needed.

The development of an Advanced Airborne Command Post (AABNCP) has been undertaken to remedy the limitations of space, endurance and communications capability as well as vulnerability to nuclear effects associated with the EC-135 aircraft. The principal improvements embodied in the AABNCP program are substantially increased communications capability, enhanced hardness against electromagnetic pulse, increased endurance, and a larger battle staff area. An advanced airborne satellite communications terminal, operating through the satellites of the Defense Communications System, will allow antijam secure voice and data communications to major commands. Such terminals will exist near key sites around the world. Another improvement is a higher power Very Low Frequency (VLF) transmitter. The LF/VLF transmitter will provide substantially enhanced connectivity to the nuclear capable forces with greater resistance to jamming and nuclear-induced propagation effects. Only the larger E-4 (Boeing 747 type) aircraft can accommodate these enhanced communications capabilities.

The initial phase of the AABNCP program was the equipping of the first three E-4 aircraft with the C³ equipment from existing EC-135 aircraft. This phase has been completed within planned budget allocation and three aircraft are operationally supporting the NEACP mission.

The present phase involves the development and extensive testing of the advanced C³ capability to validate the design and confirm operational procedures. A decision will then be made on the procurement of additional C³ packages and aircraft. This includes the retrofit of the first three aircraft with the advanced C³ equipment.

This current advanced C³ development phase has experienced cost growth and has been the subject of extensive review. The WWMCCS Council, during this review, decided on the common basing and single management of the SAC and NEACP airborne command posts because of the attendant efficiencies. It was also decided that the two missions could be supported from one base by only six AABNCP's rather than seven as originally planned. The AABNCP program thus has been restructured to a six aircraft program.

The \$95 million requested for FY 1977 for AABNCP would provide \$75 million to continue the development and integration of the advanced C³ capability into a test bed aircraft, \$20 million to support construction of hangar facilities for the E-4s at Offutt AFB, Nebraska, with an attendant reduction of proposed similar facilities at Andrews AFB. This includes \$4 million to support planning efforts for the future enhancement of the AABNCP. The Block I program, which is now estimated to cost a total of \$881 million, would provide a full operational capability of six AABNCP by early CY 1983.

d. Minimum Essential Emergency Communications Network (MEECN)

Telecommunications system hardening, as well as the ability to operate in jamming environments, is too costly to be provided for most general purpose and dedicated systems. However, a major ingredient in the deterrence of nuclear conflict is the retention of a hard core capability to direct our nuclear capable forces during and after a massive nuclear attack. The collection of systems within the WWMCCS which can provide this capability is known as the Minimum Essential Emergency Communications Network (MEECN).

To achieve an improvement in MEECN, major new programs for survivability, security, interoperability, antijam capabilities, quality, accuracy, and speed of transmission for communications to the forces are underway. In particular, investment in five areas is recommended: an AABNCP, an improved Very Low Frequency (VLF) system operating from aircraft (AABNCP and TACAMO), the evolution of a survivable satellite system, an Extremely Low Frequency (ELF) system, and a message processing system.

Satellite Communications

Satellites play an important role in improving the survivability of the command and control of the nuclear capable forces. The Air

Force Satellite Communication System (AFSATCOM) will use an initial space segment of several special communications transponders carried on "host" satellites (including the Navy FLTSATCOM satellites) placed in orbit for other missions, plus airborne and ground terminals. Increased capability will be provided in an evolutionary manner in a series of phases, the next being a new capability known as AFSATCOM II, which will have substantially increased electronic and physical survivability.

The transponder is presently operating on board a host satellite. Preproduction models of aircraft terminals have demonstrated their capability to provide two-way communications over the transponder with aircraft operating in the polar region.

To support the continued development and procurement of this system, we are requesting R&D funds of \$15.0 million for FY 1977.

VLF and ELF Communications with Ballistic Missiles Submarines (SSBN)

The current MEECN subsystem for communications to our ballistic missile submarines is the Submarine Broadcast System, consisting of several Very Low Frequency (VLF) and Low Frequency (LF) transmitters at stations and on aircraft located throughout the world. This system provides a peacetime communications capability that is not as survivable as the SSBN force itself. The TACAMO airborne radio relay system, consisting of EC-130 aircraft with VLF transmitters and a trailing wire antenna, is the survivable element of the Submarine Broadcast System. For continuing improvement of the TACAMO program, we are requesting \$10.4 million for FY 1977.

The disadvantages of LF and VLF communications stem from their vulnerability and the requirement for a submarine to place an antenna at or near the surface to receive a message, thus increasing its vulnerability to attack. Because of these vulnerabilities, we are interested in Extremely Low Frequency (ELF) communications. Signals at the lower ELF frequencies can penetrate the seawater to a depth of several hundred feet. This will provide communications to both ballistic and attack submarines operating at speed and depth.

Project Sanguine, the name associated with an ELF transmitter design consisting of a grid structure of shallow buried cables and hardened transmitter capsules, has been discussed in previous years. The program has now been restructured, is now known as Seafarer, and will provide an early ELF transmitting system. Not all sites are equally satisfactory for such a system, since to be efficient it requires underlying rock of low conductivity such as that found in areas of the north central states. A review of potential sites on military bases resulted in the choice of White Sands Missile Range, New Mexico, and Nellis AFB,

Nevada, for further review because of their higher rock conductivity. An environmental impact statement is being prepared for a potential site in Michigan upon the invitation of the state government. The final site recommendation will be presented to Congress for concurrence. Limited R&D on a more survivable ELF transmitting capability will be continued. The FY 1977 funding request of \$30 million for this project will permit the continued development of Seafarer and investigation into techniques for its protection. The survivable ELF technology program will consider methods of providing a hardened ELF transmitter.

e. WWMCCS Information Systems

The procurement of the WWMCCS Standard ADP systems in the early 1970s was the culmination of a long-range planning effort to enable our different command centers to transmit and process data in compatible ways and thus ensure that commanders at different locations would have a synchronized view of the force situation. Currently, all of the 35 computing systems have been installed and are operating successfully at 26 locations. We have been able to complete successfully the conversion of all but one site's software information systems and we are concentrating now on improving the functional information systems. In addition, we are conducting intensive research into computer security improvements and are testing the use of new computer network technologies for command and control in a Prototype WWMCCS Intercomputer Network (PWIN) program. To continue the support of this program and its improvements, we have included \$115.8 million in the FY 1977 budget request.

f. CINC and Theater C³ Programs

Most requirements for operational C³ capabilities or improvements are developed by a Commander-in-Chief of a Unified or Specified Command and are reviewed by the JCS and OSD on an individual basis. Other CINC requirements are being satisfied within programs not specifically identified as pertaining to a CINC but which are contained within the full WWMCCS framework.

The European Command (EUCOM)

Command and control of our forces in Europe pose certain unique problems. While a certain minimum unilateral U.S. C³ capability for such purposes as the control of forces not committed to NATO in wartime and the control of nuclear weapons in both peacetime and wartime is essential, we want to utilize, to the maximum extent feasible, the existing and planned NATO C³ capabilities in Europe.

We have offered to share with NATO the use of our Automatic Digital Network (AUTODIN) and European WWMCCS ADP system with its supporting software and training base. In addition, we have offered to support

the Supreme Headquarters Allied Command, Europe (SHAPE) acquisition of WWMCCS-type ADP equipment, and to provide technical and management support to SHAPE in the operation of this equipment. NATO, the UK and the U.S. have executed agreements for interoperation of their defense satellite communications systems. Contingency exchange of SATCOM facilities is also taking place. The interconnection of the U.S. Defense Communication System and the similar NATO ACE HIGH System has been completed at nine of twelve locations.

NATO is planning a communications system providing microwave transmission facilities to replace existing networks serving several Allied Headquarters in Central Europe. Tentative agreement has been reached for nine sites of this system to be collocated with existing U.S. facilities and for interconnects between five sites not collocated. We are also working toward an agreement to add capacity to three segments of this network to handle U.S. communications. These initiatives, coupled with successful bilateral discussions with the United Kingdom and Italy to arrange mutual support between national systems, will provide a more survivable communications capability through redundancy and may provide the opportunity to phase out duplicative U.S. systems. Coincident with these joint efforts, the U.S. is upgrading the Defense Communications System in Europe.

Army initiatives already underway to improve the command and control of theater nuclear forces in Europe involve the development and fielding of several ultra-high-frequency single channel satellite ground terminals, initially employing the Gapfiller UHF space segment, and ultimately the AFSATCOM space segment. In addition, an information system providing secure imagery transmission, automated record message handling, secure voice and teletype conferencing will be procured as a prototype system for test and demonstration at five headquarters. About \$16.0 million will be necessary to procure this prototype system.

The Strategic Air Command (SAC)

The SAC Automated Total Information network (SATIN IV) will replace the SAC Automated Command Control System (SACCS) which was installed in the 1960's using 1950's technology. The SACCS equipment in large part is no longer economically repairable. In the last three years 32 parts have had to be reengineered and component failure rates are increasing.

The SATIN IV will provide a fully secure, automated network connecting all SAC bases. Survivability will be enhanced by use of redundant transmission means to include the AUTOVON network with its multiple paths and its ability for rapid reconfiguration, the Airborne Command Post, and AFSATCOM. SATIN IV's improved capacity, reduced error rates, and its standardization with WWMCCS interfaces are expected to meet SAC requirements for the foreseeable future.

The four million dollars in RDT&E funds in the FY 1976 and FY 1977 budgets supported the initiation of system design and basic development for SATIN IV. An additional \$11.7 million in R&D funds is being requested for FY 1977 to continue this effort and will largely support initial equipment procurement for development of the necessary system software and the software development effort itself. Total system cost is estimated at about \$208 million.

6. Defense Communications System (DCS) Programs

The Defense Communications System (DCS) provides the U.S. military forces throughout the world with long haul, common-user voice, data and teletype services through networks of U.S. Government-owned and commercially leased facilities. It supports WWMCCS and major intelligence, surveillance, and weapons systems and it also supports administrative and logistical functions as well as providing interconnection between the NMCS and both tactical and base (non-tactical) communications systems. It is managed by the Defense Communications Agency and operated and maintained by the Military Services.

a. Transmission Improvements

Present telecommunications transmission facilities of the Defense Communications System, particularly in Europe, in large part consist of equipment which is obsolete and difficult to maintain. Many of these items were installed in the 1950s and the early 1960s and now need to be replaced. There is also a need to secure the major radio links of the system, to improve overall operational quality, to facilitate the handling of data, and to provide adequate interconnection to the Defense Satellite Communications System terminals. These needs dictate the conversion of the system to a digital mode of operation.

The Department's approach is first to upgrade the European DCS to a digital system. The first phase of this effort is called Digital European Backbone (DEB), which is to be implemented in four stages. Completion is expected by 1980. Phase I has been initiated and is proceeding toward contract. The FY 1977 program requests funding in the amount of \$9.5 million for the start of Phase II and III.

b. Department of Defense Telecommunications Automation Program

We have recognized the need to decrease the "writer-to-reader" time lapse within the Defense Department and have made significant progress toward this end through the Telecommunications Automation Programs of the Services. Nonetheless, the majority of message handling and processing still is accomplished on a manual basis which is time consuming, error prone, and manpower intensive.

All Services have developed plans for a five-year period in which automated systems will be installed at military installations where improved capability is required. As a result, we expect that personnel reductions will be achieved and operating costs will be reduced. The funds required in FY 1977 for implementation of these mid-range Service plans and to support the achievement of our long-term program objectives are \$65.8 million.

c. Defense Satellite Communications System (DSCS) Improvements

The continuing DSCS program is presently growing toward maturity and now provides long-haul communication paths with satellites for the DCS and other users. The present space segment consists of two high-powered, synchronous satellites: one in orbit over the Western Pacific, the other in orbit over the Atlantic region. The DSCS space segment required to satisfy the needs of the WWMCCS is an operational four-satellite system, with two inactive satellites on orbit as spares. We hope to achieve this capability when the satellites, presently in production with FY 1974 and FY 1975 funds, are delivered for launching in 1977 and 1978.

On the assumption that all launches would deliver the satellites to synchronous orbit and, once in orbit, the satellites would last for their design life, this program has been austere funded. However, on May 20, 1975, the third stage of a Titan IIIC launch vehicle failed to ignite and two DSCS Phase II satellites were lost. Then, on September 13, 1975 the Atlantic satellite, which was launched during December 1973, failed on orbit. Although we have recovered this satellite and placed it back in operation, it experiences occasional outages, indicating possible total failure of the satellite at any time.

As a result of the recent Titan launch failure and scheduled replacement of existing satellites, our FY 1977 funding request includes \$200.1 million for six DSCS Phase II satellites and four additional Titan IIIC launch vehicles. In addition, funds are requested for anti-jam equipment which will provide the capability of maintaining communications in a harassed electronics environment.

In addition to supporting the long-haul communication paths for the DCS, the narrow-beam, high power antenna characteristics of the DSCS Phase II satellites are suitable for support of small earth terminals, such as those being developed and procured in the Army Ground Mobile Forces Tactical Satellite Communications Program (GMF TACSATCOM). War-time requirements of the GMF as presently identified could not be entirely supported by DSCS Phase II satellites but GMF peacetime requirements could be satisfied on DSCS II.

d. Secure Voice

In order to provide the necessary secure voice capability for all systems, assure an interface with DCS and TRI-TAC, and avoid the pitfall of designing specific subsystems for narrowly defined purposes, an overall secure voice architecture is being developed. Other programs are being realigned in accordance with this architecture.

e. AUTODIN II

During the past few years a significant increase in the number of ADP systems has been noted. Such ADP systems require a type of communications support which is not available in the current AUTODIN, specifically on interactive capability. This interactive capability allows a man to work with a computer through a communications line, or a computer to work with another computer through a communications line.

The AUTODIN II Phase I system will meet the CONUS requirements for computer interactive and bulk transfer of data. The AUTODIN I system is expected to stay relatively stable through the implementation of AUTODIN II. In the post-1982 time frame it is envisioned that the present AUTODIN system will be incrementally replaced and eventually deactivated, with the function being integrated into AUTODIN II.

7. Tactical Communications Programs

This year we are continuing with efforts which address four major problems in tactical communications: interoperability, security, availability, and reliability. To reduce the costs of tactical communications systems we have initiated several joint development and testing programs which will avoid duplication, assure interoperability and attain maximum application of new technology. For example, the Air Force and Navy were developing an information distribution system with which they were trying to satisfy related operational requirements by independent yet similar solutions. We have now combined these independent efforts into a single program called the Joint Tactical Information Distribution System (JTIDS). Other joint programs use a single manager concept, either a Joint Program Office or a single Service acting as an executive agent. Within joint programs, one Service is designated as the lead Service to develop, produce and test individual systems or equipment for use by other services.

a. Joint Tactical Communications (TRI-TAC)

The first of these efforts is the Joint Tactical Communications, or TRI-TAC, program. It represents the Department's choice of a single centralized management approach to meet the future tactical communications needs of the Services. The program will provide the next generation of

tactical communications equipment, while achieving interoperability, using the most effective technology, and eliminating duplicative RDT&E in the process. The Director of TRI-TAC is the architect, the systems engineer and the manager of the program. The TRI-TAC System Architecture establishes the objectives and the design for a digital, secure and automatically switched system to meet the future needs of the tactical forces, and it provides for the evolutionary transition to this system from the current inventories, which are composed primarily of analog and manually switched systems.

The planning for the first phase of the TRI-TAC program is complete and the initial transitional equipment development programs are well under way. Each equipment program is executed and funded by one of the four military Services or the NSA. Overall systems design, system integration, configuration management and program coordination are provided by the Director, TRI-TAC.

As a result of the joint efforts of the four military Services, DCA, and NSA, under TRI-TAC, we are achieving a considerable degree of commonality -- not only among future Service tactical communications equipments, but also with the future Defense Communications System. This system, though it may be multi-Service, will use common equipment and will be supported by personnel with the same training, using the same manuals, and the same repair parts, irrespective of Service. Such an achievement would not only result in significant savings in lifecycle costs, but would represent a major improvement in the flexibility afforded a theater commander, allowing him to gain an operational advantage by reconfiguring and deploying his communications assets without the constraints under which he operates today.

The RDT&E funding requested to cover expenses of the TRI-TAC Program for the equipment developments amounts to \$117.3 million, distributed among the military Services and the NSA, based upon their tasked equipment acquisitions.

b. Tactical Satellite Communications

Historically, the Navy has relied on high frequency (HF) radio for its long-range, non-line-of-sight fleet communications. However, the reliability and availability of this medium has always been limited because of the varying characteristics of the ionosphere which determine the capability for over-the-horizon HF communications. Moreover, the increasing use of computers in C³, with their need for high capacity, high quality transmission facilities, has created a requirement for an improved communications capability to augment and partially replace the HF systems.

In the late 1960's the Navy, recognizing the weaknesses inherent in HF radio, began to plan for a satellite communications system which would provide the low error rates, 24-hour all-weather availability, and high capacity needed to support modern C³ requirements. As a result, the Fleet Satellite Communications System, or FLTSATCOM, was approved in 1971. The program approval included provisions for accommodating the priority Air Force communications requirements. The Navy is the executive agent for the system development and operation, with the Air Force assigned the responsibility for the spacecraft development.

The FLTSATCOM satellite will provide multi-channel ultra high frequency (UHF) communications in support of Navy fleet communications, Air Force bombers and launch control centers, all Airborne Command Posts, and some Army nuclear capable force elements. Launch of the satellites, originally scheduled for 1975, will commence in 1978 because of delays in spacecraft development. Although some terminals still are being developed, a significant number of FLTSATCOM terminals are ready for operation now. To make use of this capability and provide improved communications capability at the earliest possible date, the Navy has arranged to lease a portion of the COMSAT General Corporation's MARISAT satellite for at least a period of two years. These satellites (called Gapfiller) were originally scheduled for launch in 1974, but they too have undergone an eighteen month delay for parallel technical reasons. They will be launched in early 1976 and will provide limited satellite capability until the FLTSATCOM satellite are launched in FY 1979.

On 30 January 1974, the Army's Ground Mobile Forces (GMF) Satellite Communications Program Memorandum (PM) was approved. The PM established the Army's TACSATCOM Baseline Program consisting of Super High Frequency (SHF) terminals, Ultra-High Frequency (UHF) terminals, and satellite communications control terminals. The UHF single channel terminals are primarily used to satisfy the need for improved worldwide nuclear weapons control communications. The SHF multi-channel terminals will provide increased reliability for command and control communications from theater Army down to the brigade level.

System development costs in FY 1976 and 1977 were \$33 million. Development, mainly for satellite systems, will be continued in FY 1977 and \$11 million in RDT&E is being requested.

C. SUPPORT TO OTHER NATIONS

The primary goal of U.S. foreign policy is to foster a peaceful and politically stable international system within which to protect and pursue U.S. national interests. Support to other nations can help us move toward that goal. First, by increasing the conventional capability of recipient nations, it can enhance their ability to defend themselves and correspondingly reduce the probability that the U.S. might need to engage directly in their defense. Second, to the extent that friendly nations are more secure by virtue of their own military capability combined with their security relationship with the United States, the incentives and pressures for them to seek a nuclear capability can be reduced.

In recent years, U.S. security assistance support to allied and friendly nations has become an important instrument (as well as one of the more controversial parts) of U.S. foreign policy and an essential element of the defense program and U.S. global security planning. This sharpened emphasis has resulted both from the rise in our foreign military sales in the past year and a half and from increased Congressional questioning of U.S. security assistance programs. It seems appropriate, therefore, to discuss U.S. security assistance objectives and recommended policies in some detail.

Support to other nations covers the Security Assistance Program -- including grant military assistance, grant foreign military training, foreign military sales and Security Supporting Assistance -- NATO Infrastructure, and International Military Headquarters. In addition, the MAAGs, Military Groups and Military Missions which provide assistance to and military liaison with defense ministries of foreign governments are included in this program. As shown in the following table, the request is for \$2.6 billion for support to other nations in FY 1977.

<u>SUPPORT TO OTHER NATIONS</u>	<u>FY 1977</u> <u>(\$ = M)</u>
MAP	
Grant Materiel	\$ 246.4
Foreign Military Training	30.9
FMS Credit	2,059.6
MAAGs, Missions, MilGroups	59.3
NATO Infrastructure	80.0
International Military Headquarters	116.9

1. Security Assistance Program

The United States has provided security assistance to friendly nations since World War II. Of late, however, the many changes in the international environment have caused a reassessment and reconsideration of the proper character and potential utility of security assistance in the years ahead.

a. Security Assistance Defined

The Military Assistance Program (MAP) is the smallest element of the overall Security Assistance program, accounting for 8.8 percent in the FY 1976 request. Under the Foreign Assistance Act of 1961, as amended, MAP provides defense articles, defense services and training to eligible recipients. The U.S. receives no reimbursement from the recipients of this grant aid and MAP requires annual legislative authorizations and appropriations.

Foreign Military Sales (FMS), through which foreign governments purchase defense articles and services, constitute by far the largest element of security assistance, with purchase agreements currently in the range of \$10 billion annually. Most sales are for cash, but some are made under credits provided or guaranteed by the U.S. Government under the Foreign Military Sales Act. Credits are constrained by annual legislative authorizations and appropriations. Sales having a value of \$25 million or more must be reported to the Congress, which then has twenty calendar days to state their objection by a concurrent resolution.

Security assistance has been used primarily to increase the capabilities of U.S. allies to resist Soviet and Soviet-backed expansionism. MAP initially focused on helping Western Europe, Greece, and Turkey to rebuild their defense establishments and on supporting U.S. commitments in Asia.

Most security assistance began as grant aid in circumstances where the United States possessed a virtual monopoly on the supply of modern arms -- excluding communist sources -- and where our allies could not equip their forces adequately on any basis other than through grants. As these allies recovered economically, most of them eventually became capable of purchasing their military equipment and services first through credits and then for cash. Although some security assistance was extended to "non-aligned" countries, such as Egypt and Indonesia, the primary emphasis was on constructing collective security arrangements in the bipolar contest between East and West.

As the international system has become more diffuse and interdependent over the years, and the atmosphere of detente has developed, U.S. objectives and strategies have by necessity become more complex. U.S. security assistance programs have come to serve a wide array of purposes.

The size and composition of the security assistance program has changed drastically, and the number of grant recipients has continually shrunk. Twelve countries are projected to receive MAP materiel in FY 1977, a drop from 43 countries in FY 1965. Meanwhile, in terms of dollar value of sales agreements, sales have grown by some 300 percent between FY 1964 and FY 1973, and more than doubled between FY 1973 and FY 1974, with purchase agreements for U.S. defense articles and services rising to nearly \$11 billion.

It is important to note that the vast majority of these transactions are for cash. The sharp rise in FMS in the past year and a half has occurred largely in the Middle East -- Iran, Israel, and Saudi Arabia accounted for almost \$7.2 billion of the \$10.8 billion total in FY 1974, and for \$4.8 billion of the \$9.5 billion total in FY 1975. During FY 1975, the choice of the U.S. F-16 aircraft by a four-nation NATO consortium was responsible for over \$2 billion of the \$9.5 billion total.

This is a radically different situation than we faced in earlier years. Defense transfers have become an even more important part of U.S. activity overseas, both commercial and diplomatic, and an important new group of wealthy customers has appeared in the form of the oil producers. Most of these customers are ready to pay cash; they ask no gifts of the U.S.. The influence of the U.S. in this type of relationship is smaller, and of a more technical nature, than when MAP was the primary vehicle of U.S. defense transfers. The change is perhaps most evident in our role as supplier of training and support services purchased as part of foreign military sales. Over the period FY 1950-1975, 40.5 percent of the total of FMS, MAP and Service-funded programs was for weapons and ammunition, while 59.5 percent was for supporting services, supporting equipment and spare parts. This larger portion of the program can also benefit non-military sectors of the recipient's society in that it provides basic skills that eventually enter the civil sector and contribute to the development of a national infrastructure.

The pace of such sales is unlikely to lessen significantly in the near future. The U.S. will continue to face a world in which Soviet activities in the world continue apace; raw materials, especially fuels, become increasingly expensive; the economies of both the industrialized and the developing nations have difficulties absorbing and adjusting to their increased energy import costs; and the multipolarity in the international arena causes nationalist goals and interests to assume greater priority in the foreign policies of even some of our closest allies. Clearly, this prospect will be in sharp contrast to the relative solidarity that existed in the non-communist world during the Cold War years.

A world in which opportunities for Soviet adventurism have increased and in which polar solidarity has declined has the potential for increased instabilities. Consequently, the demand for security assistance (primarily government-to-government cash sale and credit financing) is likely to grow somewhat as nations seek to ensure their own self-defense capability. Since these nations are sovereign and, understandably, are determined to establish their own defense requirements, they do not wish to be told how to allocate resources between socio-economic development and military equipment. Furthermore, there are alternate sources of military equipment available to them in both the communist countries and in certain Western countries should we attempt to control or influence their decisions. Thus, the U.S. is decreasingly able unilaterally to influence the arms acquisition policies of other nations. U.S. embargoes are likely to be considerably less effective than in the past, injuring U.S. political and military relations with prospective buyers without preventing their acquisition of military equipment.

b. Alternate Suppliers

The Soviet Union is endeavoring to extend its influence in certain regions at the expense of the West and/or the People's Republic of China. The Soviets also want to assure continued access to Middle East oil for their East European allies, and their interest in access to support facilities (as in Somalia) remains unabated.

According to recent Stockholm International Peace Research Institute calculations, the USSR was the largest supplier of major weapons to the Third World during 1974, outstripping the U.S. by 50 percent. This also applies to the period 1950-1974 (taken as a whole) but the margin then was 12 percent.

Among foreign suppliers other than the Soviet Union and the East European nations, France, the United Kingdom, the Federal Republic of Germany, and Italy dominated arms transfers to non-communist countries. Together, their sales amounted to some \$4.5 billion in 1974, with France accounting for about 55 percent of the total.

The French arms industry, surpassed in size only by those of the Soviet Union and United States, in 1974 lifted its embargo on sales to all belligerents in the 1973 Arab-Israeli conflict. Included were major sales of tanks, armored personnel carriers and air defense equipment to Saudi Arabia, missile boats and communications equipment to Iran, and helicopters, antitank missiles, and other ground equipment to Iraq.

c. Relationship to National Security Objectives

The United States concluded long ago that our security and well-being made it necessary to prevent Western Europe from falling under the domination of the Soviet Union. Accordingly, the primary U.S.

security objective with regard to Europe is to maintain a military posture in NATO that is sufficiently powerful to deter the Warsaw Pact from attacking, or if deterrence should fail, to withstand a major Pact attack. To this end, U.S. Security Assistance Programs in Europe focus on strengthening collective security, stabilizing the regional military balance and gaining access to important overseas bases. FMS transfers are important instruments for accomplishing these objectives.

The FMS program also supports NATO standardization efforts. In addition to common equipment procurement, standardization involves common training and procedures, therefore limiting costly duplication and reducing stockage requirements. Thus, standardization means, for both us and our NATO allies, financial savings and increased operational efficiencies. In the future, U.S. defense transfers to Western Europe are increasingly likely to take the form of co-production arrangements rather than direct sales. An excellent example of co-production is the recent F-16 consortium arrangement. This approach is due to the Western European allies' desire to participate increasingly in the economic benefits of such transfers.

In Northeast Asia, U.S. security objectives are more complex. This stems in part from the convergence of the interests there of four major powers: the U.S., USSR, the PRC, and Japan. The U.S. presence and its security assistance program in the Republic of Korea not only help deter a North Korean attack, but also contribute to a larger strategy involving Japan, whose security is linked to stability on the Korean peninsula. In this regard, U.S. programs serve to stabilize conditions in Northeast Asia. As in the case of Western Europe, hostile domination of this key region would represent a major shift in power relationships -- and would have adverse repercussions in Europe as well.

Security assistance programs in Northeast Asia help to modernize the South Korean forces through increasing levels of FMS to the Republic of Korea. These sales and grants are instrumental in stabilizing the regional military balance and in increasing South Korea's capability to defend itself against attack.

Although U.S. national security policy is focused primarily on Europe and Northeast Asia, we also seek stability in other key regions as well. The United States is extending security assistance to selected nations in such areas so that they may defend themselves, contribute to key intra-regional military balances, and decrease the opportunities for the USSR or any other power to acquire a dominant influence in the area. This is particularly true in the Middle East.

It must also be kept in mind that U.S. security assistance policies have more than a military impact. The interdependent nature of the international environment intensifies the political and economic

repercussions of our decisions about security assistance. For example, a unilateral refusal by the United States to sell arms to Persian Gulf nations could have destabilizing effects. Arms transfer policies to the Middle East can have as much, or more, potential for affecting political progress as they do military stability.

Recognizing the dangers of growing arms accumulations around the world, the United States has attempted unilateral restraint and promoted multilateral arms limitation agreements. Unilateral weapons embargoes have proved ineffective in controlling arms races. When the United States has tried this approach, as it did in limiting sales of certain equipment to Latin America, the affected countries have simply switched to alternate sellers. Because they understandably regarded the U.S. action as an infringement on their national sovereignty, U.S. relations and influence with them have suffered. So far, multilateral agreements to limit sales have proved elusive.

d. Collateral Impacts

We plan the security assistance program in conjunction with U.S. procurement so that both U.S. and foreign requirements can be met simultaneously in an orderly and economical manner. In most cases, foreign requirements are met from production specifically programmed for that purpose, taking fully into account such factors as plant capacity and economical production rates. Actual delivery of defense articles and services normally takes place several years after the materiel has been approved for transfer and ordered.

Foreign requirements are not ordinarily met by diverting equipment from the inventories of U.S. forces or from assets being procured for our forces. In certain crisis situations, however, some equipment may have to be diverted from U.S. forces when such action is determined to be in our overall national interest. For example, in October 1973 selected items of equipment from U.S. reserve force inventories and from prepositioned U.S. stocks in Europe were provided to Israel under the Emergency Security Assistance Act of 1973. Such diversions reduced U.S. force readiness, but they were directed after a determination that such action was in the best interests of the United States. They should be fully replaced by 1981.

The security assistance program should be judged by its ability to satisfy national security and foreign policy objectives. However, some important economic benefits do accrue to the United States from the security assistance program. For example, a significant number of jobs will be created in the U.S. because four NATO members selected the F-16 as a replacement aircraft for the F-104.

Export deliveries amounted to about 25 percent of total U.S. production of defense-related hardware in FY 1974. Production for export assists the U.S. by helping to maintain a warm mobilization base, by avoiding idle or underutilized industrial capacity, and by providing reserve capacity for emergency use. Export demand also results in more readily available skilled and experienced labor. Export demand may yield lower unit cost, and in some cases makes the production of equipment economical when it would not be justified by U.S. requirements alone. Foreign purchases are charged a pro-rata share of R&D costs, thus reducing this cost to the U.S..

The total value of U.S. defense orders placed by, or for, foreign governments during FY 1974 totaled \$10.6 billion (FMS, MAP, MASF orders and commercial deliveries combined). About 80 percent of that money will be spent in the United States. We are also achieving efficiency of effort and reduced costs through common research and development efforts, co-production agreements and offset arrangements. Not only can other nations enjoy the benefit of economies of scale; we can satisfy U.S. security objectives with greater efficiency as well.

An additional economic benefit is that military transfers other than grant aid have a positive effect on the overall U.S. balance of payments and help to offset the foreign exchange cost of U.S. defense expenditures abroad.

e. Military Assistance Program (MAP)

The Administration's budget submission includes \$305.7 million for MAP and \$30.9 million for training in FY 1977 which would provide aid to some 45 countries, although 33 of them would receive training only. Of the remaining 12 countries, six -- the Philippines, Greece, Turkey, Indonesia, Thailand and Jordan -- would account for a large percentage of the MAP funds requested in the FY 1977 budget. The justification for these programs will be presented separately to the interested Congressional Committees. In compliance with Congressional request, the Administration will advise Congress of plans "for the reduction and eventual elimination of the present military assistance program."

f. Foreign Military Sales (FMS)

For foreign military sales credit, the Administration's budget includes \$2,059.6 million in FY 1977. Four countries (Israel, South Korea, Greece, and Turkey) will account for most of the FMS programs requested in FY 1977. The details of the program will be presented separately.

2. Organization and Management of the Security Assistance Program

a. Management

Government-to-government transfers of both defense articles and related services are governed by the Foreign Assistance Act of 1961 (FAA), as amended, and by the Foreign Military Sales Act of 1968 (FMSA). Commercial arrangements are governed by the Mutual Security Act of 1954 (MSA), as amended.

The Secretary of State has principal policy and general supervisory responsibility for arms transfer transactions carried out through both government and commercial channels. The Secretary of Defense is responsible for review of government-to-government transfers and commercial transactions as well as implementation of the former.

Major military export decisions are made by the President through the NSC system. The Secretary of State and his Department develop general policy guidance, while the Department of Defense focuses primarily on technological and force structure goals. Implementation of policy requires many specific decisions as to the appropriate weapons and services to be supplied.

Initial funding levels for grant aid and credits for sales are developed through interagency consultations, taking into consideration the recommendations of the U.S. missions abroad. Draft funding levels are then reviewed in a SAPRC* Working Group. Major issues are presented to the Under Secretary of State for Security Assistance, who transmits his Department's decisions through the Office of Management and Budget (OMB) to the President, together with the differing views of any agencies on key issues.

Within the Department of Defense, five-year projections of foreign requirements are being developed as a basis for planning. This process will occur annually, and will be based on data acquired by the various MAAGs, the Military Departments, OSD, JCS and the Defense Security Assistance Agency (DSAA). These projections are only planning estimates, of course, and do not in any way represent ceilings, goals, or systems that the foreign government must or will acquire. In developing projections, attention is paid to such considerations as:

-- The direct and indirect costs of U.S. Security Assistance to the recipient and its effect on the recipient's economic and social development;

-- The recipient country's capacity to absorb, maintain, and employ the equipment;

*Security Assistance Program Review Committee (SAPRC) whose membership includes the NSC staff, Department of State, Department of Defense, Treasury Department, OMB, ACDA, and AID.

- The nature of the threat confronting the recipient;
- The recipient's contribution, where relevant, to alliance needs;
- The effects on potential regional arms races.
- The recipient's need for training assistance to improve its resource management, logistics, and defense planning and analyses;

The U.S. commits itself to specific defense transfers by means of a Letter of Offer and Acceptance to the recipient which becomes a contract upon agreement by both parties. Transactions totaling \$25 million or more must be reported to the Congress which may by concurrent resolution voice its objection within 20 days. A Letter of Offer is not to be issued over Congressional objection, unless the President certifies that an emergency exists which, in the interests of national security, requires such a sale to be made.

After the commitment to a defense transfer has been made, the Secretary of Defense is responsible for procurement, delivery, training, and end-use supervision of articles and services provided by MAP and FMS. The operating elements for accomplishing this are the Military Services which perform under the overall direction of the Defense Security Assistance Agency.

Defense articles acquired by foreign governments from the U.S. may not be transferred to third parties without prior approval of the U.S. Government. Requests to make such transfers of U.S. MAP or FMS materiel to third countries are reviewed by the Department of State in coordination with the Department of Defense.

b. Problem Areas

The increase in arms transfers in the past year and a half raises a number of planning problems. Projections of expected sales are difficult to construct because foreign governments are often unable to plan requirements sufficiently far in advance. The U.S., therefore, has difficulty in projecting accurately the industrial capacity needed to meet both U.S. and foreign requirements.

A related problem is that of war reserve stocks, allies (WRSA). The WRSA is separate from, takes account of and does not duplicate the MAP. WRSA would be procured with Service funds, be retained under U.S. title and control and the vast majority of materiel would be stored in the CONUS. Maintenance of transferable war reserve stocks would reduce the impact of security assistance demands on U.S. force readiness and enhance our ability to achieve greater standardization, integration, and efficiency within NATO, as well as improve our logistics posture in Korea.

c. MAAGs, Missions, MilGroups

Section 631(a) of the Foreign Assistance Act states that "the President may maintain special missions or staffs outside the United States in such countries and for such periods of time as may be necessary to carry out the purposes of this Act." Under this authority, MAAGs, Missions, and Military Groups are maintained in 44 countries. This overseas organization is not tied exclusively to the provision of grant assistance or to the procurement of U.S. arms by the host country. In a broader sense, the organization is an element of the worldwide U.S. force posture which serves in many ways the national security and foreign policy interests of the U.S. Government.

MAAGs have historically been funded partially from the military function accounts and partially from MAP and will continue to be so funded until 30 June 1976. Commencing 1 July 1976, the MAAGs and the Military Groups will be funded from MAP, as required by law.

The Security Assistance Appropriations Bill (PL 94-11) of 1975 specifies, inter alia, that the number of general/flag officers "assigned or detailed to military assistance advisory groups, military missions, or similar organizations, or performing duties primarily with respect to the military assistance program and the foreign military sales program shall not exceed twenty after 1 May 1975." To comply with the law, 11 general/flag officer positions in Argentina, Italy, South Korea, Portugal, Thailand, Turkey, Germany, Brazil, and within the Pentagon were downgraded, eliminated, or their responsibility for security assistance withdrawn.

There have been large reductions in the numbers of personnel assigned to the MAAGs. Nevertheless, these missions continue to contribute significantly to the attainment of U.S. security objectives. Their work not only enhances the value of U.S. equipment but also promotes standardization of equipment, doctrine, and training among U.S. allies.

It is useful to remember, however, that military personnel assigned to MAAGs and Military Groups add to the number in the support category. As part of the effort to improve the combat/support ratio, we are making a concerted effort to reduce the number of military personnel assigned to MAAGs and Military Groups, as well as personnel in general. For example, in FY 1968, the MAAG authorized strength level was 4,477 (including 3,172 U.S. military personnel); as of June 30, 1975, that number had dropped to 1,825 U.S. spaces (including 1,632 U.S. military personnel). The Department has exceeded its goal of reducing the number of MAAG/Military Group personnel, expressed in last year's Report, by 479. The current authorized FY 1976 MAAG/Military Group U.S. personnel strength is 1,622 (including 1,455 U.S. military personnel).

Because foreign military sales have expanded rapidly in the past few years, principally to Iran, Technical Assistance Field Teams (TAFTs) were created to provide the necessary services in connection with acquisition and use of U.S. equipment. While the U.S. Government is fully reimbursed by the purchasing country for the costs of TAFTs, nonetheless these personnel must be included under Defense manpower ceilings. There are now about 937 U.S. military personnel programmed for these Teams (868 in Iran, 66 in Saudi Arabia, and 3 in Kuwait) and the demand is increasing. Accordingly, we continue to encourage the use of U.S. contractors to the extent practical to meet these needs.

3. NATO Infrastructure

The NATO Infrastructure Program, for which we are requesting \$80 million in FY 1977, provides the facilities that are necessary to support NATO military forces and are intended for common use or have a high degree of common interest among the allies. These facilities include airfields, air defense facilities, communications, missile sites, war headquarters, nuclear storage sites, pipelines, and POL depots. However, the program does not normally cover general purpose depots, troop billets, and other logistics facilities which the U.S. maintains largely in support of national objectives and policies, although a one-time exception was made to fund such facilities from this program as reimbursement for certain of the U.S. costs of relocating from France.

The NATO Infrastructure Program was inaugurated by the North Atlantic Council in 1951 as a follow-on to a similar program begun in 1950 by the Western European Union countries. It has been a most successful common endeavor, credited with fostering cohesion among the allies. Thus far, approximately \$3.8 billion worth of essential military facilities have been completed, and facilities worth another \$1.6 billion are currently under construction or programmed. Under the program, NATO has been provided with modern airfields, an efficient system of POL distribution and storage, an interconnected communications system to support the NATO command structure, essential air defense warning installations, and air and naval navigational aids.

Now that the program has provided most of the basic facilities required in the common defense, its character is gradually changing. The requirement for major air and naval installations has given way to the new requirement for modernization and expansion of existing basic facilities. Airfields must be improved so that they can support today's more complex aircraft. The POL system should be modified to ensure its ability to function in an emergency independently of that part of the system located in France. Progress in communications technology has resulted in dramatic changes, among which is the semi-automation and integration of NATO's early warning system which will provide a control and reporting system for the air defense of Allied Command Europe.

Finally, in order to make the program fully responsive to the needs of the NATO "flexible response" strategy and associated force planning, we are providing facilities to support reinforcement on the flanks, improved air defense, and conventional capabilities for NATO air forces.

Since the Infrastructure program began in 1951, the U.S. contribution has been reduced from about 44 percent to about 20 percent. Under the five-year (1975-1979) program recently approved by NATO, a funding level of \$1.35 billion was agreed to, an amount which is substantially below that supported by the U.S. and considerably less than the first priority project total requested by NATO military authorities (in excess of \$2 billion). The U.S. reluctantly agreed to this relatively low ceiling, but it may be necessary to review it before the end of the current five-year period.

Included in the new program is a special category of projects in support of U.S. forces, which would otherwise be funded from U.S. appropriations. This special U.S. project category, totaling about \$100 million over a five-year period, will provide military facilities which have a clearly identifiable NATO interest and are of special interest to the U.S..

Over and above their own cost-sharing contributions, host nations provide the land, access roads, and utility connections for each NATO Infrastructure project. These host nation contributions are estimated to average about 13 percent of costs paid by NATO common funding. If these costs were added to the total, the U.S. contribution would drop another three to four percent.

The U.S. continues to enjoy a greater benefit from this NATO program than could be expected from the size of our contributions. If we exclude facilities which are used in common by all nations -- facilities which would in any case have required common funding -- we have had considerable success in convincing NATO that U.S. national-user projects are worthwhile. In the last five annual slices (XXI-XXV), over 50 percent of all national-user projects were programmed for the benefit of U.S. forces, but the U.S. formal contribution remained at 29.7 percent of the entire program. It is apparent, therefore, that we have a distinct financial interest in the continuing success of the NATO Infrastructure Program.

4. International Military Headquarters (IMH)

The U.S. contributions to the maintenance of NATO military headquarters, which are funded in the Army O&M budget, amount to 25 percent of the total IMH budget when France participates and about 30 percent when France does not participate. To support this contribution, we are requesting \$116.9 million in FY 1977. These funds are applied to the operation and maintenance costs of SACEUR, SACLANT, CHANCOM, and the NATO military agencies and are in addition to the military manpower contributed by each ally to these NATO military organizations.

Manpower problems continue to confront NATO military authorities as a result of increasing demands in the area of communications, ADP, and command and control and information systems. In an attempt to resolve these problems, reports and recommendations on each of these areas have been sought from each of the allies and they will be submitted to the NATO Council in CY 1976. As mentioned last year, there is also underway a continuing study of the NATO military command structure which will be reported as soon as possible to the Defense Planning Committee.

VI. MISSION SUPPORT

A. CENTRAL SUPPLY AND MAINTENANCE AND DEFENSE LOGISTICS

1. Introduction

In its broadest sense, military logistics activities are concerned with all aspects of planning, procuring, maintaining, and transporting materiel and providing for the personal needs of our operating forces. They are an essential element of combat capability. They ensure that combat equipment will be technologically up-to-date and will perform as intended; that combat forces will have the munitions, spare parts, personal and other items necessary to deploy and engage in combat; and that those forces will have the material support to sustain them in combat as long as required. Our logistics posture is a matter of the highest concern and priority in an era when military readiness is an urgent requirement.

Sometimes units, including their organic maintenance capability, are referred to as part of the Defense "teeth" while central supply and maintenance functions are viewed as part of Defense's "tail" which, by implication, should be reduced as much as possible. Such a view works against logistics efficiency and materiel readiness. There is a close interaction between what is done as combat unit level maintenance and what needs to be done for the same weapon system at the central depot. The interrelationship of logistics activities throughout the military structure makes careless use of the "tooth-to-tail" concept dangerous. Rather than consider central logistics activities as part of the Defense "tail," as though that tail were disconnected from and superfluous to the "teeth," it is much more appropriate to view "tooth and tail" as complementary activities, with each having different but highly interdependent functions to perform. Perhaps a far better analogy would be to call our essential logistics supporting system the "jaws" on which our "teeth" depend for their support and strength to bite, chew, and dispatch the opposition.

Defense has made progress in improving the efficiency and effectiveness of its total logistics structure. In terms of constant dollars, procurement and O&M expenditures and supply systems, inventories have been reduced significantly since the peak years of the Vietnam War. The Services have eliminated most unnecessary or duplicate echelons of supply and are relying more and more on direct supply support from centralized wholesale level activities to operating elements. Personnel associated with centralized logistics activities have decreased 28 percent since 1969. The number of items centrally managed and stocked has decreased significantly and duplicate item management has been eliminated for practically all of the 3.7 million items in the supply system.

2. Logistics Functions

Logistics activities involve organizations throughout Defense, in every part of the United States and overseas, and in combat units, at intermediate levels, and centralized facilities. These latter types of centralized activities, such as inventory control points for the management of supplies and maintenance, and central depots where supplies are stored and combat equipment is overhauled, are often grouped together under the heading of "Central Supply and Maintenance." The amounts to be spent on these central activities are shown in parentheses in Table VIA-1.

Logistics involves all echelons of Defense. The central supply and maintenance functions are perhaps the most visible logistics activities, and include such diverse items as planning and policy development at logistics headquarters, requirements determination, cataloging and procurement, and depot level maintenance, storage and distribution at central depots. However, they account for only approximately 35 percent of all logistics activities or \$10.2 billion for FY 1977.

Even though logistics functions are funded from a number of different appropriations, e.g., O&M, Procurement, R&D, and Military Personnel, this section will concentrate on the O&M and Procurement accounts. Finally, the discussion will be limited basically to "hardware-type" support, even though the Department views as important and spends considerable funds to support (clothe, house, and feed) the personal needs of U.S. operating forces.

a. Maintenance, Modification, and Alteration

The Defense Department operates weapon systems that originally cost about \$125 billion and would cost much more to replace today. Only about \$11 billion will be spent this year to maintain, modify and alter them in order to keep them operating, to increase their reliability or life span, and to upgrade their capability in light of the increasingly sophisticated threat they face. Military equipment requires special attention to maintenance because U.S. forces must be in a high state of readiness; the risks associated with not having required equipment in an operable state when needed are very grave.

Weapon systems remain in active inventories from 15 to 40 years. This considerable accomplishment would not be possible without modifications and alterations to extend their safe operating life and to increase their combat capabilities. In sum, not only does responsible stewardship demand adequate maintenance of the assets provided, but maintenance, modifications and alterations help maintain U.S. deterrent and combat capability with less new procurement funding than would otherwise be required.

TABLE VIA-1

ESTIMATED FY 1977 LOGISTICS FUNDING*
(FY 1977 \$B)

<u>Activity</u>	<u>Appropriation</u>		<u>Total</u>
	<u>Operations & Maintenance</u>	<u>Other Appropriations</u>	
Maintenance, Modification, Alteration	8.9	2.2	11.1
Central Supply and Maintenance	(4.5)	(-)	(4.6)
Supply			
Operations	2.4	.7	3.1
Central Supply and Maintenance	(1.7)	(.1)	(1.8)
Procurement	-	4.3	4.3
Central Supply and Maintenance	(-)	(-)	(-)
Transportation	1.0	.3	1.3
Central Supply and Maintenance	(.9)	(-)	(.9)
War Reserve Munitions Procurement	-	2.2	2.2
Central Supply and Maintenance	(-)	(-)	(-)
Industrial Preparedness	.1	.4	.5
Central Supply and Maintenance	(.1)	(.4)	(.5)
Logistics Facilities Investment	-	.8	.8
Central Supply and Maintenance	(-)	(.2)	(.2)
Real Property Maintenance Activities	3.3	.8	4.1
Central Supply and Maintenance	(.4)	(.4)	(.8)
Other			
Logistics Headquarters and Command	.5	.1	.6
Central Supply and Maintenance	(.5)	(.1)	(.5)
Miscellaneous Logistics Activities	1.1	.1	1.2
Central Supply and Maintenance	<u>(.9)</u>	<u>(-)</u>	<u>(.6)</u>
TOTAL	17.2	12.0	29.3
Central Supply and Maintenance	(9.0)	(1.2)	(10.2)

* These figures were specially developed for this Defense Report and are not routinely available. Numbers may not add because of rounding.

b. Supply

To ensure the availability of major end items of equipment, spares and repair parts, war reserves, and all the other supply requirements needed by Defense's one million civilian and two million uniformed personnel (with a quarter of the military people overseas in over 100 separate countries and locations) require the world's largest supply system. Central supply support alone will cost \$1.8 billion in FY 1977 to handle about 27 million supply demands on 3.7 million different items obtained from more than 25,000 civilian suppliers, and provided to more than 10,000 different Service unit "customers." Total supply expenditure of about \$7.4 billion is required to cover both the operating expenses of our supply activities, at and below the central level, and the procurement costs for spare components, modification, and alteration kits.

c. Transportation

To get the supplies to the U.S. defense establishment will require about \$1.3 billion for transportation. This figure does not include tactical transportation costs, transportation charges paid as a part of the procurement cost of materiel, and the costs of moving personnel and their household goods. With those items included, the transportation bill exceeds \$4 billion.

d. War Reserves

Consumption of munitions, spare parts, and other essential supplies increases much more rapidly in wartime than production rates could be expanded. Therefore, if U.S. combat forces are actually to be able to fight immediately and to sustain that combat as long as necessary, we must continue to build toward adequate war reserve inventories to have on hand on D-Day. In many areas, current inventories are still substantially below what are needed.

Procurement of spare parts and other "secondary items" for war reserves are included in the supply category along with procurement of comparable items to support peacetime operations. Munitions are separately identified because virtually the entire munitions inventory is a war reserve, and because the magnitude of the program and the unique problems involved justify special management attention. War reserves of major equipment (Such as tanks and artillery pieces) are also maintained to replace anticipated combat attrition. Owing mainly to funding constraints, Defense does not attempt to buy in one year all the war reserves needed. There is a multi-year procurement program that considers both the short-term readiness posture and overall fiscal constraints. It represents the best possible balance between the desire to buy all the needed war reserves quickly to enhance near-term readiness, and the desire to stretch procurement over several years to keep production lines "warm" and thus more

responsive to emergencies that might arise. The Department generally buys the total war reserve needs of a new munition over a five to eight year period. The amount requested for this purpose in FY 1977 is \$2.2 billion.

e. Industrial Preparedness

Most of the \$.5 billion expenditures for industrial preparedness are necessary to modernize and expand some of the antiquated, inefficient, seriously polluting production base plants of pre-World War II vintage. Also included is the expense of operating and maintaining the existing base, and of storing for possible future wartime use those facilities from which we require no current peacetime production. We also expend a small amount on developing manufacturing methods and technology -- translating new ideas on production processes into production equipment that can provide a more efficient and responsive defense munitions production base.

f. Logistics Facilities Investment

Under logistics facilities investment is grouped all the capital investment in logistics facilities and equipment, other than the munitions production base modernization and expansion (which is made to provide an adequate industrial base for the U.S. in any possible future war). Each of the Services has a capital investment program which is designed to increase the efficiency of its logistics facilities. Examples are the Navy's shipyard modernization program and the Air Force's depot plant modernization program which, among other things, is expanding the application of modern automated materials handling techniques in the Air Force's supply depots. Many of these facilities are also of World War II vintage and badly in need of modernization. About \$.8 billion is being requested in FY 1977 for this purpose.

g. Real Property Maintenance

Real property maintenance encompasses utilities expense, minor construction, and maintenance and repair of real property. Of this \$4.1 billion, annual repair and maintenance of real property requires about \$1.6 billion. This is the minimum that good stewardship requires to keep up Defense's current property and plant equipment which cost about \$53 billion to acquire and substantially more to replace at current prices. The Department is falling behind in the maintenance and repair of fixed facilities.

Facilities upkeep should not be considered a "frill." Deteriorating runways mean foreign objects damage jet engines. Poorly maintained utilities plants mean power failures that hold up work or result in rental of expensive portable generators. Lack of real property maintenance funds means that we will have to resort to military construction of new facilities

sooner than would be otherwise required. Real property maintenance is an easy item on which to skimp, but to do so will lead inevitably to higher costs.

h. Other

The headquarters and command structure of the operating commands such as the Strategic Air Command are not considered to be a logistics cost. However, the cost to man and operate the headquarters and command structure of the Air Force Logistics Command and similar logistics commands is regarded as a logistics expense.

The \$1.2 billion identified as "miscellaneous" sweeps together a myriad of mundane but essential activities, such as property disposal, engineering services, and the operation of printing plants and laundries.

3. Problems Associated with Logistics Support

During the past few years, especially beginning in FY 1974, certain factors have made the provision of adequate logistics support extremely difficult. These factors include the following:

Inflation. Prices for all categories of items that affect materiel support have increased dramatically since FY 1974. These include prices not only for hardware-type materiel but also for such items as utilities, transportation and, perhaps most serious of all, for bulk petroleum. Continuing rapid escalation of prices has basically resulted in forcing the consumer to reduce quantitative purchases in order to stay within approved funding programs, and this, of course, adversely affects materiel readiness. Since no government agency is allowed to program for inflation in the O&M accounts, and operating budgets are prepared using a pricing base that is one to two years old by the time of implementation, Defense finds itself almost two years behind the inflation "power-curve." For example, the President's FY 1977 Budget was prepared using the prices that existed in the fall of 1975.

Foreign Military Sales (FMS). Normally, FMS requirements are programmed as reimbursable sales and are procured only after receipt of a valid sales case-requisition. When FMS stocks are procured in this fashion, Defense is normally able to provide responsive supply support to both U.S. Forces and allies. However, for a variety of reasons, the Department has received a number of unprogrammed FMS demands. Owing to the urgency of many of these unprogrammed demands, such as the requirements of the 1973 Mid-East War, stocks earmarked for U.S. operating forces were used to satisfy these high priority requirements and the materiel readiness of our forces has suffered accordingly.

Increasing Lead Times. Procurement lead times have increased significantly during the past two years, partially because of materiel shortages and diminishing production sources. Although there is some recent evidence of leveling off, the impact is still being felt in the area of supply support. This is a major cause of the dramatic increase in unfilled customer orders over this same period.

Significant progress has been made in identifying where many of the problems lie. However, Congressional support will be necessary to prevent further damage to U.S. logistics programs and a decline in combat readiness.

The FY 1976 Defense budget which President Ford submitted to Congress requested funds to start an attack on our spares support problem: for appropriated funds to buy spare components, for O&M funds for depot repair of spare components and for combat unit purchases of repair parts from the stock funds, and for the purchase of essential war reserve items and POL. The problem has become even larger in FY 1977.

4. Materiel Readiness

"Readiness" is a concept that integrates the diverse factors that affect the ability to deploy, engage, and sustain effective combat forces. It starts with the overall availability and proficiency of U.S. fighting men. The Joint Chiefs of Staff quite properly place prime emphasis on the capabilities of our most essential fighting ingredient: a properly trained and motivated team of officers and enlisted personnel. An almost equally important determinant of overall readiness is the availability, capability, and condition of the forces' fighting equipment. It is this "materiel readiness" to which emphasis will be given here.

Materiel readiness is critically concerned with the combat readiness of the equipment in the hands of combat forces and their initial increments of supplies. However, it does not end there. Behind the cutting edge of the forces are the replacement equipments, spare parts, munitions, and other supplies which must be available to repair and replace equipment, ammunition and weapons lost and consumed during the course of any action. Without such sustaining support, the hard, cutting edge of U.S. forces quickly becomes soft and dull with an adverse effect not only on our war fighting capabilities but also on potential adversaries' appreciation of our deterrents. Given the difficulty of the problems, and the expense of maintaining our sophisticated modern weapons systems, it is tempting to defer solutions to materiel readiness problems until a crisis or war comes. It is essential to provide for current solutions to logistics problems because recovery from deficiencies can be long, difficult and costly.

The increasing complexity and costs of U.S. weapons systems have increased the resources needed to maintain them, and expanded the time and resources required to restore materiel readiness if it is permitted

to deteriorate. U.S. materiel readiness problems were discussed last year. Actions have been taken or accelerated to correct them. However, these are complex problems that will require years of concerted Departmental action and steadfast Congressional support to correct.

Efficiency improvements have freed resources to attack our materiel readiness deficiencies while real Defense logistics expenditures have decreased. However, there are four areas of concern: (1) the materiel condition of the Navy's surface fleet; (2) the operational readiness of many of U.S. Navy and Air Force aircraft; (3) the materiel readiness of many Army units, particularly Reserve units; and (4) shortfalls in inventories of certain equipments, combat consumables, and spare parts.

a. Materiel Condition of the Navy's Surface Fleet

The materiel condition of the surface fleet was discussed last year. Since then, Navy and Defense witnesses have testified before the Congress in detail about this deficiency. The Board of Inspection and Survey has provided detailed verification of the seriousness of the problem.

A telling indicator of materiel readiness is the increase over time of the average number of equipment outages (casualty reports or CASREPTS) per ship, shown in Table VIA-2.

TABLE VIA-2

AVERAGE CASUALTY REPORTS OUTSTANDING PER SHIP

	<u>FY 72</u>	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76^{a/}</u>
Total Casualty Reports	9.0	9.6	9.9	10.4	11.6
Mission-Critical Casualty Reports	2.8	2.9	2.8	3.2	2.9

a/ First Quarter.

A year ago, remedial action was promised in FY 1976 to reverse the trends in the condition of our surface fleet. Unfortunately, a cut of 1,500 in shipyard civilian manpower strengths was directed, and Defense will have to reduce the ship overhaul program by \$25 million in order to pay the price increases imposed on the stock funds by inflation. These reductions will force a deferral of about 6 major ship overhauls — the actual number will depend on the mix of ships deferred.

The Department is not permitted to anticipate inflation in those accounts which pay for ship maintenance. The current estimate is that during FY 1976, nearly \$30 million will have to be reprogrammed into ship maintenance, and another \$40 million worth of alteration work

deferred, merely to offset partially the effects of inflation. As a result, the number of ships overdue for overhaul, as shown in Table VIA-3 will be almost as large at the end of FY 1976 as it was at the beginning of the year.

TABLE VIA-3

BACKLOG OF OVERDUE SHIP OVERHAULS

<u>End-FY</u>	<u>Number of Ships</u>	<u>Percent of Fleet</u>
1971	17	2
1972	27	4
1973	26	5
1974	47	9
1975	71	14
1976	69	14

The deterioration to the surface fleet would be worse were it not for the savings which are already accruing from the application of reliability-centered maintenance principles to the 31 Poseidon fleet ballistic missile submarines and the Sturgeon-class attack submarines. These principles, similar to those articulated by commercial airlines, apply a formal logic to determine what preventive maintenance actions, including inspection, are necessary to maintain an equipment. Application of such logic combined with a detailed review of reliability design has permitted extension of the time between overhaul for Poseidon submarines by up to four years, from five-year intervals to a maximum of nine-year intervals, and for Sturgeon-class SSNs by three years, from four-year intervals to seven-year intervals.

The Navy has also started to develop integrated, engineered maintenance strategies for its surface ships, based on reliability-centered principles, but the requisite analysis and engineering is complex and time consuming. Application of such a strategy to the 1052-class frigates will begin in FY 1977 on an experimental basis.

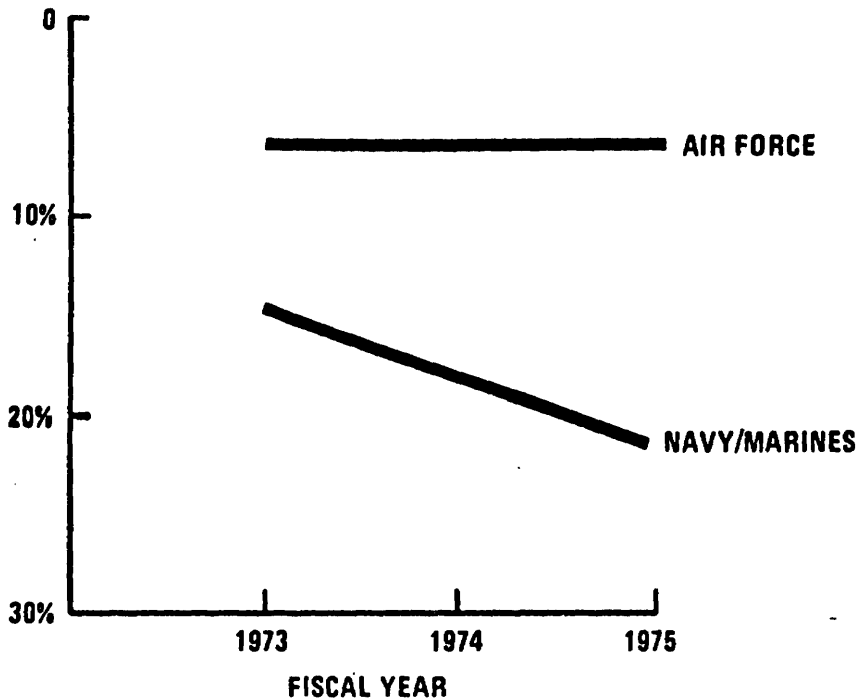
b. Aircraft

As shown in Chart VIA-1, in the Navy and Marine Corps the fraction of aircraft grounded owing to a lack of spare parts has been increasing. While the fraction has been stable in the Air Force, the number of Not Operationally Ready-Supply incidents have been rising steadily; thus, the stable rate merely suggests that extraordinary actions have been taken to keep the situation from deteriorating further.

The Services employ different definitions in computing these statistics, which overstate the inter-Service difference and make direct comparisons inappropriate. The point, however, is clear and discouraging; more and more Navy and Marine Corps aircraft are being grounded for lack of spare parts.

CHART VIA-1

AIRCRAFT GROUNDED AWAITING SPARE PARTS

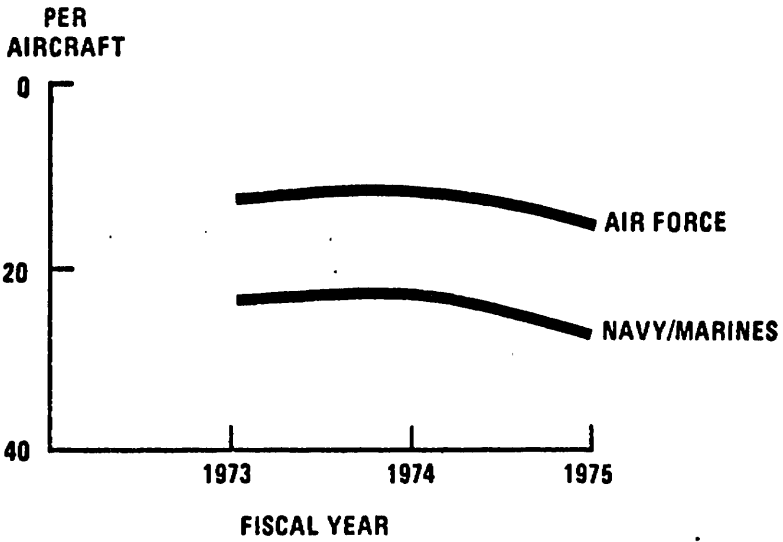


"Cannibalization rates" have been growing and "fill" rates for spare parts have been declining, as depicted in Chart VIA-2. That is, to keep one airplane or equipment operational, parts are being taken from another grounded airplane to provide the spares. Similarly, the number of orders for aircraft components not filled promptly by the supply system has been growing. In short, more than 25 percent of some types of aircraft are grounded for lack of spare parts, thus making it difficult to meet peacetime commitments. All of this adversely affects wartime readiness and the deterrent.

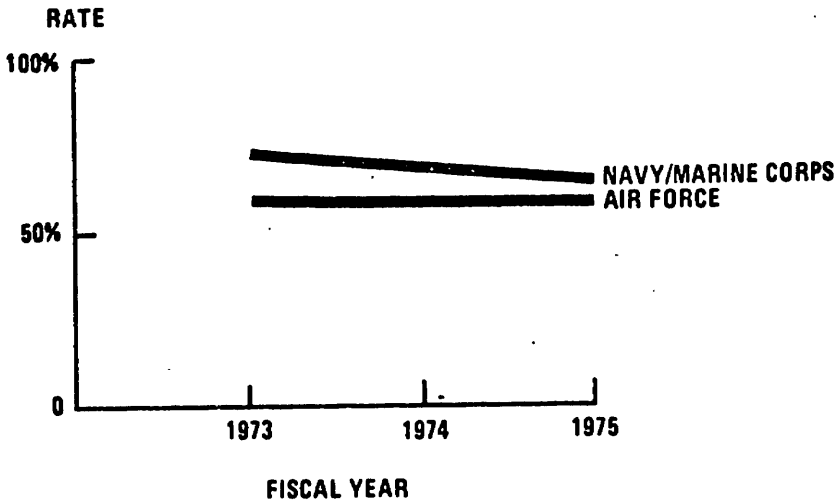
Part of the problem stems from a shortage of spare components. Another part of the problem is a shortage of O&M funds which are used to buy repair "bits and pieces" from the stock funds, and to pay civilian personnel performing maintenance in the depots.

CHART VIA-2

CANNIBALIZATION RATES



FILL RATES



We also must eliminate the backlog of broken but reparable spare components lying on warehouse shelves. For many critical spares the funding is so short that only those are repaired which are needed to fill a "hole" in an aircraft. It is imperative that we alleviate the backlog in FY 1977.

We are including a number of small but important measures to reduce this problem in FY 1977 and 1978. In FY 1977, funds requested for repair of spare parts for both ships and aircraft have been increased. In addition, emphasis has been placed on ensuring the availability of adequate materiel for repair of components below depot-level wherever possible.

c. Land Forces Equipment

The Joint Chiefs of Staff reports on the readiness of active Army and Marine Corps major combat units have shown significant improvement in the last several years as the personnel turbulence caused by the Vietnam War and the subsequent contraction in forces has subsided. Overall materiel readiness is marginal, however, in certain important areas.

The active Army reports generally acceptable materiel readiness. In general, it has adequate amounts of equipment on hand in good repair although many older weapons are due to be replaced by new weapons in the next few years.

The Reserve Components are essentially not operationally ready because of significant equipment shortfalls and the excessive age of the equipment they do have. The impact of equipment diversions to meet unprogrammed international logistic requirements has been felt throughout the Army but particularly in the Reserve Components. These diversions are a primary cause of the current slow pace of equipment modernization programs for the Reserve Components. Equipment diversions degrade readiness as they create equipment shortages either in the forces themselves or in theater-prepositioned stocks. Recovery is slow because of production lead times on major items of equipment.

The Army's ability to reinforce NATO rapidly is at present seriously degraded by shortages in its European POMCUS. European POMCUS (Pre-positioning of Materiel Configured to Unit Sets) stocks are those unit sets of combat equipment and spare parts which we preposition so that we can airlift Army division troops from CONUS to reinforce NATO rapidly in time of crisis. If we lack POMCUS materiel in Europe to equip the early deploying Army units, those units will have to wait while their equipment is deployed by sea from CONUS. This means not only that those divisions would be several weeks later in joining the NATO defense but also that their equipment would be subjected to the substantial sealift attrition that we would probably incur early in a NATO war.

Table VIA-4 illustrates the serious deficiencies in our European POMCUS stocks.

TABLE VIA-4
POMCUS SHORTFALLS
(As of 20 September 1975)

	<u>European POMCUS</u>		
	<u>Required</u>	<u>On-Hand</u>	<u>Percent</u>
Medium Tanks	591	189	32
Armored Personnel Carriers	1,028	420	41
Artillery	294	147	50
Radios	6,576	4,194	64

d. War Reserve Stocks of Equipment, Munitions and Combat Consumables

War reserve stocks are required to assure adequate support to U.S. operating forces during the initial phases of a contingency or war. Since we consume materiel more rapidly in war than during peacetime, war reserve stocks represent the additional stocks, over and above normal peacetime operating stocks that must be on hand at the time a conflict occurs to sustain our forces in combat until normal replenishment can be initiated.

Munitions

During the last decade we have seen the development of vastly more effective and efficient conventional munitions. The most dramatic example is probably the precision-guided munitions which -- through vastly improved delivery accuracy -- increase the combat capability of our tactical air forces. These modern, more effective munitions cost much more per unit than the "iron bombs" of World War II. However, when viewed in terms of total cost and total capability, these more effective munitions constitute a highly efficient means to increase the combat capability of our general purpose forces. We are building toward adequate inventories of these new munitions but significant deficiencies still remain. We must continue adequate procurement of these modern munitions to realize their full potential for our combat forces. Until these deficiencies are filled, we will not have the modern munitions to sustain our forces in combat no matter how good their immediate readiness may appear.

War reserve stocks of older conventional munitions are generally at acceptable levels. However, we are short of certain types of munitions such as sonobuoys which are the key to the effectiveness of our aerial antisubmarine warfare.

Stock Fund War Reserves

The FY 1976 budget contained a request for \$326.8 million for stock fund war reserves. This was a first attempt to reduce our current stock fund war reserve deficiencies of almost \$2 billion. This request (approximately 16 percent of our deficiencies) contained requirements for hard-core items such as gun tubes and tank tracks.

However, as a result of past funding shortages, we continue to have essentially the same deficiencies in war reserve stocks. This prolongs the risk of not having materiel required to sustain our operating forces in the event of war.

Appropriation Funded Reserves

War reserves represent the additional stocks, over and above our peacetime operating requirements, that are needed to sustain the increased level of activity experienced in war. Since peacetime assets are automatically applied to the total wartime requirement, we must first satisfy peacetime operating requirements for spares before spending funds for war reserves. Thus, the substantial reductions made in the Air Force's FY 1976 spares procurement request, while not explicitly stating that the reductions applied to war reserves, must, in large part, be taken from planned war reserve procurement.

5. Stock Fund Inflationary Problems

Stock funds are important contributors to readiness. They purchase materiel from commercial vendors and sell it at total cost, primarily to the operating forces who use their O&M funds to make the purchases. The stock funds maintain "buyer-seller" relationships with the Defense components and thereby motivate efficiency and good management.

Unfortunately, the usefulness of this potentially valuable financial management device has been degraded in recent years by price inflation. The stock funds have been required to price at last experienced cost. Thus, under the recently experienced high rates of inflation the prices at which the funds "sell" to the operating forces have not been sufficient to permit the funds to pay the vendor prices faced when replenishing inventories. Recent rates of change in stock fund procurement costs indicate that the high rates of inflation experienced in FY 1974 and FY 1975 have not abated. The effects of inflation on spare parts availability and thereby on materiel readiness have been discussed. Another result has been periodic stock fund cash liquidity crises and curtailment of required procurements.

6. Improvements in Logistics Efficiency

The fundamental logistics goal is to provide in the most efficient manner the support required for a level of combat readiness adequate to

our national security requirements. The Department has a responsibility to ensure that the \$30 billion involved in financing the logistics functions is spent in the most efficient way possible.

There are several reasons why logistics productivity improvements must be aggressively pursued. A backlog of logistics needs must be worked off in the next few years. As combat equipment grows more complex in order to match the growing sophistication of the threat, maintenance and supply requirements increase in size, complexity and cost. A third consideration is that weapon systems and equipment remain in operation for 15 to 40 years. Considering the problems associated with operating an automobile over 10 years old, the challenge should be apparent. Meeting this challenge requires substantial logistics support, and most specifically a sizeable maintenance, modification and alteration program. To satisfy growing logistics requirements within the resource levels projected for national defense, we must seize every opportunity for improved management, efficiency and productivity.

Several instances of efforts to improve efficiency and productivity are worth noting, both because they represent the general category of productivity-enhancing changes that must be made to meet our logistics commitment and because they are significant in themselves.

a. Reliability-Centered Aircraft Maintenance Strategies

The Department is expanding the application of reliability-centered maintenance concepts throughout the Defense aviation community. In the past year, the initial trial application to the Navy's P-3 aircraft has been extended to all levels of maintenance. It has resulted in a 50 percent reduction in the depot level maintenance requirement.

Similarly, reliability-centered maintenance is now being applied to the F-4 fleet with comparable increases in effectiveness and efficiency. Careful analysis is underway to permit addition of turbojet engines and thus bring the whole aircraft including propulsion under these principles.

By the end of FY 1976 funded delivery period, 14 types of Air Force and Navy aircraft will have been transferred to maintenance under reliability-centered principles. As previously discussed, the Navy is also applying these principles to ship maintenance planning.

b. Air Force Technology Repair Centers

The Air Force has restructured its depot activities to minimize duplication of technological capabilities. It has permitted a saving of nearly 1,200 people in the Air Logistics Centers.

c. Productivity-Enhancing Investments

In order to increase Service incentives and ability to invest in productivity-enhancing equipment, two recent actions have been taken. First, the per item limit on locally authorized expenditures for productivity-enhancing equipment in industrially-funded activities has been raised from \$1,000 to \$100,000. Second, beginning in FY 1977, each Military Department will program \$10 million annually for productivity-enhancement. The Defense Agencies will program \$2 million annually.

These funds will be used to fund quick-payback, productivity-enhancing equipment requested by local commanders in their operating accounts. The money will not be used for other purposes and if the request is valid the funds will be allotted within 60 days of the request. Beginning in FY 1979, operating accounts have been reduced in our FYDP planning to reflect anticipated savings.

d. Reductions in Personnel

Program VII, Central Supply and Maintenance, is the budget account that finances nearly a third of the activities discussed in this section. Even though the range and depth of functions performed in this area have increased in recent years, the number of personnel associated with these activities has been reduced from 628 thousand in FY 1969, to 451 thousand in FY 1976, a reduction of 177 thousand or 28 percent.

e. Centralization of Management Functions

In order to obtain greater efficiency of operations we have consolidated numerous central supply and maintenance functions. These include the following: (1) all property disposal, wholesale subsistence and POL functions under the Defense Supply Agency; (2) conventional ammunition under the control of the Army; (3) many catalog functions under the Defense Logistics Service Center of DSA; (4) many consolidated Army maintenance activities under Project CONCISE; and (5) a significant reduction in the number of items in the supply system and elimination of the duplicate management of practically all the remaining items.

7. Trends and Funding

We need to repair and maintain the more advanced equipment entering our inventories. Because it is becoming increasingly more difficult and expensive continuously to maintain modern, sophisticated weapon systems in a high degree of readiness, there is a tendency to put the problem aside and implicitly, or explicitly, assume that adequate materiel readiness can be restored when war appears imminent. It is essential that we keep abreast of our logistics requirements because recovery from degraded material readiness is long, difficult, and costly.

Substantial funds will be required. To illustrate, even though the numerical size of the Navy fleet has been reduced over the past ten years the numerical backlog of ships awaiting overhaul continues to grow and in fact is larger than we had 20 years ago. Equally important, however, the real cost of overhauling each ship is higher than it was a few years ago -- because newer ships are, of necessity, increasing in size and sophistication in order to counter the rapidly increasing naval and anti-naval capabilities of the Soviet Union.

Meanwhile, shipyard capability to perform the overhaul work has been diminishing for three reasons. First, the Department has not had the funds to keep a larger Naval shipyard force at work. Second, there has been an increasing commercial demand for shipyard capacity. Third, even when Defense had the necessary funds in recent years, civilian manpower ceilings constrained execution of the approved program.

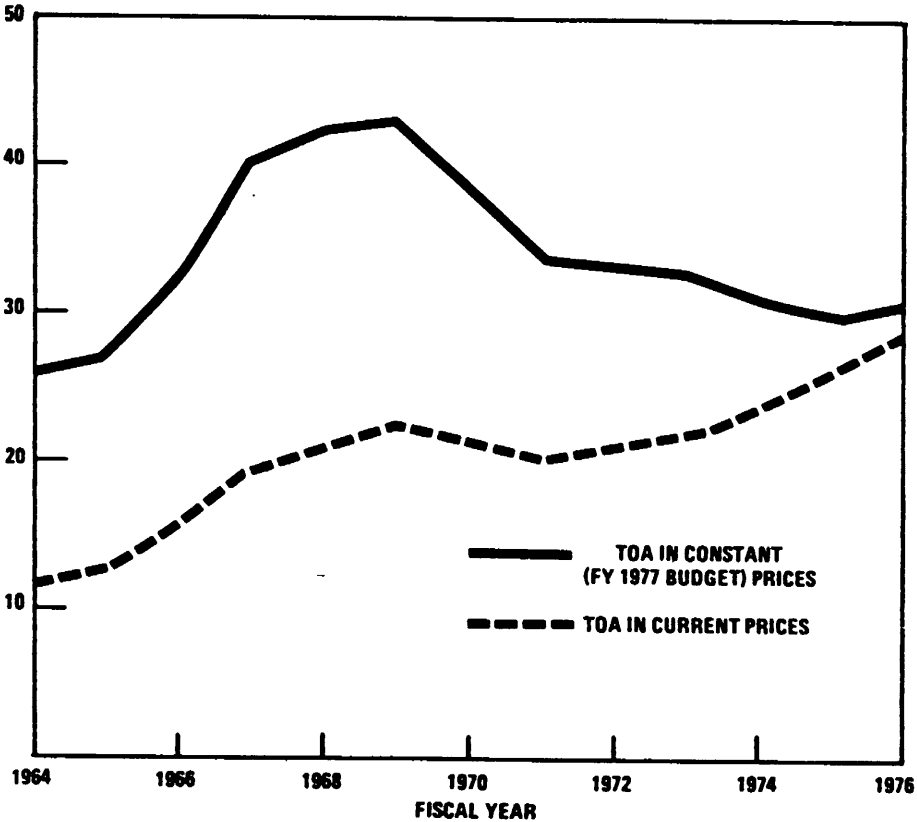
There are no "easy" solutions to these materiel readiness problems. While the Department continues efforts to improve logistics management, the principal sources of solutions to materiel readiness problems lie in the provision of adequate funds and in efforts to achieve savings from productivity initiatives.

In preparing the multi-year financial plans the Department tries to project as realistically as possible the demands that the planned Defense forces will place on the logistics structure. The projections also take account of the efficiency and productivity savings expected from initiatives underway or planned. Thus a lean program develops whose execution depends upon achieving these ambitious goals for efficiency and productivity improvement.

The trend in O&M funding over the last few years is shown in Chart VIA-3. It decreased in real terms from 1969 through 1975. Current readiness problems explain why this trend is being reversed in the last half of this decade.

OPERATION AND MAINTENANCE TRENDS FY 1964-76

TOTAL OBLIGATIONAL
AUTHORITY
\$ BILLIONS



269

487

B. TRAINING, MEDICAL, AND OTHER GENERAL PERSONNEL ACTIVITIES

Included in this major program are the Defense Department's centrally managed human resources activities. This year we are requesting \$22.5 billion for this program, an increase of \$800 million over last year. However, the FY 1977 funding request represents the same purchasing power as the FY 1975 funding level. This increase is necessary to compensate both for the effects of inflation and for the increased numbers of military retirees. The distribution of funds by activity is shown in the following table:

(\$ TOA in Billions)

	<u>FY75</u>	<u>FY76</u>	<u>Trans.</u>	<u>FY77</u>
Personnel Procurement	.4	.5	.1	.5
Training & Education	6.4	6.5	1.5	6.4
Health Care	2.8	3.1	.7	3.1
Personnel Activities	4.2	4.3	1.1	4.1
Retired Pay	<u>6.2</u>	<u>7.3</u>	<u>1.9</u>	<u>8.4</u>
Total	20.0	21.7	5.4	22.5

1. Personnel Procurement

Personnel procurement requires both recruiting and advertising and the operations of Armed Forces Examination and Entrance Stations. The expenditures for these activities have increased with the end of conscription from approximately \$140 million in FY 1970 to a current level of approximately \$500 million. These increased expenditures are enabling us to remain a competitive employer and thus attract the needed quality and quantity of military entrants.

This funding level is expected to provide an efficient and effective accession system and accomplish the voluntary accession of 400 to 450 thousand active duty personnel required annually to man the force during the next five years. The cost of personnel procurement is projected to be relatively stable (excluding future inflation). However, adjustments to the funding level may be required as a result of changing employment rates or future economies (such as reductions in the G.I. Bill benefits) which may make the recruiting task more difficult.

2. Training and Education

Each year the Defense Department submits to the Congress a detailed report on individual training and education, including a discussion of each category of training and Department of Defense initiatives

in training management. A comprehensive picture of the Department's individual training and education programs is presented in the Military Manpower Training Report; this discussion will attempt to highlight some of those initiatives which were cited in last year's Report.

To place training and education in perspective: it consumes about six percent of the Defense dollar and 14 percent of Defense manpower. Without these training and education programs we could not build and maintain the strong, efficient and effective force necessary to our national security.

The Defense training establishment has two broad missions. First, we seek to provide usable military skills to entry level personnel. In FY 1977 we will train more than one-half million entrants -- both active and Reserve Component personnel. Over 70 percent of our student load relates directly to training for the basic skill needs of the force.

Second, we are concerned with preparing career personnel for increasing job responsibilities. Personnel who remain in the force beyond their initial obligation are groomed to fill our leadership and supervisory positions. The knowledge necessary to perform these jobs effectively is not an inherent characteristic. As personnel assume greater responsibilities, they require periodic training to broaden their understanding of both pertinent technology and management principles to ensure their continued contribution to the force. Such schooling, whether geared to specific military skills and equipment, or to military applications of current technology and philosophy, is not generally available in the civilian sector. Neither are qualified squad leaders, ship captains, jet pilots, and armored vehicle maintenance personnel. In short, the personnel system must create its technical experts and leaders from within -- as must all armed forces -- by augmenting field experience with the skills and knowledge provided by the formal school structure of the training establishment.

There are three fundamental considerations that affect the magnitude of dollars and manpower devoted to the Defense training establishment. The first is the recognition that the military initiative lies with our potential adversaries. We could train more of our skills in units through so-called "on-the-job" training than we currently do. However, experience has indicated that a combat unit cannot both train new men in basic skills and maintain combat readiness. Our potential adversaries possess the military initiative and can name any future "D-Day". They, therefore, can afford to provide on-the-job training in many of their combat units as long as they are not planning imminent hostilities. To ensure that the U.S. has a combat effective force ready on any hypothetical

"D-Day", we can undertake only a small portion of individual training in operational units. We therefore provide essential skill training in a centralized training establishment.

Reliance on the tactical concept of forward-deployed support also affects the cost of and manpower required for the training establishment. Current tactical concepts create a demand for technical talent on the battlefield rather than in rear area depots. The advantages gained through these tactical concepts were evident, for example, when the Israeli forces employed U.S. doctrine in the Sinai in 1973 by repairing damaged tanks on the battlefield. The immediate presence of technically proficient military personnel for this task permitted Israeli forces eventually to attain numerical superiority in equipment over the initially superior Egyptian forces. If the U.S. were to rely more extensively on rear area civilian technical competence for repair of damaged equipment, we could reduce military technical manpower and the scope of training required. However, we would lose combat capability.

We must also consider the effect that the ever-expanding scope of skill requirements has on training dollars and manpower. The introduction of new technology, such as laser-guided antitank weapons, which seek to gain battlefield advantage, creates a demand for technicians proficient in the use and maintenance of this equipment. This results in a demand upon the training system for new, sometimes longer, courses to train the necessary manpower, and more highly-trained instructors.

The military training establishment is unique; there is no educational effort in the civilian community which parallels it. The Department of Defense houses, feeds, clothes, pays, and transports its students and then assigns them to units when training is complete. We accomplish all of this typically in a minimum work-week of forty hours of face-to-face contact. We believe we have an effective program, and we are continually seeking ways to improve efficiency.

One such effort is the implementation of the Army's One Station Training concept. As noted last year, One Station Training is designed to minimize turbulence for the trainee, capitalize on the doctrinal expertise of the professional home of the various branch schools, and streamline the training establishment. Extensive analysis of a complete cycle of Infantry One Station Unit Training was completed in December, 1975, and feedback from field commanders on the performance of recent graduates will be studied. The Army's conversion to this One Station Training is progressing as scheduled; Forts Dix, Jackson, Knox, Polk, and Leonard Wood already are operating under this concept. Simultaneous

with the conversion of Forts Ord and Polk to division posts during FY 1976, Forts Bliss, Gordon, and Sill will begin One Station Training operations. We anticipate that over 50 percent of the Army entrants in FY 1977 will receive all of their initial entry training at the same location.

3. Health Care

The Defense health care system provides a nucleus around which we could expand rapidly to build a wartime medical force. It also maintains a healthy peacetime active military force. In addition, it offers as a fringe benefit the delivery of high quality, economical health care to dependents and retirees.

The required size of the peacetime health care nucleus is currently under review. Present Department of Defense policy is to base Defense health facilities operations, construction, and modernization on active duty Service member health care needs, unless:

- adequate health care facilities for dependents and other beneficiaries are not available locally;
- the marginal cost of treating dependents and other beneficiaries in-house is favorable locally relative to CHAMPUS costs;
- a valid teaching or training requirement exists.

Since general mobilization requirements call for a total force much larger than that on active duty, the Defense Department plans to rely heavily on the Reserve Components and the civil sector to meet total wartime health care requirements.

About 9.5 million people are eligible for some form of health care in military facilities. Approximately one-fifth of those are active duty military personnel. The rest are dependents of active duty personnel, retirees and dependents of retirees, and survivors of deceased military personnel. However, active duty military personnel generate slightly over one-half of the in-house patient load.

Dependents, retirees, and others are treated in military facilities on a space available basis. About half of in patient total health care and 10 percent of their outpatient services are provided through the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). Under this program, dependents and retirees may be treated by physicians and hospitals in the civil sector who then bill the Defense Department for a portion of the care.

The cost of the CHAMPUS program has been growing significantly in recent years. Inflation, increased utilization of health care by beneficiaries, implementation of new, complex and costly techniques in the health care provided by the industry, increases in the eligible population, and reductions in military facility resources have all contributed to bringing about this increase. As long as inflation in the health care industry continues and capabilities in the military facilities are constrained, we do not expect any change in the CHAMPUS cost trend. However, we are placing emphasis on control and accounting of CHAMPUS at the Department level and we are exploring various ways to improve management and minimize costs. We are also attempting to utilize better the capacity of our military direct care system.

In considering these CHAMPUS costs, it should be emphasized that they are a tradeoff for reduced funding of military health care facilities, since we are required by law to treat dependents and retirees either in military facilities or to pay for a large share of their health care through CHAMPUS.

In spite of efficiencies that we are striving to accomplish in both in-house operations and CHAMPUS management, it would be necessary to significantly reduce the benefit package to our beneficiaries in order to achieve any dramatic savings in the health care portion of the Defense budget. Because health care is an important part of an overall compensation package, any reductions in the value of the health care benefit to the beneficiary must be weighed against the likelihood of increased direct compensation or reduced retention. The current Quadrennial Review of Military Compensation is closely examining the compensation aspects of Department of Defense health care.

4. Personnel Activities

This category contains all centrally-managed personnel activities. A detailed discussion of these programs was presented in last year's Report. Briefly, they include:

-- Personnel Services. Again this year, the largest portion of funds in this category is for the Overseas Dependents Education program (about \$265 million). Also included here are miscellaneous personnel activities, such as centrally-funded welfare and morale activities and the Armed Forces Information Program.

--- Permanent Change of Station Travel. Included are both the costs of moves and the pay and allowances of transients (i.e., manpower enroute between bases).

-- Defense Family Housing. Due to the impact of inflation, the costs of constructing, operating, and maintaining government-controlled family housing has outstripped the funds recovered from the quarters allowance forfeited by occupants of this housing. This gap is expected to widen. The disparity between the cost and value of government-controlled family housing and equivalent housing in the private community have created inequities within the military compensation structure. Only about 30 percent of military personnel with dependents occupy government-controlled family housing.

In order to remove the compensation inequities caused by housing policies, the decision has been made to develop a concept of renting public quarters at fair market value. Development of this concept plus other refinements are contained in an in-depth study of the Department's housing programs and include refinements to the bachelor housing program as well. Approval of the development plan and any subsequent implementation steps will be preceded in FY 1977 by proposed adjustments to the compensation system.

5. Retired Pay

Unlike the federal civil service retirement plan, under which the Government matches the employees' contribution (7 percent of annual salary) with one of its own, the military retirement program is not covered by a pension fund. Military personnel do not contribute to a retirement fund, nor does the federal government set aside funds annually to pay for the accrued liability of future military retirement. Whereas federal civil service retirees collect annuity payments from the assets of their own pension fund -- or "savings account" -- and thus help defray the accrued liability costs, annuities for retired military personnel -- costs which are based upon formula legislation -- are funded through annual Congressional appropriations. Since these funds represent military personnel who have retired, they constitute payments for past services rendered and cannot be considered as contributing to current or future defense capability. Indeed, they must be excluded from the Defense Department's Real Program Value.

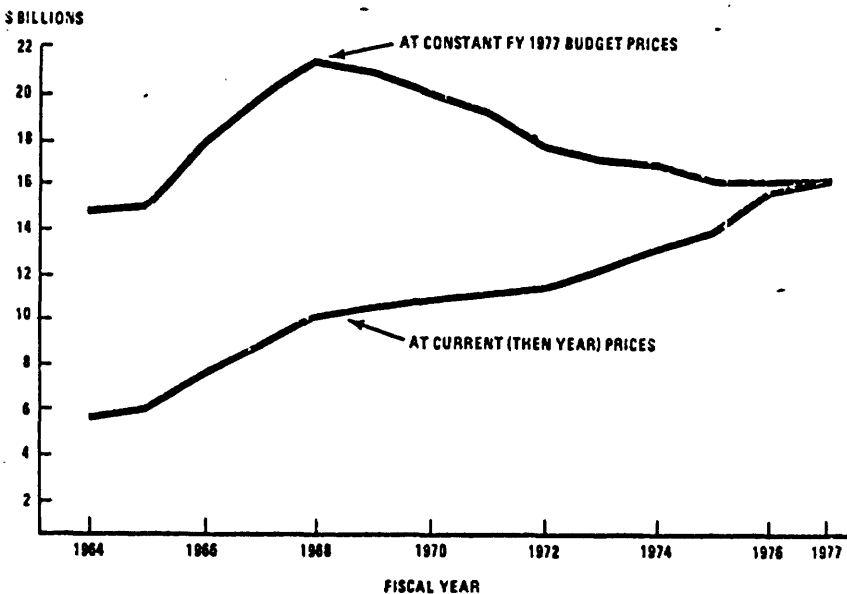
Retiree costs increase each time the Consumer Price Index increases at least three percent from the previous base and we do not expect these costs to level out in the next few years. Although we recognize that the accrued liability of future retirement payments for current military personnel is a valid claim upon Defense resources, we must also recognize that military retirement annuities are deferred obligations; tomorrow's taxpayer supports today's military personnel. Therefore, the concept of establishing a military retirement pension fund is being addressed in the Quadrennial Review of Military Compensation. Current

legislative proposals to modernize the retirement system are discussed in detail in Chapter VII of this Report.

6. Funding Trends

Since FY 1971, training, medical and other general personnel activities (including retired pay), have accounted for slightly less than 20 percent of total Defense costs. We expect this trend to continue over the next five years. As the following chart shows, the real purchasing power for Defense's centrally managed human resources activities (excluding retired pay) has diminished. We anticipate that this diminution will cease if total Defense Real Program Value is allowed to grow at a minimum of two percent annually.

TOA TRENDS FY 1964-77
TRAINING, MEDICAL, AND OTHER GENERAL PERSONNEL ACTIVITIES
(excludes Retired Pay)



The requirement to support ever-increasing health care system usage has masked the impact of management efficiency efforts to reduce the costs of our other human resources activities. While increases in health care costs are expected to continue, we are making every effort to contain this cost growth.

C. ADMINISTRATION AND ASSOCIATED ACTIVITIES

Last year, certain miscellaneous support-oriented elements of the Department of Defense budget which are grouped together under major Program IX, Administration and Associated Activities -- Departmental Headquarters, Naval Petroleum Reserves, Claims and Contingencies -- were discussed. In the ensuing months, important reductions in the Departmental Headquarters have been implemented and significant developments regarding our Naval Petroleum Reserves have taken place.

1. Departmental Headquarters

Departmental Headquarters encompass the Office of the Secretary of Defense; Offices of the Service Secretaries; OJCS; Army General and Special staffs; Department of Navy Staff offices, Marine Corps Headquarters; and USAF Air Staff.

In 1973 a headquarters review program was initiated in the Department of Defense to improve management effectiveness by reducing the number, size, layering and duplication of headquarters and by updating and streamlining command relationships. Total reductions identified through the end of FY 1976 are about 25,600 manpower spaces, based on the FY 1974 column of the President's FY 1974 budget. Of this total, about 19,200 people are in headquarters and the remainder are in defense agency field activities.

Efforts to reduce the headquarters support manpower, consistent with overall planning guidance and force objectives, will continue, with significant additional headquarters reductions planned for FY 1977. Progress in these areas is discussed more fully in both the Manpower chapter of this Report and the Manpower Requirements Report.

2. Naval Petroleum Reserves

Recognizing this country's growing energy needs, the Department of Defense continues to support the Navy program for accelerated exploration and development of the four Naval Petroleum Reserves (NPRs). This acceleration was begun in FY 1974, during the oil embargo, when the Congress appropriated \$59 million for the increased development of these Reserves.

Following the accelerated NPR exploration and development program, there have been several legislative initiatives with great potential significance for the future of these Reserves. The first such initiative is a proposal by the President for legislation which would allow full production from NPRs #1, #2, and #3. Under the President's proposal, resources generated from this production would be applied to the continued

exploration and development of the NPRs as well as the creation of the national strategic reserve recently authorized by the Energy and Conservation Act. Such a reserve, with large quantities of oil stored at sites around the country and available for rapid delivery when needed combined with the fully developed NPRs, would provide the means for ensuring access to oil should our import supply be interrupted.

Differing bills concerning future disposition and jurisdiction over the oil in the NPRs have been passed by the House and Senate and are now the subject of a House-Senate Conference. One provision contained in the House bill -- which the Defense Department continues to oppose -- would transfer jurisdiction of the NPRs to the Department of the Interior.

Enactment of legislation authorizing production from NPRs #1, #2, and #3 would eliminate the need for funds in the Defense budget to support ongoing operations, exploration, and development of all NPRs, provided that proceeds from the sale of the oil were applied for those purposes. Shown below is a table giving the funding levels requested for FY 1976, the transition period, and FY 1977. It should be noted, however, that beginning with the FY 1977 period, all funds for the NPRs are budgeted in the appropriation, Funds Appropriated to the President.

	\$ = Thousands		
	<u>FY 76</u>	<u>FY 77</u>	<u>FY 77</u>
NPR #1	82,106	40,002	117,906
NPR #2	20	5	20
NPR #3	727	397	757
NPR #4	33,475	6,672	100,492
Oil Shale			
Reserves	600	250	1,300
Headquarters	<u>772</u>	<u>174</u>	<u>825</u>
Total	117,700	47,500	221,300

The five-year program begun in FY 1974 to develop NPR #1 to its projected full production capacity of 400,000 barrels per day by 1980 is expected to cost approximately \$550 million. Thus far, 146 wells have been drilled and are capable of full production. The \$117.9 million requested for FY 1977 will provide for drilling four exploration wells and 231 additional development wells, as well as for associated surface facilities.

The \$20 thousand and \$757 thousand requested for NPRs #2 and #3, respectively, will provide funds for administering leases on the Reserves, for operation, maintenance, exploration and planning activities.

Exploration of NPR #4 is still in its initial stages. Two out of a total of 26 exploratory wells have been drilled and 3,535 line miles of seismic survey work have been completed thus far. The \$100.5 million being requested for NPR #4 in FY 1977 will support the drilling of five additional exploratory wells and the completion of approximately an additional 2,900 line miles of seismic survey work.

3. Contingencies

The two contingency fund elements are the Contingencies, Defense Appropriation, and the emergency construction portion of the Military Construction, Defense Agency Appropriation. These two contingency funds provide the Department with a margin of flexibility within which urgent, unexpected and frequently confidential requirements considered vital to our national security can be funded. It should be stressed that these funds are strictly controlled; their use for any requirement can be authorized only by the Secretary or Deputy Secretaries of Defense, and authorization is granted only after all other possible funding sources have been explored.

Authority for any funds in the Contingencies, Defense, account which are not obligated by the close of the fiscal year in which they are appropriated is considered to have expired. At the end of FY 1975, none of the appropriated \$2.5 million had been allocated and the entire amount was returned to the Treasury Department on June 30, 1975. Thus far in fiscal 1976, no obligation of funds for Defense Contingencies has been authorized.

Although no use of these funds has been authorized since FY 1974, their continued availability is still considered important. They allow the Department to make immediate and effective responses to unforeseen requirements when failure to do so would be detrimental to this country's best interests. Therefore, we are again requesting \$5.0 million in FY 1977 for this account.

Unlike those funds appropriated for Contingencies, Defense, funds for emergency construction in the Military Construction, Defense Agency Appropriations reflect both new appropriated funds and prior year unobligated funds which are carried over to the current budget year, since funds appropriated to this account remain available until expended. In FY 1975, of a proposed \$30 million total program, \$10 million was carried over from prior years. Thus far in the current fiscal year, approximately \$9 million of the \$30 million programmed has been obligated, \$8.1 million of which was for the urgent and unanticipated construction of modifications to existing U.S.-controlled facilities in West Germany to accommodate a mechanized combat brigade. We are requesting a program of \$30 million again in the FY 1977 Budget for emergency construction.

4. Claims

Each year numerous noncontractual claims are filed against the Department of Defense. Claimants seek financial compensation for a variety of private property losses, physical injuries, and foreign and miscellaneous claims. Settlement of these claims is made with funds appropriated annually to the Defense Claims account, which is divided into four categories of claims -- personnel, tort, admiralty and miscellaneous.

Unlike the majority of other Defense appropriations, Defense claims funds cannot be programmed in advance or precisely controlled from year to year. Funds required for this appropriation are determined solely by the number, dollar value and amount of settlement of claims filed against the Department in any fiscal year, and whenever determined payable under existing statutes, settlement must be made. Moreover, we feel it is only equitable that each claim be settled and paid as promptly as possible.

The cost per claim in each of the four categories fluctuates from year to year but we have been experiencing a general trend toward higher costs per claim in recent years. For example, the average cost per personnel claim -- the largest of the claims categories -- has risen from \$192 in FY 1972 to an estimated \$285 in FY 1977. We have experienced similar increases in tort settlements.

Several factors contribute to this increase in the cost of claims, a major one being an amendment this year to the Military Personnel and Civilian Employees Claims Act which increases the maximum settlement amount from \$10,000 to \$15,000 per claim. A second important cause is the inclusion in the FY 1977 budget of a request for funds for the settlement of several hundred claims arising from the rapid evacuation of both U.S. civilians and military personnel from the Republic of Vietnam. Settlement of these claims provides financial compensation for the loss of household goods, automobiles, personal possessions, and other effects which had to be abandoned. Thus far, they average \$3,800 per claim.

Other factors contributing to the rising cost of claims are: (1) increasing awareness on the part of Defense Department personnel of the opportunity to file claims for reimbursement, and (2) the increased standard of living reflected in significantly more expensive household goods.

We anticipate a requirement for \$82.5 million in FY 1977 for claims. However, in light of the uncertainties associated with this account, i.e., the number and amount of claims which will be filed during the fiscal year, we are requesting an "indefinite" appropriation for FY 1977. By so doing we hope to avoid the delays in settlement caused by restricted funds.

VII. MANPOWER

A. MANPOWER COST AND STRENGTH TRENDS

The escalating cost of manpower is having a major impact on the composition of the Defense Budget. This is shown in Table VII-1 on the following page. Since the pre-Vietnam war year of 1964, Defense annual payroll costs have increased from \$22 billion to \$50 billion, while manpower levels have declined from 3.86 million to 3.14 million. As a percentage of annual Defense outlays, payroll costs have grown from 44 percent to 55 percent. At the level of expenditures in the FY 1976 Budget, that represents a shift of \$10 billion from RDT&E, procurement, maintenance, and operations to manpower, in spite of the fact that there are 19 percent (716,000) fewer military and civilian personnel on the payroll.

Over the same period the Defense share of the federal budget has decreased from 42 percent to 27 percent, and its share of GNP has dropped from 8.3 percent to 5.9 percent, reflecting the ascendancy of social programs on our scale of national priorities. Thus the overall growth in the cost of the Defense effort has been restrained in comparison with other national programs, and Defense, in coping with the escalating cost of manpower, has made substantial personnel reductions.

During the three fiscal years 1973-75, the Department cut active military and civilian manpower by 295,000 -- nearly 100,000 per year. Yet payroll costs claimed about 55 percent of Defense outlays in all three of those years. In FY 1976, in spite of significant steps to restrain the growth of manpower costs (including a 5% limit on increases in military and civilian pay), payroll costs will again exceed 55 percent of outlays.

The factors driving up payroll costs have been the pay comparability principle which was established to ensure equity for federal civilian employees, and the related law which gears military pay increases to increases granted to federal civilians. These factors, coupled with cost-of-living adjustments, have also been responsible for more than half of the increase in the cost of military retired pay, which has grown from \$1.2 billion in FY 1964 to \$7.3 billion in FY 1976. The rest of the retired pay increase is accounted for by the larger number of retirees we have today.

Looking to FY 1977 and beyond, Congress and the Executive face difficult choices if we are to sustain an adequate defense capability. We must slow the growth of Defense manpower costs in order to assure an adequate level of resources for development, procurement, maintenance of equipment, and the operation of our forces. The options are further civilian strength reductions, further restraints on increases in the average cost per member of the Department, or some combination of the two. These options and the Department's proposed course of action are discussed below.

TABLE VII-1

ESCALATING MANPOWER COSTS
(\\$=BILLIONS)

	<u>FY 1964</u>	<u>FY 1972</u>	<u>FY 1973</u>	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>
Defense Outlays	50.8	76.0	73.8	78.4	86.0	91.2
Manpower Outlays						
Payroll						
Military	13.5	23.6	23.8	24.4	25.9	26.6
Civilians						
Direct Hire	7.3	12.8	13.0	13.4	14.6	15.5
Indirect Hire*	.4	.7	.7	.8	.7	1.1
Total	<u>7.7</u>	<u>13.5</u>	<u>13.7</u>	<u>14.2</u>	<u>15.3</u>	<u>16.5</u>
Retired Military	<u>1.2</u>	<u>3.9</u>	<u>4.4</u>	<u>5.1</u>	<u>6.2</u>	<u>7.3</u>
Total Payroll	22.4	41.0	41.9	43.8	47.4	50.4
Percent of Defense	44.1	53.9	56.8	55.9	55.1	55.3
Support ^{1/}						
Total Support	2.0	3.9	3.9	3.8	4.1	5.2
Percent of Defense	3.9	5.1	5.3	4.8	4.8	5.7
Total Manpower	24.4	44.9	45.8	47.6	51.5	55.6
Percent of Defense	48.0	59.1	62.1	60.7	59.9	61.0
Strengths (000's, End FY)						
Active Military	2,685	2,322	2,252	2,161	2,127	2,087
Civilians						
Direct Hire	1,035	1,068	998	1,014	989	962
Indirect Hire*	140	110	102	95	89	96
Total	<u>1,176</u>	<u>1,178</u>	<u>1,100</u>	<u>1,109</u>	<u>1,078</u>	<u>1,058</u>
Total	3,861	3,500	3,352	3,270	3,205	3,145
Reserve Paid Drill	953	925	919	926	896	875

^{1/} Manpower support includes all nonpayroll costs of individual training, medical support (including CHAMPUS), overseas dependents education, and recruiting and examining, plus half of base operations.

* Indirect hire civilians often are excluded from manpower costs and strengths.

1. Strength Reductions

We cannot cut military strength and still meet U.S. defense needs. Military strength is now 600,000 below 1964 levels, while opposing military capabilities have grown quantitatively and qualitatively. During fiscal years 1973-1975 165,000 active military spaces were eliminated; only substantial pruning within the headquarters and support structure and greater dependence on the National Guard and Reserves has allowed the Services to maintain, and in some areas increase, their combat forces. Significant additional active military reductions cannot be accomplished without cutting into force levels. Significant reductions in civilian employment might be accomplished if associated with activity consolidations and base closures.

Given the need for a program balanced over the long run, the Defense Department plans by end FY 1977 to reduce civilian manpower by 26,000 from the levels proposed for the end of the Transition Quarter. A reduction of 36,000 paid drill spaces is planned for the Reserve Components. The reductions are summarized below:

DEFENSE MANPOWER STRENGTH TRENDS
(000)

	Actual 30 Sept 1975	Congress Auth End-FY 197T	President's New Proposal for End: FY 197T	FY 1977	Reductions From FY 197T
Military	2,104	2,106	2,102	2,101	1
Civilian					
(Dir & Indir)	<u>1,076</u>	<u>1,064</u>	<u>1,062</u>	<u>1,036</u>	<u>26</u>
Totals	3,180	3,170	3,164	3,137	27
Reserve Paid					
Drill	896	895	875	849	36

Civilian reductions cannot be accomplished by mere "belt-tightening." Reductions are tied to actions which require the full support of the Congress for successful accomplishment. One involves base realignments. The other involves continued reductions in headquarters and headquarters support manpower.

Reductions in the Selected Reserve occur primarily because of the transfer of 40,000 (of 92,000) Naval Reservists from the Selected Reserve to the Individual Ready Reserve. We still plan that these Naval Reservists will augment active forces as individuals upon mobilization, and they will still be paid for two weeks active duty to maintain their proficiency. However, they will not be paid for the 24 or 48 drills per year which

they are now authorized in addition to the two weeks. Strengths of the remaining Reserve Components are being stabilized, and the strength of the U.S. Army Reserve is being increased slightly.

The cost savings associated with these manpower reductions as they are phased over FY 1977 are \$240 million in FY 1977 and \$600 million in FY 1978.

2. Restraints on the Growth of Total Compensation

The growth rate of the average cost per person can be slowed through two types of initiatives:

-- Restraining increases in military and civilian pay and in military retirement annuities;

-- Reducing or eliminating certain elements within the total compensation package.

a. Limiting Pay Increases

The budget assumes that pay increases for GS civilians would range from 3 percent to 5 percent. Since military pay is adjusted by the average percentage increase given employees under the General Schedule, the military increase also will be between 3 percent and 5 percent.

On Wage Board civilian pay, the budget assumes that legislation will be enacted to reform aspects of the Federal wage system that result in Defense blue-collar workers earning more than their nongovernment counterparts.

These changes would be implemented in a way which would assure that no employee would receive less than a 3 percent increase in FY 1977. Defense workers, both military and civilian, would thus receive increases in FY 1977 ranging between 3 percent and 5 percent. In total, these changes will save the Department of Defense about \$2.5 billion.

b. Reducing, Eliminating, and Adjusting Items in the Military Total Compensation Package

Given the constraints on the Defense budget and the major increases that have been experienced in basic pay, several elements of total military compensation and other military personnel costs have come under intense scrutiny, from both the Congress and the Executive Branch. Reductions have been proposed in proficiency pay, reenlistment bonuses, terminal leave payments, paid graduate education, commissary subsidies, CHAMPUS coverage, parachute pay, and flight pay.

Some of these actions have been approved and are already in progress, while others are new initiatives which need prompt consideration and approval by Congress if they are to be effective. The annual cost savings expected to accrue by FY 1980 from the actions already approved will be about \$500 million.

In addition, a saving of about \$1 billion annually by 1979 will result from the new method of allocating military pay raises approved by Congress in 1974. Prior to this change, the entire amount of the matching pay increase was added to basic pay; allowances for quarters and subsistence were not increased and thus fell farther below the fair cost of quarters and subsistence. Under the new law, the percentage pay increase is applied equally to the three pay elements -- quarters and subsistence allowances, and basic pay. The savings will be achieved in two ways: (1) the lower rates of basic pay will reduce retirement costs, and (2) military members who are furnished government quarters and subsistence in-kind in lieu of the corresponding cash allowances in effect will be paying more realistic prices for those items.

Thus, in addition to the savings generated by limiting pay increases, nearly \$1.5 billion will be saved annually by FY 1980 through adjustments within the total compensation package which are already planned and approved.

Additional initiatives are now being proposed in the area of compensation and benefits to restrain further manpower cost growth. It has been decided to propose again a phase-out of the subsidy for operation of commissary stores over three years. It is also planned to reduce enlistment bonuses. Other proposals include: a reduction in the pay and allowances of cadets and midshipmen; several adjustments in pay practices for members of the Ready Reserve, including elimination of dual pay for Federal employees who are reservists; and conversion to a fair market rental system for on-base military housing by 1984, achieved by allocating a greater portion of future pay raises to quarters allowances. Most of these new initiatives will require legislative action. If they are put into effect in FY 1977, estimated annual savings for FY 1980 are about \$700 million.

In summary, the annual cost savings which are estimated to result from these approved and proposed actions to restrain increases in total civilian and military compensation are shown on Table VII-2.

TABLE VII-2

SUMMARY OF ESTIMATED SAVINGS IN THE TOTAL COMPENSATION PROGRAM
 (\$ = Billions)

<u>Approved Items</u>	<u>Annual Cost Savings FY 1980^{1/}</u>
Adjustments to Specific Elements of Total Compensation	1.5
<u>New Initiatives</u>	
• FY 1977 Limit on Civilian and Military Pay Increases ^{2/}	2.5
Adjustments to Specific Elements of Total Compensation	<u>0.7</u>
Subtotal, Proposed Items	3.2
Grand Total, Total Compensation Items	4.7

^{1/} FY 1977 dollars

^{2/} Assuming that later pay increases are not adjusted upward to compensate for the smaller increases granted in the earlier years.

These actions are necessary if there is to be a balanced Defense program. Unless they are accomplished, Defense will have to have approved by the Congress a supplemental budget request, or be forced to cut combat force structure or non-manpower programs such as research and development or procurement. The cooperation of the Congress will be essential.

In accordance with law, the Defense Department is engaged in the Third Quadrennial Review of Military Compensation (QRMC). The Department has chosen to investigate comprehensively all aspects of direct and indirect military compensation because only through such an approach can the composition and cost of total military compensation be established. As such, it will be the first comprehensive review since 1967. The Department plans to report to the Congress on the conclusions and recommendations of the Third QRMC in calendar year 1976. As of December 1975, the QRMC effort had identified all potential elements of compensation, and now is evaluating their cost to the government and benefit to the military member. The results of this review are essential to the development and evaluation of new compensation systems concepts, such as a salary system, which have been discussed from time to time.

3. Military Retirement

The annual cost of military retirement has increased six-fold in the past twelve years owing to the combined effects of inflation, increases in active duty pay, and increases in the number of personnel eligible for retirement benefits. Retirement costs are \$7.3 billion for FY 1976, representing eight percent of total Defense outlays and 14 percent of manpower expenses. In FY 1977 the cost will be at least \$8.4 billion.

The annuity for a new retiree is based on his basic pay at retirement, and thereafter is adjusted periodically to keep pace with inflation, as measured by changes in the Consumer Price Index (CPI). The projected annual cost of military retirement for three sets of assumptions about the annual adjustments in base pay and in the CPI are shown below; past and current year costs are given for comparison:

PROJECTED ANNUAL COST OF MILITARY RETIREMENT^{1/}

	<u>Actual</u> <u>FY 1964</u>	<u>Budget</u> <u>FY 1977</u>	<u>Projected</u> <u>FY 1980</u> <u>FY 1990</u>	
Number Receiving Annuities (000)	411	1,170	1,271	1,514
Annual Cost (Billions) with Average Annual Adjustments After FY 1977 of:				
<u>Base Pay</u> (Percent)	<u>CPI</u> (Percent)			
0	0	\$1.2	\$8.4	\$9.6 \$11.1
6	4	\$1.2	\$8.4	\$10.6 \$19.6
7	4 1/2	\$1.2	\$8.4	\$10.8 \$21.3

^{1/} Includes both annuities to retirees and annuities to survivors of retirees.

One legislative initiative to reduce the out-year retirement costs is the proposed Military Retirement Modernization Act submitted initially to the Congress in 1974. Passage of the Retirement Modernization Act as proposed would not generate savings in the near term, but could accumulate savings of \$12 billion by the year 2000, assuming wage (seven percent) and CPI (four percent) adjustments. Congress is urged to move expeditiously on the Act.

In the meantime, in an effort to generate near-term savings, it is being proposed to eliminate for FY 1977 and after the one percent "kicker" now added to retirement annuity increases. This step seems justified because the current system for adjusting annuities appears to over-correct for the actual cost of living increase. It would save about \$400 million annually by FY 1980, assuming an annual increase of 4.5 percent in the Consumer Price Index.

4. Personnel Turnover and Turbulence

Personnel turnover is high within the Defense Department because nearly 80 percent of those who enter the Services serve only one term of three or four years. In addition, there is a good deal of movement within U.S. forces, partly caused by the high rate of turnover, and partly by the difficulty in matching tours of duty with terms of service. Defense continually seeks ways to reduce turnover and turbulence because both are costly, not only in budget terms but also in terms of their adverse impact on readiness.

The Defense Department spends over \$1.5 billion annually for Permanent Change of Station (PCS) moves. In addition, the military manpower program provides for around 85,000 manyears for personnel involved in PCS travel and the associated leave (transients), whose costs are not included in the \$1.5 billion figure.

A significant amount of personnel movement must be expected. Nonetheless, excessive personnel turbulence is disruptive to management continuity, unit readiness, and the morale of military members and their families. To minimize excess turbulence, we have developed new policies which cover all of the major determinants of personnel movement, including terms of service, first-term attrition levels, and assignment/reassignment procedures for first-term and career personnel.

B. TOTAL FORCE

1. Volunteer Force Status

a. Statistical Review

The active and reserve forces are meeting their basic military strength objectives. Quality of non-prior-service accessions, as measured by educational levels and mental capacity, is improving and is higher today than in FY 1964, the last year in which we had a peacetime draft, as shown.

NON-PRIOR-SERVICE ACCESSIONS
ALL SERVICES

<u>High School Graduates</u>				<u>Of Average or Above Mental Ability</u>			
<u>FY 1964</u>	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u> ^{1/}	<u>FY 1964</u>	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u> ^{1/}
(Percent)				(Percent)			
68	66	72	80	85	90	94	96

^{1/} July-December

Recent high unemployment rates have helped achieve higher quality entrants. While substantial improvements in civilian employment opportunities could reduce the availability of high school graduates, the ability of the Services to attract and retain a sufficient number of qualified personnel at current strength levels is expected to continue. Longer terms of service and reduced first-term attrition will produce lower annual recruiting objectives which will help in meeting our recruiting goals in an improved employment climate. Analysis of the supply of qualified young people over the next ten years reveals no major problems, and improving public attitudes will have a beneficial impact on both active and Reserve Component recruiting. However, the elimination of the two-year enlistment and the prospective loss of G.I. Bill educational benefits for new enlistees are expected to have an adverse impact on our ability to recruit high-potential personnel, and therefore we must continue to maintain a balanced, well-focused, energetic recruiting program.

Of the enlisted force, 16 percent are black -- slightly higher than the proportion of blacks among the general population. The percentage of black enlistments has dropped somewhat during the past year, as Table VII-3 shows:

TABLE VII-3

BLACKS AS A PERCENT OF ENLISTED ACCESSIONS

<u>FISCAL YEAR</u>	<u>ARMY</u>	<u>NAVY</u>	<u>MARINE CORPS</u>	<u>AIR FORCE</u>	<u>DOD</u>
1972	15	13	18	13	14
1973	19	11	21	14	16
1974	27	11	21	16	21
1975	23	10	19	15	18

Retention rates for black and non-black enlistees are not significantly different, and both rates have been increasing.

By the end of FY 1976 the number of women in the Services will have increased more than 150 percent from June 1971. Further increases are planned as shown below:

REPRESENTATION OF WOMEN WITHIN TOTAL MILITARY STRENGTH
(End of Fiscal Year)

	<u>Number in Service (000)</u>				
	<u>Actual</u>		<u>Plan 1/</u>		
	<u>FY 1971</u>	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1978</u>
Army	16.9	30.7	42.2	48.9	53.1
Navy	8.8	17.1	21.2	23.5	24.1
Marine Corps	2.3	2.7	3.2	3.5	4.0
Air Force	<u>14.8</u>	<u>24.2</u>	<u>30.2</u>	<u>34.6</u>	<u>48.1</u>
Total DoD	42.8	74.7	96.9	110.5	129.3

1/ Based on Planned End-FY 1976 Strength.

b. AFEES Reorganization and Standardized Testing

Since 1966, the Armed Forces Examining and Entrance Stations (AFEES) have administered initial qualification tests for Army and Marine Corps recruits and have conducted physical examinations and administrative processing for recruits of all Services. Last year we undertook a series of initiatives to improve the efficiency of AFEES operations, and also to give AFEES a greater and more independent quality-control role in the recruiting process, particularly in the area of testing.

The first steps were: (1) to standardize enlistment agreements and reduce and standardize the other recruitment forms among the Services; (2) to develop a common enlistment qualification test for all Services to be administered only by the AFEES; and (3) to conduct an industrial management survey to evaluate and improve workload standards and manning levels at the AFEES. Enlistment forms have been reduced by 89 percent and the remainder have been standardized, at a GAO-estimated annual savings of \$1.56 million. The common testing of all prospective recruits by the AFEES began on 1 January 1976, and the AFEES itself soon will be removed from the operational control of the Services' recruiting organizations. These changes serve to separate the quality control from the production functions, increasing the AFEES ability to monitor quality entrants and reduce the potential for recruiter malpractice and fraudulent enlistments. The consolidation of all testing in the AFEES has enabled us to make small savings in manpower (217 manyears). We are now reviewing the industrial management survey to see whether further efficiencies are possible.

To strengthen the Total Force, promote standardization, and relieve Reserve Component unit commanders of unnecessary administrative burdens, the AFEES will soon provide additional administrative support for Reserve Component enlisting processing. The AFEES currently test and process new accessions for a significant portion of the reserve community, but now all Reserve Components will move toward AFEES processing in two phases. Phase I, beginning April 1, 1976, calls for the addition of mental testing for Reserve Component non-prior service accessions to the maximum extent possible. Phase II, beginning October 1, 1976, will expand AFEES processing of non-prior service applicants to include, wherever possible, initial administrative processing, input of information into Reserve Component Personnel Data Systems, physical examinations, and administration of the oath of enlistment. The ultimate goal is to allow AFEES processing for substantially all Reserve Component non-prior service applicants.

c. Officer Procurement

(1) Minorities

Although Defense is encouraged by its overall record as an equal opportunity employer, the Department is concerned about low minority participation in the officer ranks. Each of the Services is seeking to increase minority officer procurement and strengths.

(2) Women

The most visible development regarding women officers will be the entry of women in 1976 into the Service Academies. The Services have approached the initial program on a cooperative basis, emphasizing a single "track" approach to the training of women, which allows for only minimum differences based on physiological requirements and legal and administrative restrictions against the use of women in combat roles.

(3) ROTC Restructuring

Each of the Services has identified ROTC units which have failed to meet the Department's test of minimum enrollments (17-20 students in the junior year). Since the continuation of such units results in significantly higher personnel costs, at least 31 units are being considered for dis-establishment in 1976 with annual cost savings of almost \$3 million. Another 32 units are under evaluation. In addition, the Services are reviewing units collocated at the same college or university, particularly where one of the units is small. Elimination of the unit from one Service could bolster the enrollment of the remaining unit or units.

In addition to the ROTC restructuring, shorter lead-time programs -- such as a two-year Collegiate Commissioning Program similar to the Marine Corps Platoon Leaders Class -- are being examined. Such programs could be used at colleges and universities not having ROTC units.

d. Initial Training of Selected Reserve Personnel

At the beginning of FY 1975, there were approximately 16,000 non-prior service recruits awaiting Initial Active Duty Training for the Selected Reserve. During 1975 this "backlog" of untrained personnel reached an approximate peak of 32,500. By the end of October 1975, the backlog had been reduced to about 23,000, and the trend is continuing downward. Of those now awaiting training, 21,000 have confirmed starting dates and school reservations.

2. Reserve Component Initiatives and Deployment Planning

Defense Total Force Policy requires that all manpower segments be considered in Defense planning and in the allocation of Defense resources. These include active military, direct and indirect hire civilians, contract service manpower, and reservists (both reserve unit personnel and trained individuals). It also means that we must consider the capabilities of our allies as we determine how best to meet our military obligations. The application of this policy has highlighted some weaknesses in the Defense program, and as a result corrective action has been initiated in several

areas. In particular, the Defense "Study of the Guard and the Reserve in the Total Force", published in the summer of 1975, has led to a number of initiatives to improve the Reserve Components and the mobilization process. The major new initiatives are described below.

a. Integration of Reserve Component Units into the Wartime Planning and Programming Process

Plans for a successful conventional defense in Europe rely heavily upon early deployment of reserve units, particularly as we reduce support forces in Europe under Public Law 93-365 (the Nunn Amendment). We are adjusting our deployment plans for major contingencies to assure early development of reserve units which are combat ready and mission capable. This improved planning is an essential step in integrating the active and reserve units and manpower into a coherent Total Force.

b. Improvement of the Condition of Reserve Units

Because we are asking reserve units to be prepared to move early and fight or work beside their active counterparts, we must assure that these units are properly equipped, manned, and trained. Reserve units will have, as much as possible consistent with their part-time status in peacetime, the same modern equipment and the same standards for training as do active units of the same type. For example, we are programming modern tanks for all of our Army Reserve Component tank units, better ships for the Naval Reserve Force, first-line aircraft for our Naval and Air Force Reserve Components, and modern tanks, antitank guided missiles and aircraft for the Marine Corps Reserve. Early-deploying units will also be manned at higher levels in peacetime than late-deploying units, in order to minimize their reliance on fillers.

Considerable progress has been made in training readiness. In 1975, 76 percent of Army selected Reserve units reported achieving a training readiness condition of "marginally ready" or better. The Naval Selected Reserve has been restructured for improved readiness. Almost all Air Force Selected Reserve units are early deploying units and have the capability of mobilizing within 24 hours and deploying within 72 hours.

c. Restructuring the Total Force

We believe that the current balance between the active and reserve components is about right. However, we are making structural adjustments which will improve our capability.

In the Army Reserve and Army National Guard we have identified units which would not be needed until late in the deployment schedule. We

are moving many of these units into the unmanned component of the force structure to be activated after mobilization; we will replace them in the Selected Reserve with more combat and essential support units. The Army has worked out a three-year program for converting about 30,000 spaces in this manner. The Army is also identifying low-skill positions that we would not need to man in peacetime with paid drill reservists.

The Army is testing the concept of an antitank infantry battalion formed around the unique capability of modern antitank guided missiles. Such a unit could be in either or both the active and reserve forces, but would be ideally suited for the reserves because it could be relatively more easily trained and moved. Antitank battalions could be a major factor in allowing NATO forces to counter the adverse balance of tank power in Europe should hostilities occur.

The Navy is reviewing the active and reserve personnel mix of both active and reserve ships. The extent to which reservists can be used to augment active ships upon mobilization without impairing the peacetime condition and capability of the ships is being tested. Similarly, the extent to which reserve ships must have an active duty peacetime complement in order to assure proper condition is being tested. The results of these two tests will allow us to refine policies for manning.

In another adjustment, the Navy is making improved use of its two reserve carrier air wings by providing them with increased training and by testing the feasibility of employing one of these wings on an active carrier within two weeks after mobilization.

The Air Force is well along in the integration of its active and reserve forces, placing strategic jet tanker aircraft in the reserves and planning to provide first-line fighter and tactical airlift aircraft to all reserve units. The success of the Air Force Reserve Associate Squadrons has been and continues to be a good example of the beneficial results of the Total Force Policy.

The Army continues to improve its highly successful affiliation program for active combat divisions and reserve brigades. Selected Reserve brigades will be assigned to four of the 16 active divisions programmed for FY 1977.

The Army's present command structure would require almost complete reorganization upon mobilization. Therefore, the Army is developing and evaluating a new, single, integrated wartime chain of command plan for the Total Army Force, including Selected Reserve units. The new concept will involve preassignment of Selected Reserve units to a wartime chain of command. Guard units, of course, will remain under state

control in peacetime, but would know in advance their initial wartime higher headquarters assignment. Consequently, the command organization can be exercised and tested in peacetime.

3. Trained Manpower Pool Requirements

The Armed Forces must have access to a pool of personnel with military training and experience to meet their total manpower mobilization needs during the period of months from mobilization until the draft could deliver and the training establishment could produce trained personnel. These trained individuals are needed to:

- bring active and Reserve Component units from peacetime to wartime strengths;

- fill units to be activated after mobilization;

- provide replacements for losses early in a war.

Currently, there are three immediate, formalized sources of trained manpower: the Individual Ready Reserve (IRR), the Standby Reserve, and the Retired Reserve. The IRR traditionally has been considered as the primary source because it was large enough to meet all Service needs, and because it consisted of individuals whose remaining military obligation made them subject to being called up by the President in an emergency. In the all-volunteer force, however, we have fewer people entering the IRR each year, and are experiencing large losses as the last of the draftees complete their period of obligation. The Army IRR is currently projected to fall by about 200,000 below requirements in the early 1980s. We must therefore find a new solution. Among the possibilities are the following:

- Increase the length of the military obligation for active and reserve volunteers;

- Eliminate the present provision that requires transfer of an individual upon his request from the IRR to the Standby Reserve for his last year of obligated service. This too would help to stabilize the size of the IRR at a higher level;

- Require that personnel being separated keep their Service informed of their location and physical condition for a specified period after they leave the Service. They could then be called back to active duty in an all-out emergency, but only with Congressional approval.

The management and maintenance of a trained manpower pool of sufficient size and capability to meet our mobilization needs has emerged as a major challenge to Defense. More answers are needed and are being energetically sought.

4. PL 93-365 (Nunn Amendment) Actions

One of the Department of Defense initiatives to improve manpower efficiency has been a broad program over the past two years to convert military headquarters and support activities into increased combat strength. The requirements of the Nunn Amendment have provided an important impetus for these efforts. The Amendment required a reduction of 18,000 military support positions in Europe by the end of FY 1976. It also authorized the Secretary of Defense to replace support position reductions with an equivalent number of combat positions.

The following support reductions were made in FY 1975 or are planned for FY 1976:

FY 1975-1976 Nunn Amendment Support Reductions

	<u>Current Plan</u>				<u>PL 93-365 Requirement</u>
	<u>Army</u>	<u>Air Force</u>	<u>Navy</u>	<u>Total</u>	
FY 1975	6,000	1,626	1,108	8,734	6,000
FY 1976	<u>6,175</u>	<u>2,765</u>	<u>458</u>	<u>9,398</u>	<u>12,000</u>
Totals	12,175	4,391	1,566	18,132	18,000

The following combat increases in Europe have been programmed to date:

FY 1975-1976 Combat Increases

	<u>Army</u>	<u>Air Force</u>	<u>Navy</u>	<u>Total</u>
FY 1975	5,886	-1,215	310	4,981
FY 1976	<u>-6,289</u>	<u>2,349</u>	<u>290</u>	<u>8,928</u>
Totals	12,175	1,134	600	13,909

The Department is examining various additional combat increases and expects to increase combat forces by the full 18,000 permitted under the law.

Principal combat increases so far consist of two Army mechanized brigades, three combat engineer battalions, two field artillery battalions, an attack helicopter company, and increased manning of existing combat

units. Air Force additions so far identified include an increase in tactical fighter crew ratios, the deployment of a Tactical Air Control System to Germany, an increase in tactical airlift aircraft, the deployment of an F-5E squadron to the United Kingdom, and the deployment of a Loran-D system to West Germany.

Between 1964 and 1976, U.S. military strength in Europe will have declined approximately 23 percent. By the end of FY 1976, however, we will have the same number of Army brigades and almost the same number of tactical air squadrons that we had in 1964. Thus, most of the strength reductions over this 12-year period have been support reductions. On the whole, we are satisfied with this shift in emphasis. However, we intend to continue examining support requirements for our Europe-based forces, with particular emphasis on prospective wartime needs. Mobilization and deployment plans must be carefully dove-tailed with our peacetime European force levels and the capabilities of our allies. We now have underway a comprehensive examination of our mobilization and deployment plans and planning process.

5. Deployment Levels

Table VII-4 below shows the numbers of military personnel stationed overseas as a proportion of our total military manpower since FY 1964:

TABLE VII-4						
Deployed Strengths 1/						
(000's)						
Actuals, at End:					Planned	
					for End:	
	<u>FY 1964</u>	<u>FY 1968</u>	<u>FY 1973</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1977</u>
Number of Military Overseas (000)						
Europe and Related Areas	403	319	320	314	313	312
Pacific Area	243	860	199	156	145	141
Other	<u>73</u>	<u>19</u>	<u>23</u>	<u>15</u>	<u>9</u>	<u>9</u>
Total	719	1,200	542	485	467	462
Percent of Total Military Strength	27	34	24	23	22	22

1/ Ashore and Afloat

The FY 1977 Budget represents a program that provides for the lowest number of military personnel deployed overseas, both in absolute and in percentage terms, since before the Korean War.

VIII. MANAGEMENT

This final chapter of the Defense Report describes the Department's recent management accomplishments and plans for the future as they relate to these five areas:

- Planning and Organization;
- Weapons System Acquisition;
- Improvements in the Support Structure;
- Industrial Mobilization Base;
- Energy Management and Conservation.

One issue that must be raised beforehand concerns the reporting requirements and funding constraints placed on this Department by the Congress.

Congressional staffs with the responsibility for overseeing Defense have grown from some 100 to nearly 300 in the last decade. Over a similar period, the number of GAO Defense specialists has increased from about 800 to over 1,300. As a result of this growth, the Congressional Committee reports and legislation and GAO reports on Defense have become more extensive. It is important, in the period immediately ahead to seek the proper balance between oversight and management flexibility, as the new Congressional planning and budget procedures are implemented.

A. PLANNING AND ORGANIZATION

1. Planning

The Planning, Programming and Budgeting System (PPBS) continues as the framework for the planning and execution of the Defense program. The PPBS was designed in 1961 as a single, coherent management system to provide information for decision-making on missions, force levels, weapon systems, and major resource allocations. At that time, all Department of Defense resources were segregated into major mission and support categories which became the ten "programs" of the Five Year Defense Program (FYDP) and their program elements became the "building blocks" for decision-making and resource allocation.

Although many minor changes have taken place, the structure in its entirety has not been reviewed in depth since 1967. For this reason, and in response to the Congressional Budget and Impoundment Control Act of 1974, we have undertaken a detailed study of the FYDP structure and PPB

process. The overall focus will be on improving our management information needs and on improving our ability to respond to the requirements of the Congressional Budget Act of 1974. Improvements made in the FYDP structure and PPB process should be reflected in the calendar year 1977 procedures leading to the FY 1979 budget.

Also in response to the Congressional Budget Act, the Department has provided our outyear authorization requests to Congress, and a tentative five-year projection of Defense total obligational authority.

a. Management by Objective Program

The PPB system is supplemented by the Management by Objective (MBO) program. Currently, the Department has about 100 separate actions identified for increased management attention during FY 1976. These actions are designed to translate Defense management initiatives and ideas into current and future planning objectives. This past summer the President chaired a meeting at the Department in which the major Defense components reviewed their progress toward the established MBO goals which were discussed in last year's Report.

b. Committee on the Organization of Government for the Conduct of Foreign Policy (Murphy Commission)

In response to recommendations of the "Murphy Commission" on the Organization of Government for the Conduct of Foreign Policy, the Department took steps to increase involvement of the Office of Management and Budget (OMB) in the PPB process, including OMB participation in the Summer Program Review. Previously, a Joint Budget Review, conducted by OMB and OSD, was held in the fall, after the Defense components had submitted their budgets. Participation by OMB earlier in the budget cycle has resulted in a more productive effort. The Department continues to analyze other sections of the Commission's report, seeking to improve internal procedures and coordination mechanisms with other federal agencies and the Congress.

c. Use of Advisory Groups

One area which has drawn Congressional criticism in the past is the role of advisory groups. Following enactment of P.L. 92-463, "The Federal Advisory Committee Act", the Department of Defense strengthened its internal management controls over advisory committees to ensure compliance with the law. Advisory committees have been reduced over the past two years and are now used only when existing staffs are unable to fulfill a key Defense requirement.

However, advisory committees continue to provide valuable advice on acquisition management, education, electronics, logistics, telecommunications, and environmental matters. They also contribute a balanced view and fresh insights from all sectors of government and industry.

2. Organizational Improvements

a. Unified Command Plan

Last year's Defense Report mentioned the serious consideration that the Department was giving to a major reorganization of the Unified and Specified Combatant commands. These deliberations have resulted in a revised Unified Command Plan which was approved and implemented in June 1975. The Unified Alaskan Command has been dis-established and the Unified Continental Air Defense Command has been converted to the Specified Aerospace Defense Command. There were also some slight changes in area responsibilities and missions. The current Unified and Specified Commands are: Unified -- Commander-in-Chief Europe; Commander-in-Chief Pacific; Commander-in-Chief South; Commander-in-Chief Atlantic; Commander-in-Chief Readiness. Specified -- Strategic Air Command; Aerospace Defense Command.

b. SEATO

On 24 September 1975, the Council of Members, Southeast Asia Treaty Organization (SEATO), directed that the organization should be phased out and the SEATO Secretary General was to prepare a detailed plan for disbanding the organization and its activities. (There is currently no plan to abrogate the Manila Pact, the treaty upon which the SEATO organization is based.) The U.S. is currently represented by seven U.S. military personnel authorized in the SEATO organization, plus approximately 35 U.S. military personnel assigned to the SEATO Medical Research Laboratory.

The Council recognized that many of the organization's activities, including the SEATO Medical Laboratory which specializes in tropical diseases, are of continuing value and might be continued. Accordingly, the Secretary General and the negotiating bodies have been directed to explore other auspices for the support of these valuable activities.

B. WEAPONS SYSTEM ACQUISITION

The Defense Systems Acquisition Review Council (DSARC), composed of the OSD principals concerned with systems acquisition, continues as the principal advisory group to the Secretary in major system acquisition matters. Acquisition programs are examined in detail at several phases of the PBS process and receive particular scrutiny on an individual level a minimum of three times by the DSARC. These three milestone reviews are (1) prior to entering into Advanced Development; (2) prior to entering into Full-Scale Development; and (3) prior to proceeding with Production and Deployment.

A key element of each DSARC review is the OSD Cost Analysis Improvement Group (CAIG) assessment of the program manager and Service cost estimates. The CAIG provides the DSARC with an independent evaluation of the validity of both estimates and the assumptions made in their preparation. The CAIG has made significant progress toward its primary goal of providing more realistic cost estimates on Defense programs. Cost estimates are no longer simple advocacy expressions. Vigorous reviews of costs are now carried out both within each Service and within OSD. While the cost of Defense programs has admittedly risen as a result of unanticipated inflation in FY 1974 and FY 1975, constant dollar estimates made in the last three years have proved to be substantially more accurate than cost projections made in previous years.

1. Commission on Government Procurement

The Department continues active participation in the interagency advisory group developing Executive Branch positions on the Commission's recommendations. There are currently 149 recommendations and their status is as follows:

Accepted - Implementation Completed by Office of Federal Procurement Policy (OFPP)	30
Accepted - Implementation Pending by OFPP	54
Rejected	15
Referred to OFPP with Recommended Positions	33
Deferred to the OFPP	9
In Process by GSA Staff	6
Official Agency/Private Sector Views Pending	0
Interagency Task Group Reports Pending	<u>2</u>
TOTAL	149

As recommendations are accepted by the Executive Branch and implementation documents are promulgated by OMB or GSA, we immediately take implementing actions within the Department of Defense. This is done on a priority basis and usually consists of revisions to the Armed Services Procurement Regulations or the issuance of written directives.

One of the important areas of the Commission's report deals with the acquisition of major systems. There are twelve recommendations in this area dealing with needs and goals for new acquisition programs, exploring alternate systems, maintaining competition, limiting premature system commitments, withholding production approval until reconfirmation of the need and successful testing, and delegating decision authority to the operating agency components, except for key milestone decisions which are made by the agency head. These recommendations generally reflect existing Department of Defense policies and procedures; thus, we do not foresee significant difficulties in implementing them within the Department of Defense.

2. Service Reviews

All Services have recently completed reviews of their organization and procedures for material acquisition. Considerable attention was also devoted to the identification and implementation of personnel management policies which would ensure assignment to acquisition programs and advancement of the most qualified personnel, military and civilian.

The Army's review resulted in 172 specific recommendations and included such additional areas as production testing and costing. The Navy report, completed in January 1975, contained over 250 recommendations in essentially the same areas. The Air Force subsequently reviewed both reports for applicable recommendations. The individual Services have essentially completed those actions which could be unilaterally implemented, as for example, the collocation of the Procurement Contracting Officer with the Project Manager (Navy), the revision of shipbuilding progress payments to reflect percent of physical progress rather than cost incurred (Navy), and the implementation of formal selection procedures for project managers (Army). The thrust of most of the actions has been to improve organization and achieve a general upgrading of the caliber of personnel assigned acquisition responsibilities.

3. Acquisition Advisory Group

An Acquisition Advisory Group, chartered under the Federal Advisory Committee Act in April 1975, has examined and assessed the recommendations made by the Services to change the current procedures or policies

of the Secretary of Defense for major weapons system acquisition. The Department has received the final report of the Group and its recommended actions are being reviewed for implementation.

4. Project Managers

Previous Defense Reports have discussed in detail the Department's efforts to improve the management and training of personnel engaged in material acquisition. Major goals have been to improve the quality of personnel assigned to project offices and to reduce the rate of personnel turnover.

All Services have developed strong programs in this area and their efforts are beginning to bear fruit. For instance, the increased importance attached to project management has resulted in a rising demand for graduates of the Defense Systems Management School (Ft. Belvoir) and an increase in the number of highly motivated personnel seeking this training. Student output has increased threefold in the past year resulting in a marked increase in the availability of trained people for many critical acquisition management positions.

Service performance in reducing turbulence among key management personnel has also been encouraging. Since 1972, for example, Navy has increased the average tenure of their project managers from two years, four months, to over three years. Nineteen projects have had their present manager or deputy for over four years.

While the short term results of these initiatives are heartening, continued success in attracting quality personnel will largely depend on how tours of duty as project managers affect future career opportunities. Early indications are encouraging.

5. Contract Administration

To improve efficiency and productivity, we are taking a fresh look at the role of government in contract administration. A major study, called Forward Look, which will make a comprehensive and critical appraisal of existing operating policies, management practices and organizational structures in this area, is currently underway, with completion expected in early CY 1976. The goal of this study is to identify both simplified and streamlined management procedures, and to provide an improved management philosophy for the future. We intend to establish a forum for the defense industry to present their views on existing government policies, their possible adverse impact on contract performance, and specific suggestions for improvements.

6. Military Specifications and Standards

During the past year a task force of the Defense Science Board studied the specifications and standards used in material acquisition and found that they were basically sound. However, misapplication appeared to be driving acquisition costs up unnecessarily. As a result, we have taken steps to ensure that:

- specifications are reviewed to ascertain their applicability to a particular equipment or system;
- only necessary portions of the specifications are applied; and
- cost-driving specifications are afforded particular scrutiny.

In addition, the Services have established review boards which challenge specifications and standards used in contract solicitations.

7. Controlling Future Operations and Support Costs

During the past two years, a great deal of attention has been given to the problem of controlling and reducing the outyear costs of our weapons now in and entering the development cycle. While this is a long-range problem requiring development of better management approaches for effective implementation, a number of specific actions are now being taken.

A Defense Design to Cost Directive was issued in May 1975 and outlines the approach to be taken to maintain visibility of and for management of Operations and Support (O&S) costs, as well as unit production costs.

Significant effort has been directed to the improvement of O&S cost estimating techniques. A draft revised O&S costing guide for aircraft has been prepared and is now being reviewed prior to publication for Service use and a draft set of O&S cost element definitions for ships is being reviewed prior to publication as a standard cost estimating framework.

C. SUPPORT STRUCTURE IMPROVEMENTS

The Department is continuing to improve the efficiency of the support structure so the resources saved can be diverted to the combatant forces. Major efforts in this area are described below.

1. Base Realignments

Last year's statement reported accumulated actions for 1974, including 216 base realignments, which would produce eventual predicted savings of \$548 million a year. The majority of these actions were contained in the base realignment announcement of November 1974, which affected 40 states and which have resulted in elimination of over 25,000 military and civilian positions. A major portion of the resources to be freed by these actions will be reallocated to increase our combat capability. However, a number of these actions involving Air National Guard realignments related to air defense have subsequently been cancelled. In addition, because of an increasing trend on the part of local communities to use the courts to stop or delay base closures, this program is not proceeding on schedule. Among the actions against which court suits have been filed are the closure of Frankford Arsenal, Pennsylvania; the realignment of the Air Force Communication Service, Richards-Gebaur Air Force Base, Missouri; and the phase down of the Lexington-Blue Grass Army Depot, Kentucky.

Congressionally-encouraged efforts to decentralize Defense activities out of the National Capitol Region (NCR) are meeting with similar resistance. In 1971, the Military Departments were allocated targets for vacating administration space in the NCR by 1977. While progress toward our goal has been achieved, the trend toward litigation in relocating actions may make future planning for additional relocation of activities from the NCR extremely difficult. Despite this trend, efforts to reduce the Defense presence in the NCR through selected relocations will continue.

As part of the President's program to reduce budget growth, a number of additional base realignments will have to be studied. Congress will be informed of these actions as plans are completed.

2. Standardization of Management Systems

The effort to standardize management systems continues along the lines described in previous Reports. At the beginning of this year, the program consisted of 39 projects primarily in the Installation and Logistics and Comptroller areas. Eight have been or are planned to be completed this fiscal year. Twenty-five are longer-range projects and will be completed during FY 1977 or later. Remaining projects were either deleted or incorporated into other programs following detailed study.

The eight projects completed or to be completed this year include better enlisted personnel management and more efficient retail inventory stockage policy. In five of the remaining 25 projects, assignments have been made for Defense-wide standardization and automated system design. They include warehousing and shipping systems, maintenance data collection, and civilian pay systems.

We are continuing efforts to expand this program beyond the original 39 projects and have identified 13 candidates which we have under preliminary study.

3. Support Cost Accounting by Weapon System

This program was first discussed in the FY 1975 Defense Report and has progressed steadily during the past two years. It quickly became apparent that success in this program would depend on the standardization of cost accounting systems for equipment maintenance. In order to bring this about, we issued a Department of Defense handbook in October, 1975, prescribing uniform policies and procedures for Depot Maintenance Cost Accounting. The first implementation of these cost accounting procedures is scheduled for January 1976. In a related development, in July 1975 the Air Force instituted a cost accounting system for field level maintenance of aircraft and related components. This system, which will be evaluated during FY 1976, is compatible with the new depot system and relates maintenance costs to the system supported below depot level.

4. Reduction of Items in Inventory and Elimination of Duplicate Inventory Management

An extensive program to eliminate duplicate management of the 3.3 million Defense consumable items has been completed. A Service manager has been assigned to assume wholesale logistic support responsibility for all users. Ground rules were established to assure that new consumable items entering the system would be identified by management systems and assigned to a single manager. A similar program is currently underway to eliminate duplicate management of the remaining nonconsumable items in the Defense inventory.

Phase I of the program for the Worldwide Integrated Management of Bulk Petroleum and Subsistence, which extends Defense Supply Agency (DSA) management of these commodities to base boundaries, has been completed. Phase II would extend DSA management to the point of issue for use. Planning for Phase II will commence after evaluation of the Phase I accomplishment.

5. Secondary Item Management

We procure and maintain inventories of secondary items for ultimate issue to a using or operational unit, or for a specific purpose such as

war reserve requirements. These stocks include minor end items, replacement assemblies, spares and repair parts, personal support items (e.g., clothing and subsistence) and Petroleum, Oils and Lubricants (POL). The Department of Defense secondary item programs comprise the central supply management of 3.7 million items, 28 million supply demands annually, and obligations that exceed \$19 billion a year.

The number of items managed has been reduced from a high of 4.1 million in 1965 to 3.7 million in 1975. A major effort to eliminate additional items is currently underway. Approximately 250,000 candidates for reduction have been identified. Of these, a minimum of 25,000 to 30,000 will have been marked for deletion by the end of the current fiscal year. During the past year a number of other efforts have been launched to improve the management of secondary items. These include:

Defense War Reserve Computation - This project will strengthen our ability to assess war readiness by providing a common basis for validating and justifying war reserves. Currently, assets are \$2.8 billion and deficits based on estimated requirements are \$2.6 billion.

Improved Management of Reparables - Reparables will be managed more closely, keeping a higher fraction in use as opposed to awaiting repair or issue. This effort should result in significant cost savings from reductions to the current reparable item inventory of \$15 billion and additional savings from reduced secondary item investments and repair costs.

Development of Standard Base Level Policies - This effort seeks more efficient stockage and management of the estimated \$6 billion in secondary item inventories currently held below the wholesale level. Early estimates from this project indicate a significant cost avoidance.

6. Reduction of Reports, Forms and Directives

During the past year this program exceeded the goals which had been established, with an estimated annual savings of \$48.2 million. Accomplishments to date are:

- reduction of 3,323 internal Department reports;
- 892,000 manhours saved in public reporting;
- elimination of 58,560 Departmental forms.

We are pressing for an additional ten percent reduction in reports and forms. We will also review data required of Department of Defense contractors and interagency reports, with a view to elimination of marginal reports.

7. Education

In March 1973, a five-member Department of Defense Committee on Excellence in Education was established under the chairmanship of the Deputy Secretary of Defense. The other four members of this Committee were the Assistant Secretary of Defense for Manpower and Reserve Affairs and the three Service Secretaries. Their task was to evaluate the quality and efficiency of the educational institutions operated by the Department of Defense, and to recommend the changes needed to make the system responsive to the needs of the armed services in the last quarter of this century. .

The committee has analyzed the educational programs of the five senior Service colleges and the three Service academies operated by the Department. Although the Committee found that these institutions were generally meeting their goals, it has directed certain changes at each of these institutions to improve efficiency and effectiveness.

These changes will affect the senior Service colleges in six respects. First, they will establish a common core curriculum, and offer required courses and electives tailored to their specific missions. Second, where they have not already done so, they will recruit a faculty composed of educationally qualified officers with outstanding military records and civilian scholars with specialized knowledge and relevant academic credentials. Third, each of the colleges will develop a program of research in which its teaching faculty will participate. Fourth, the institutions will refine their selection procedures to ensure that only those students with outstanding professional records and a great potential for increased responsibility are picked to attend a senior Service college. Fifth, all five of the colleges will develop a uniform procedure to determine manning, total program costs, and costs per graduate. Sixth, the National War College and the Industrial College of the Armed Forces have been consolidated into a single institution to be known as the National Defense University.

The Committee has directed comparable changes at the three Service academies. First, each of the academies will develop a curriculum composed of three components: a common core of courses required at all three academies; Service-specific courses required of all students at a particular academy; and an elective or majors program in which individual students can exercise some degree of choice. Second, each of the academies will work toward a better faculty ratio of military and civilian instructors. The uniformed military faculty at each institution will be predominantly highly qualified young officers from all three military departments with recent field or fleet experience and with recognized academic credentials. Civilian faculty members must possess doctoral degrees and should have demonstrated both an ability to teach and a clear commitment to the fundamental purposes of the academy. Third,

the academies will use a uniform methodology to compare total program costs and manning levels.

To ensure that these changes will be implemented, the Committee has established specific dates by which the senior Service colleges and the Service academies must report progress toward the goals established by the Committee. Thus far, all of these institutions have taken the specified actions by the target dates, and the National Defense University has already been established.

To complete the analysis of the Department's educational system, the Deputy Secretary has established a subcommittee under the chairmanship of the Assistant Secretary of Defense for Manpower and Reserve Affairs to study the command and staff colleges of the armed forces. The subcommittee is expected to complete its analysis of these colleges by April 1976.

D. INDUSTRIAL BASE

The current condition of our industrial base is a matter of extreme concern to Defense. This nation's industrial capability has been and must continue to be one of our more effective instruments of deterrence. However, we continue to observe a steady erosion in an asset which must play a relatively greater role in our national security as conventional war requirements increase. The problems associated with our industrial base are many, including material scarcities, rising costs, and increasing governmental regulation. We are experiencing increasing difficulty in obtaining bids on contract requests and are more frequently confronted with a sole source at the sub-contract level.

We seek active Congressional assistance as we explore ways to correct this situation.

1. Industrial Preparedness Program

Serious economic conditions in some sectors have aggravated old problems and brought to light additional areas of concern. Inflation, growing obsolescence of industrial facilities, and decreased capital investment are increasingly worrisome. We see signs that certain sectors of our industrial base have neither the capacity nor desire to respond to Defense surge requirements, as in the case of the foundry industry and fastener manufacturers. The reduced capability of industry to respond to defense requirements has progressively serious implications for support of our forces. Because this situation is serious, we are undertaking a number of steps to improve the preparedness and productivity of the industrial base. We are expanding Industrial Preparedness Planning (IPP) down through components/part level to identify shortfalls and permit actions to be taken to retain critical sub-contractor production capability. We are also establishing an early warning system to identify, in advance, possible supplier closedowns and material shortages.

We have initiated a detailed review of all government-owned facilities to identify those special sectors of industry that are critical to defense requirements that may require continued government ownership. Equipment and plants determined to require continued government ownership will be modernized to reduce weapon systems costs and lead time. Those plants and equipments not requiring government ownership will be removed from the inventory at an increased rate.

2. Manufacturing Technology

This program is receiving increasing emphasis within the Department primarily because it enables us to partially neutralize the effects of reduced industrial capability. During the past year the Services

have been directed to increase their emphasis on this program, and to provide for its central management.

Detailed analyses of major weapon systems to identify manufacturing problems and elements of highest cost in each part, assembly, or system are being conducted and manufacturing technology improvement efforts for those areas of greatest need and greatest payoff will also be addressed. In addition, procedures to ensure faster solution of repair process difficulties associated with Departmental maintenance, overhaul, and modification facilities are being developed.

Difficulty has also been experienced in disseminating and implementing results of successful manufacturing developments and greater emphasis will be given to this area as well as to the conservation of critical materials by the development of substitute materials and manufacturing methods. Essential to all these efforts will be the general improvement which we must affect in our relations with industry and other government agencies.

3. Defense Profit Policy Study

A major study of Defense profit policy was launched by the Deputy Secretary in May, 1975. Entitled "Profit '76," the study's aim is to ensure that Defense contractors have an opportunity to earn a fair but not excessive profit, and to encourage them to invest in more efficient modern plants and equipment.

This effort is considered one of our most important initiatives in the campaign to reduce the cost of major systems. Over 100 major corporations in the Defense business are providing profit data to a consortium of CPAs under contract to the Department of Defense. This consortium will aggregate the data, perform detailed analyses, and report the results to us. In addition, over 300 of our contracting officers and some 200 corporations will be consulted on the various issues involved, and we will draw on the knowledge of leading economists and financiers in government, business and academic circles to establish profit criteria.

This promises to be one of the most thorough studies ever conducted by the Department on the sensitive subject of profit. From the outset, we have provided Congress with full information on our plans and have worked closely with the General Accounting Office and the Cost Accounting Standards Board. By mid-1976 we hope to have promulgated those changes indicated by the study.

E. ENERGY MANAGEMENT AND CONSERVATION

The Department continues its efforts to reduce the demand for energy both in military operations and in fixed facilities. We have reduced the tempo of operations to the minimum considered prudent, and have exceeded the Presidential goal of a 15 percent reduction in consumption in FY 1975 from the level of consumption in 1973.

The mission and management methods of the Department demand that fuel and energy needs be considered in each acquisition activity, as well as in research and development activities. Accordingly, the following energy Research Development Test and Evaluation (RDT&E) goals have been established.

- Determine the Defense energy RDT&E program that will contribute the most to national defense, to include fulfillment of worldwide security commitments, especially during oil embargoes and the possible interdiction of oil or Liquefied Natural Gas (LNG) to the United States or the supply of fuel for future military operations in Europe with NATO allies, in the Middle East, or in South America.

- Determine new options for maintaining a dependable supply of energy overseas at fixed remote facilities to meet commitments there and to conduct such military operations as may be necessary.

- Determine how defense energy RDT&E, as distinct from existing and planned civil agency RDT&E, could minimize U.S. dependence on oil imports and, specifically, minimize the impact of oil embargoes on CONUS military capabilities. Identify, describe, and evaluate candidate energy R&D programs such as the operation of aircraft and ships on refined petroleum products made from coal, oil shale and tar sands.

- Identify, describe, and evaluate those defense energy RDT&E programs that would reduce defense energy fuel operating costs through energy conservation, and would pay back during the life-cycle of the system the investment that would be required.

- Identify energy-related RDT&E programs (such as those to improve the efficiency of aircraft, ship, and vehicle propulsion) that are funded primarily for military reasons but that have major energy benefits.

- Within Defense mission constraints, provide assistance to the national energy RDT&E program in the demonstration of solar heating and cooling for buildings, large scale applications of photovoltaic systems, and general utilization of the Department's vast technical and physical resources.

Another aspect of this effort is the Energy Conservation Investment Program (ECIP), a special program of capital investment in our existing

fixed plant to make it more energy and cost efficient. Military construction funds requested for the program, which will be amortized in less than ten years, are: FY 1976, \$130 million; FY 1977, \$162 million; FY 1978, \$257.7 million.

APPENDIX AFY 1977 DEPARTMENT OF DEFENSE BUDGET

The Department of Defense budget for FY 1977 and the projections for the period through FY 1981 reflect the continuing resolve of the President to maintain a defense structure adequate to move us toward objectives of peace, mutual security, and international stability.

The fundamental goal of the Department of Defense is to ensure the freedom and security of the United States, and to protect vital national interests. This budget provides adequate, balanced military programs at the minimum level appropriate to the overall international circumstances. It is designed to demonstrate a steadiness of purpose and a consistency of effort over time.

The adequacy of the Defense budget must be assessed against the background of trends in the military balance worldwide. These trends are a matter of concern. Soviet defense spending over the past decade has been increasing steadily in real terms. At the same time U.S. force levels and defense expenditures (in real terms) have been decreasing. Momentum on the part of the Soviet Union heightens the danger that our national security posture could experience a lessened deterrent value in the period ahead, unless we take positive steps now. Strength and an appreciation of that strength are essential prerequisites to the negotiation of acceptable agreements in the area of arms limitation. Thus, this budget provides for the real growth essential to ensure that the United States can fulfill its stated objectives of mutual security, international stability and peace. At the same time the budget reflects a serious effort to achieve restraint.

The FY 1977 budget reflects some real program growth over FY 1976, growth required to sustain currently planned force structure levels, to modernize weapon systems, and to improve the combat readiness of existing forces. The rate of growth exceeds the projection of last year because Congressional action on the FY 1976 budget precluded attainment of the essential first-year step. However, this budget reflects restraint with respect to previous planning levels over the period FY 1976-FY 1980.

To attain the needed defense improvements, yet within current fiscal constraints, the Department is emphasizing efforts to achieve efficiencies within the Defense establishment. The Department, after the appropriate studies, will continue to seek opportunities for base closures and realignments, for streamlining of headquarters activities, and for reducing training costs. The Department will share the general restraint in the

President's budget by limiting pay increases, eliminating nearly 26,000 civilian positions, reducing petroleum consumption, holding new construction below FY 1976 levels, reducing training costs for selected National Guard and Reserve positions, and phasing out of the subsidies for labor and utility costs of military commissaries.

The following charts and tables contain specifics of the budget submission including the five-year projections required by the Congressional Budget Act of 1974.

Highlights of the Defense budget are summarized below:

Financial

-- The Defense budget estimates and five-year projections are based upon some important assumptions as to Congressional action and to economic trends. For FY 1977, a number of the general restraints assumed will require specific action or legislation by the Congress. If these assumptions are not borne out, additional funds of \$2.8 billion or more would be required. For FY 1978-FY 1981, the estimates are dependent not only upon the foregoing but also upon assumptions with respect to future pay raises and price increases and other variables.

Total Obligational Authority

-- The FY 1976 program of \$98.3 billion is based upon Congressional action completed to date as well as (a) House-Senate Conference action on the DoD Appropriation Bill, (b) the budget request for Military Assistance, and (c) the supplemental budget request for pay and related items. This amount is \$6.9 billion below the total requested for this fiscal year -- in addition to which the Department has had to absorb approximately \$900 million because the pay cap assumptions did not hold for wage board employees and retired military personnel.

-- The FY 1977 budget request for total obligatory authority is \$112.7 billion, an increase of \$14.4 billion over the estimated FY 1976 level. After consideration of the portion of this increase required to cover estimated pay raises and inflation, the budget would provide a real increase of about \$7.2 billion in the baseline program. This funding will provide the resources to make up deficiencies in force modernization and readiness. Again, this represents an important step upward within a constrained budget level.

-- For the period of FY 1978-FY 1981, preliminary projections are \$120.6 billion, \$130.0 billion, \$139.8 billion, and \$149.7 billion, respectively. As was the case last year, these projections are based upon achieving the important first-year step in the budget -- after which the baseline program reflects a growth of 4 percent per year for defense purchases.

Outlays

-- FY 1976 outlays are currently estimated at \$91.2 billion. This represents 5.7 percent of the Gross National Product and 24.4 percent of the total Federal Budget. These represent reductions from the President's proposal which would have provided a Defense budget at a level of 5.8 percent of the GNP and 26.6 percent of the Federal Budget.

-- FY 1977 outlays are estimated at \$100.1 billion. At this level, Defense represents 25.4 percent of the total Federal Budget and 5.4 percent as a percentage of the GNP. In the pre-Vietnam War year of FY 1964, the Defense Budget represented 8.3 percent of the GNP and 42.8 percent of the Federal Budget.

-- For the period of FY 1978-FY 1981, the President's Budget contains outlay projections of \$111.4 billion, \$120.0 billion, \$130.8 billion, and \$141.3 billion, respectively.

Major Budget Changes

-- In the Procurement Title, \$1.6 billion is included to cover increased costs for ships approved by Congress in FY 1975 and prior years. Increased investment is programmed to initiate procurement of the B-1 Strategic Bomber, the F-16 fighter aircraft, the UTTAS utility helicopter, the new Carrier On-Board Delivery (COD) aircraft, and the CH-53E Super Stallion helicopter. The Trident missile procurement funding provides for the initial production quantity of this new strategic missile. Continued emphasis is being placed on the Army tank production and procurement of antitank missile systems. Production of the Non-Nuclear Lance and the new shoulder-fired Stinger weapon system is programmed initially in FY 1977. Emphasis is being given to the Navy's shipbuilding program through the programming of 16 new construction ships including 3 nuclear attack submarines, one Trident submarine, the lead ship Aegis class destroyer, 8 Guided Missile Frigates, one Destroyer Tender, one Fleet Oiler, and one Submarine Tender. Increases have been programmed to provide the forces with more, and more modern, communications and other support equipment, with the objective of improving the readiness posture of our forces. Additional investment is also programmed for inventories of munitions, spares and repair parts, including an increase for stock-funded war reserves of \$311 million.

-- After provision for pay increases and purchase inflations, there is a constant dollar growth of about \$750 million for Research, Development, Test and Evaluation. The major systems accounting for the increase are the Navy's F-18 air combat fighter and LAMPS ASW helicopter, the Navy and Air Force Cruise Missiles, the Army's Advanced Attack Helicopter, SAM-D and XM-1 tank systems. Real increases are also programmed in the areas of research and exploratory development.

-- Increased funds for Military Personnel are primarily attributable to pay raises projected for FY 1977. Economies in travel and reduced recruiting costs, as well as changes in compensation policy if favorably acted upon by Congress, will further hold down these costs. On a constant dollar basis, Military Personnel appropriations are estimated to be \$.8 billion below FY 1976.

-- Requirements for retired pay continue to rise based on increases in the retired population, the full-year effect of FY 1976 increases and two more increases expected by the end of FY 1977 based on the Consumer Price Index. These assume that Congress will approve the proposal to eliminate the extra 1 percent "kicker" now added to each increase.

-- Increases in Operation and Maintenance are primarily to improve readiness and reduce the backlogs resulting from prior years constraints. There are 29 more ship overhauls planned than in FY 1976 as well as increases for repair of tanks, aircraft and other equipment. Funds are budgeted to arrest the deterioration of facilities and start reducing the accumulated backlog of facilities repair projects. These needs and the rising costs of fuel and other supplies are offset somewhat by planned reductions in headquarters staffing. Additional future efficiencies and savings should accrue from base realignment actions. Since the individual programs are based on current or announced prices, under existing OMB rules, the readiness improvements indicated above will be affected to the extent that prices increase. In terms of FY 1977 constant dollars, the Operation and Maintenance area is up by about \$1.3 billion.

-- Construction programs throughout the government have been curtailed because of overall fiscal constraints. Within a FY 1977 Military Construction program that is down \$.3 billion in purchasing power from FY 1976, \$437 million is earmarked for an Aeropropulsion Systems Test Facility to support future defense, other government, and industrial engine developments. Within the remainder of the program, which is about 30 percent lower than in FY 1976, emphasis is on Trident facilities and aircraft shelters. The government-wide construction cutbacks have left the number of new Family Housing units 60 percent below FY 1976. In addition, housing funds have been reduced to fit within a program down \$.2 billion in constant FY 1977 dollars.

-- Civil Defense programs have been curtailed and Military Assistance is down \$341 million.

Forces and Personnel

-- Strategic missile forces do not change in total. By end FY 1977, the force will consist of 450 Minuteman II missiles, 550 Minuteman III missiles, 10 Polaris submarines, and 31 Poseidon submarines. Also, 54 Titan II missiles are retained.

-- Organizationally, the number of B-52 bomber squadrons is being reduced from 22 to 21, although the number of operating aircraft will remain the same. FB-111 squadrons remain constant at 4.

-- The Manned Fighter Interceptor force will be maintained at six F-106 squadrons.

-- The Army will continue to support 16 active Divisions and will further strengthen that force in FY 1977 by adding two Divisional Combat Brigades within a constant military personnel level.

-- 3 Marine Corps active Divisions are continued in FY 1977.

-- The Air Force continues with plans to bring the 26 organizational wings currently in its active force structure up to full strength within manpower and budget constraints. During the period FY 1976 to FY 1977, 2 F-4, 2 A-7, and 1 F-105 squadrons will be replaced by 4 F-15 and 1 A-10 squadrons. For the most part, aircraft released from the active forces will be transitioned to the Air National Guard for continued modernization of that force.

-- The Navy will operate 13 attack carriers and wings throughout FY 1977. The Marines will maintain 3 air wings.

-- The Nuclear attack submarine force will increase from 65 to 70 through the introduction of 5 new nuclear submarines from new construction.

-- The increase of 8 warships results from the introduction of 2 guided missile cruisers, 8 destroyers, and 1 guided missile frigate, offset by the retirement of 3 older destroyers.

-- The increase of 2 amphibious assault ships results from the introduction of 2 additional ships of the LHA class.

-- There is no change in the C-5A and C-141 force structure throughout the budget period.

-- There is a decrease in the sealift forces due to the retirement of one government-owned cargo ship.

-- Total Defense employment at the end of FY 1977 will be 3,137,000. This plan is 723,000 below the FY 1964 pre-Vietnam War strength and 1,816,000 below the peak war FY 1968 level.

-- Military personnel strengths in total will remain stable in FY 1977. Within the total, however, there is an increase of about 12,000 for the Navy which reflects the additional active fleet ships in FY 1977 and improved fleet readiness through increased ship and aircraft squadron manning.

This increase is offset by a decrease of approximately 13,000 in the Air Force resulting from a reduction in the number of Air Force personnel engaged in training, management, headquarters and other support activities.

-- The reduction of 26,000 in civilian employment is the net result of anticipated base realignments, reductions in management headquarters, and other support activities primarily offset by a 2,000 increase in naval shipyard manning which reflects the increase in ship maintenance required to improve fleet readiness.

-- Defense-related industry employment will increase in FY 1977 as a result of the emphasis on materiel funding in the FY 1976 and FY 1977 budgets. Defense manpower (direct and industry-related) will comprise 4.8 percent of the total labor force in FY 1977. The FY 1964 percentage was 7.9 percent, rising to 9.7 percent at the peak of the Southeast Asia War.

Summary

The FY 1977 budget represents a balanced program to meet the national security needs of the United States. Ultimately, the level of our Defense spending must be judged against the nation's vital interests and the military capabilities we require in a world which is uncertain and in which trends in the global military power balance are disturbing. While measures like percent of GNP or of Federal spending are useful, the adequacy of Department of Defense budget cannot be appraised solely in such terms. This FY 77 budget provides for the lowest level of spending which will support the policy set forth by the President . . . that the United States should possess a military capability second to none.

DEPARTMENT OF DEFENSE BUDGET
DEFENSE BUDGET TOTALS
(\$ IN BILLIONS)

<u>CURRENT DOLLARS</u>	<u>FY 1974 ACTUAL</u>	<u>FY 1975 ACTUAL</u>	<u>FY 1976 ESTIMATE</u>	<u>FY 1977 ESTIMATE</u>	<u>INCREASE FY 1976-77</u>
Total Obligational Authority (TOA)	85.1	87.9	98.3	112.7	14.4
Budget Authority (BA)	88.9	91.5	100.7	113.8	13.1
Outlays	78.4	86.0	91.2	100.1	8.9
 <u>CONSTANT FY 1977 DOLLARS</u>					
Total Obligational Authority (TOA)	107.3	100.7	105.3	112.7	7.4
Budget Authority (BA)	112.6	104.8	108.0	113.8	5.8
Outlays	101.7	99.1	98.2	100.1	1.9

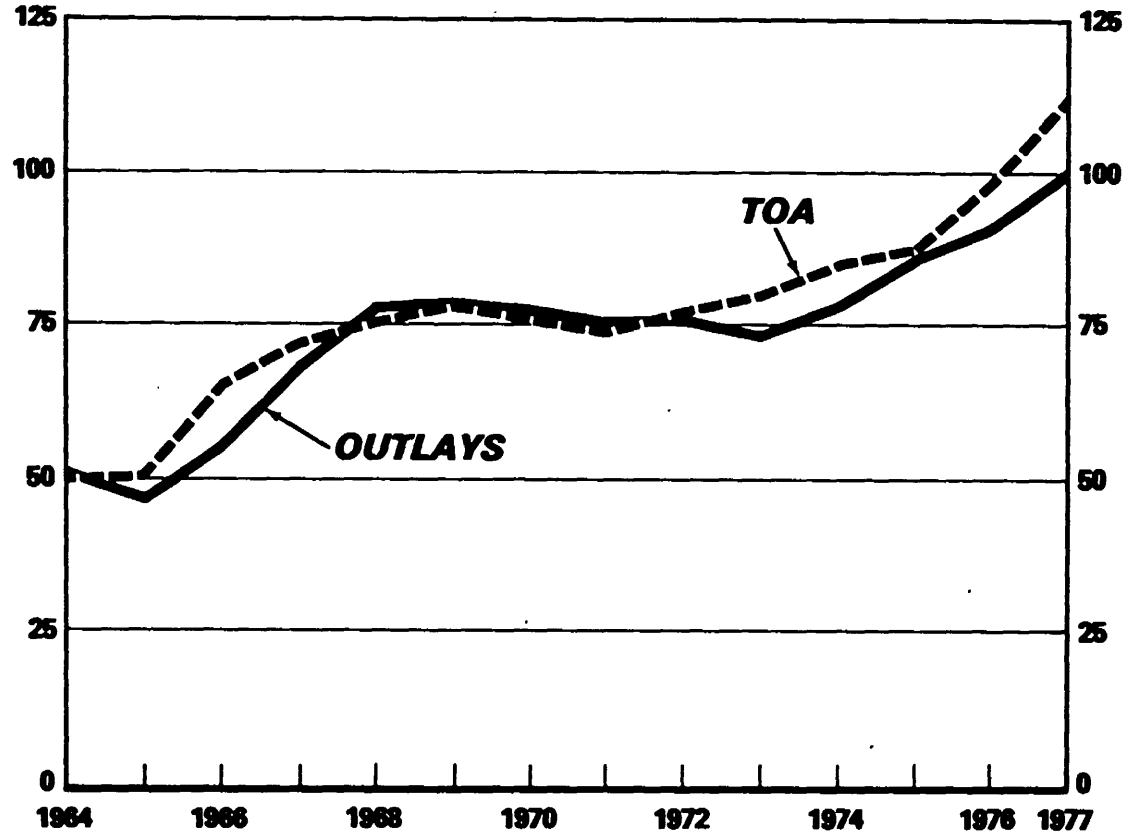
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DEPARTMENT OF DEFENSE BUDGET TRENDS

(BILLIONS OF CURRENT \$)

⌘ BILLIONS



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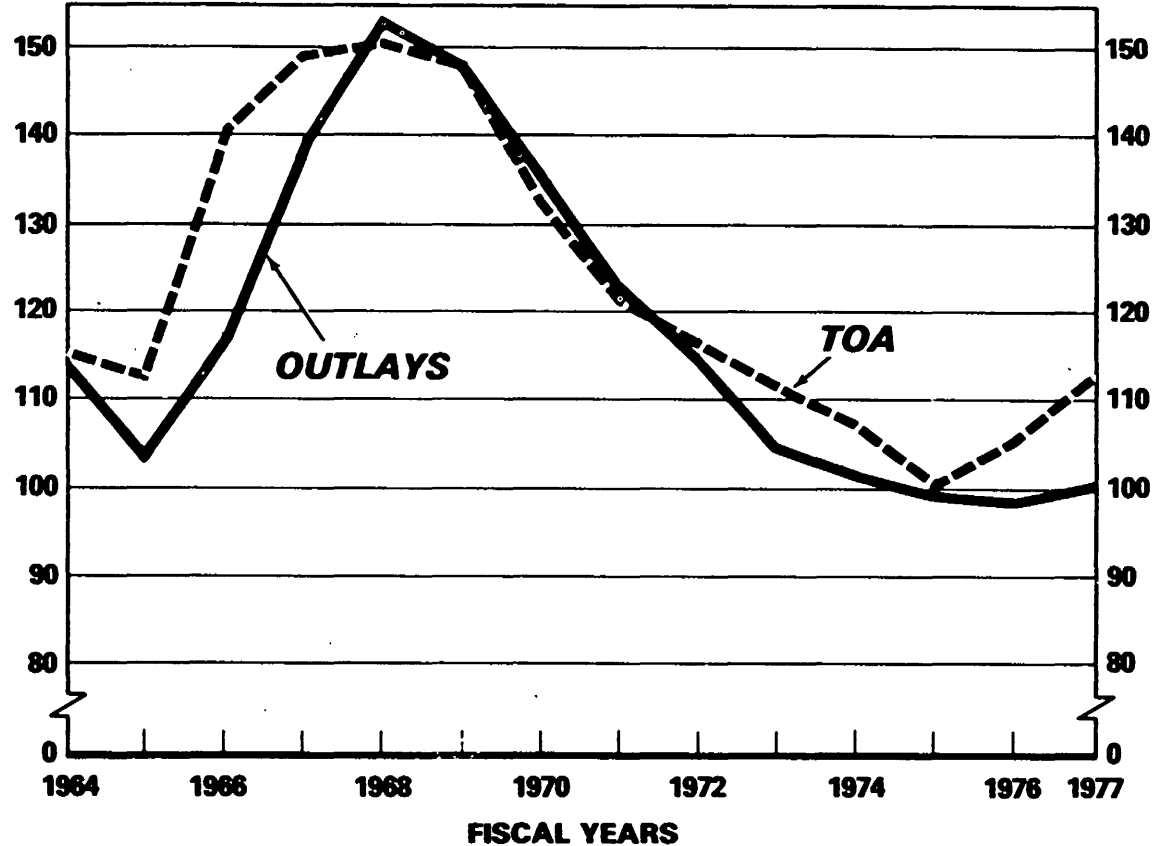
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FISCAL YEARS

DEPARTMENT OF DEFENSE BUDGET TRENDS

(BILLIONS OF CONSTANT FY 1977 \$)

\$ BILLIONS



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ANNUAL INFLATION RATES

	CONSUMER PRICE INDEX	WHOLESALE PRICE INDEX	GNP DEFLATOR	INFLATION ON DEFENSE BUDGET:	
				OUTLAYS	TOA
FY 1973 TO FY 1974	8.9%	16.1%	8.1%	9.4%	10.3%
FY 1974 TO FY 1975	11.1%	16.9%	10.8%	12.5%	10.1%
FY 1975 TO FY 1976	7.3%	6.2%	6.2%	7.0%	6.9%
FY 1976 TO FY 1977	7.5%	8.7%	7.6%	7.7%	7.2%
COMPOUND ANNUAL AVERAGE, FY 1973-77	8.2%	11.1%	7.7%	8.6%	8.0%

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DEPARTMENT OF DEFENSE BUDGET
FINANCIAL SUMMARY BY APPROPRIATION CATEGORY
(BILLIONS OF \$)

<u>APPROPRIATION TITLE</u>	CURRENT DOLLARS			
	TOTAL OBLIGATIONAL AUTHORITY			
	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1977</u>
Military Personnel	\$24.1	\$24.9	\$25.6	\$26.5
Retired Pay	5.1	6.2	7.3	8.4
Operation and Maintenance	23.9	26.2	28.9	32.4
Procurement	17.5	17.4	21.4	29.3
RDT&E	8.2	8.6	9.5	11.0
Military Construction	1.8	1.8	2.4	2.3
Family Housing	1.1	1.2	1.3	1.2
Civil Defense	0.1	0.1	0.1	0.1
Revolving and Management Funds	—	—	0.1	0.4
Military Assistance	3.3	1.6	1.5	1.2
TOTAL	\$85.1	\$87.9	\$98.3	\$112.7

**DEPARTMENT OF DEFENSE BUDGET
FINANCIAL SUMMARY
BY APPROPRIATION CATEGORY - CONSTANT PRICES
(BILLIONS OF \$)**

<u>APPROPRIATION TITLE</u>	CONSTANT FY 1977 DOLLARS TOTAL OBLIGATIONAL AUTHORITY			
	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1977</u>
Military Personnel	\$29.1	\$27.9	\$27.3	\$26.5
Retired Pay	7.1	7.6	8.0	8.4
Operation & Maintenance	31.3	30.2	31.1	32.4
Procurement	21.4	19.8	22.9	29.3
RDT & E	10.2	9.9	10.2	11.0
Military Construction	2.3	2.1	2.6	2.3
Family Housing	1.5	1.4	1.4	1.2
Civil Defense	0.1	0.1	0.1	0.1
Revolving and Management Funds	—	—	0.1	0.4
Military Assistance	4.4	1.8	1.6	1.2
TOTAL	\$107.3	\$100.7	\$105.3	\$112.7

DEPARTMENT OF DEFENSE BUDGET
FINANCIAL SUMMARY BY MAJOR PROGRAM
(BILLIONS OF \$)

	CURRENT DOLLARS			
	TOTAL OBLIGATIONAL AUTHORITY			
<u>MILITARY PROGRAM</u>	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1977</u>
Strategic Forces	\$ 6.8	\$ 7.2	\$ 7.3	\$ 9.4
General Purpose Forces	27.5	28.1	33.4	40.2
Intelligence & Communications	6.0	6.3	6.7	7.7
Airlift & Sealift	0.8	0.9	1.3	1.6
Guard & Reserve Forces	4.3	4.8	5.5	5.9
Research & Development	6.8	7.7	8.7	10.5
Central Supply & Maintenance	8.5	9.1	9.7	10.9
Training, Medical, other Gen. Pers. Activ.	18.2	20.1	21.8	23.0
Administration & Assoc. Activities	1.8	2.0	2.2	2.1
Support of Other Nations	4.3	1.8	1.8	1.4
TOTAL	\$85.1	\$87.9	\$98.3	\$112.7

DEPARTMENT OF DEFENSE BUDGET
FINANCIAL SUMMARY
BY MAJOR PROGRAM - CONSTANT PRICES
(BILLIONS OF \$)

<u>MILITARY PROGRAM</u>	CONSTANT FY 1977 DOLLARS TOTAL OBLIGATIONAL AUTHORITY			
	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1977</u>
Strategic Forces	\$ 8.5	\$ 8.2	\$ 7.8	\$ 9.4
General Purpose Forces	34.1	31.9	35.7	40.2
Intelligence & Communications	7.5	7.2	7.2	7.7
Airlift & Sealift	1.0	1.0	1.4	1.6
Guard & Reserve Forces	5.4	5.5	5.8	5.9
Research & Development	8.5	8.8	9.4	10.5
Central Supply & Maintenance	11.1	10.5	10.4	10.9
Training, Medical, other Gen. Pers. Activ.	23.4	23.3	23.4	23.0
Administration & Assoc. Activities	2.3	2.3	2.3	2.1
Support to Other Nations	5.6	2.0	1.9	1.4
TOTAL	\$107.3	\$100.7	\$105.3	\$112.7

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TOTAL AND BASELINE PROGRAM TRENDS

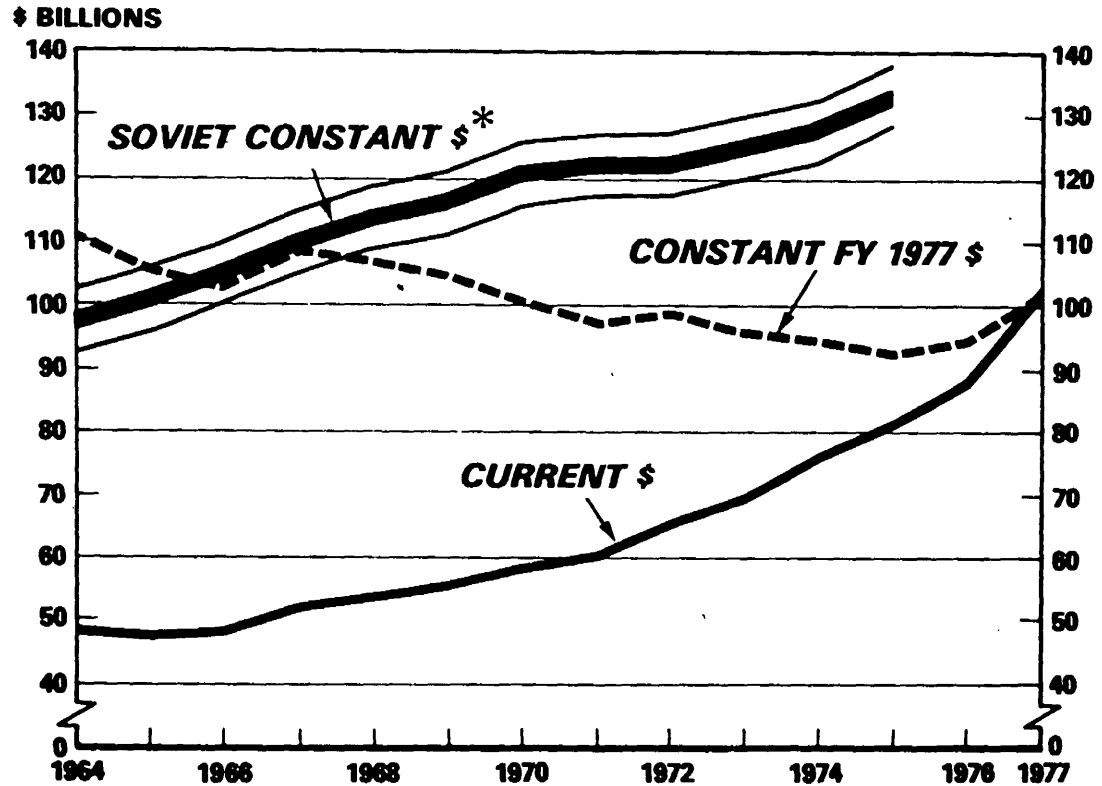
(\$ MILLIONS, CONSTANT FY 1977 PRICES)

<u>TOA</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Total Obligational Authority	\$111,567	\$107,321	\$100,695	\$105,317	\$112,709
Prior-year Shipbuilding Programs	135	768	1,308	-1,353	-1,623
Comparable TOA	<u>111,702</u>	<u>108,089</u>	<u>102,003</u>	<u>103,964</u>	<u>111,086</u>
Non-baseline Items:					
Military Retired Pay	6,666	7,109	7,567	7,993	8,434
Military Assistance	1,564	4,357	1,780	1,622	1,177
Military/Functions, SEA	7,678	1,705	307		
Naval Petroleum Reserves			79	128	
TOTAL, Non-baseline Items	<u>15,908</u>	<u>13,171</u>	<u>9,733</u>	<u>9,743</u>	<u>9,611</u>
Baseline TOA, Constant Prices	95,794	94,918	92,270	94,221	101,475

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DEPARTMENT OF DEFENSE BASELINE FORCES BUDGET TRENDS (TOA - \$ BILLIONS)



* SOURCE: BASED ON INTELLIGENCE DATA FOR SOVIET FORCES ESTIMATED
IN CONSTANT US DOLLARS

FY 1977 DEPARTMENT OF DEFENSE BUDGET
DEFENSE EMPLOYMENT OUTLOOK
(END YEAR - IN THOUSANDS)

	FY 1964	FY 1968	FY 1975	FY 1976	FY 1977	FY 1977	CHANGE FY 1977-77
MILITARY							
Army	872	1,570	784	782	790	790	0
Navy	667	785	535	525	532	544	+12
Marine Corps	190	307	195	195	195	195	0
Air Force	856	905	613	584	584	571	-13
TOTAL MILITARY	2,885	3,567	2,127	2,087	2,102	2,101	-1
CIVILIAN							
Army	453	542	401	384	380	378	-12
Navy	398	433	328	324	324	321	-3
Air Force	338	357	278	285	285	257	-7
Defense Agencies/OSD	38	75	73	75	83	80	-3
TOTAL CIVILIAN	1,175	1,408	1,078	1,068	1,062	1,036	-26
Direct Hire	(1,035)	(1,257)	(989)	(982)	(967)	(942)	(-25)
TOTAL - MILITARY AND CIVILIAN	3,880	4,953	3,205	3,145	3,164	3,137	-27
Defense Related Industry	2,280	3,173	1,635	1,610	1,630	1,750	+120
TOTAL DEFENSE MANPOWER	6,140	8,128	4,840	4,755	4,794	4,887	+93

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PERSONNEL COSTS AS PERCENT OF THE DOD BUDGET

(OUTLAYS IN \$ BILLIONS)

	<u>FY 64</u>	<u>FY 68</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>
PERSONNEL COSTS:						
Military Pay Base	\$10.6	\$15.3	\$21.0	\$21.6	\$22.0	\$22.6
Other Military Personnel Costs	2.4	4.6	2.7	3.4	3.6	3.7
Civilian Pay	7.3	10.3	13.4	14.6	15.5	16.0
Family Housing	0.5	0.4	0.7	0.9	1.1	1.1
Military Retired Pay	1.2	2.1	5.1	6.2	7.3	8.4
TOTAL PAY AND ALLOWANCES	<u>\$22.0</u>	<u>\$32.6</u>	<u>\$43.0</u>	<u>\$46.7</u>	<u>\$49.4</u>	<u>\$51.8</u>
DOD BUDGET TOTAL (OUTLAYS)	<u>\$50.8</u>	<u>\$78.0</u>	<u>\$78.4</u>	<u>\$86.0</u>	<u>\$91.2</u>	<u>\$100.1</u>
PERCENT PERSONNEL COSTS	43.3%	41.8%	54.8%	54.3%	54.1%	51.7%

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DEPARTMENT OF DEFENSE
SUMMARY OF SELECTED ACTIVE MILITARY FORCES

	ACTUAL JUNE 30, 1964	ACTUAL JUNE 30, 1975	ESTIMATED			
			JUNE 30, 1976	SEPT 30, 1976	SEPT 30, 1977	SEPT 30, 1978
STRATEGIC FORCES:						
Intercontinental Ballistic Missiles:						
MINUTEMAN	600	1,000	1,000	1,000	1,000	1,000
TITAN II	108	54	54	54	54	54
POLARIS-POSEIDON Missiles	336	656	656	656	656	656
Strategic Bomber Squadrons	78	27	26	25	25	25
Manned Fighter Interceptor Squadrons	40	7	6	6	6	6
Army Air Defense Firing Batteries	107	0	0	0	0	0
GENERAL PURPOSE FORCES:						
Land Forces:						
Army Divisions	16-1/3	14	16	16	16	16
Marine Corps Divs.	3	3	3	3	3	3
Tactical Air Forces:						
Air Force Wings	21	26	26	26	26	26
Navy Attack Wings	15	14	13	13	13	13
Marine Corps Wings	3	3	3	3	3	3
Naval Forces:						
Attack & Antisubmarine Carriers	24	15	13	13	13	13
Nuclear Attack Submarines	19	64	65	67	70	75
Other Warships	370	186	180	182	188	189
Amphibious Assault Ships	133	64	62	62	64	65
AIRLIFT AND SEALIFT FORCES:						
Strategic Airlift Squadrons:						
C-5A	0	4	4	4	4	4
C-141	0	13	13	13	13	13
Troopships, Cargo Ships and Tankers	100	51	48	48	47	47

FY 1977 DEPARTMENT OF DEFENSE BUDGET
FY 1976 SUPPLEMENTALS, AMENDMENT AND PENDING LEGISLATION
 (\$ MILLIONS)

<u>PURPOSE</u>	<u>SUPPLEMENTALS</u>	<u>AMENDMENT</u>	<u>PENDING LEGISLATION</u>
Civilian and Military Pay Raises October 1, 1975	1,149		
Retired Pay Cost of Living Increases August 1975, March 1976	440		
Wage Board Pay Increases	486		
Increased Subsistence Costs	46		
Increased Health Benefits Costs	22		
Military Travel Allowances			52
Military Assistance Program		225	
TOTAL	2,143	225	52
<u>TITLE</u>			
Military Personnel	837		12
Retired Military Personnel	440		
Operation and Maintenance	809		36
Research, Development, Test & Evaluation	55		4
Civil Preparedness, DCPA	1		
Military Assistance Program		225	
TOTAL	2,143	225	52
<u>COMPONENT</u>			
Army	611		20
Navy	551		13
Air Force	464		20
Defense Agencies/OSD	76		
Defense-wide	440		
Civil Preparedness, DCPA	1		
Military Assistance Program		225	
TOTAL	2,143	225	52

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FY 1977 DEPARTMENT OF DEFENSE BUDGET
SCHEDULING OF FY 1977 BUDGET REQUESTS
(TOA, MILLIONS)

	<u>DOD APPROPRIATIONS ACT</u>	<u>MIL CON/FAMILY HOUSING</u>	<u>CIVIL DEFENSE</u>	<u>MILITARY ASSISTANCE</u>	<u>GRAND TOTAL</u>
Appropriations (TOA) Requested with Budget Transmitted January 1976	106,360	3,506	71	1,177	111,113
Appropriations to be Requested at a Later Date, but Included in Defense Budget Estimate:					
October 1, 1976 Civilian and Military Pay Raise	(1,391)	(7)			(1,398)
FY 1977 Wage Board Raises	(35)				(35)
Proposed Legislation:					
Retirement Modernization	(40)				(40)
Military Travel Allowances	(107)				(107)
Other Military Entitlements	(16)				(16)
Total Appropriations to be Requested Later	1,589	7			1,596
Total FY 1977 Budget Estimate	107,949	3,513	71	1,177	112,709

DEPARTMENT OF DEFENSE BUDGET ***FINANCIAL SUMMARY***

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	<u>FY 1964</u>	<u>FY 1968</u>	<u>FY 1975</u>	<u>FY 1976</u>	<u>FY 1977</u>
DOD/MAP as Percentage:					
Federal Budget (Outlays)	42.8%	43.6%	26.5%	24.4%	25.4%
Gross National Product	8.3%	9.4%	6.0%	5.7%	5.4%
Labor Force	7.9%	9.7%	5.0%	4.8%	4.8%
Net Public Spending	28.1%	29.2%	17.3%	16.4%	16.5%

LONG-RANGE FORECASTS AND PAY/PRICE ASSUMPTIONS

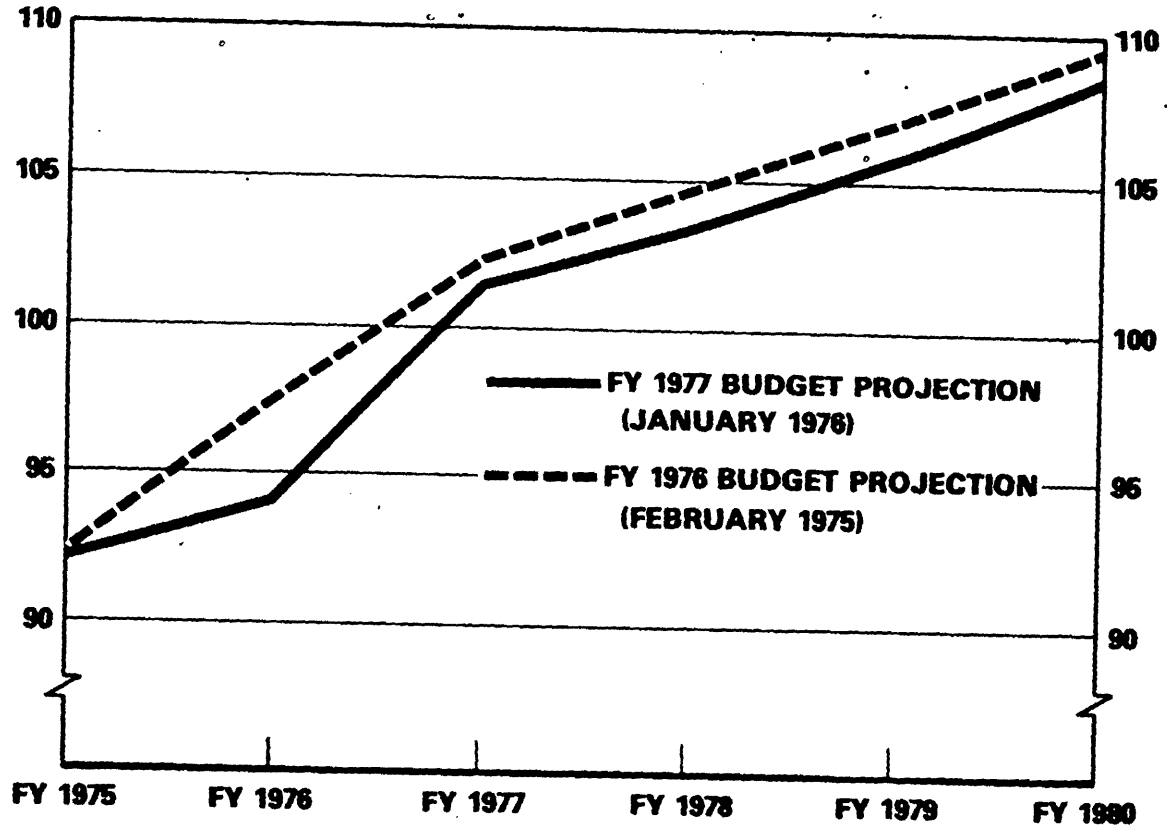
	<u>FY 1977</u>	<u>FY 1978</u>	<u>FY 1979</u>	<u>FY 1980</u>	<u>FY 1981</u>
TOA (\$ Billions):					
Military Assistance	\$ 1.2	\$ 1.1	\$ 1.1	\$ 1.1	\$ 1.1
Military Retired Pay	8.4	9.8	10.6	11.5	12.2
Other Military Functions	<u>103.1</u>	<u>109.7</u>	<u>118.3</u>	<u>127.2</u>	<u>136.4</u>
Total, Current Prices	<u>112.7</u>	<u>120.6</u>	<u>130.0</u>	<u>139.8</u>	<u>149.7</u>
Total, Constant (FY 1977) Prices	112.7	113.2	115.9	118.9	121.9
Outlays (\$ Billions)					
Military Assistance	\$ 0.5	\$ 0.6	\$ 0.6	\$ 0.5	\$ 0.4
Military Retired Pay	8.4	9.8	10.6	11.5	12.2
Other Military Functions	<u>91.2</u>	<u>101.0</u>	<u>108.8</u>	<u>118.8</u>	<u>128.7</u>
Outlays, Current Prices	<u>100.1</u>	<u>111.4</u>	<u>120.0</u>	<u>130.8</u>	<u>141.3</u>
Outlays, Constant (FY 1977) Prices	\$ 100.1	\$ 103.9	\$ 106.0	\$ 110.0	\$ 113.7
Composite Pay/Price Assumptions (FY 1977 = 100):					
TOA	100.0	106.6	112.2	117.6	122.8
Outlays	100.0	107.2	113.3	118.9	124.3

BASELINE TOA TRENDS

FY 1975 — 80

(CONSTANT FY 1977 PRICES)

\$ BILLIONS



APPENDIX B

TABLE 1

FY 1977 Department of Defense Budget
FINANCIAL SUMMARYBy Program, Component and Budget Title
(Total Obligational Authority - In Millions of Dollars)

	FY 1974	FY 1975	FY 1976	FY 1977
<u>DoE Program</u>				
Strategic Forces	6,798	7,202	7,269	9,403
General Purpose Forces	27,541	28,077	33,406	40,189
Intelligence and Communications	5,987	6,313	6,728	7,734
Airlift and Sealift	776	901	1,264	1,586
Guard and Reserve Forces	4,329	4,829	5,452	5,908
Research and Development	6,849	7,697	8,727	10,464
Central Supply and Maintenance	8,540	9,069	9,722	10,929
Training, Medical, Other Gen Per Act	18,169	20,060	21,753	22,965
Administration and Assoc Activities	1,800	1,970	2,178	2,143
Support of Other Nations	4,272	1,783	1,761	1,389
Total Direct Program (TOA)	85,061	87,902	98,261	112,709
<u>DoD Component</u>				
Department of the Army	21,583	21,707	24,152	27,270
Department of the Navy	26,888	27,934	31,653	37,884
Department of the Air Force	24,737	26,056	28,644	32,561
Defense Agencies, OSD and JCS	2,131	3,105	3,518	3,995
Defense-Wide	6,330	7,466	8,690	9,751
Defense Civil Preparedness Agency	81	85	87	71
Military Assistance Program	3,130	1,550	1,518	1,177
Total Direct Program (TOA)	85,061	87,902	98,261	112,709
<u>DoD Budget Title</u>				
Military Personnel	24,104	24,885	25,617	26,498
Retired Pay	5,137	6,239	7,326	8,434
Operation and Maintenance	23,862	26,153	28,909	32,356
Procurement	17,465	17,389	21,431	29,310
Research, Development, Test, Evaluation	8,200	8,636	9,532	10,989
Special Foreign Currency Program	3	3	3	4
Military Construction	1,771	1,793	2,418	2,288
Family Housing and Homeowners Asst Prog	1,127	1,170	1,287	1,225
Civil Defense	81	85	87	71
Military Assistance Program	3,310	1,550	1,518	1,177
Revclving and Management Funds			135	358
Total Direct Program (TOA)	85,061	87,902	98,261	112,709

Note: In the FY 1976 and FY 1977 columns, amounts for military and civilian pay increases, military retired pay reform and other proposed legislation are distributed.

Details may not add to totals due to rounding.

TABLE 2

Active Duty Military Personnel, Reserve Component Military
Personnel, and Civilian Personnel Strength 1/
(end of fiscal years in thousands)

	<u>1964</u>	<u>1968</u>	<u>1975</u>	<u>1976</u>	<u>30 Sep 1976</u>	<u>1977</u>	<u>1978</u>
Active Duty Military							
Army	972	1,570	784	782	790	790	790
Navy	667	765	535	525	532	544	544
Marine Corps	190	307	196	196	196	196	196
Air Force	<u>856</u>	<u>905</u>	<u>613</u>	<u>584</u>	<u>584</u>	<u>571</u>	<u>568</u>
Total	2,685	3,547	2,129	2,087	2,102	2,101	2,098
Reserve Components (in paid status)							
Army National Guard	382	389	395	380	380	400	400
Army Reserve	269	244	225	212	212	219	219
Naval Reserve	123	124	98	101	101	52	52
Marine Corps Reserve	46	47	32	34	34	34	34
Air National Guard	73	75	95	95	95	93	93
Air Force Reserve	<u>61</u>	<u>43</u>	<u>51</u>	<u>53</u>	<u>54</u>	<u>52</u>	<u>54</u>
Total	953	922	897	874	875	849	852
Direct-Hire Civilian							
Army 2/	360	462	337	327	323	314	314
Navy	332	419	318	313	313	309	309
Air Force 2/	305	331	266	250	250	241	241
Defense Agencies	<u>38</u>	<u>75</u>	<u>74</u>	<u>73</u>	<u>81</u>	<u>78</u>	<u>78</u>
Total 2/	1,035	1,287	994	962	967	942	942

1/ Totals may not add due to rounding

2/ These totals include Army and Air National Guard Technicians, who were converted from State to Federal employees in FY 1969. The FY 1964 and 1968 totals have been adjusted to include approximately 38,000 and 39,000 technicians respectively.