# DEPARTMENT OF DEFENSE

# ANNUAL REPORT

## FISCAL YEAR 1981

HAROLD BROWN
SECRETARY OF DEFENSE

# REPORT OF SECRETARY OF DEFENSE

HAROLD BROWN

TO THE CONGRESS

ON THE

FY 1981 BUDGET, FY 1982 AUTHORIZATION REQUEST
AND FY 1981-1985 DEFENSE PROGRAMS

JANUARY 29, 1980

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# SECTION I

## THE CONDITIONS OF SECURITY

The battle, sir, is not to the strong alone; it is to the vigilant, the active, the brave.

Patrick Henry, 1775

I think the necessity of being ready increases. --Look to it.

Abraham Lincoln, 1861

You cannot ask us to take sides against arithmetic. You cannot ask us to take sides against the obvious facts of the situation.

Winston S. Churchill, 1926

# CHAPTER 1

# OVERVIEW

Mr. Chairman and Members of the Committee:

I welcome this opportunity to present the details of President Carter's third defense budget. As in past years, I will summarize the budget request and give an overview of my annual defense report, which has been submitted to you.

## I. THE FY 1981 DEFENSE BUDGET

The President's defense budget for FY 1981 proposes Total Obligational Authority (TOA) of $158.7 billion and Budget Authority (BA) of $158.2 billion. Outlays for FY 1981 will be $142.7 billion, 3.3 percent higher in real terms than they will have been in FY 1980. TOA is up by 5.4 percent in real terms, higher than the growth in outlays because TOA in recent years has been increasing much more slowly than outlays. More important, the Carter Administration has concluded that the defense program must be substantially increased over the next five years, and that we must begin the effort now.

The real annual increases in outlays will continue at an accelerating rate as we proceed with the buildup; they will exceed four percent in the out-years. The annual rate of growth in TOA will vary between 4.8 and 4.2 percent between FY 1982 and FY 1985.

All of these rates of growth, I should add, are measured from an FY 1980 TOA which, with the supplemental we are submitting, will amount to $139.3 billion.

The programmed rates of growth are needed for two basic reasons. The first is the sustained expansion in the Soviet defense effort, an effort that has been going on for at least 20 years. If we do not respond over the coming years by increasing our own, we will condemn the United States to an inferior military position. The second reason is the growth in international turbulence, illustrated by recent developments in the Caribbean, Southeast Asia, Korea, Afghanistan, and Iran. We will need more resources than we had previously programmed so that our defense posture can cope with the simultaneous demands that we can expect in the future, exemplified and indeed created by these developments.

It should be noted that the percentage of our GNP devoted to defense has fallen from 8.6 percent to 5.0 percent since 1962. The current increase in defense program and spending will be accomplished without raising that percentage to much above five percent. In fact, each increase in real defense spending by one percent more than GNP growth raises the defense percentage of GNP by slightly less than a twentieth of one percent. Thus, if real GNP increases by two percent and real defense spending by four percent, the defense fraction of GNP rises by less than a tenth of one percent.

As is evident, this year's Five-Year Defense Program projects a substantial increase in real defense resources over the next five years, as compared with last year's FYDP. This does not reflect a single sudden change in the world situation, or a sudden conversion on the part of the Administration. It is an example of executive leadership by President Carter in responding to the adverse trends in the military balance, and to increased dangers to U.S. interests in several parts of the world, reflected most recently in Iran and Afghanistan. These dangers did not develop suddenly during 1979; they have been apparent as trends for several years. It was to respond to them that the increased defense budgets of the last two years, the three percent NATO commitment, and the parallel tracks of military strength and arms control have been pursued by this Administration.

During the past year, we have reevaluated our needs and concluded we need more military capabilities of particular kinds, and need to ensure that we obtain them despite the uncertainties about inflation rates and despite the differences over program detail that we sometimes have with the Congress. During this same year, public perceptions of our needs have begun to catch up with the facts. A new consensus is forming around the President's leadership.

## II. THE SOVIET UNION

In 1979, the Soviet military effort was about 50 percent larger than our own, measured by what it would cost to buy Soviet programs (including personnel) in the U.S. economy. We now estimate that the Soviets are using somewhere between 11 and 14 percent of their Gross National Product for defense purposes, compared with our five percent (of a U.S. GNP nearly twice as large).

The difference between Soviet and U.S. investments in military goods (R&D, procurement, and military construction) is even larger. In the past decade, Soviet investment has been cumulatively about 27 percent larger than ours. In 1979 alone, it was probably greater by 85 percent. The consequences of that investment are now becoming evident.

In strategic nuclear forces, the Soviets have come from a position of substantial numerical inferiority 15 years ago to one of parity today--and a potential for strategic advantage if we fail to respond with adequate programs of our own. Their forces have improved in quality as well as in numbers. They have deployed two new generations of ICBMs and SLBMs, and are working on a further generation--each generation being of increased sophistication and capability. Of greatest concern, they have deployed highly accurate, MIRVed ICBMs with the potential of threatening the survivability of our ICBM silos.

In addition to this buildup in their central strategic systems, the Soviets have modernized both their intermediate-range and their tactical nuclear forces. The MIRVed and mobile SS-20 ballistic missile and the BACKFIRE bomber are the most disturbing components of this ambitious program.

At the same time, Soviet ground and tactical air forces in Eastern Europe are excessively large and much too offensively oriented to serve primarily as a counterweight to NATO capabilities, let alone as occupation troops. Similarly,

Soviet forces in the Far East are geographically positioned, exercised, and apparently designed for offensive operations. I should note, however, that many of the divisions in the Far East are less than fully combat-ready.

Some components of the increasingly modern Soviet navy are intended for the direct defense of the USSR. Other parts are designed for anti-submarine warfare and the interdiction of the major sea lanes. Still other parts are clearly intended for the long-range projection of Soviet military power. The Soviets have consistently sought to use air and naval facilities overseas, and they have expanded their capability for long-range sealift and airlift as well. There has been recent evidence that they intend to use their airborne divisions for power projection--in the Arab-Israeli October war of 1973 and in Afghanistan in 1979-80.

Although the Soviets have not shown much restraint in their defense decisions, they have been willing to negotiate arms control agreements that promote strategic stability. SALT II is just such an agreement. It serves our national security interest--even more so when the Soviets are aggressive--but the timing of its ratification must defer to the urgent need that we assess and respond to Soviet actions in Afghanistan.

SALT II remains in our interest for five basic reasons:

-- It will actually reduce the strategic forces of the Soviet Union and put a ceiling on the future strategic forces of both superpowers.

-- It will impose important qualitative constraints on the strategic competition. In particular, it will constrain Soviet ICBM fractionation and the number of their MIRVed ICBM launchers, where their present momentum would otherwise give them much larger numbers during the period of the Treaty.

-- It will bring greater predictability to the nuclear relationship between the two sides, and thereby facilitate our own defense planning.

-- We will be better able to monitor Soviet strategic forces with the treaty than without it.

-- We can continue the programs we need for our own strategic forces and for our allies under the treaty, but our efforts will cost billions less than would be likely without the treaty.

SALT II, in short, will increase our security and help to reduce one of our major defense problems.

## III. INTERNATIONAL TURBULENCE

Largely for economic reasons, the United States has become heavily involved outside its traditional areas of concern in Europe, Latin America, and the Far East. Some of these other areas are now suffering increased turbulence from within as well as from the intervention of the Soviet Union.

Nowhere is this more the case than in the Middle East. The region has become a breeding ground for internal upheaval--as has already occurred in Iran--for war, terrorism, and subversion. Temporary disruptions or a more permanent decline in the supply of oil from the Persian Gulf could easily occur as a consequence. The Soviet invasion of Afghanistan, its footholds in South Yemen and the Horn of Africa, and the Soviet naval presence in the Red Sea and the Indian Ocean, only make a volatile situation potentially even more explosive.

Africa has become a major source of oil and other minerals for our economy. The main oil routes from the Persian Gulf to Europe and America run along its coasts. Yet internal strife wracks parts of the continent, and there is a continuing danger of more to come. Existing conflicts have already been exacerbated by a Cuban expeditionary force of perhaps 36,000 men in two principal areas, by Soviet military assistance to the more radical factions and regimes on the continent, and by the presence of Soviet and East European advisers. These conflicts may be settled short of critical damage to our economic and other ties, but we cannot count on it.

Cuba has already shown its willingness to exploit the forces of change in the Caribbean for its own ends. The grave dangers associated with further subversion should persuade Havana and Moscow that non-intervention is in order. But there is no certainty that they will see the virtues of restraint.

At the same time, we have to allow for the possibility that the tragic conflict between Communist states in Southeast Asia will spill over into Thailand. And we must still take precautions against the substantial expansion in the armed forces of North Korea that has been going on during the last decade.

As a result of these developments, our defense establishment could be faced with an almost unprecedented number of demands. And some of those demands could arise more or less simultaneously. To meet them, we must solve a number of immediate and longer-term problems.

## IV. THE STRATEGIC NUCLEAR PROBLEM

We have recognized for many years that our strategic nuclear capabilities could deter only a small number of contingencies. But there can be no doubt that these capabilities still provide the foundation on which our security rests. Without them, the Soviet Union could threaten the extinction of the United States and its allies. With them, our other forces become meaningful instruments of military and political power.

With the growth of Soviet strategic capabilities, we have concluded that credible deterrence depends on our ability:

-- first, to maintain the second-strike forces necessary to attack a comprehensive set of targets, including targets of political and military as well as of economic value;

-- second, to withhold retaliation against selected targets;

-- third, to cover at all times a sizeable percentage of the Soviet economic base, so that these targets could be destroyed, if necessary; and fourth,

-- to hold the elements of a reserve force for a substantial period after a strategic exchange.

Such a capability and such flexibility should enable us to prevent an enemy from achieving any meaningful advantage. To provide those features and to assure maintenance of our confidence in the deterrent, despite possible attempts to destroy its components or defend against them, we also maintain a TRIAD of strategic offensive forces with ICBMs, submarine-launched ballistic missiles, and bombers.

The Soviets are attempting to undermine that confidence by deploying a threat to our ICBMs. That threat is only now beginning to become a reality. But within another year or two, we can expect the Soviets to have the necessary combination of ICBM reliability, numbers, warhead yields, and accuracies to put most of our MINUTEMAN and TITAN silos at risk.

The hypothetical ability of the Soviets to destroy even 90 percent or more of our ICBM warheads is not the same thing as a disarming first strike nor even, by itself, a major Soviet military advantage--though, if we do not respond, it will create perceptual problems. The vulnerability of our ICBMs does not mean an increased probability of a Soviet surprise attack. But it does mean that a significant part of the TRIAD would be eroded, and that the Soviets would be encouraged to undermine the rest of it.

Accordingly, we will proceed with the development of the mobile MX so as to restore the survivability of the ICBM leg of the TRIAD. At the same time, we will continue to modernize the other two legs of the TRIAD. Providing that we do, the Soviets, even in the most desperate of circumstances, should not have any incentive to launch a nuclear attack on the United States or its strategic forces.

## V. THE THEATER NUCLEAR PROBLEM

Even with these programs, we will not have overcome all our nuclear problems. The Soviets have already undertaken a major modernization of their theater nuclear forces. In particular, they have introduced the SS-20, a MIRVed and mobile intermediate-range ballistic missile (IRBM), and the BACKFIRE, a medium bomber.

With these new and more accurate weapons, the Soviets might make the mistaken judgment that they could threaten our allies without fear of retaliatory attacks on their territory, especially if they did not threaten to attack U.S. forces or territory. To avoid any such error of perception, we are proceeding with the development of two land-based, longer range, mobile missiles: the PERSHING II and the Ground-Launched Cruise Missile (GLCM). In accord with the NATO Ministerial decision of last December 12, we will deploy them in Great Britain and on the European continent.

We do not plan to match the Soviet program system by system or warhead by warhead, which might be construed as an attempt to create a European nuclear balance separate from the overall strategic relationship--and thus as risking "decoupling." Instead, we seek to strengthen the linkage of U.S. strategic forces to the defense of Europe. Modernization of the long-range theater nuclear forces will also provide a firm foundation for the pursuit of serious arms control negotiations on this subject with the Soviet Union. The United States is prepared to undertake such negotiations within the framework of SALT III.

## VI. THE NON-NUCLEAR PROBLEM

Our conventional force problems--and the requirements for the corresponding forces--are more complex because we must deal not only with the Soviet Union, but also with all the other manifestations of international turbulence. Ever since 1969, we have defined non-nuclear adequacy as the capability to deal simultaneously with one major and one minor contingency in conjunction with our allies. In order to achieve the necessary capability, we have depended primarily on our allies to man the forward defense lines in peacetime. This, in turn, has permitted us to organize a centrally located reinforcement capability of ground and tactical air forces, naval forces for sea control and power projection, and a backup capability of National Guard and Reserve forces. To move the forces, we have relied on airlift and sealift. By using materiel prepositioned overseas in theaters where the probability of conflict is significant, attacks with little warning a danger, and the consequences of conflict most severe, we save on lift and increase reinforcement rates enormously.

Although, during the past decade, we never acquired all the readiness and mobility required by this strategy, we were not penalized for it because our potential enemies were relatively sluggish, and we were not put to the test by contingencies outside of Southeast Asia. But now times are changing. Without reducing the large forces stationed in Eastern Europe, the Soviets have tripled the size of their forces in the Far East, and they are developing naval and other capabilities that will permit them to operate well beyond the periphery of the USSR. Their posture, overall, has grown more modern, and parts of it have reached a high state of combat readiness. We no longer can preclude their being able to operate simultaneously in several different parts of the world. Thanks largely to their assistance, lesser Communist powers such as North Korea, Vietnam, and Cuba--and some non-Communist ones such as Iraq--also have acquired relatively modern capabilities. These developments, combined with a number of internal and international disputes in areas of great interest to the United States, are beginning to put heavy pressure on our non-nuclear posture.

In Eastern Europe, the Soviets are improving their ability to launch heavy attacks against NATO with little advance preparation and warning. In Asia, the Vietnamese occupation of Cambodia poses a threat to Thailand's security and contains the seeds of great power confrontation. The long-term North Korean military buildup, and the political turmoil in South Korea inevitably raise doubts about the future stability of the Korean peninsula.

We have responded to the threat in Europe with the NATO-wide Long-Term Defense Program (LTDP) which includes a major U.S. effort to expand the size and pace of its ground and tactical air deployments to Europe. At the same time, the situation in Asia has caused us first to stabilize our deployments there, and then to increase them somewhat.

Our current force structure--and I emphasize force structure--is sufficient for both these purposes. But the deployments in Europe and the Western Pacific, combined with the strategic reserve we hold in the CONUS (Continental United States) for the reinforcement of our forward-based forces, absorb the bulk of our non-nuclear capabilities. Moreover, even if contingencies in Europe and North Asia were our only concern, the modernization of Soviet forces in Eastern Europe and the North Korean buildup would have required substantial increases in our defense budget. Indeed, they had already led us to pledge to our NATO allies, and program real increments of three percent a year in our defense outlays. Now, in addition, we have to allow for the dangers that could arise in the Middle East, the Caribbean, and elsewhere, as well as for the continued Soviet buildup.

At present, we cannot foresee clearcut and plausible contingencies in these regions on the basis of which we should plan and program major increases in our non-nuclear force structure. And there remains still a great deal we can do to get more combat capability out of the forces we already have in hand. But the necessary actions, while not spectacular, will be expensive. We need to increase the speed with which we can deploy our forces--through increased airlift and sealift capabilities, through the further prepositioning of materiel, and through the assurance of transit and basing rights in emergencies. We need to modernize the equipment of our ground and air forces. And we need to expand our naval construction program to assure the future offensive and defensive capabilities of our naval forces.

Assuming our allies in Europe and Asia continue to join with us in increasing their defense efforts, their forces--in conjunction with ours--should provide a solid foundation for deterrence in these two vital theaters. I myself would prefer to see the allies provide themselves with a greater margin of safety in Europe, and I remain concerned about the situation on the NATO flanks. As a consequence, we are considering plans to preposition additional equipment in the vicinity of the northern flank, and we will continue to commit elements of our ground and tactical air in the defense of both flanks, as necessary. Exercises to test these capabilities on the flanks have been augmented.

In Central Europe, NATO will be much more nearly in balance with the Warsaw Pact within the next few years, provided that the allies proceed with their modernization and our programs for the rapid deployment of reinforcements are brought to fruition. However, even with these improvements, NATO will not

have as high a level of confidence as I would like of containing a large attack by the Pact launched with little preparation and warning. I should add that the Soviets could not have high confidence of a breakthrough either--on the assumption that U.S. reinforcements would arrive on time and could sustain themselves adequately in combat.

In Asia, the growth in North Korean capabilities remains a matter of deep concern. However, I do not see why the combination of strong South Korean forces, extensive fortifications, and deployed U.S. capabilities cannot frustrate a North Korean attack--provided that we are able to reinforce our deployed capabilities with considerable speed.

To deal with other contingencies, we have already designated specific units as components of our Rapid Deployment Forces (RDF). These forces exist, and need not be increased; they include units of all the Services. The composition of the forces deployed will vary depending on the nature and location of the crisis. But these units will not be able to respond adequately to the demands that may be placed on them unless we are able to improve their combat readiness and alert status, and particularly unless we can move them in force and with great rapidity to an area of crisis.

Conflict in one or more of these theaters would place heavy burdens on our Navy general purpose forces, since we would need to use the sea lanes extensively after only a few days or weeks for the reinforcement and support of our combat units overseas. Accordingly, sea control--followed or accompanied by power projection--could occupy the Navy on virtually a worldwide basis.

Our current general purpose naval forces should be able to hold Soviet surface combatants north of the Greenland-Iceland-United Kingdom (GIUK) line in the North Atlantic, subject Soviet submarines and older aircraft to significant attrition if they should attempt to come south of that line, and provide close-in protection to capital ships and, in conjunction with allies, to convoys. U.S. and other allied forces should also be able to establish the necessary control of the Mediterranean and close down the main exits from the Sea of Okhotsk and the Sea of Japan into the Pacific. The Navy would be able to concentrate forces for offensive battle group operations in higher threat areas as well.

Under these conditions, we would expect essential supplies to get through. However, with the appearance of the BACKFIRE bomber in increasing numbers, Soviet naval aviation could come to be a bigger threat to our sea lines of communication and naval forces than Soviet submarines. Although we have AEGIS ships under construction to counter this growing threat, we still lack sufficient defenses against massed missile and bomber attacks on convoys and battle groups.

## VII. THE PROGRAMS

It should be evident from this review of our problems that we need to make major improvements in our defense posture over and above those we have already programmed. The difficulties do not lie so much with our future strategic nuclear posture; provided the SALT II treaty is ratified we already have

sufficient programs well underway to deal with our vulnerabilities --including MX, TRIDENT, and cruise missiles. In the absence of SALT, however, we will have to do more. And whatever the outcome of SALT II, we need to shore up our theater nuclear posture in Europe with GLCM and PERSHING II, which will not be cheap. Most important of all, we must increase the deployment, modernization, readiness, mobility, and sustainability of our non-nuclear forces. This must be done as part of our alliance strategies in Europe and Northeast Asia--and with our allies there carrying an increasing share of the burden. In other parts of the world, the military capabilities of those countries threatened by Soviet-supported external attack must be strengthened. At least as important, their own internal stability must be enhanced by economic and political means. And, to assure the U.S. capability to offset Soviet intervention, our own rapid deployment capability must be improved.

We have already expanded slightly the size of our naval Middle East Task Force which operates in the vicinity of the Persian Gulf, and the Navy has increased the number of ship-days it is spending in the Indian Ocean. We plan to increase that presence at sea, and to improve our ability to deploy and sustain land-based forces as well. A Rapid Deployment Joint Task Force (JTF) Headquarters comprising personnel from all four Services, has been established at Readiness Command in Florida, with a small element in Washington. Its first commander, appointed in December, 1979, is a Marine Corps lieutenant general. Its function is to do contingency planning for areas where there are few or no U.S. forces permanently stationed. If one of the contingencies should occur, the previously planned forces would be assigned to the JTF, and deployed--with the JTF commander assuming operational command. At the President's direction, we have also established a permanent, full-time Caribbean Joint Task Force Headquarters at Key West, Florida, begun the expansion of our military exercises in the Caribbean region, increased the surveillance of Cuba, and taken other measures to assure that, in the President's words, "no Soviet unit in Cuba can be used as a combat force to threaten the security of the United States or any other nation in this hemisphere."

At present, we appear to have enough divisions and tactical air wings to meet current international demands, even if those demands should include more or less simultaneous crises in Europe and the Persian Gulf, or in Europe and Korea. However, we need to improve the capability and deployability of our ground and air forces. To strengthen those units oriented to Europe, we are modernizing the Army's weapons and equipment by adding armor, firepower, and tactical mobility. We are also prepositioning more heavy equipment in Europe so that we can rapidly reinforce our ground units there. In a crisis, virtually all we would have to move to NATO's Central Region would be the men. Their equipment would be waiting for them.

We are also improving our tactical air forces by programming about 1,700 new aircraft over the next five years. At the same time, we are accelerating the rate at which we can move fighters quickly to Europe to cope with any surprise attack. And we are increasing the number of shelters at airbases there so as to prevent our aircraft from being destroyed on the ground by enemy attacks.

Many of the most immediate dangers to our interests lie outside of Europe. To help us cope with these other demands, we are launching two major initiatives. The first will lead to a force of Maritime Prepositioning Ships which will carry in dehumidified storage the heavy equipment and supplies for three Marine brigades. During peacetime, these ships will be stationed in waters near areas where U.S. forces might be needed. Though not designed for the Marines' traditional mission of amphibious assault landings against enemy opposition (a capability we will continue to maintain with other ships), they will be able to debark their equipment over the beach if no port is available. Marine Corps personnel (and equipment not well suited to storage) will, as necessary, be airlifted to the vicinity of the ships, where they will marry up with their gear and be ready for combat on short notice. Thus the Maritime Prepositioning Ships will enable us rapidly to deploy armored and mobile forces outside of Europe.

The other major initiative entails the development and production of a new fleet of large cargo aircraft able to carry Army equipment, including tanks, over intercontinental distances. This will greatly expand our outsize airlift capacity worldwide. As one example, these aircraft could be used initially to deliver the largest equipment of the advance forces sent to secure airbases near the ports or beaches needed by the Maritime Prepositioning Ships to deliver their heavy gear. They would enable us to make simultaneous deployments to Europe and elsewhere, should the crises be concurrent (as is quite likely). After this initial phase, they would assist in additional force deployments, resupply, and intra-theater movements if needed.

As I noted in my review, our non-NATO needs center not so much on additional combat forces as on our ability to move suitably trained and equipped forces over great distances quickly enough so that they can be of real use at the point of crisis. In some cases, their arrival might turn the tide of battle; in other cases--we would hope in most cases--they would deter the outbreak of fighting in the first place.

We have, in addition, the special problems of the Navy. I believe we can meet the future demands for sea control and power projection--and hence for presence--with a force of about 550 active and reserve ships (if they are of the right kind), about the size of the fleet we will have by 1984. However, we must deal with the growing BACKFIRE threat and the continued aging of our surface combatants and supply ships. To do so, we are programming the construction of 97 new ships over the next five years. Within that total we will be placing a relatively heavy emphasis on new guided missile AEGIS ships to defend against aerodynamic attacks. I should note, however, that such ships though necessary, are expensive. They challenge our ability to build and maintain as large a fleet as we need. To cope with that challenge, our program includes three new ship designs that will assure adequate fleet size and fighting power at reasonable cost. One will be a major fleet escort, another an anti-submarine frigate, and the third a nuclear-powered attack submarine.

We have made progress in raising the combat skills of our military personnel during the last three years, and I do not foresee any major problem in that area--unless rapidly rising fuel costs force us to reduce flying hours and steaming days below current levels. However, we continue to have problems

with materiel readiness, in part because of the advanced equipment coming into the forces. Increasingly capable military forces need increasing levels of support. Such support is particularly important for units that we may want to deploy and operate on short notice. Accordingly, funds for operation and maintenance receive important emphasis from the Department of Defense--and deserve full support from the Congress.

How much combat sustaining capability we should keep on hand is one of the most difficult questions facing us in the present situation. Not only do we live with uncertainty about the nature of the wars we might be called upon to fight; there is even greater uncertainty about their duration. In the circumstances, our currently planned war reserve procurement program (which would provide a large stock of modern munitions by FY 1987, coupled with existing inventories of older and less effective items) entails what we judge to be an acceptable level of risk. In addition, we need to refurbish our options for rapid and complete or graduated mobilization of our resources.

Finally, we are encountering problems in satisfying our personnel needs. Our active-duty personnel are only slightly below the strength authorized by the Congress, and the overall quality of the people entering the Services compares favorably with our intake from the draft prior to Vietnam. But in 1979, for the first time since the advent of the All-Volunteer Force (AVF), all the Services fell short of their recruiting goals; and we are now encountering increased difficulty retaining personnel in areas of skill where the private sector of the economy also has a strong interest. However, we have made progress in recruiting for the Reserve Component, and Individual Ready Reserve (IRR) strengths are increasing.

Peacetime conscription is by no means an obvious solution to our current personnel problems. These problems have more to do with the retention of skilled and experienced personnel who already have six to twelve years of service, than with recruits. We need, accordingly, to expand current efforts to improve our recruiting and retention performance. Our principal approach is to devote significant additional resources to first-term reenlistment bonuses. This is a relatively efficient way of improving enlisted retention; it significantly decreases requirements for both new accessions and career reenlistments. In addition, the budget reflects legislation that provides for a larger military pay increase (7.4 percent) than we have programmed for federal civilian employment (6.2 percent). Military retirement reform, which has been submitted, would provide career officer and enlisted personnel with new cash payments after ten years of service. The budget also includes additional funds for travel and transportation reimbursements and enlistment bonuses which, together with these other initiatives, complement non-compensation efforts to increase the supply of and reduce the demand for scarce personnel resources. Finally, we need continually to review whether military pay is competitive with wages for civilian employment alternatives, and whether the benefits are appropriate to the special circumstances of military service.

## VIII. CONCLUSIONS

This, in sum, is the course we are determined to take. In line with our basic priorities and plans, we will continue to use four broad instruments of national security policy. They are:

-- sustained real increases in defense spending;

-- carefully planned force programs that make the best use of the added defense resources and the special national advantages we have;

-- closer cooperation and coordination with allies and other friends; and

-- arms control agreements that complement our defense programs.

Over the last three years, we have applied these instruments in an orderly attack on the main defense problems at hand. In our first year, we placed the full weight of our efforts behind the most pressing need: improving our early conventional combat capability in NATO. The Long-Term Defense Program (LTDP) was launched in cooperation with our NATO Allies and the first fruits of strengthened allied cooperation already are in view. With the NATO programs in train, we next turned to the problem of modernizing our strategic TRIAD. Programs to strengthen each leg--including MX, TRIDENT, and cruise missiles--are now well underway. In Asia, we have stabilized the level and begun to improve the quality of our forces in the region. Most recently, we have taken steps to modernize our theater nuclear forces in Europe. The necessary programs--PERSHING II and GLCM--have been launched and our allies have joined us in a commitment to follow through on theater nuclear modernization.

Thus, programs in each of these areas are underway and have momentum. We can now concentrate special attention and resources on improving our capabilities to deal with threats and crises around the world and, in particular, on improving our ability to get men and equipment to potential areas of conflict as quickly as necessary.

The Administration has taken great care to develop the current program so that it is calibrated to the problems ahead of us. Carrying out this program fully and completely--not just this year, but in the years to come--is a matter of fundamental importance to the security of the nation: the most elemental and important of all our responsibilities. Therefore, should our assumptions as to future inflation, on which the program is based, later prove to have been too low, the Administration will take appropriate action to preserve the integrity of the program. Indeed, it is because of a re-estimate of inflation rates for FY 1980 and FY 1981 that the FY 1981 budget figure contained in this report is higher than the one I gave in the preview presented to the Congress in December, 1979. We will also consider submitting supplemental requests as necessary to assure a program of equivalent capability after Congressional authorization and appropriation actions have taken place. We mean to see that this program is carried out.

Critical turning points in the histories of nations are difficult to recognize at the time. Usually, they become clear only in retrospect. Nonetheless, the United States may well be at such a turning point today. We face a decision that we have been deferring for too long; we can defer it no longer. We must decide now whether we intend to remain the strongest nation in the world. The alternative is to let ourselves slip into inferiority, into a position of weakness in a harsh world where principles unsupported by power are victimized, and to become a nation with more of a past than a future. I reject that alternative, and I know that the Congress does as well.

Our new defense program is testimony enough of where this Administration believes we should be headed. This nation must remain the strongest in the world. That, I believe, is the consensus of the country, and of the Congress. In keeping with the times and this spirit, we have submitted a program that the President and I believe to be right and necessary for the security of our country.

# CHAPTER 2

# THE DEFENSE BUDGET

During the period, December 13-19, 1979, at the request of the Congressional leadership, I gave a preview of our defense planning and programming over the coming five years. The President has now made his formal submission of the defense budget for FY 1981 and the aggregate Five Year Defense Program (FYDP), which extends to FY 1985. The purpose of this Annual Report is to furnish the details of the President's budget and to explain the FYDP: its basis in our foreign and defense policy, the program areas it covers, and the reasons for the individual programs it contains.

## I. THE FY 1981 DEFENSE BUDGET

The defense program for FY 1981 requires Total Obligational Authority (TOA) of $158.7 billion and Budget Authority (BA) of $158.2 billion. We expect Outlays for FY 1981 to amount to $142.7 billion. Budget Authority for FY 1981 will be 5.4 percent higher, and Outlays for FY 1981 will be 3.3 percent higher, in real terms than the amounts we have proposed for FY 1980. Table 2-1 shows the totals for FY 1981 in current and constant dollars in comparison with the actual totals for FY 1979 and the estimated totals for FY 1980, which include the supplemental requested in September, 1979, and the one we are submitting now.

Table 2-1

Department of Defense -- Military Functions
(Billions of Dollars)

| | Fiscal Year | | |
|---|---|---|---|
| Current Prices | 1979 | 1980 | 1981 |
| Total Obligational Authority (TOA) | 124.8 | 139.3 | 158.7 |
| Budget Authority (BA) | 125.0 | 138.6 | 158.2 |
| Outlays | 115.0 | 127.4 | 142.7 |
| FY 1981 Prices | | | |
| Total Obligational Authority (TOA) | 146.4 | 150.7 | 158.7 |
| Budget Authority (BA) | 146.7 | 149.9 | 158.2 |
| Outlays | 135.5 | 138.1 | 142.7 |

## II. THE LONG-RANGE PROJECTION FOR DEFENSE

The Long-Range Projection for Defense is shown in Table 2-2. It projects future defense budgets as far forward as FY 1985. The key assumption underlying the Projection is that a real equivalent growth rate of more than 4.6 percent a year in Total Obligational Authority and about 4.1 percent in Outlays will be the average through the five-year period. By FY 1985, as a consequence, Total Obligational Authority (in FY 1981 prices) will amount to $188.6 billion. In other words, between FY 1980 and FY 1985, the defense budget will have increased by 25.4 percent in real terms. The constant-dollar increase will have been $37.9 billion. I should emphasize, however, that the Long-Range Projection is an estimate of future defense needs. The projected totals must be reviewed and revised each year by the President and the Congress. If we obtain the major mutual reductions in U.S-Soviet nuclear and conventional forces that we seek, we would expect budgets lower than we project. If the world situation worsens considerably, we would expect higher ones. But it is the Administration's intention to approximate these totals, barring a major change in the world political situation. And we will adjust them with amendments and supplemental requests as needed if our estimates of inflation are incorrect, to assure the preservation of the defense program projected in the FYDP. Moreover, following Congressional action on these budgets, the Administration will consider supplementals as required to assure that our military capability does not fall below what is needed because of disagreements about program details between the Executive and Legislative Branches. We are, in fact, already submitting a supplemental to the FY 1980 budget to account for the cost of military, civilian, and retired pay increases, additional subsistence costs, and increased Stock Fund charges necessary to ensure planned readiness levels. This supplemental will raise FY 1980 TOA to $139.3 billion, as shown in Table 2-2.

Table 2-2

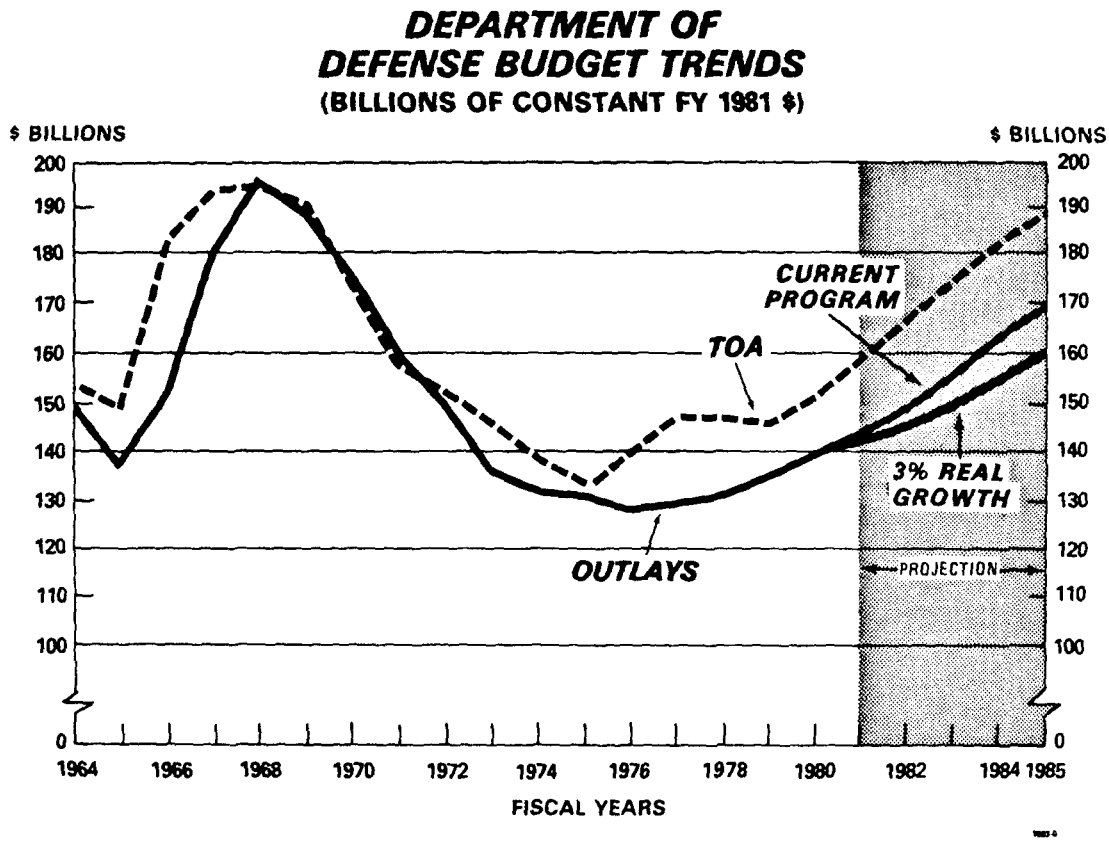
Long-Range Projection for Defense
(Fiscal Years, Billions of Dollars)

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 |
|---|---|---|---|---|---|---|---|
| Total Obligational Authority | | | | | | | |
| Current Dollars | 124.8 | 139.3 | 158.7 | 180.0 | 201.5 | 224.2 | 248.9 |
| FY 1981 Prices | 146.4 | 150.7 | 158.7 | 166.4 | 173.7 | 181.0 | 188.6 |
| Outlays | | | | | | | |
| Current Dollars | 115.0 | 127.4 | 142.7 | 161.6 | 181.7 | 202.8 | 224.8 |
| FY 1981 Prices | 135.5 | 138.2 | 142.7 | 148.8 | 155.4 | 162.1 | 168.7 |
| Inflation Rate (percent) | | | | | | | |
| TOA | 7.6 | 8.5 | 8.1 | 8.2 | 7.3 | 6.8 | 6.5 |
| Outlays | 7.5 | 8.6 | 8.4 | 8.6 | 7.7 | 7.0 | 6.5 |

## III. TRENDS IN THE DEFENSE BUDGET

The FY 1981 budget and the Long-Range Projection for Defense continue the increases in outlays begun in FY 1977. They largely regain the ground lost in the early 1970s when declining budgets were submitted, and the Congress reduced those requests still more. Trends in Total Obligational Authority and Outlays (in FY 1981 prices) are shown in Chart 2-1.

Chart 2-1



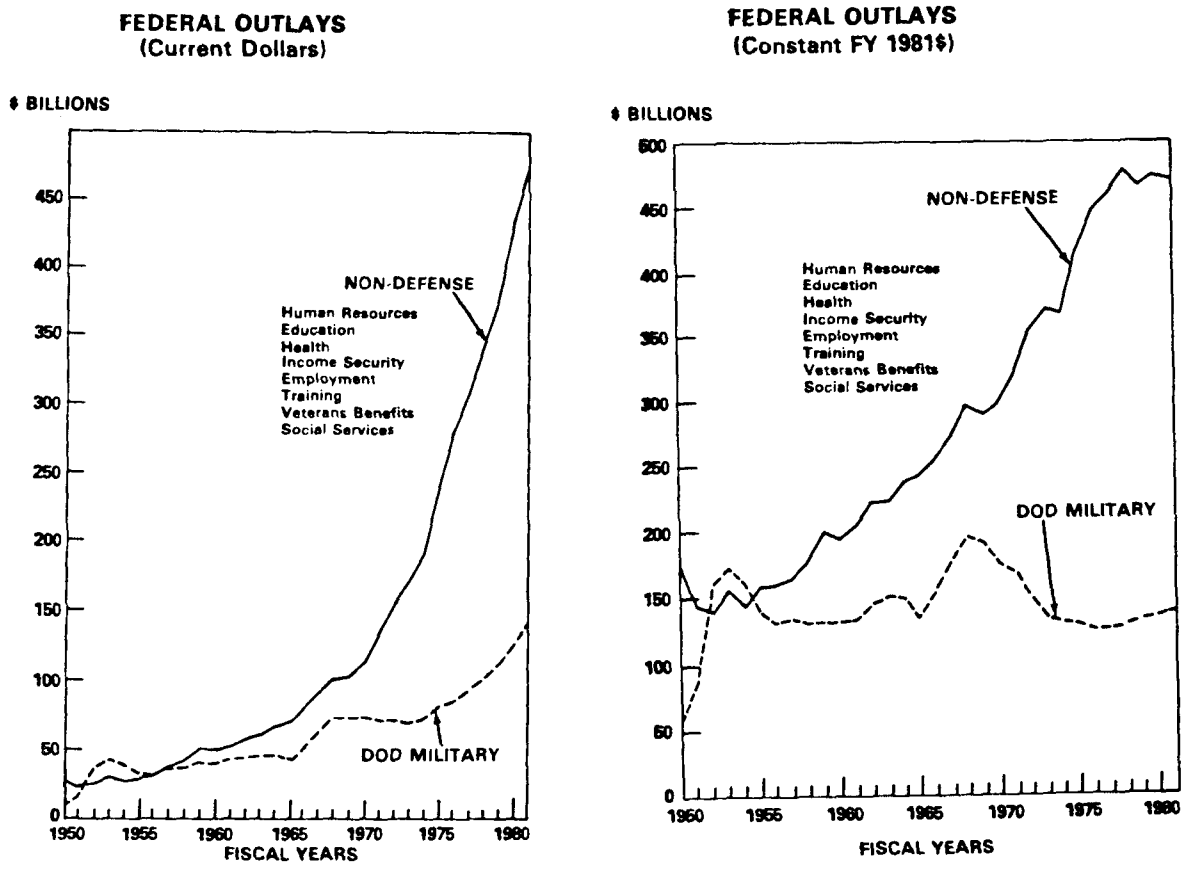

During this same period, the burden of defense spending has fallen substantially as Gross National Product (GNP) has grown, public revenues have increased, and incremental funds have been allocated primarily to non-defense programs. In FY 1964, defense outlays were 8.2 percent of GNP; in FY 1981 they will be 5.2 percent. Table 2-3 shows the changes in the burden of defense for selected years since FY 1944.

Table 2-3

| Fiscal Year | Defense Outlays as a Percent of GNP | Federal Outlays | Public Outlays |
|---|---|---|---|
| 1944 | 35.6 | 78.7 | 72.4 |
| 1950 | 4.4 | 27.4 | 18.5 |
| 1953 | 12.1 | 57.0 | 42.9 |
| 1958 | 8.9 | 47.5 | 32.0 |
| 1964 | 8.2 | 41.8 | 27.9 |
| 1968 | 9.3 | 43.3 | 29.5 |
| 1979 | 5.0 | 23.3 | 15.5 |
| 1980 | 5.1 | 22.7 | 15.3 |
| 1981 | 5.2 | 23.2 | 15.6 |

The trends in defense outlays and non-defense spending (calculated in FY 1981 prices) are shown in Chart 2-2. The growth in non-defense spending and the decline in defense outlays since 1968 indicate the extent to which national concerns and priorities have changed in the last decade.

Chart 2-2



## IV. THE DEFENSE POSTURE

The defense budget for FY 1981 will permit the United States to continue and strengthen its current force structure. Major components of that capability are shown for FY 1980 and FY 1981 in Table 2-4.

Table 2-4

| Component | FY 1980 Unit Number | FY 1980 Vehicle Number | FY 1981 Unit Number | FY 1981 Vehicle Number |
|---|---|---|---|---|
| Active-Duty Forces | | | | |
| Strategic Delivery Vehicles | | | | |
| TITAN ICBMs | | 54 | | 54 |
| MINUTEMAN ICBMs | | 1,000 | | 1,000 |
| TRIDENT I SLBMs | | 200 | | 224 |
| POSEIDON SLBMs | | 320 | | 320 |
| POLARIS SLBMs | | 80 | | 0 |
| B-52 Bomber Squadrons | 21 | 345 | 21 | 345 |
| FB-111A Bomber Squadrons | 4 | 65 | 4 | 64 |
| KC-135 Tanker Squadrons | 34 | 517 | 33 | 520 |
| Continental Air Defense Squadrons | 7 | 141 | 7 | 139 |
| General Purpose Forces | | | | |
| Army Divisions | 16 | | 16 | |
| Separate Army Brigades | 5 | | 5 | |
| Marine Corps Divisions | 3 | | 3 | |
| Major Naval Combatant, Amphibious and Auxiliary Vessels */ | | 430 | | 452 |
| Air Force Tactical Fighter Wings | 26 | 2,513 | 26 | 2,558 |
| Navy Carrier Air Wings | 12 | 1,076 | 12 | 1,085 |
| Marine Corps Air Wings | 3 | 462 | 3 | 452 |
| Anti-submarine Warfare Squadrons | 53 | 616 | 52 | 618 |
| Strategic Airlift Squadrons | | | | |
| C-5A | 4 | 76 | 4 | 76 |
| C-141 | 13 | 280 | 13 | 281 |
| Tactical Airlift Squadrons (C-130) | 14 | 276 | 14 | 276 |
| Special Operations Forces | 5 | 38 | 5 | 38 |
| National Guard and Reserve Forces | | | | |
| Continental Air Defense Squadrons | 10 | 180 | 10 | 178 |
| KC-135 Tanker Squadrons | 16 | 128 | 16 | 128 |
| General Purpose Forces | | | | |
| Army National Guard Divisions | 8 | | 8 | |
| Separate Army Reserve Component Brigades | 24 | | 24 | |
| Marine Corps Divisions | 1 | | 1 | |
| Naval Combatant, Amphibious and Auxiliary Vessels | | 53 | | 42 |
| Air Force Fighter Squadrons | 39 | 870 | 39 | 924 |
| Navy Fighter Squadrons | 10 | 141 | 10 | 141 |
| Navy Anti-submarine Warfare Squadrons | 13 | 132 | 13 | 133 |
| Marine Corps Air Wings | 1 | 110 | 1 | 110 |
| Tactical Airlift Squadrons (C-130) | 29 | 290 | 31 | 308 |

*/ Includes Naval Fleet Auxiliary Force ships.

We estimate that the operation and maintenance of these forces will continue to require about two million active-duty, 850 thousand selected reserve military, and approximately 990 thousand civilian personnel. Of these totals, around 458 thousand active-duty military and about 30,000 U.S.civilian personnel will be stationed overseas. The deployment of U.S. military personnel in foreign areas (ashore and afloat) is shown for selected years since FY 1964 in Table 2-5.

Table 2-5

U.S. Military Personnel in Foreign Areas
(Figures are Thousands of Personnel)

| | End of Fiscal Year | | | | | |
|---|---|---|---|---|---|---|
| | 1964 | 1968 | 1972 | 1976 | 1978 | 1979 |
| Germany | 263 | 225 | 210 | 213 | 234 | 239 |
| Other Europe | 119 | 66 | 62 | 61 | 61 | 61 |
| Europe, Afloat | 54 | 23 | 26 | 41 | 35 | 25 |
| South Korea | 63 | 67 | 41 | 39 | 42 | 39 |
| Japan and Ryukyus | 89 | 79 | 64 | 45 | 46 | 46 |
| Other Pacific | 27 | 37 | 25 | 27 | 16 | 15 |
| Pacific Afloat (Including Southeast Asia) | 52 | 94 | 51 | 24 | 26 | 22 |
| Thailand | 4 | 48 | 47 | 1 | - | - |
| South Vietnam | 16 | 534 | 47 | - | - | - |
| Miscellaneous Foreign | 68 | 27 | 22 | 8 | 12 | 11 |
| Total | 755 | 1,200 | 595 | 460 | 472 | 458 |

Approximately 58.4 percent of the FY 1981 defense budget--excluding retired pay, which is now nearly 8.5 percent of all defense costs--must be allocated to the operation and maintenance of the current force structure. These costs are shown for FY 1980 and FY 1981 in Table 2-6.

Table 2-6

Total Obligational Authority (Billions of Dollars)

| Budget Title | FY 1980 | FY 1981 |
|---|---|---|
| Military Personnel | 30.8 | 33.4 |
| Operation and Maintenance | 43.4 | 49.2 |
| Family Housing and Homeowners Assistance Program | 1.5 | 2.0 |
| Total | 75.7 | 84.6 |

The remaining 41.6 percent or so of the budget (with retired pay excluded) goes to the modernization of our defense posture. It constitutes our main investment in future strength as well as the cost of keeping the current force structure up-to-date. The magnitude of this investment is shown for FY 1980 and FY 1981 in Table 2-7. As can be seen, we have raised our allocation of resources to modernization from 40.5 to 41.6 percent of the budget. We will have to continue increasing this fraction, while at the same time increasing our operation and maintenance accounts, if we are to respond effectively to the modernization efforts being undertaken by the Soviet Union.

Table 2-7

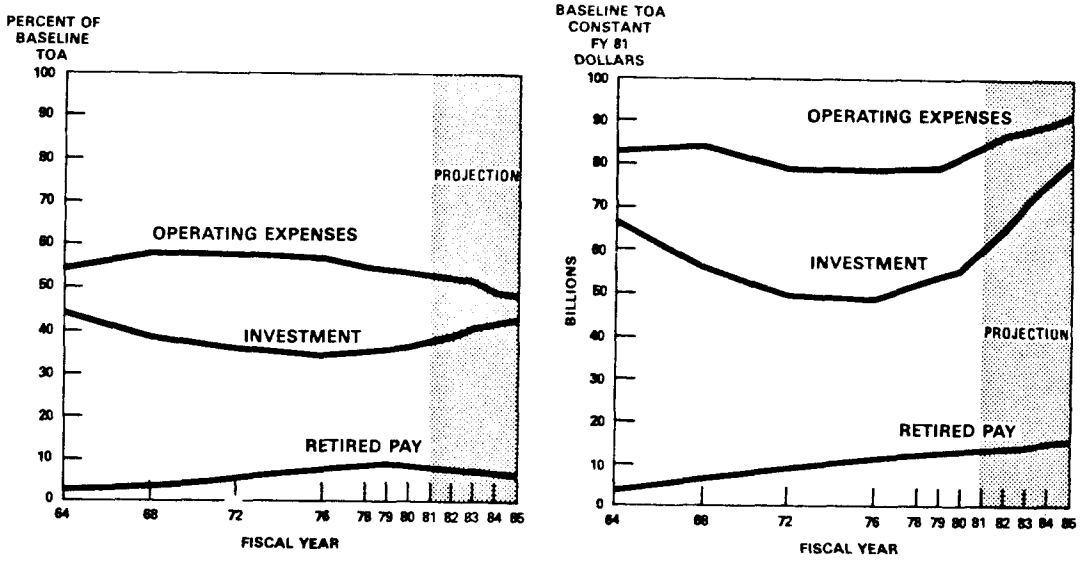
Total Obligational Authority (Billions of Dollars)

| Budget Title | FY 1980 | FY 1981 |
|---|---|---|
| Procurement | 35.8 | 40.5 |
| Research, Development, Test and Evaluation | 13.5 | 16.5 |
| Military Construction | 2.3 | 3.3 |
| Total | 51.6 | 60.3 |

The trends in the baseline defense budget (defined here as Total Obligational Authority with the incremental costs of the war in Southeast Asia excluded), allocated among major accounts, are shown in percentages and constant dollars in Chart 2-3. In real terms, operating expenses appear to have remained relatively stable during the 17 years from FY 1964 to FY 1981, while investments in the past three years have been recovering from their earlier decline. In the case of operating expenses, however, the appearances are deceptive. We have actually reduced military personnel in the baseline force by about 700,000 and are now operating a smaller number of weapons platforms that are more costly to maintain per unit. Because of the reduction in our investment accounts, modernization has been slow and we are having to work with a capital stock that, on the average, is aging.

Chart 2-3

## ALLOCATION OF U.S. DEFENSE SPENDING




OPERATING EXPENSES CONSIST OF O&M, MIL. PAY, AND FAMILY HOUSING

INVESTMENT CONSISTS OF PROCUREMENT, RDT&E, AND MILCON

The programs currently planned in the Five Year Defense Program will permit us to improve this posture substantially. Basically, we will be investing the increment of resources derived from the 4.6 percent a year real growth in five major areas.

-- We already have underway programs to modernize the strategic nuclear TRIAD with a new ICBM, a new submarine-launched missile and a new submarine, and an air-launched cruise missile. We have other programs at various stages of research and development that will enable us to take further steps in modernizing some of these components.

-- We have proposed and our allies have agreed to a major deployment of medium-range ballistic and cruise missiles in Europe. We plan to begin the deployment during this five-year period.

-- We will continue to fund our share of the force improvements required by the NATO Long-Term Defense Program (the LTDP) and expand our capability for the rapid and large-scale reinforcement of NATO ground and tactical air forces in Central Europe. We will also improve our capability to deploy to the flanks of NATO.

-- We will expand our shipbuilding program, with an emphasis on anti-bomber and anti-submarine warfare capabilities, and on defenses against cruise missiles, (which both bombers and submarines can launch), so as to ensure the maintenance of adequate effectiveness against future potential threats.

-- We will increase substantially the readiness, strategic mobility, sustainability, and mobilization responsiveness of those units to be included in the Rapid Deployment Forces (RDF). These improvements will enable us, with the current force structure, rapidly to reinforce our units on station in regions of potential crisis, if that should prove necessary, or to move forces of appropriate size quickly over great distances to deter or, if necessary, to defeat threats to our vital interests, and to sustain all of these forces for the necessary period of combat.

## V. APPROACHES TO THE BUDGET

Whether these programs, the budgets we are planning, and the average annual real increase in resources we are programming over the next five years constitute the right solution to our defense problems will undoubtedly be (and should be) the subject of considerable analysis and debate in the months ahead. As the debate proceeds, I hope that three considerations in favor of the FY 1981 budget and the Five-Year Defense Program will be taken into account.

-- We need to keep a balance among the demands of national security, those of domestic programs, and the requirement for economic growth and stability. A sharp rise in the growth rate of the defense budget that cannot be sustained, because the necessary national consensus for it fails either to form or to persist, will do less for our national security than a lower but sustained growth rate. And above some rate of real growth, defense spending could risk adding to the inflation that the President is so rightly determined to control and reduce.

-- Meeting domestic human welfare needs is a requirement for the political and social cohesion that is vital to our national security. At the same time, we must remember that our ability to defend ourselves and our national interests, and to support our friends and allies, is central both to our economic well-being and to the preservation of our political and social values. Our freedom, independence and national integrity--our survival--is our highest priority. During the 1970s, the real growth rate in the military expenditures of our allies was higher than our own (which was negative). We now need to take the lead in redressing the adverse military trends vis-a-vis the USSR, and in meeting the needs created by turbulence in some developing regions

of the world. Because we will bear by far the greatest load in strategic, theater nuclear, naval, and rapid deployment forces, our allies will have to carry the bulk of the burden of needed increases in their own regions. They may well have to increase their efforts by more than the three percent a year pledged by NATO; we ourselves have to show the way. For us to do less than we plan would not only reduce the improvements we must make in the U.S. defense posture; it would undermine the entire NATO Long-Term Defense Program, and the increasing Japanese contributions to mutual defense, which are also vital to our security.

-- Most important of all, we are launching or expanding programs that we deem critical to deterrence and international stability in the dangerous years ahead. An average real rate of growth of 4.6 percent a year will generate a cumulative amount of approximately $115 billion in real new resources for defense during the coming five years. Obviously we do not want (and Congress does not wish us) to accumulate obligational authority any faster than we can efficiently commit it. All of us, I believe, are determined to see that our essential defense needs are met. In the present situation, the forecast rate gives us the right quantities of resources at the right pace to deal with the dangers we foresee.

I realize that there are other views of how much of a defense effort we should be making. However, I have yet to be persuaded either by the conclusions put forward or by the methods used to reach these conclusions. It is still argued, for example, that we can reduce annual real defense spending--some would say by as much as $50 billion--because Soviet intentions are basically defensive and Soviet programs are largely a reaction to aggressive American initiatives. The operative hypothesis seems to be that since we are driving the military competition, restraint and reductions on our part will induce Soviet reciprocity. Unfortunately, however, the hypothesis is largely based on the peculiar situation that existed during the early years of the nuclear competition; it ignores the full range of Soviet activities both then and later. The recent invasion of Afghanistan, together with other events of the past decade, have cast the most serious doubts on the validity of the hypothesis, even in the nuclear sphere. As I have emphasized before, Soviet military spending has steadily risen independently of whether the U.S. defense budget has gone up or down. The Soviets supposedly built intermediate-range nuclear capabilities only as a poor substitute for the intercontinental deterrent they needed but did not yet have. Yet even after having acquired a substantial intercontinental capability they have continued to expand and modernize their theater nuclear forces. And they have clearly gone well beyond what would be required for large-scale assured destruction in the development of their strategic nuclear forces. This is not exactly the conduct of a relatively benign, reluctant, and reactive participant in the military competition.

I do not argue (and indeed do not believe) that the Soviets have a plan and a timetable for world conquest. They may well think of their military capability as defensive. When an aging revolutionary movement sees its economic system

rapidly declining in rate of growth, its ideological appeal gone, and when it fears internal stresses, then the ability to bully its neighbors or others politically by threatened use of military superiority or even, in crisis, to use that superiority to attack and dominate them, may come to seem to its leaders the best defense of that system. But that is a definition of the word "defensive" that we cannot accept. Accordingly, we must not base our planning and our budgets on the assumption that unilateral U.S. restraint will cause the Soviets to respond in kind.

At the same time, there are better grounds for our plans than simply letting them be dictated solely by the Soviet military effort measured solely in terms of inputs or even outputs. It is useful to examine the magnitude of the Soviet and the U.S. defense programs as measured in the American and the Russian economies. But surely no one believes that these measures are precise enough to justify high confidence in them, or that we know how efficient the Soviets are in converting resource inputs into military outputs. Arguments that we should make our programs a mirror-image of theirs, even in part, are still more questionable. What may be efficient to produce in the manpower-intensive Soviet economy may be inefficient to produce in the more capital-intensive and technologically advanced American economy. Soviet needs, geography, climate, and opponents are in any event very different from our own. Furthermore, while both we and the Soviets have other nations associated with us, our allies not only are more reliable; they are also a great deal wealthier. To the extent that we are measuring relative efforts or planning on the basis of simple force comparisons--however misleading those comparisons may be--we should at least do the respective allies the courtesy of including them. When we do, NATO slightly outweighs the Warsaw Pact in inputs, though by a rapidly declining margin. If that current measure were a precise reflection of relative capability, and the only method of determining the necessary U.S. level of defense effort, we might not be proposing the rate of increase of our defense effort described in this report. It is essential to recognize, nonetheless, that the recent relative rates of change in Soviet and U.S. programs would--continued over another ten or even another five years--outweigh the benefits of adding in allied efforts, our remaining technological advantages, or other differences. The effect of compounding a three or four percent difference in rate of growth cannot be accepted any longer.

I have no doubt, in any event, that we need to improve the U.S. defense posture in the ways I have outlined. We must, in addition to increasing our own defense program, make our alliance efforts more additive and more reinforcing; we must work together more effectively in force building, in military planning, and in operations. Moreover, the United States must carry out its defense program more efficiently.

To say that we must improve our defense posture does not automatically tell us by how much. The resolution of that issue requires, among other things, that we answer several broad and difficult questions. I will address those questions in the chapters that follow.

# CHAPTER 3

## THE CONDITIONS OF U.S. SECURITY

The first question we must raise in determining our defense needs and programs is this: what role do we expect military power to play in maintaining U.S. security?

In order to begin answering that question we must ascertain the conditions necessary to U.S. security. That is, we have to define how Americans can maximize their basic values of life, liberty, and the pursuit of happiness without undue fear of conquest, loss of territory, or other threats to these activities, and without infringement on the rights of others to similar opportunities.

Clearly, the independence and territorial integrity of the United States is a necessary condition of security. But it no longer is, if it ever was, a sufficient condition. A number of developments have expanded our interests and involvement as a nation well beyond the borders of the United States. New military capabilities, principally nuclear weapons and intercontinental delivery systems, now oblige us to recognize that the United States can be destroyed for all practical purposes without any prior violation of its independence and territorial integrity. No buffer states, no barriers, no glacis can guard us against such a contingency. A condition of U.S. security must therefore be some other form of protection from the threat of an attack of this character. Defense is one way, but not the only way, to afford that protection.

The particular manner in which our economy has expanded means that we have come to depend to no small degree on imports, exports, and the earnings from overseas investments for our material well-being. In 1978, our imports of goods and services amounted to $229 billion. Exports were $225 billion, or around 10 percent of the Gross National Product. Our direct foreign investments amounted to $168 billion.

With time and a reduction in our standard of living, we could forgo or substitute for much of what we import. But any major interruption of this flow of goods and services could have the most serious near-term effects on the U.S. economy. In no respect is that more evident than in the case of oil. A large-scale disruption in the supply of foreign oil could have as damaging consequences for the United States as the loss of an important military campaign, or indeed a war. Such a disruption could be almost fatal to some of our allies. It is little wonder, in the circumstances, that access to foreign oil--in the Middle East, North and West Africa, the North Sea, Latin America, and Southeast Asia--constitutes a critical condition of U.S. security. More generally, our economic well-being and security depend on expanding world trade, freedom of the arteries of commerce at sea and in the air, and increasingly on the peaceful and unhindered uses of space.

In 1945, when we created the nuclear age, it was thought that our security would no longer depend on the more traditional concerns of the great powers. Now we have discovered that we never left the non-nuclear world after all. Conventional capabilities remain the most usable form of military power; since 1945, in fact, they have been the only form of military power used. Because of this, our security can still be affected by large concentrations of resources in hostile hands. Not only is a pluralistic international structure to our interest in such circumstances; particular geographical regions become of particular concern and sensitivity to the United States. Western Europe and Japan are cases in point, but not the only cases. We have made defense commitments to around 40 nations, and they remain in full force.

It is well to remember in this connection that nuclear forces, for the most part, concentrate unprecedented amounts of destruction in small and transportable units. The consequence of this concentration is that nuclear delivery systems can strike devastating blows at intercontinental distances. And because these forces are so effective at such long ranges, we tend to assume (perhaps wrongly) that a nuclear exchange could last no longer than a few hours or, at most, a few days. Non-nuclear forces, by contrast, require substantial aggregates of men and materiel to be effective. Moreover, because their effectiveness depends on the repeated delivery of large amounts of ordnance, their radius of operation tends to be limited. As a consequence, major conventional wars have usually been decided only after extended and relatively slow-moving campaigns of attrition. Personnel, equipment, and supplies must be transported over long distances; stockpiles of combat consumables must be established; multiple campaigns must usually be conducted; and victory can be achieved only after successive blows by land, sea, and air.

Bases and footholds of all kinds become strategically important in these circumstances. It is one thing, obviously, to prepare a defense of Western Europe with U.S. ground forces and fighter aircraft stationed in Germany, with the control of such narrow waters as the Bosphorus and the Strait of Gibraltar in allied hands, with a fleet deployed in the Mediterranean, and with staging and operating bases in the Azores, Greenland, Iceland, and the United Kingdom. It is quite another matter to contemplate a forward defense without these strategic assets and with the entire U.S. military effort on a distant front having to be projected and supported directly from the United States. Even with a large fleet of wide-bodied aircraft, air-to-air refueling, and naval combat and logistic forces, the task would stagger the imagination and the exchequer.

Most of our interests--economic, political, and strategic--can be expressed in concrete geographical terms. Despite its importance, one interest cannot be expressed in such terms. The United States remains dedicated to democratic ideals of maintaining and increasing the human rights associated with individual freedom. We do not always live up to these ideals ourselves, and we do not assert that our own interpretation of them must be adopted by other nations. But just as we must guard them at home, so we must uphold them abroad. They

are more than a slogan, more even than a tradition dating back 200 years; they are a living conviction that we must espouse for others just as well as for ourselves. It is, in any event, doubtful whether the United States could survive for long as the only democracy in the international constellation. A condition of our security, therefore, must at a minimum be the survival of the other great democracies. And the greater the spread of human rights, the more secure we ourselves will be.

We are inevitably interested in process as well as in substance. Our need for multilateral trade, freedom of travel, access to raw materials, human rights, and cultural exchanges can be adequately realized only under conditions of peace, law and orderly change. We have no interest in the instability that comes from hostility, intransigeance, crisis, and violence. We do have a stake, a very large stake, in reason, compromise and the peaceful settlement of disputes. It is not surprising, therefore, that we should support strongly the institutions, instruments, and procedures that nurture those conditions. Nor is it surprising that our own role in the process looms large.

In the past, we could pursue our continental interests and for the most part stand on the sidelines while others wrestled with the sources of international instability. War, fatigue among our old friends, and our own rise to great power made it inevitable that we would inherit the principal responsibility for ensuring the conditions of our own security. No matter how much we might wish it otherwise, no one else can bear the burden for us. The economic strength of our allies is increasing (though in most cases it depends even more on imported oil than our own); they have an equal interest in international stability and can contribute to its maintenance. For the foreseeable future, however, our strength and vitality together with our worldwide involvement and interests will make the United States the leader in the search for international peace and stability.

We are fortunate in having the basic assets necessary to shoulder that responsibility. Our resources, however, are not inexhaustible, and their availability depends increasingly and dangerously, as in the case of energy, on the decisions and even whims of other states. We have strong incentives in the circumstances to be prudent in the development of the instrumentalities necessary to the pursuit of our national security goals. We must be sensitive in particular not only to the complementarity among these instrumentalities, but also to the tradeoff possibilities among them. In a world of national sovereigns, competing ideologies, and conflicting national goals, military power has a necessary role to play. It can support our diplomacy (and vice versa); it can deter the use of force by opponents; it can encourage the steadfastness and even the rationality of beleaguered friends. As a last resort, even in this nuclear age, it can (at a heavy price) defend our interests and restore the conditions of our security. But it is never a sovereign remedy for our problems. And there are many occasions when its use would be counterproductive, or other instrumentalities could be profitably substituted for it.

It is not the case, moreover, that there is a particular military posture we must maintain at all times, regardless of the international situation and the state of international politics. Our posture--measured in size and composition, readiness, deployment, sustainability, and modernization--must be sensitive to changes in those conditions. Even where the strategic nuclear forces are concerned--forces we think we should have ready for use regardless of the circumstances--we can change (and have changed) their alert status depending on our view of the world and potential threats to our interests.

Accordingly, a second major question we must ask in planning our defenses is the extent to which the conditions of U.S. security are in jeopardy, and the more specific role our military posture has to play in responding to any dangers we may anticipate. Dealing with this question also provides the opportunity to comply with Section 812 of the Department of Defense Appropriation Authorization Act of 1976, which directs the Secretary of Defense, after consultation with the Secretary of State, to "prepare and submit to the Committees on Armed Services of the Senate and 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."

The following chapter responds specifically to the Act. However, the entire FY 1981 Defense Report is intended to comply with its provisions. The Secretary of State has indicated that he considers the report to be responsive to these provisions.

## CHAPTER 4

## INTERNATIONAL POLITICS AND DEFENSE

We are inclined to compare international politics unfavorably with domestic politics on the ground that the former is accompanied by so much more violence. As recent events in Iran have demonstrated, violence is not entirely unknown to the resolution of domestic issues, and we ourselves have not by any means been immune to it in our own history--even our recent history. It is the case, nonetheless, that force and the threat of force are more ubiquitous on the international stage. Under present conditions, lethal force is also likely to have more devastating effects when used among nation-states, although the force used within them during civil wars has inflicted deep wounds on its victims as well.

Recognition of the propensity for violence in world politics has led to recurrent efforts to devise international institutions for the peaceful settlement of disputes among states, and the United States has twice led the movement to establish and make effective worldwide political and legal bodies dedicated to these ends. We continue to support the United Nations and the World Court, and through such proceedings as the Law of the Sea Conference, we seek to modernize and give new life to traditional international law. It would be unrealistic, however, to pretend that these institutions and rules are more than partial substitutes for continuing efforts by the United States and its allies and other friends to deal separately with the many issues that confront the system of nation-states.

Some of those issues are territorial, left from the collapse of old empires, as is the case in much of Africa. Others result from differences about the proper world distribution of income and natural resources. Despite the disappearance of most imperial systems, and the existence now of 162 independent nations, demands for national self-determination continue to be heard. Even with the new military technologies that permit powerful, long-distance strikes, perceived security needs create pressures for buffer states, clients, and spheres of influence. Most explosive of all, ideological causes continue to motivate groups and states to challenge the status quo by violence. Terrorists and saboteurs create periodic crises. Producer nations form cartels to exploit their possession of scarce natural resources. Buyers and sellers alike look to trade barriers as a means of protecting their interests, even at the risk of beggaring their neighbors. Nations with grievances or ambitions produce or try to purchase modern conventional arms. Some actively but clandestinely seek to acquire nuclear weapons and the means to deliver them. Periodically, violence flares. But none of these dangers compare with the potential for disruption and destruction represented by the leadership and the resources of the Soviet Union.

## I. THE SOVIET UNION

Exactly what grievances and ambitions, what fears and nightmares, are harbored by the Soviets we do not know. Indeed, one reason why they arouse so much suspicion about their motives is the closed and authoritarian nature of their system and the secrecy with which they surround most of their decisions and activities. It is easy in the circumstances to equate them with the more demonical dictatorships of the past and, because of their ideological pretensions, to attribute the most soaring ambitions to them. But despite our efforts to understand what makes this system tick, the Soviet Union remains, in Churchill's words, "a riddle wrapped in a mystery inside an enigma."

### A. Problems

This is not to say that we remain totally ignorant of what goes on in the Soviet Union. We know a great deal, and much of our knowledge underlines the many domestic problems facing the Soviets now, and likely to confront them even more in the decade ahead. Although President Brezhnev has shown remarkable durability, no one doubts that major changes in the aging Soviet leadership are in the offing. Whether, in a political system that lacks any clear-cut procedures for political succession, the changes will be accompanied by struggles, upheavals, and a reorientation of Soviet policies remains uncertain. This much is certain, however: Mr. Brezhnev's successors will be confronted with a number of difficulties and hard choices.

During the 1950s the Soviet economy grew at a rate of six percent a year in real terms. By the 1960s the rate had fallen to five percent, and only five years ago it had fallen again to 3.5 percent. The Intelligence Community expects that during the 1980s the rate of growth will slow still further to 2.5 percent a year or less. Related to this decline in economic growth is the slowdown in the growth of Soviet energy production, particularly of oil, and emerging demographic problems. During the present five-year plan, the Soviets have increased the price of the oil and natural gas they supply to Eastern Europe, but they have maintained supplies at 1.6 million barrels a day and recently signed contracts to increase supplies by about 10 percent. Under the agreements, prices are about two-thirds those charged by OPEC, but any oil provided above the contract levels is sold at higher prices or for convertible currency. We expect the Soviets to go from a net export outside their Bloc of 800,000 barrels a day (in 1978) to a net import of a million barrels a day within the next three years.

One of the most severe and continuing of the Soviet economic problems is the fluctuation in the domestic production of grain. Table 4-1 shows both production and imports for the last five years. Much of the corn being imported is meant to sustain the nation's livestock and poultry production, and supposedly to help raise the living standards as pledged for 1980. However, widespread shortages of meat, butter, milk and eggs are still in evidence, and the general food situation appears to be deteriorating rather than improving. At the same time, the Soviets have been trying to avert a famine in Vietnam by shipping in about $500 million in flour and rice. Most of these supplies have had to be purchased with hard currency on the world market.

Table 4-1

Soviet Grain Production and Imports
(millions of tons)

| Year | Plan | Actual | Imports |
|---|---|---|---|
| 1975 | 215 | 140 | 6 |
| 1976 | 207 | 224 | 26 |
| 1977 | 213 | 196 | 12 |
| 1978 | 220 | 237 | 17 |
| 1979 (est.) | 227 | 185 | 30 |

Both the general economy and the agricultural sector have already suffered from shortages of labor in this labor-intensive society, and the problem is expected to grow. For the first five years of the 1970s, the working-age population increased by slightly more than two percent a year. For the last four years of the decade, the annual increase was 1.5 percent. It is now expected that through the 1980s, the working-age population will grow at no more than half a percent a year.

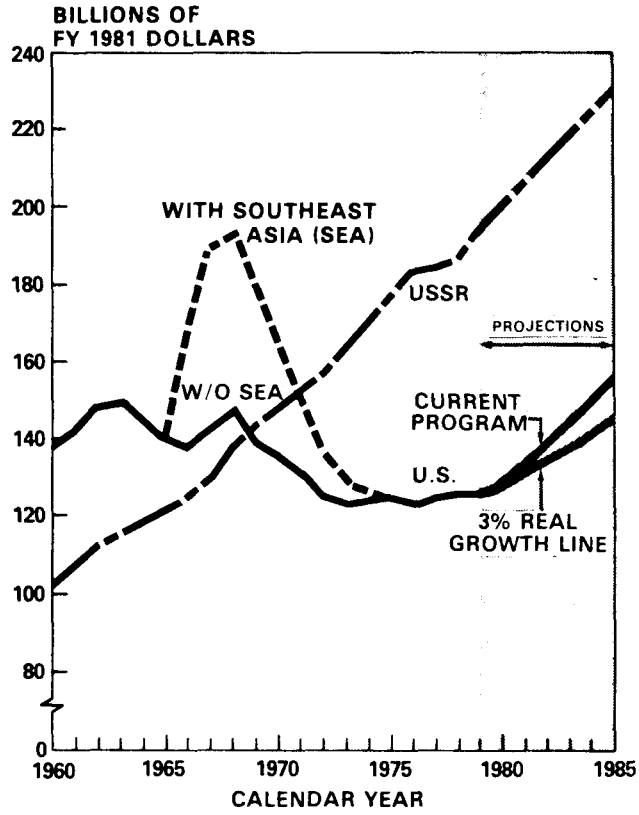
As Soviet population growth slows, we expect its ethnic composition to change, with as yet uncertain effects on the economy and perhaps the political system. We believe that presently a little more than half the total Soviet population is Russian. However, during the next five years, the Russian component is likely to decline by about two million, while the population of the eight Moslem republics and autonomous regions in the southern USSR will probably rise by nine million.

B. Posture

These developments face the Soviet leadership with severe problems in the allocation of national resources. For at least the past 20 years, they have consistently favored guns over butter. The trend in military spending, expressed as the dollar cost of Soviet defense programs (and compared with equivalent U.S. defense outlays) is shown in Chart 4-1.

Chart 4-1

**COMPARISON OF U.S. DEFENSE OUTLAYS AND ESTIMATED DOLLAR COST OF SOVIET DEFENSE PROGRAMS**



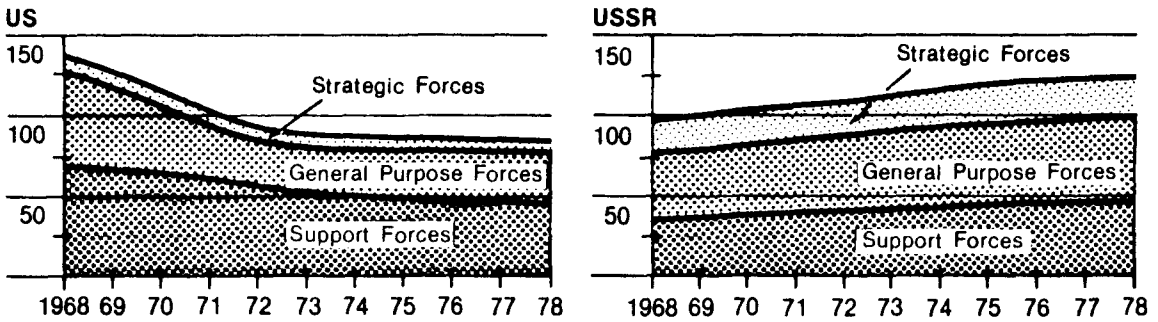

1. U.S. OUTLAYS EXCLUDE RETIREMENT PAY, INCLUDE DEPARTMENT OF ENERGY AND COAST GUARD DEFENSE OUTLAYS
2. ESTIMATED SOVIET COSTS ARE BASED ON WHAT IT WOULD COST THE U.S. TO PRODUCE AND MAN THE SOVIET MILITARY FORCE AND OPERATE IT AS THE SOVIETS DO.
3. PROJECTIONS ARE BASED ON 3% ANNUAL REAL GROWTH FOR USSR, FOR US REAL GROWTH IN OUTLAYS AS PROJECTED BY FYDP.

Whether the two defense efforts are measured in the U.S. or the Soviet economy, the general direction of the Soviet programs in real terms is the same--upward. The real annual rate of growth in dollar terms continues to be three percent; in rubles it is between four and five percent. As far as we can tell, the effort accounts for 11 to 14 percent of the Soviet GNP, although some experts put it at 15 percent or higher. Relative to the United States, the Soviet defense effort now appears to be about 50 percent higher measured in dollars, and around 30 percent more measured in rubles. The totals and their allocation by the two sides since 1968 are shown in Table 4-2.

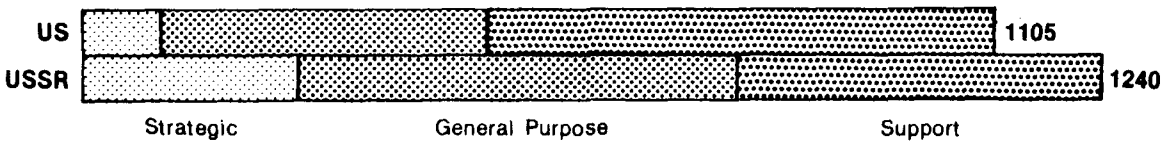
Table 4-2

## MAJOR MISSIONS
### A Comparison of US Outlays With Estimated Dollar Costs of Soviet Activities

Billion 1978 Dollars




**Cumulative, 1968-78**
Billion 1978 Dollars



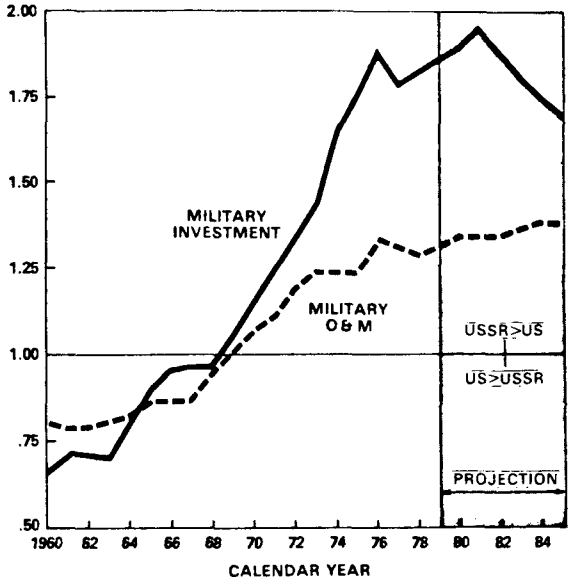

**Soviet Defense Missions as a Percent of Comparable US Defense Outlays**

| | 1978 | 1968-78 Total |
|---|---|---|
| Strategic forces | 330 | 270 |
| General purpose forces | 170 | 135 |
| Support forces | 95 | 70 |
| **Total (excluding RDT&E)** | **145** | **110** |

Even more impressive than the growth in the overall Soviet defense budget is the expansion in the investment that has gone into research, development, test, and evaluation (RDT&E), procurement and military construction. Chart 4-2 shows a comparison of estimated Soviet and U.S. investments in U.S. prices and the ratio of Soviet to U.S. investments expressed in the same terms. We estimate that measured in the U.S. economy, Soviet investments, including RDT&E, procurement and military construction, exceed those of the United States by about 85 percent. Our estimates for Soviet military R&D expenditures are less reliable than for other sectors of Soviet defense spending. Nonetheless, as far as we can tell, Soviet resources devoted to RDT&E alone have almost doubled in the last 10 years.

Chart 4-2

***RATIO OF ESTIMATED DOLLAR COST OF SOVIET INVESTMENT OUTLAYS TO US INVESTMENT OUTLAYS***




NOTES:

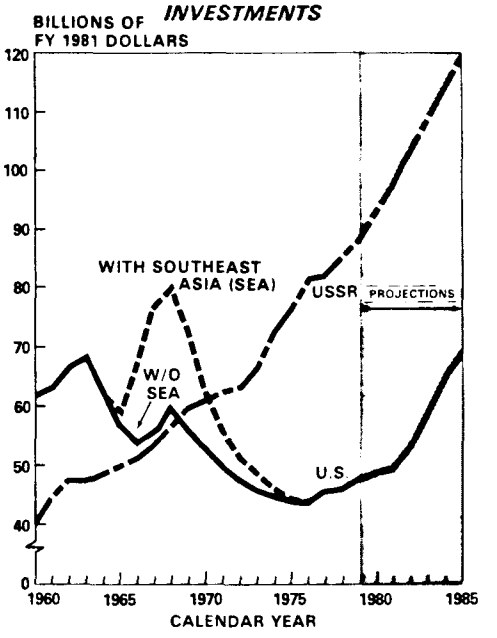
1) MILITARY INVESTMENT INCLUDES RDT&E, PROCUREMENT AND MILITARY CONSTRUCTION

2) MILITARY O & M INCLUDES PERSONNEL

3) RETIREMENT AND SOUTHEAST ASIA INCREMENTAL COSTS EXCLUDED

4) INCLUDES NON-DOD FUNDED DEFENSE PROGRAMS (DEPARTMENT OF ENERGY AND COAST GUARD)

***COMPARISON OF U.S. MILITARY INVESTMENT OUTLAYS AND ESTIMATED DOLLAR COST OF SOVIET MILITARY INVESTMENTS***




NOTES

1. INVESTMENT INCLUDES RDT&E, PROCUREMENT, MILITARY CONSTRUCTION.

2. PROJECTIONS ARE BASED ON A 5% ANNUAL REAL GROWTH FOR USSR, FOR U.S. REAL GROWTH INVESTMENT PROJECTED TO PARALLEL REAL GROWTH IN OUTLAYS.

More significant than these estimates of the trend in Soviet resource inputs are the data on what the Soviets have produced in the way of forces with their growing inputs. During the last 15 years, they have along with all their other activities:

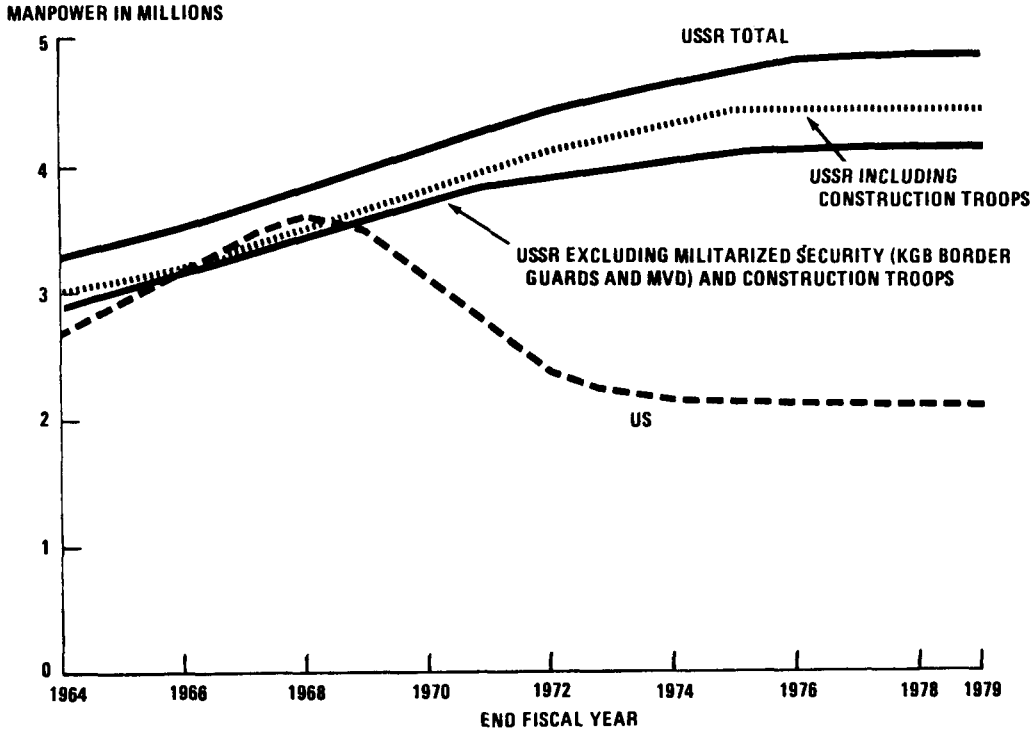
-- increased military manpower by about a million, as shown in Chart 4-3, not counting armed border guards and internal security police;

-- more than quintupled the number of their strategic nuclear delivery vehicles, and expanded the number of weapons these vehicles can carry by a factor of 11;

-- deployed five new ICBMs, three new SLBMs, MIRVed warheads for both SLBMs and ICBMs, and improved the accuracy of their ICBMs by a factor of five;

Chart 4-3

## U.S. — U.S.S.R. ACTIVE-DUTY MILITARY MANPOWER




-- embarked on a program to modernize their medium-range peripheral attack forces which now include more than 100 mobile, MIRVed SS-20 missile launchers and about 50 BACKFIRE bombers;

-- added around 25 divisions (with sophisticated chemical warfare defense systems) to their ground forces, deployed new tanks, new armored fighting vehicles, new self-propelled artillery, new attack helicopters, new air defense systems and tactical missiles, and provided about 1,000 more first-line combat aircraft to the structure of their Frontal Aviation, which also is being modernized;

-- improved the capabilities of their general purpose naval forces with greater missile firepower, the addition of over 50 BACKFIRE bombers with air-to-surface missiles to Soviet Naval Aviation, more nuclear-powered attack submarines, greater underway replenishment support, a limited carrier-based naval aviation (with two VTOL aircraft carriers in commission and one more under construction), a new and larger ship for amphibious operations, a new deep-diving submarine, and seven new classes of cruisers; and

-- increased their capability for power projection with improved sealift and airlift.

Some of these changes are summarized in Table 4-3.

Table 4-3

## THE SOVIET BUILDUP IN NUCLEAR AND CONVENTIONAL FORCES 1964-1980

| STRATEGIC FORCES | 1964 | 1980 |
|---|---|---|
| ICBMs | 190 | 1,398 |
| SLBMs | 29 | 950 |
| BOMBERS | 170 | 156 |
| TOTAL WEAPONS (WARHEADS) | 400 | 6,000 |
| **LAND FORCES** | | |
| TANKS | 30,000 | 45,000 |
| DIVISIONS | 145 | 170 |
| ARTILLERY TUBES/ROCKET LAUNCHERS | 11,000 | 20,000 |
| **TACTICAL AIR FORCES** | | |
| FIGHTER/ATTACK AIRCRAFT | 3,500 | 4,500 |
| **NAVAL FORCES** | | |
| MAJOR SURFACE COMBATANTS AND AMPHIBIOUS SHIPS | 260 | 360 |
| OTHER NAVAL VESSELS | 1,440 | 1,200 |
| TOTAL NAVAL TONNAGE | 2,000,000 | 2,800,000 |
| TOTAL MILITARY MANPOWER | 3,400,000 | 4,400,000 |
| TOTAL DEFENSE SPENDING[1] | $105 | $175 |
| MILITARY INVESTMENT (PROCUREMENT, MILCON, R&D)[1] | $49 | $80 |

[1]FIGURES ARE IN BILLIONS OF FY 1980 DOLLARS

The purposes of this large Soviet military buildup remain ambiguous (although the invasion of Afghanistan by the Soviets underlines their willingness to use force when it suits their purposes and its risk is calculated as acceptable). Clearly the buildup is something they do relatively well, but that is hardly a sufficient explanation for so substantial an investment of resources. We had hoped that well-balanced, secure, second-strike strategic nuclear forces would satisfy the security needs of the Soviet leaders in that area. They have gone well beyond such a capability, however, in the design and deployment of strategic offensive systems and active and passive defenses. They appear, indeed, to be aiming toward some sort of war-winning capability with these forces, however futile that attempt may be.

We had also hoped that as their central nuclear forces achieved second-strike sufficiency, conservatively defined, the Soviets would reduce their deployment of medium-range regional capabilities, on the ground that they would no longer need (if they ever did) either to hold the allies of the United States hostage to our good behavior or to deter attack on the Soviet Union from Western Europe. Unfortunately, no such reduction has taken place. Instead, the Soviets are modernizing both their medium-range and their tactical nuclear capabilities. And the modernization is taking place in the East as well as the West.

Apparently not content with this display of power, the Soviets continue to deploy ground and tactical air forces in Eastern Europe which seem excessively large and much too offensively oriented to serve primarily as a counterweight to NATO capabilities, let alone as occupation troops. And President Brezhnev's proposal of October 6, 1979, to withdraw 20,000 men and 1,000 tanks from Eastern Europe (allegedly to the USSR) does not--even if fully carried out, and however welcome--materially change that conclusion. Similarly, Soviet forces in the Far East, however defensive their purpose may be, are geographically positioned, exercised, and apparently designed for offensive operations. In contrast to the situation in Eastern Europe, however, most of the divisions on the Chinese border are less than fully combat-ready.

The Soviet naval buildup raises similar problems of interpretation. Some components of this increasingly modern force are clearly intended for the defense of the Soviet homeland and interdiction of the sea lanes we would use to reinforce our allies. The Soviets also have programs to increase the size and improve the quality of their anti-submarine warfare forces, and these may eventually threaten U.S. and allied ballistic missile submarines. Still other parts can only be intended for the long-range projection of Soviet military power.

One conclusion about these programs, namely that the Soviets are interested in more than the defense of their periphery, is fortified by other developments. They have gradually expanded their long-range sealift and airlift. There is recent evidence, as in Afghanistan, that they intend to use their seven airborne divisions (an eighth is a training unit) as a major instrument for possible military operations beyond their borders. And it is no secret that they consistently seek support arrangements overseas for air and naval staging, refueling and maintenance.

### C. Policies

Soviet foreign policy serves mixed purposes, as does the Soviet military buildup. The signature of SALT II suggests that the Kremlin continues to put the control of nuclear arms high on its list of national goals. As President Carter has pointed out, speaking of the two superpowers, "Our fundamental philosophies conflict, and quite often our national interests conflict as well. But . . . we do have common interests and share an overwhelming mutual concern in preventing a nuclear war."

Beyond that, some Soviet activities around the periphery of the USSR can be seen as essentially defensive in purpose. Others can be so described only on the assumption that the Soviets think they need, at least in political terms, though even then expressed through military capabilities, to dominate overwhelmingly any areas near their own frontiers. This is clearly a matter of the greatest concern to us.

In these circumstances, we and our allies must deal simultaneously with both the cooperative and the competitive aspects of Soviet policy. On the one hand, we must be prepared to negotiate our differences with the Soviet Union and, where possible, reach equitable and verifiable agreements that restrain the military competition and lessen the risk of war. On the other hand, we need to make it equally clear that we will continue to maintain (and where necessary expand) the military power required to constrain those Soviet ambitions that infringe on longstanding U.S. and allied interests, or Soviet behavior that violates international comity. We acknowledge the Soviet need for security and we welcome a constructive Soviet role in world affairs. We reject and will respond as necessary and appropriate to any Soviet insistence on the satisfaction of its claims at the expense of the rights and interests of others.

## II. COOPERATION WITH THE SOVIET UNION

Although the Soviets have not shown much restraint in their unilateral defense decisions, they have been willing to engage in negotiations to control the military competition. Where mutual restraint is feasible, and can be made equitable and verifiable, it will no doubt remain in our national interest to negotiate formal and detailed arms control agreements that will enhance our security through limits on the Soviet threat.

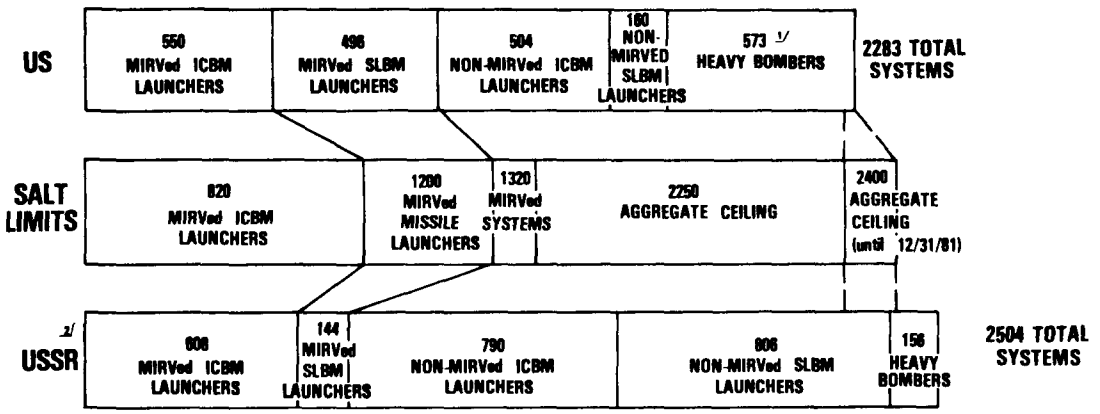
### A. SALT

SALT II is such an agreement. It provides effective restraints on strategic arms and will measurably enhance our national security, particularly when the Soviets are behaving aggressively. But the timing of ratification of SALT must be deferred until Soviet actions in Afghanistan have been adequately countered. We should recognize, meanwhile, that SALT II remains in our interest for a number of reasons.

1. SALT II will actually reduce the strategic forces of the Soviet Union, as shown in Chart 4-4. It will require the Soviets to reduce their current inventory of strategic missile launchers and heavy bombers by 254 units. It will halt the buildup of Soviet strategic nuclear delivery vehicles that would probably occur in the absence of SALT II. In every category of weapons that SALT II limits, the Soviets, simply by continuing their current rate of deployment, could substantially exceed the SALT II ceilings by 1985. They could, for example, have about 3,000 strategic nuclear delivery vehicles of all kinds instead of the 2,250 allowed by the treaty; a total of 1,500 MIRVed missile launchers instead of 1,200; and more than 1,000 MIRVed ICBM launchers instead of 820. Indeed, we believe the Soviets were already building toward at least 100 more MIRVed ICBM launchers than would be allowed under this ceiling.

Chart 4-4

## SALT II LIMITATIONS




**TOTAL SYSTEMS BY DEPLOYMENT CATEGORY**

| | US | USSR |
|---|---|---|
| ICBM LAUNCHERS | 1054 | 1398 |
| SLBM LAUNCHERS | 656 | 950 |
| HEAVY BOMBERS | 573 1/ | 156 |
| TOTAL | 2283 | 2504 |

1/ Includes approximately 220 B-52s in deep storage

2/ Breakdown reflects Soviet statement of data as of June 18, 1979

2. SALT II will impose some important qualitative constraints on the strategic arms competition between the United States and the Soviet Union. The most important of these restrictions are the provisions limiting each side to no more than one new type of ICBM and the so-called fractionation limit. The Soviets have been developing at least four follow-on ICBMs. Under SALT II, all but one will now have to be quite limited modifications of existing ICBMs; and the Soviets cannot under SALT II provisions increase the launch-weight or throw-weight of the SS-18 or SS-19. The fractionation limit means that the maximum number of reentry vehicles on existing or modified types of ICBMs cannot be increased from what that number is now. The new ICBM that is permitted cannot have more than 10 reentry vehicles. The treaty thus takes away the ability of the Soviets to exploit fully the throw-weight of their larger missiles. If it were not for this limit, each Soviet SS-18 ICBM could be equipped to carry 20 or even 30 MIRVs, and the SS-19 could carry more than the six RVs it has now. As a consequence, the task of designing a more secure U.S. ICBM force is eased. Under SALT II, the Soviets will have to choose between a new missile to replace their existing single-warhead SS-11 land-based missile, and a 10-RV missile to replace their MIRVed SS-17s and SS-19s. Under SALT II, they cannot do both.

3. SALT II will bring greater predictability and stability to the nuclear relationship between the United States and the Soviet Union. Without it, both sides probably would increase their strategic forces as hedges against uncertainty, resulting in less rather than more security for the United States.

4. The greater predictability and stability afforded by SALT II will make it significantly less expensive for us to maintain the strategic balance with the treaty than without it. We will need to increase our investment in the strategic nuclear forces even with SALT. Without SALT we would probably have to spend tens of billions of dollars over the next decade in addition to those we are already programming in order to meet increased Soviet efforts during that period. Those funds would be better spent on meeting our conventional requirements, with Soviet strategic force levels limited by SALT II.

5. The treaty will help us to monitor Soviet strategic forces. With or without SALT II, we have a vital interest in keeping track of those forces, and we spend billions of dollars on systems for that purpose. Several provisions of the agreement will help us with the task. One explicitly prohibits interference with national technical means of verification. Another bans deliberate concealment of information where that would impede verification by national technical means. Given the capabilities of these means, and taking account of possible exploitation by the Soviets of monitoring uncertainties (where they exist), the Soviets could not gain any military advantage by attempting to circumvent the treaty. We would detect and could offset any cheating before it reached a scale that would affect the strategic nuclear balance. SALT thus helps to improve our strategic intelligence. Without SALT II, we could be faced with concealment, countermeasures to our national technical means, and all of the various "cheating scenarios" so worrisome to the critics of SALT--because without SALT, nothing would prohibit these actions.

6. SALT II will not interfere with any program the United States will need, or with needed cooperation with our allies. On the other hand, rejection of the treaty--if perceived as a unilateral U.S. repudiation of the SALT process--could be seen as evidence of inability on the part of the United States to manage the process of building a more stable international order, and could affect our alliances adversely.

7. SALT II will demonstrate U.S. compliance with its obligation under the Non-Proliferation Treaty (NPT) "to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date. . ."

8. Finally, SALT II will reduce the risk of nuclear war; it will limit the competition between the United States and the Soviet Union in a most dangerous and destabilizing area--strategic offensive arms--and it will lead to further SALT negotiations and more comprehensive restraints.

(U) The United States is, by most meaningful measures, the strongest nation in the world. Only in military capabilities has the Soviet system been able, at great cost to the real needs of the Soviet peoples, to compete with ours. SALT II cannot and will not end the competition between our two nations. But if an assessment of recent Soviet actions, and the accomplishment of U.S. and allied responses, demonstrate (as I believe they will) that some measures to regulate the U.S.-Soviet competition remain appropriate, SALT II can help to divert the competition into areas where the United States enjoys a clear comparative advantage. A delay in taking action in the current circumstances is appropriate, but to ask that such a treaty be used to solve all of our security problems or that its ratification be conditioned on resolving all of our other differences with the Soviet Union is to place a heavier burden on the agreement than is consistent with our national interest.

B. Other Negotiations

When the time comes to consider the ratification of the treaty, SALT II should be judged on its own merits. We have the opportunity and the mechanisms in other negotiations to discuss the other aspects of managing the military competition with the Soviets. We have been using both.

We and the British have made significant progress in negotiations with the Soviets on a comprehensive nuclear test ban. We have been focusing on the development of verification measures that could effectively supplement existing national technical means of verification. Agreement in principle has been reached on arrangements for initiating and conducting voluntary on-site inspections and for establishing a system of seismic stations on the territories of the parties. However, considerable work remains to be done in translating these agreements in principle into detailed verification arrangements satisfactory to the Parties.

In the negotiations on Mutual and Balanced Force Reductions (MBFR), NATO and the Warsaw Pact participants have agreed in principle on the goal of a common collective ceiling on ground forces for each side. But we and our NATO allies have been unable to translate this principle into practice by resolving the disagreement with the Soviets and their Warsaw Pact allies over the number of troops they presently station in the relevant areas of Eastern Europe. We do not even have an agreement on the size of the Soviet forces that will be in the area after the withdrawal of the 20,000 troops and 1,000 tanks announced by President Brezhnev. In any event, those unilateral reductions are far less than the Soviet component of the mutual reductions NATO has sought in MBFR. Moreover, even if they are fully implemented, there would be no legal bar to troop reintroduction, no verification measures, and no confidence-building measures to regulate exercises. We and our NATO allies therefore have continued to seek a meaningful negotiated agreement in Vienna that will result in common collective ceilings on the military personnel on each of the two sides, to be based on reductions from the present levels, based on agreed data.

In the interim, NATO has proposed an initial agreement, consistent with Western objectives in the negotiations--in particular the establishment of parity in the form of a common collective ceiling for military manpower in the area of reductions--that would focus first on U.S. and Soviet manpower withdrawals, based on agreed U.S.-Soviet data, and on associated measures to be applied on a multilateral basis. This interim agreement would open the way for a subsequent agreement, based on agreed overall data, providing for further reductions by all direct participants to a combined common collective ceiling on each side of approximately 700,000 for ground force manpower and approximately 900,000 for air and ground force manpower combined.

A substantial package of associated measures would form an integral part of any MBFR agreement. NATO has recently completed work on a new package of such measures and presented them to the East in Vienna. The measures are designed to promote military stability and confidence by regulating military activities, to ensure adequate verification of any MBFR agreement, and to assure undiminished security for countries on the flanks of the central European area in which force reductions under MBFR would occur.

The last formal round of talks with the Soviets on conventional arms transfers was held more than a year ago. At that time we made some progress in establishing general guidelines for the limitation of those transfers. However, should these talks be resumed, more will need to be done on developing these guidelines as well as on how to apply them satisfactorily to specific regions.

The last round of talks on anti-satellite (ASAT) arms control was concluded in June, 1979, and the next round has not been scheduled. Some progress has been made toward an agreement to prohibit certain actions against satellites and to limit development of ASAT systems. Discussions on stabilizing the military presence of the two sides in the Indian Ocean were suspended in February, 1978, and there are no plans to schedule a further session. Some progress, on the other hand, has been made toward the control of chemical and radiological weapons. Although we and the Soviets agree that we should control chemical weapons, we have not yet resolved the issues of how to specify stocks of weapons and facilities, how to verify any controls we impose, or when any

agreement should enter into force. We have, however, presented a joint agreed proposal on radiological weapons to the Committee on Disarmament in Geneva, which we hope can be rapidly formulated into a convention open to international adherence. What happens next will depend on that committee.

In NATO we and our allies have developed the principles to be used in addressing U.S. and Soviet long-range theater nuclear systems, especially the SS-20. NATO has given its approval for the United States to conduct arms control negotiations with the Soviet Union concerning long-range theater nuclear forces, and, despite the current Soviet refusal to negotiate the issues, we look forward to discussions of these systems within the SALT III framework.

This is neither a stirring record nor the basis for great encouragement about the future. Although the two sides still share the common goal of reducing the risk of nuclear war, the relationship between the United States and the Soviet Union remains largely adversary in nature. For that very reason, as in SALT, we will continue our attempts, at an appropriate time, to contain the Soviet threat and the dangers of conflict through specific, equitable, and verifiable measures of arms control. At the same time, we have to recognize that the foreign policies and military capabilities of the Soviet Union have the potential, and possibly the intention as well, to undermine our security.

## III. WORLDWIDE DEVELOPMENTS

One of the dangers that should concern the Soviet Union in common with the United States is the proliferation of nuclear weapons. Countries can acquire a nuclear capability either through a direct weapons-only program or as an outgrowth of generating nuclear power for peaceful purposes. The United States has cooperated with more than 40 other countries in the International Nuclear Fuel Cycle Evaluation (INFCE) in a common effort to re-examine long-held assumptions concerning fuel cycle activities and to promote attention to the risks of weapons proliferation in the design of civil nuclear programs. We are also seeking wider adherence to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), working to strengthen the safeguards of the International Atomic Energy Agency, promoting restraint in the development of certain types of nuclear facilities, and engaging in continued consultations with other nuclear suppliers regarding exports in sensitive cases. The upcoming NPT review conference in the fall of 1980 will provide an international forum for the discussion of issues relevant to the implementation of the NPT. It remains the case, however, that as long as bitter international issues persist, the danger of nuclear weapons proliferation will continue.

Another recurrent and more familiar danger of worldwide proportions is that domestic economic difficulties will drive nations to restrict imports, cause disruptions in international trade and finance, and worsen the initial problems. The rising price of energy and widespread inflation could cause another of these vicious cycles. As one defense against this danger, we have succeeded, with the completion of the Tokyo Round of the multilateral trade negotiations (MTN), in producing agreements both on codes to reduce a broad range of non-tariff obstacles to trade and on phased tariff reductions averaging 33 percent. We have also taken a number of steps to come to grips directly with the oil

problem. We have tried to sustain good international ties with the key oil-producing countries. We have encouraged a more widespread production of oil so as to reduce dependence on a few concentrated sources. We have agreed with the other industrialized members of the International Energy Agency to cut back our collective demand for oil by two million barrels a day below what it would otherwise have been. We are striving, at the same time, to reduce our long-term dependence on imported oil through the conservation of energy and the substitution of other fuels. However, as Secretary Vance has pointed out, "oil producers must understand that there is a limit to what the economies of the oil consuming nations, and the global economy, can sustain." Without that recognition, the danger of international economic disorder could almost equal in severity the military threat from the Soviet Union.

Even without this added burden, we face a difficult task in trying to provide for the basic needs of people and narrow the explosive disparity between wealth and hunger. The food shortage facing developing countries, for example, was 12 million tons in 1975. It could be 70-85 million tons by 1990, unless productivity rises sharply. To help fill the gap, we have removed all restrictions on wheat production for next year, and over half our development aid is now devoted to agriculture. Still greater efforts will be needed if a mass tragedy is to be averted.

We have witnessed a measure of progress in the field of human rights during the last year. Some nations have taken steps to restore legal protections and democratic institutions. We have seen the inauguration of an Inter-American Court of Human Rights; the Organization of African Unity (OAU) has made a forceful call for the creation of regional human rights institutions in Africa; and the U.N. Educational, Scientific and Cultural Organization (UNESCO) has activated procedures for the protection of human rights. But even with these improvements, violations of human rights persist. Despite the release of Alexander Ginzburg and four fellow dissidents, the situation in the Soviet Union remains a source of serious concern.

## IV. REGIONAL DEVELOPMENTS

We are inclined in much of our thinking about the threats to national security to focus on spectacular and nuclear-related events: the theft of weapons, dire threats of destruction, surprise attacks out of the blue, swift nuclear vengeance. So far, however, history has been more mundane than our imaginations. The dangers have proved more traditional and less apocalyptic. Most of them have had local or regional origins.

### A. Western Europe

There can be no doubt that Western Europe is of vital interest to the United States. With an aggregate population of 260 million and a GNP of $2 trillion it is, outside of North America, the greatest concentration of economic power in the world. Its nations, like the United States, are democracies; most of our people and our culture had their origins there. We have been involved in European affairs since the foundation of the Republic; our two greatest wars involved Europe. We are prepared, if necessary, to fight in defense of our European allies again.

Some of the dangers to non-Soviet Europe are of internal origin. Noteworthy among them is the continuing dispute between Greece and Turkey which has weakened NATO's southern flank. Economic distress in Portugal and Turkey not only affects their contributions to the common defense; it also leaves them vulnerable to political instability and subversion by anti-democratic elements. Internal differences within Yugoslavia could jeopardize an orderly transition to Marshal Tito's successor and create opportunities for external interference. But the two greatest dangers originate outside Europe.

The first danger comes from the heavy European dependence on OPEC oil, and the possibility that its supply could be disrupted. The second arises from the massive Soviet military presence in Eastern Europe and from the numerous and increasingly modern long-range theater nuclear delivery vehicles deployed in the USSR itself. We and our allies have developed a variety of measures to deal with the energy problem, including stockpiles and an agreement to share the shortages in the event that the flow of oil is significantly reduced for any substantial period of time. But whatever we do or fail to do on this score, there is no obvious way that military power can substitute for conservation in the use of energy or for the development of new fuels and new sources of existing fuels. Indeed, our ability to deal with the Soviet threat will depend in part on our capability to conserve energy and diversify our sources of supply. At the same time, we must recognize that the Soviet military presence is a phenomenon with which our foreign policy can deal only if it is underwritten by substantial military power.

We tend to think of the Soviet danger to Western Europe as emanating primarily from its conventional military capabilities, and we have become increasingly concerned, with the modernization of those capabilities, that they might be used in sudden and massive attacks on Central Europe. Undoubtedly these are legitimate concerns, but they do not encompass all the possibilities by any means. The Soviets have developed and are now upgrading the nuclear capabilities--both theater and strategic--that they orient toward Western Europe. They have shown an increasing assertiveness on their northern flank. And they must inevitably remain nervous about the course of events in Eastern Europe. The greatest dangers to Europe, indeed, would arise less from sudden and unprovoked attacks than from major East-West crises ignited by difficulties in or near the Soviet orbit.

We have tried to improve relations with the Warsaw Pact nations of Eastern Europe through expanded contacts, trade, institutional cooperation, and exchanges of information. We now have consular agreements with all of the East European countries except Czechoslovakia. Since the beginning of 1976, the East Europeans have purchased over $2 billion worth of U.S. agricultural commodities and nearly $1 billion of U.S. manufactured goods. In 1978 we exported about $1.4 billion worth of goods to the region, and we now have most-favored-nation trade relations with Poland, Romania, and Hungary. It would be useless to pretend, however, that these measures by themselves can ameliorate discontent in Eastern Europe, or that they will soften the propensity of the Soviets to maintain maximum control over Eastern Europe. Resolution and visible military capabilities, as well as expanded economic and other ties with Eastern Europe, are essential if we are to cope effectively but peaceably with these dangers.

To deal with the Soviet deployment of the SS-20 missile and the BACKFIRE bomber, the Alliance established a High-Level Group (HLG) to review the spectrum of deterrence and decide on the appropriate measures for modernizing the allied nuclear deterrent. At the same time, a NATO Special Group on Arms Control examined complementary proposals for arms limitations in this critical area.

To maintain NATO's ability to execute its strategy of flexible response and to respond to the threat created by the Soviet deployment of new, more capable theater nuclear weapons (the SS-20 missile and the BACKFIRE bomber), NATO Defense and Foreign Ministers decided in December, 1979, on two major steps. The Alliance will proceed with the modernization of its long-range theater nuclear forces (LRTNF) by deploying 108 PERSHING II missiles on launchers and 464 Ground Launched Cruise Missiles (GLCMs) in selected Western European countries starting in 1983. In connection with this modernization, the United States will withdraw 1,000 nuclear warheads from its European stockpile.

In a parallel arms control approach, NATO Ministers endorsed U.S.-Soviet negotiations involving long-range theater nuclear forces in the framework of SALT III. They agreed that these negotiations should seek reductions in Soviet LRTNF (particularly the SS-20 missile), begin as soon as possible, be carried out in close consultations with our NATO Allies, and be guided by the following principles:

-- Any future limitations on U.S. systems principally designed for theater missions should be accompanied by appropriate limitations on Soviet theater systems.

-- Limitations on U.S. and Soviet long-range theater nuclear systems should be negotiated bilaterally in the SALT III framework in a step-by-step approach.

-- The immediate objective of these negotiations should be the establishment of agreed limitations on U.S. and Soviet land-based long-range theater nuclear missile systems.

-- Any agreed limitations on these systems must be consistent with the principle of equality between the sides. Therefore, the limitations should take the form of de jure equality both in ceilings and in rights.

-- Any agreed limitations must be adequately verifiable.

Important as these programs are, the greatest test of NATO in the 1980s will be how well the allies collaborate in bringing the rest of the Long-Term Defense Plan to fruition. The Plan has nine other priority categories:

-- enhanced readiness to deal with the risk of a short-warning Warsaw Pact Blitzkrieg;

-- much more rapid reinforcement of NATO's deployed forces, especially from the United States;

-- strengthened and increased European reserve forces;

-- qualitative improvements in the maritime capabilities of the Alliance;

-- a more integrated allied air defense system, since an effective air defense in Europe is infeasible on a national basis;

-- increased interoperability and standardization of the command-control-communications so vital to coalition warfare;

-- an alliance-wide electronic warfare program to deal with major Soviet advances in this area;

-- more rational procedures for armaments collaboration within NATO; and

-- intensified efforts to promote logistic coordination and increase war reserves.

Of these programs, two deserve particular emphasis. The Soviets continue to produce new tanks, guns, and aircraft at two or three times the rate of the United States. They are investing perhaps twice as much in defense research and development. We must count on our NATO allies to make up many of these differences. To achieve the desired results, not only do we and our allies need to develop more efficient procurement policies; we must reduce the duplication in our R&D. If we are to optimize across national boundaries, we will have to do more purchasing of one another's equipment. At the same time, we must cooperate more so as to approximate $20 billion worth of R&D out of the $20 billion the Alliance currently invests in it, rather than the $15-16 billion in results that NATO as a whole is producing now.

Rapid U.S. reinforcement of Europe is another key to NATO's deterrent effectiveness. One of the Alliance's most serious problems, particularly in its Central Region, is the shortage of operational reserves. Under present circumstances, if an attack were to come with little advance preparation, and if our forward defenses were to be penetrated at an early stage in the attack, SACEUR might have too few ground and tactical air forces in reserve to deal successfully with the rupture.

The United States has planned for many years to send massive reinforcements to NATO, but shortages of airlift and lack of an adequate support structure to receive them have meant that many of the reinforcing units could arrive too late to deal with this particular contingency. To remedy this weakness, we have established a Rapid Reinforcement Program which will more than double the U.S. ground forces, and triple the U.S. tactical air forces, deployed in Europe on a day-to-day basis, and do both in less than two weeks. This, I should add, is not two weeks after the start of an attack, but two weeks after the reinforcement decision has been taken. One measure of its consequence is to compare the subsequent U.S. presence with the largest Western European force.

The Rapid Reinforcement Program will produce at M+14 a total of U.S. ground firepower greater than is in the entire German Army and twice the number of air squadrons that are in the Luftwaffe.

The timely provision of this massive reinforcement depends in the first instance on our ability to preposition unit sets of equipment in Europe, fly troops over to them by passenger aircraft, and deploy our fighter squadrons to protected and well-stocked allied bases. Those measures, in turn, require collaboration from our European Allies. They must provide the storage sites and warehouses for our prepositioned equipment, collocated operating bases for our air squadrons, and depots for our ammunition and other combat consumables. Most of this can be funded through the NATO Infrastructure Program, to which the United States contributes the largest single share. But it will take much higher infrastructure funding than our allies have hitherto agreed to provide.

It is also the case that if we are to engage in this massive U.S. deployment of combat forces at great speed, we will have to forgo simultaneous deployment of some support forces needed to supply and maintain our combat capabilities. We cannot do both at the same time. Accordingly we have turned increasingly to the concept of Host Nation Support, whereby our European allies will help provide us with a large part of the support capability, so vital to our fighting effectiveness, out of the same mobilized civilian resources they would use to support their own forces. This means depending on them for sealift and further airlift, for port and airfield reception and unloading facilities, for transport to the battle area, and for a myriad of other needs such as fuel storage and tank trucks, depots and medical facilities.

The amount of support required would take only a small fraction of the enormous civil resources and infrastructure already available in Europe's highly developed economies. In peacetime it would entail very little cost, and in wartime we would pay for all the goods and services provided by the allies. Yet while the details of Host Nation Support are under negotiation, the process is moving slowly.

In sum, we have proposed a transatlantic bargain. We will arrange rapid and massive deployments of combat reinforcements to NATO if our allies will help provide the European facilities and Host Nation Support necessary to make the deployment work. But this complex effort will not succeed without greater cooperation from the other members of the Alliance. It is, and must be, a joint endeavor to which the allied contribution is as vital as our own. NATO is needed now more than ever. However, its potential for early collective defense must be given increasing emphasis if the credibility of the non-nuclear deterrent is to be maintained in the decade ahead. The demands are severe; they must be met.

B. Asia

Asia, as much as Western Europe, remains of vital interest to the United States. Because of the Aleutians, Hawaii, and Guam, we are bound to have a Pacific orientation. Economically, we have developed an enormous stake in

Asia. Trade with the region in 1978 reached a total of $83 billion and continues at a higher level than trade with Europe. Most of the nations of Asia continue to demonstrate an extraordinary vitality that contributes greatly to the well-being and freedom of the non-communist world. Japan, particularly, remains one of the most dynamic of the democracies and the keystone of our security position in the Far East. By 1978, her gross national product had reached almost half that of the United States, and bilateral trade had grown to a total of nearly $40 billion, making her, after Canada, the largest single trading partner of the United States. Furthermore, our continuing alliances with Japan, the Philippines, our ANZUS partners--Australia and New Zealand--and South Korea are essential if the increasing burdens of defense in the Western Pacific and Indian Ocean are to be met.

In addition to maintaining a strong military presence on the Korean Peninsula and close defense relations with the Republic of Korea, we continue to seek close ties with the ASEAN countries (Association of Southeast Asian Nations), all of whom have been growing economically. Their cohesion and unity help not only to counterbalance Vietnamese pressures, but also to discourage Soviet ambitions in the area. Finally, we have begun a new relationship with the People's Republic of China (PRC).

These relationships are not free of danger. The Soviets continue to increase their ground forces on the Chinese border. They have added to and further modernized their Pacific Fleet. And in what remains an activity of some ambiguity, they have strengthened their garrisons on the Northern Territories of Japan, which they have occupied since the end of World War II.

We now know with considerable confidence that, starting early in the 1970s, the North Koreans have engaged in a major military buildup, primarily of their ground forces. The North Korean Army now has a strength, we estimate, of around 600,000 men: a substantial increase over the 450,000 with which we had previously credited Pyongyang, and with more tanks and artillery than we had previously thought. The size of the North Korean air force and navy has also increased. The intentions of North Korea are unclear, but its military forces clearly are not geared for defensive operations. Such a force is hardly conducive to stability on the Korean Peninsula.

Even more uncertain is the situation in Southeast Asia. The renewed Vietnamese military campaign in Cambodia (Kampuchea) runs the risk of spilling over into Thailand; Vietnam is already receiving substantial Soviet military and economic support, and there is a risk that the Soviets could become more directly involved in the conflict than is now the case, particularly if China were to repeat its attack on Vietnam. We estimate that large numbers of Vietnamese troops in more than 15 divisions are attempting to consolidate their hold on Cambodia and destroy the remaining 20-30,000 Pol Pot forces. This protracted war has been devastating to the Cambodian people. We estimate that two or three million Khmer people are on the verge of severe malnutrition owing to the lack of food and medicine.

Faced with these dangers, we have honored our pledge of 1977 to maintain our military strength in Asia. We have, in fact, somewhat increased our forces above the level we had previously planned. By the end of 1978, we had

withdrawn one battalion from the 2nd Infantry Division in Korea, but any further withdrawal of combat elements from the division will be held in abeyance until 1981. At that time we will consider whether a satisfactory North-South balance has been restored, and whether there has been tangible progress toward a reduction of tensions on the Korean peninsula. In the meantime, we have already added a squadron of Air Force F-4s to our Korean deployments and will improve the firepower of our forces still further with the introduction of longer-range artillery, better helicopter gunships, and a squadron of A-10 close-support aircraft. The stationing of AWACS in the area will further improve our ability to deter a North Korean attack. South Korea is also increasing its capabilities. The share of GNP that Seoul devotes to national defense rose from roughly four percent in the early 1970s to a little over 5.5 percent in the late 1970s. As a result of President Carter's visit to South Korea in June, 1979, it was agreed that ROK military spending for 1980 would be raised to about six percent of GNP. South Korean defense industries now produce a range of equipment, including M-16 rifles, M-60 machine guns, various mortars, 105-millimeter and 155-millimeter howitzers, anti-aircraft guns, jeeps and trucks, and rebuilt M-48 tanks, and small naval vessels. Subject to Congressional approval, we are making plans for the South Koreans to co-assemble F-5 fighters.

At the same time, we are upgrading the Seventh Fleet with new Spruance-class destroyers, Perry-class guided missile frigates, Los Angeles-class nuclear attack submarines, and Tarawa-class amphibious assault ships (LHAs). By the early 1980s, four of our six attack carriers in the Pacific will carry F-14 aircraft instead of the older F-4s. Meanwhile, 72 of the 192 Air Force F-4s are being replaced by F-15s.

The 46,000 U.S. military personnel stationed in Japan make a major contribution to the deterrent in East Asia. For example, the Marine Corps and Air Force units in Okinawa can move more speedily and economically to points of danger than if they were stationed on U.S. territory. Moreover, Japan provided about $1 billion in FY 1979 to help offset the cost of this deployment.

Our defense cooperation with Japan is expanding in other ways as well, and the Japanese are making significant qualitative improvements in their Self-Defense Forces. Over the next few years, they expect to spend about $14 billion on major defense equipment, including 45 P-3C ASW aircraft, up to 123 F-15 fighter aircraft (largely produced under license from U.S. manufacturers), and eight E-2C early warning aircraft. In our regular meetings, which now include bilateral military discussions, I have urged Japanese leaders to expand these programs and recognize that the combined planning efforts of the United States, Western Europe, and Japan will be needed to counterbalance the global Soviet military buildup. I have also emphasized that the United States must retain the flexibility to move its forces--principally naval and air units--where needed, and that this flexibility to "swing" forces in no way discriminates against Asia. Our last two major military engagements took place, after all, in Asia, and we actually surged about 10 divisions, 15 Air Force wings, and 10 attack carriers to Southeast Asia during the war in Vietnam.

Furthermore, we have emphasized in our recent meetings the contribution that an augmented U.S. presence in the vicinity of the Persian Gulf and general area of the Indian Ocean would make to the security of Japan. Senior Japanese officials have acknowledged this point and generally understand the

value of more frequent U.S. naval deployments into the Indian Ocean even if this requires occasional and temporary reductions in U.S. strength in the Western Pacific and Mediterranean.

I have recently returned from an official visit to the People's Republic of China (PRC). During that visit, my associates and I engaged in four days of intensive talks with the leadership of the PRC. These meetings afforded the first opportunity for an exchange of views between our two defense establishments. As a result of them, I look forward to a gradual expansion of contacts between the American and Chinese military and the development, step by step, of a mutually beneficial relationship. We were also able to hold the first formal discussion between our two countries on arms control matters, and China will begin participating next month in the disarmament discussions at Geneva.

Our attention inevitably focused on South Asia and the brutal invasion of Afghanistan by the Soviet Union. Our views were closely parallel on the need to strengthen other nations in the region, and each side will take appropriate steps on its own to that end. We also held parallel views on our goals in Southeast Asia, and agreed that world attention must be kept on the Vietnamese invasion of Cambodia, which has been supported by the Soviet Union. The Chinese spoke favorably of a strong NATO-Europe and Japan, allied to the United States.

We have no plans to sell arms to the PRC, and the subject did not figure in our discussions. However, we did discuss civilian technology transfer extensively, and I made it clear that we are ready, on a case-by-case basis, to consider the transfer of technology to the PRC which we would not provide the Soviet Union, including civilian technology which may have potential military application. We agreed to make available a LANDSAT D ground station to the PRC under safeguards which will assure that it is not immediately usable for military purposes.

As Vice President Mondale informed Chinese leaders last summer, "any nation which seeks to weaken or isolate you in world affairs assumes a stance counter to American interests." A strong, secure, and modernizing China is in the interest of the United States. With that goal in mind, President Carter has already submitted for approval by the Congress the Chinese-American trade agreement which will extend most-favored-nation tariff treatment to the PRC. We are also prepared to establish Export-Import Bank credit arrangements for the PRC, and will seek Congressional authority to encourage American businesses to invest in China. We expect, in sum, that our relationship with the PRC will grow in scope and detail, and that it will help to reduce the probability of further aggression in South Asia and elsewhere.

A key element in maintaining our strong military presence in the region has been the successful conclusion of negotiations with the Philippine government for an amendment of our base agreement that puts the U.S. defense presence in the Philippines on a sounder and more durable basis. We were able to include provisions that gave full recognition of Philippine sovereignty, and at the same time we have retained and reaffirmed our right to unhampered use of Subic Bay and Clark Air Force Base. They will be especially valuable in supporting our peacetime deployments in the Western Pacific and to the Indian Ocean and enabling us to augment those deployments in a crisis.

The continuation of conflict in Indochina has heightened tensions throughout the region. And the presence of Vietnamese forces along the Thai-Cambodian border raises the risk that the fighting will spill over into Thailand. As the tragedy in Indochina has unfolded, the ASEAN states have taken the lead in bringing the Cambodian situation before the United Nations and in providing first asylum to the hundreds of thousands of refugees from Vietnam and Cambodia. The United States, for its part, has strengthened its support of ASEAN and its members to help them meet the challenge. We have welcomed Thai Prime Minister Kriangsak to the United States. The President has reaffirmed our commitment to Thailand under the Manila Pact, and has restored to Bangkok $6 million in Foreign Military Sales credits, provided the cost-free transfer of another $10 million worth of ammunition, and accelerated the delivery of needed military items. The Thai government has placed substantial orders with the United States for military equipment--$416 million in FY 1979--and we will continue to respond to the legitimate security needs of the kingdom.

An estimated 700,000 refugees under the control of various armed and anti-Vietnamese Cambodian elements are located on or near the border of Thailand and Cambodia. Relief supplies are reaching these border refugees, and a growing cross-border black market is moving supplies as far as 100 miles into Cambodia. There is a backlog of about 50,000 tons of relief supplies in Cambodia itself, waiting for distribution, and over 500 trucks have arrived to facilitate delivery. Despite these efforts to assure distribution of supplies for humanitarian purposes, the Vietnamese-installed Hang Samrin regime in Phnom Penh alleges that aid to the border refugees is helping the insurgent Cambodian forces, and Vietnamese units may at any time launch a major offensive in the border area.

### C. The Middle East

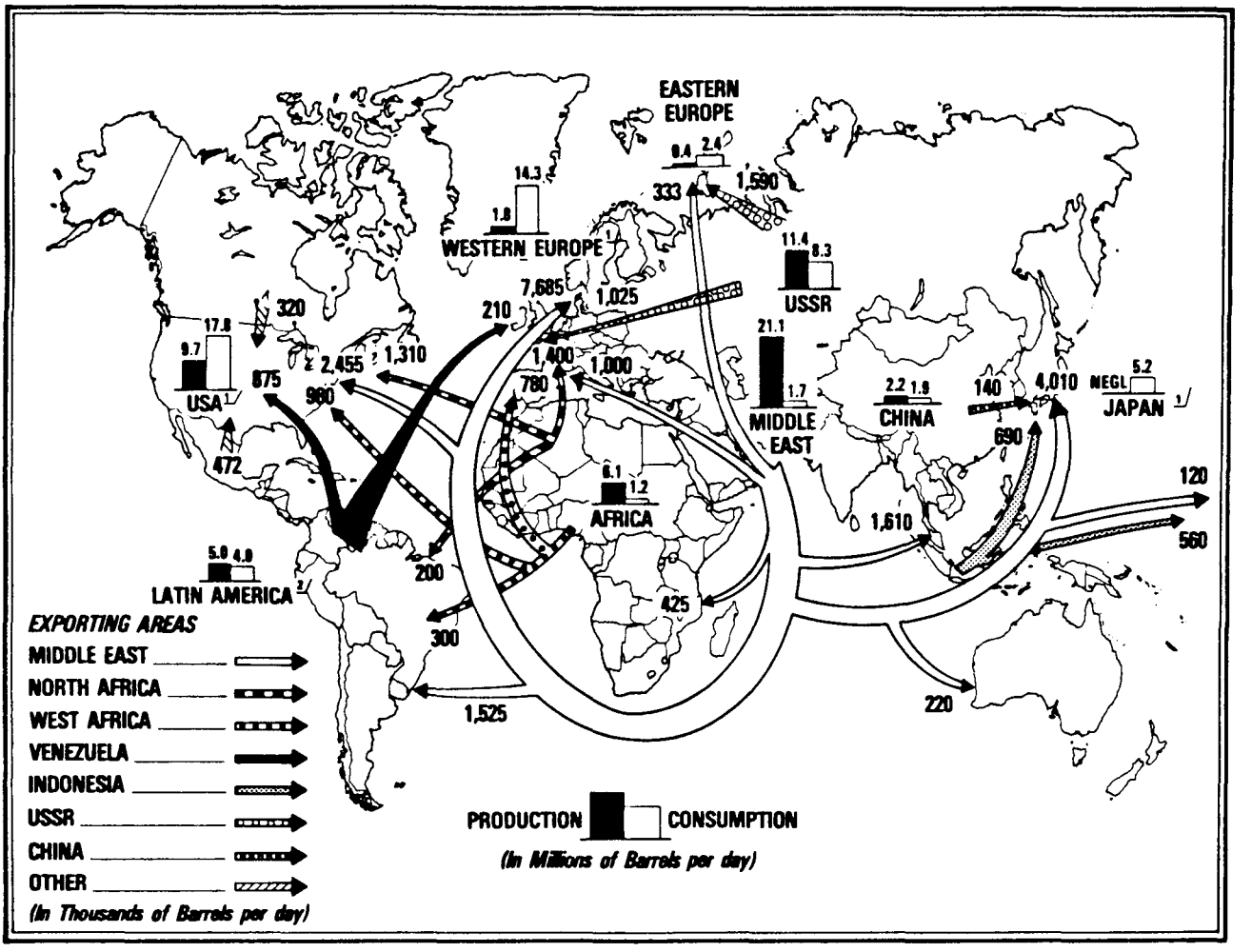
With the possible exceptions of Western Europe and East Asia, no area of the world retains greater interest or importance for the United States than the Middle East. We are irrevocably committed to the security of Israel and to a comprehensive resolution of the Arab-Israeli dispute. At the same time, we and (even more) our allies will continue to depend on Middle East oil for the foreseeable future.

The United States now imports about half the oil it uses, and about half our imports come from the Middle East. As can be seen from Chart 4-5, our European and Japanese allies import a much greater amount. NATO currently keeps sufficient oil in storage to support allied forces in Europe without the need for immediate resupply from the Middle East. But the political cohesion of the Alliance can be severely strained by threats to halt or reduce the flow of oil supplied by the members of OPEC.

There is great danger of further turmoil in the Middle East, and of a major interruption in the supply of oil from the region. And it is conceivable that control of the oil itself might become an issue in the future as the Soviets encounter shortfalls in their domestic production and begin to cast about for new and assured supplies. Even prior to the brutal and blatant invasion of Afghanistan, we had seen extensive efforts by the Soviets to extend their influence in that country, in South Yemen, and in North Yemen as well. In addition, other states in the area such as Iraq and Syria are recipients of Soviet military assistance, as is the Palestine Liberation Organization. Cuban and Soviet military technicians, as shown in Table 4-4, are also present in the region.

Chart 4-5

# WORLDWIDE OIL FLOW — 1979




1/ THE TOTAL NET IMPORTS SHOWN AND THE DIFFERENCE BETWEEN PRODUCTION AND CONSUMPTION ARE NOT IDENTICAL OWING TO SPOT MARKET PURCHASES AND SMALL FLOWS OMITTED FOR THE SAKE OF SIMPLICITY.

2/ THE LATIN AMERICAN FIGURES FOR PRODUCTION/CONSUMPTION AND NET OIL FLOW INCLUDE THE CONSIDERABLE AMOUNT OF MIDDLE EAST CRUDE THAT IS IMPORTED, REFINED AND THEN REEXPORTED BY LATIN AMERICAN NATIONS.

| | IMPORTER (PERCENT OF IMPORTS) | | |
|---|---|---|---|
| EXPORTER | UNITED STATES | WESTERN EUROPE | JAPAN |
| SOUTH AMERICA | 17 | 2 | -- |
| MIDDLE EAST | 32 | 70 | 77 |
| NORTH AFRICA | 16 | 11 | -- |
| WEST AFRICA | 12 | 6 | -- |
| INDONESIA | 7 | -- | 13 |
| SPOT OR OTHER | 16 | 11 | 10 |
| PERCENT OF OIL CONSUMPTION IMPORTED | 46 | 87 | 100 |

Table 4-4

Communist Military Technicians in the Middle East and South Asia, 1978 1/

| | Soviet and East European | Cuban 2/ | Total |
|---|---|---|---|
| **Middle East** | | | |
| Iraq | 1,200 | 150 | 1,320 |
| North Yemen | 150 | -- | 150 |
| South Yemen | 550 | 1,000 | 1,550 |
| Syria | 2,580 | -- | 2,580 |
| **South Asia** | | | |
| Afghanistan 3/ | 50,000 | -- | 50,000 |
| India | 150 | -- | 150 |

1/ Minimum estimates of the number of persons present for a period of one month or more. Numbers are rounded to the nearest five.
2/ Includes troops.
3/ Includes troops, as of January 4, 1980.

So far, at least some of these activities have met with only limited success. Even Iraq, with a radical regime, views Moscow with suspicion, and the theocracy in Iran manages to remain both anti-American and anti-Soviet. The Soviets decided to invade Afghanistan with massive force in late 1979, and forced another brutal change in the already pro-Soviet Communist regime there, but indigenous opposition to Communist rule seems likely to continue. As long as the region remains unstable, we can expect Moscow to seek to take advantage of the unrest and any resulting conflict.

That instability in the Middle East will be the rule rather than the exception seems highly probable for some years to come. The moderate Arab states, except for Oman and the Sudan, have opposed the Treaty of Peace between Egypt and Israel signed on March 26, 1979, under President Carter's auspices. Iraq and Iran may yet come into formal conflict: Iraq has already aided Arab dissidents in Khuzistan, bombed Iranian villages in Kurdish areas, and renounced its 1975 treaty with Iran. Iraq and Syria sought a rapprochement in the wake of the Camp David accords, but efforts at unity collapsed after a year. Oman has risked Arab displeasure by publicly supporting the Egyptian-Israeli peace treaty, and may well suffer from a revived insurgency in Dhofar province, fueled by South Yemen. The situation in southern Lebanon, where Israeli-supported Christian militia forces continue to confront Palestinian guerrillas and Moslem leftists, could erupt into larger-scale violence and draw in both Syria and Israel. The Soviet invasion of Afghanistan could produce still further instability in the region.

As if this were not enough, the region is shaken by ethnic, religious, and internal political divisions. Iran has reached a stage of revolutionary chaos. Its regime appears incapable of dealing with the militants who have held Americans hostage in Teheran for nearly three months in violation of international law. Some of its provinces are in open revolt. Its production and export of oil (the latter already down by as much as 50 percent) could be interrupted at any moment. Development in the sparsely populated oil-rich states depends largely on skilled and unskilled labor from the poor states in the area and from the Indian subcontinent. There are now 2.5 million foreign workers in the oil-exporting countries: Palestinians make up a major share of the Saudi and Kuwaiti work forces and comprise about 50 percent of the Kuwaiti population; nearly 40 percent of the Yemen labor force is working in Saudi Arabia; Jordan has 35 percent of its labor force working in the Gulf states; India and Pakistan furnish nearly a million workers to the region.

Few steps could contribute more to stability in this strife-torn area than a comprehensive resolution of the issues that continue to separate Israel from its neighbors. We are committed, accordingly, to continue our active role in helping Egypt and Israel to carry out the terms of the peace treaty we were so instrumental in forging. The agreement to involve U.S. civilian personnel and surveillance aircraft in monitoring the terms of the treaty is evidence of that commitment. We are equally committed to helping all interested parties develop an effective plan for Palestinian autonomy on the West Bank and in Gaza. And the time has surely come for all Palestinians to accept fully, and in good faith, U.N. Resolutions 242 and 338, and Israel's right to exist.

As this effort for peace goes forward, we are continuing to expand our security ties with the states of the region. We have already sent a squadron of F-15 aircraft and several E-3 AWACS aircraft to Saudi Arabia on a demonstration flight. I myself visited the area in February, 1979, to carry the President's message of U.S. concern for the security of our friends there. With the outbreak of hostilities between North and South Yemen, we dispatched a carrier battle group to the Arabian Sea and substantially accelerated our military assistance to North Yemen. We have increased the naval units under the control of the commander, Mid-East Force, from three to five ships, and have raised the frequency and size of our deployments into the area with ships drawn from the Western Pacific and Mediterranean. We are now supporting a new security assistance program for Pakistan. In the future, still more will be needed.

### D. Africa

Even as we have become more deeply involved in the Middle East, our stake in Africa has grown. As shown in Table 4-5, Algeria, Libya, and Nigeria now supply nearly 40 percent of our oil imports (and around two-thirds of our sweet crude imports--the type used to produce gasoline and most military petroleum products). The continent has become a major source of minerals for our economy and is developing a growing appetite for our goods, services, and capital. The main oil routes from the Persian Gulf to Europe and America run along its coasts. Our abiding concern for human rights has focused particularly on events in southern Africa.

Table 4-5

U.S. Oil Imports by Source
May, 1979

| Source | Percent |
|---|---|
| Saudi Arabia | 20.5 |
| Nigeria | 17.7 |
| Algeria | 11.2 |
| Libya | 10.4 |
| Mexico | 6.3 |
| Venezuela | 5.0 |
| United Arab Emirates | 4.7 |
| Indonesia | 4.4 |
| Canada | 4.0 |
| United Kingdom | 3.2 |
| Iran | 3.2 |
| Other | 9.4 |

The agreement on a new constitution, a cease-fire, and British-supervised elections in Zimbabwe-Rhodesia are very positive developments which should reduce the risks of external involvement in southern Africa. The Soviet Union has continued to follow the lead of the front-line states (Tanzania, Zambia, Mozambique, Botswana and Angola) on the Zimbabwe-Rhodesia issue and has been prepared to let the process of negotiation go forward between the Patriotic Front guerrillas and the Zimbabwe government. Similarly, the Soviets have remained in the background while efforts are underway to obtain independence for Namibia. Despite these encouraging developments, the difficulties in developing a stable and durable political consensus in Zimbabwe-Rhodesia, the persistence of South Africa's internal racial policies, and the threat of a breakdown in the Namibian negotiations are still causes for concern.

Conflict and danger, unfortunately, are not confined to southern Africa. Insurgencies against Ethiopia continue in the Ogaden and Eritrea. In the Western Sahara, the conflict which involves the Polisario guerrillas, Morocco, and Algeria continues at a heightened pace. Meanwhile, Soviet, East European, and Cuban military personnel and technicians continue to be active in more than 20 African countries. Table 4-6 shows the distribution of the military personnel in 1978.

Table 4-6

Communist Military Technicians in Africa, 1978 1/

| | Soviet and East European | Cuban 2/ | Total |
|---|---|---|---|
| North Africa | | | |
| Algeria | 1,000 | 15 | 1,015 |
| Libya | 1,750 | 200 | 1,950 |
| Morocco | 10 | -- | 10 |
| Sub-Saharan Africa | | | |
| Angola | 1,300 | 19,000 | 20,300 |
| Equatorial Guinea | 40 | 150 | 190 |
| Ethiopia | 1,400 | 16,500 | 17,900 |
| Guinea | 100 | 200 | 300 |
| Guinea-Bissau | 65 | 140 | 205 |
| Mali | 180 | -- | 180 |
| Mozambique | 230 | 800 | 1,030 |
| Other | 500 | 485 | 985 |

1/ Minimum estimates of the number of persons present for a period of one month or more. Numbers are rounded to the nearest five.
2/ Includes troops.

The Soviets continue to seize opportunities for involvement in Africa as they arise, and rely heavily on military rather than economic assistance to ingratiate themselves with indigenous groups. They probably attach the greatest importance to their position in Ethiopia, where, aided by Cuban forces, they continue to supply arms, training, construction services, and advice to Ethiopian forces.

In Angola, the Soviets and Cubans have maintained their support for combat operations against the rival liberation movement of UNITA (National Union for the Total Independence of Angola). The East Germans also provide advisers, although they have vehemently denied reports that they have provided troops as well.

The price for Soviet support has varied, but it has included facilities and rights for the naval forces of the Soviet Union. So far, the Soviets have had fairly regular naval access to repair facilities in Aden, Ethiopia and Angola. Soviet ships also call in Mozambique, and a small West African naval patrol "shows the flag" using ports such as Cotonou, as well as Luanda. Other countries have resisted Soviet efforts to gain naval rights.

The publicity given to Soviet activities in Africa, and the fact that Moscow is the dominant foreign influence in a few areas such as Ethiopia, might give the impression that Soviet policy in Africa is a complete success. That, however, is not the case. Over the years, the position of the Soviets has been reduced in nations such as Ghana, the Sudan, Somalia, and Egypt. Even some of the states where the Soviets retain considerable influence have shown a desire to strengthen ties with the West. We cannot assume, however, that the past will continue to repeat itself in the future, or that the Soviet and Cuban presence in Africa need be of no concern.

E. Western Hemisphere

We have taken it for granted, perhaps for too long, that dangers to U.S. security could not arise on our borders. Unlike most other great powers, indeed, the United States has been singularly fortunate in its location. For all practical purposes, it has been immune to serious transoceanic invasion and has had good friends as its immediate neighbors. Canada, to the north, is our greatest single trading partner and the country in which we have most heavily and confidently invested. In recognition of our importance to one another, our defenses have become complementary. To the south, the importance of Mexico cannot be overstated. Shared interests and problems require joint cooperative efforts along our common 2,000-mile border. Trade and tourism are important to both countries.

New oil discoveries in Mexico could give it an economic and strategic importance perhaps even comparable to Saudi Arabia's. The Mexican government has announced proven oil reserves of 20 billion barrels, probable reserves of 37 billion barrels, and potential reserves of 220 billion barrels. In addition, the Mexican fields produce large quantities of natural gas, and we have now negotiated an acceptable price for the import of natural gas in excess of the quantity consumed by Mexico herself. Because of these developments, Mexico has become our leading trading partner in Latin America, and our fifth largest world-wide. Each country recognizes the vital interest it has in the other.

Farther to the south, the situation is more complex and uncertain. With passage of the legislation implementing the Panama Canal Treaty, we have shown our determination to align ourselves with the forces of moderation and peaceful change in Central and South America. We continue to support land distribution and related agricultural projects throughout the region. Our opposition to violations of human and political rights is well known.

The International Monetary Fund is now better capitalized and, along with the International Bank for Reconstruction and Development and the Inter-American Development Bank, becoming more responsive to the developing world. The trade rules agreed to earlier this year open new opportunities for countries entering the world trading system. A number of individual agreements have been reached to limit damaging swings in the prices of particular commodities. We have agreed on the elements of a Common Fund to help stabilize the price of raw materials. The International Sugar Agreement has now been ratified by the Congress. We continue to work through the Inter-American Development Bank and other financial institutions to increase food and energy production and to move toward greater social equity throughout the Hemisphere.

We are also intensifying our support for subregional integration through the Andean Pact and the Central American Common Market. As one step toward greater cooperation among the Caribbean nations, we and other donors have joined with them to form the Caribbean Group for Cooperation in Economic Development.

As another step in that direction, President Carter signed and submitted to the Senate for ratification Protocol I of the Treaty of Tlatelolco, which establishes a nuclear-free zone in Latin America. Protocol I would forbid the deployment of nuclear weapons in Latin American areas for which non-Latin American states are responsible (e.g., in the case of the United States, Puerto Rico, the Virgin Islands, and Guantanamo Naval Base). All of the affected states (the United States, the United Kingdom, the Netherlands, and France) have signed Protocol I, and all but the United States and France have ratified it. Protocol II, pledging the nuclear weapon states to respect the Treaty and not to assist any Latin American country to develop nuclear weapons, has been ratified by all five nuclear powers. Ratification of both protocols is essential to the full entrance into force of the Treaty.

Neither the Treaty itself nor its Protocols affects or limits in any way the rights of innocent passage, or control of transport and transit privileges. The Treaty significantly enhances our national security by preventing the development of nuclear weapons or their deployment in Latin America. It provides for verification and compliance, and requires International Atomic Energy Agency (IAEA) safeguards on all nuclear materials and facilities. For these reasons, the Department of Defense, including the Joint Chiefs of Staff (JCS), has urged ratification of Protocol I.

It will take time to overcome the legacies of the past, and setbacks are bound to occur in the effort to promote peaceful change in Latin America. We have already seen the way in which deep economic and social grievances have led to the overthrow of the Somoza regime in Nicaragua and of the Gairy government in Grenada, and to the coup in El Salvador. Instability could upset other regimes in the region as well. As we assess these upheavals, we must distinguish between the demands for social and political change that result from internal injustices, and those that come from outside pressures and forces. Disruption within nations does not necessarily signify outside instigation. But in the words of Secretary Vance, "we must be alert to the reality that internal tensions present opportunities for outside interference."

It is in this context that we are concerned about Cuba and its close military ties with the Soviet Union. The confirmed presence of a Soviet combat unit in Cuba has further heightened our concern.

The Soviet brigade is only one indication of the Cuban dependence on the USSR. The Soviets support the Cuban economy at a rate of $8 million a day, or almost $3 billion a year. Soviet efforts have made the Cuban armed forces among the most sophisticated in Latin America. These forces are now armed with such capabilities as MIG-23 aircraft and two FOXTROT-class attack submarines. The Cubans, for their part, are engaged in a series of military adventures which support Soviet foreign policy objectives as well as their own.

This is a serious situation. Cuba--like other nations in the region--helped to supply the Sandinistas in Nicaragua with arms and military supplies. Castro, probably with the support of the Soviet Union, may seek to undermine further the stability of the Caribbean and Central America. So far, however, Castro's approach has been generally cautious, and we assume that all the dangers inherent in a more interventionist course of action will dissuade Moscow and Havana from aggravating the current situation. To reinforce that assumption, we are continuing to develop the capability to minimize outside interference in a region that we consider to be of vital interest to the United States. Specifically, we are increasing our economic assistance to countries in the region to help ameliorate the material causes of unrest. We and our allies also are expanding our military presence and are helping states in the area to meet their legitimate security needs.

## V. INTERNATIONAL TRENDS AND THE ROLE OF DEFENSE

Any tour of the international horizon reveals three major trends that Americans will have to contend with now and even more in the years ahead.

Our security, broadly defined, depends increasingly on maintaining the independence and territorial integrity of large parts of the world, including Western Europe, Asia, our friends and allies in the western and southern Pacific, the Middle East, Africa and the Western Hemisphere. The satisfaction of these conditions, in turn, means that our lines of communication must be kept open in the North and South Atlantic, in the Pacific, and in the Indian Ocean and Mediterranean Sea. Our interests in these areas are best served under conditions of international stability: that is, through a process of orderly and peaceful change in a dynamic world. And since the United States has inherited a preeminent role in this dynamic world--indeed, we contribute to its dynamism--stability depends to a growing degree on an active U.S. role in international politics.

Despite our needs and preferences, we cannot now count on world stability. We are making continued efforts to create the political and economic institutions, and establish the basic rules, that will permit equitable responses to fundamental human needs. But turbulence, the threat of violence, and the use of force remain widespread. Basic international activities such as trade, investment, travel, and even the exchange of diplomatic personnel have been treated (or mistreated) as political weapons. Not only do we still see war being used as the continuation of politics by other means; we are the horrified witnesses of the entire Khmer people becoming sacrificial pawns in the struggle for power.

These disorders with their potential for even larger-scale violence, disruption, and destruction, have many and varied causes. One of them--and we cannot pretend otherwise--is the Soviet Union. Indeed, Soviet policies and military capabilities are what make current international instabilities so fraught with danger. But the Soviet Union is only a part of the problem. The Kremlin, despite the growing military power at its disposal, has tended thus far to exploit existing troubles rather than create new ones. Unfortunately, however, there are enough of those troubles lying around like dry tinder, as we are now witnessing in Afghanistan. Ambitious states such as North Korea,

Vietnam, and Cuba continue to prey on their neighbors. Long-standing differences among nations persist in South Asia, the Middle East, and southern Europe. Extremist groups exercise a disruptive influence in the Middle East, Africa, and even Europe. Political, economic and social grievances exist on a worldwide basis and provide fertile soil for sabotage, subversion, terror, and civil war.

As a leading advocate of international stability, the United States has applied itself to the peaceful reduction of these causes of disorder. And we have not been without success in our endeavors. The SALT II treaty will eventually help to stabilize the central nuclear balance and open the way to future reductions in nuclear arms. The Panama Canal Treaties create the basis for a more trustful and mature relationship between the United States and Latin America. The Camp David accords, followed by the peace treaty between Israel and Egypt, have led to negotiations on the future of the West Bank and Gaza, and the first chance in 30 years for enduring peace and rapid development in the Middle East. A new multilateral agreement following the Tokyo Round of negotiations creates a framework for more liberal international trade. Agreement on the principles of a Common Fund provides greater economic prospects for the developing nations. The normalization of relations with the People's Republic of China, of which my recent visit is a symbol, hastens the engagement of that nation of nearly a billion people with the outside world.

Establishment of these stepping stones to stability is a tribute to the skill of our diplomats and the efficacy of our non-military capabilities. It is also a reflection of the basic power and military strength of the United States. Military strength will not by itself often be productive in dealing with the basic causes of disorder in this tumultuous world. But it can discourage overt outside intervention in a particular dispute, encourage the forces of moderation among the parties, and provide the context within which compromise and non-military incentives can be given the time to take effect. In some circumstances, it may be our only recourse. We seek peace, but in a world of disputes and violence, we cannot afford to go abroad unarmed.

## VI. DEFENSE ISSUES AND ASSUMPTIONS

Exactly how well armed we should be to support U.S. foreign policy and underwrite the conditions of U.S. security is not an easy issue to resolve. Our problem would be made more manageable if we could deduce a single military "requirement" from a particular international environment, or if we could simply copy the postures of our adversaries. However, the uncertainties of world politics (as well as of military planning and the future development of technology) make the deductive approach impractical. Since other countries have different needs, economies, locations, and internal dynamics, we probably would not want the aggregate of their postures, even if we could afford it.

Beyond "requirements," and adding to the complexity of choice, there are always a number of different postures from which to choose. They will generally differ in cost and in the probability that they will achieve our objectives. We can, nonetheless, make our problem more manageable by taking into account, and being explicit about, the factors and assumptions relevant to our choice of posture.

Clearly, the international situation and its seriousness is one of those factors. If we believe the future holds as likely the prospect of a peaceful and orderly world, the demands we need make on our resources for defense can be modest indeed. If, on the other hand, our expectation is one of increasing assertiveness on the part of the Soviet Union, combined with general international disorder, our demands will necessarily be greater. At present, some uncertainty remains about the intentions and motives of the Soviet Union. But the rise in Soviet military capabilities is very clear indeed. The number of unresolved international disputes increases, and old ones continue to fester. These factors suggest that the calls on our military capabilities are likely to grow with the coming years. What is more, those calls may well come with very little warning and with demands for a quick response against forces with up-to-date weapons. Our own posture will have to be commensurately ready and modern.

There is no serious disagreement about the need for the United States to maintain the full spectrum of military capabilities, non-nuclear as well as nuclear. The panoply of forces now deployed by the Soviets alone makes this range of capabilities essential. We must simultaneously be in the business of deterring strategic nuclear, theater nuclear, and non-nuclear war.

This kind of diversity means, inevitably, that our total defense needs will be larger than in the past. However, the main costs of defense are incurred by our non-nuclear capabilities, and the contributions of our allies in this realm must therefore be a factor in their determination. Not only are allies likely to be the immediate subjects of most of the crises that could arise in the future; we are also entitled to expect that they will continue to contribute substantially to their own defense. Indeed, the contribution of our major allies will have to grow, in the light of our own military responsibilities in areas and functions where their own are minor. Right now, for example, allies provide over 80 percent of NATO's deployed ground forces and 75 percent of its deployed tactical air. Accordingly, we should plan our posture for the most part, not on the basis that we will have to bear every burden by ourselves, but on the premise that we will be contributing to what must be, in the first instance, an effort by the attacked party to defend itself.

The defense objectives we set for ourselves obviously shape our posture and, at least in the abstract, there is no issue about them. We seek deterrence and stability in the sense of discouraging reckless action in a crisis and minimizing aggressive behavior over the longer term. But we still want to protect our interests to the extent possible even if deterrence should fail. How much war-fighting capabilities contribute to deterrence or are of use only in case of its failure is an issue largely in connection with our nuclear forces. We do not distinguish between deterrent and war-fighting postures when we plan our non-nuclear forces. In both cases, however, our goal is to deny an enemy his objectives rather than to face him solely with the prospect of Pyrrhic victories. Denial of those objectives and the severe penalties to an adversary that go with that denial remain, in our judgment, the most convincing deterrent of all.

The methods we use to assess our posture, and the results we obtain in applying those methods, will also shape our plans and programs. As I pointed out last year, what are called static measures of assessment, in which, for

example, Soviet and American missile or tank inventories are compared in isolation, are rarely illuminating about the expected outcome of a battle or instructive as to the defense posture we should adopt. These comparisons can be especially misleading when the two inventories are counted according to different rules, or when different types of capabilities--such as fighter-interceptor and fighter-attack aircraft--are indiscriminately lumped together for the purposes of the counting.

In order to make useful statements about our ability to reach our goals with the current posture, and about any adjustments needed in it, a different type of assessment is necessary. We have to consider a number of specific contingencies, engage in careful campaign analyses, and test the sensitivity of our performance to changes in the key assumptions we make. In most of these analyses, I should add, we do not pretend that we are either predicting actual conflicts and their outcomes or evaluating all the factors that determine these outcomes. Our work focuses primarily on materiel considerations and is intended to help tell us whether we are providing commanders with the weapons and other capabilities necessary to reach national objectives.

Our analyses do not and cannot finally decide our posture. The size, composition, and deployment of U.S. forces depend not only on which contingencies we use as the basis for our planning, but also on such factors as: how many contingencies we want to be able to deal with at any one time; how ready for them we should be; what contributions we expect from our allies; how long we should be prepared to fight; and what probability of success in reaching objectives we should seek to achieve.

If times were relatively stable, we could be relatively relaxed on all these counts. That is, rather than adopt a rigid standard such as the British ten-year rule (first established in 1919, which instructed the military services each year to plan on the assumption that no major war would occur for the next ten years */), we could base our planning on the less demanding contingencies, prepare for only a small number of them, and accept modest levels of modernization, readiness, and sustainability. When the threat is not very serious, the probability of success against it does not have to be very high.

But in my judgment our times are not relatively stable, and the future is even less likely to be so. With the steady increase in Soviet military capabilities and the spread of turbulence through so many regions of great interest to us, there are solid grounds for insisting on a much greater probability of success. Thus, in both the design and the assessment of our capabilities we must, as compared with the situation a few years ago:

-- use more demanding contingencies and be prepared for more of them;

-- set at a much higher level the probability that we can mobilize and respond speedily to an attack, sustain our response, and achieve our objectives.

In the assessments that follow, these more stringent standards are used to judge the adequacy of our posture.

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* This was not because the British government believed the rule, at least after 1936, but because domestic political considerations precluded a more realistic approach.

# CHAPTER 5

# THE NUCLEAR CAPABILITIES

It is now well understood, I believe, that the development of nuclear weapons and intercontinental delivery vehicles has transformed once and for all the security situation of the United States and its friends. From the day when these new technologies made their appearance on the world stage--with the possibility they offered of swift knockout blows against an enemy's military forces and war production base--our safety has come to depend heavily on the deterrent power and credibility of our strategic nuclear forces.

## I. U.S. STRATEGIC POLICIES

The most fundamental objective of our strategic policy is nuclear deterrence. Despite some initial illusions, most of us have recognized for many years that strategic nuclear capabilities alone could credibly deter only a narrow range of contingencies. While strategic nuclear weapons are not an all-purpose deterrent, they still provide the foundation on which our security is based. Only a strategic nuclear attack could threaten the extinction of the United States. For that reason, our strategic forces must be fully adequate at all times to deter--and deter persuasively--any such attack. But our nuclear forces must be able to deter nuclear attacks not only on our own country, but also on our forces overseas, as well as on our friends and allies. Nuclear forces also contribute to some degree, through justifiable concern about escalation, to deterrence of non-nuclear attacks.

### A. Deterrence: The Countervailing Strategy

For deterrence to operate successfully, our potential adversaries must be convinced that we possess sufficient military force so that if they were to start a course of action which could lead to war, they would be frustrated in their effort to achieve their objective or suffer so much damage that they would gain nothing by their action. Put differently, we must have forces and plans for the use of our strategic nuclear forces such that in considering aggression against our interests, our adversary would recognize that no plausible outcome would represent a success--on any rational definition of success. The prospect of such a failure would then deter an adversary's attack on the United States or our vital interests. The preparation of forces and plans to create such a prospect has come to be referred to as a "countervailing strategy."

To achieve this objective we need, first of all, a survivable and enduring retaliatory capability to devastate the industry and cities of the Soviet Union. We must have such a capability even if the Soviets were to attack first, without warning, in a manner optimized to reduce that capability as much as possible. What has come to be known as assured destruction is the bedrock of nuclear deterrence, and we will retain such a capacity in the future. It is not, however, sufficient in itself as a strategic doctrine. Under many circumstances large-scale countervalue attacks may not be appropriate--nor will their prospect always be sufficiently credible--to deter the full range of actions we seek to prevent.

Recognizing this limitation on assured destruction as an all-purpose standard for deterrence, for many years the Defense Department has assessed the range of nuclear attacks an enemy might launch against the United States and its allies. We have examined the types of targets we should cover in retaliation, and shaped our strategic posture to maintain high confidence in our deterrent against the spectrum of possible attacks. We have recently completed a basic re-examination of our strategic policy. It reaffirms our basic principles, but also points out new ways to implement them.

We have concluded that if deterrence is to be fully effective, the United States must be able to respond at a level appropriate to the type and scale of a Soviet attack. Our goal is to make a Soviet victory as improbable (seen through Soviet eyes) as we can make it, over the broadest plausible range of scenarios. We must therefore have plans for attacks which pose a more credible threat than an all-out attack on Soviet industry and cities. These plans should include options to attack the targets that comprise the Soviet military force structure and political power structure, and to hold back a significant reserve. In other words, we must be able to deter Soviet attacks of less than all-out scale by making it clear to the Kremlin that, after such an attack, we would not be forced to the stark choice of either making no effective military response or totally destroying the Soviet Union. We could instead attack, in a selective and measured way, a range of military, industrial, and political control targets, while retaining an assured destruction capacity in reserve.

Such a capability, and this degree of flexibility, we have believed for some years, would enable us to:

-- prevent an enemy from achieving any meaningful advantage;

-- inflict higher costs on him than the value he might expect to gain from partial or full-scale attacks on the United States and its allies; and

-- leave open the possibility of ending an exchange before the worst escalation and damage had occurred, even if avoiding escalation to mutual destruction is not likely.

This is what I referred to last year as a countervailing strategy. In certain respects, the name is newer than the strategy. The need for flexibility and calibrating U.S. retaliation to the provocation is not, of course, a new discovery, whatever interpretation may have been placed on general statements of prior doctrines. It has never been U.S. policy to limit ourselves to massive counter-city options in retaliation, nor have our plans been so circumscribed. For nearly 20 years, we have explicitly included a range of employment options--against military as well as non-military targets--in our strategic nuclear employment planning. Indeed, U.S. nuclear forces have always been designed against military targets as well as those comprising war supporting industry and recovery resources. In particular, we have always considered it important, in the event of war, to be able to attack the forces that could do damage to the United States and its allies.

There is no contradiction between this attention to the militarily effective targeting of the large and flexible forces we increasingly possess--to how we could fight a war, if need be--and our primary and overriding policy of deterrence. Deterrence, by definition, depends on shaping an adversary's prediction of the likely outcome of a war. Our surest deterrent is our capability to deny gain from aggression (by any measure of gain), and we will improve it. That ability is manifest in our forces and expressed in our statements. It must be recognized by any potential adversary who exhibits a self-interested regard for measuring the certain consequences of his actions before acting.

In adopting and implementing this policy we have no more illusions than our predecessors that a nuclear war could be closely and surgically controlled. There are, of course, great uncertainties about what would happen if nuclear weapons were ever again used. These uncertainties, combined with the catastrophic results sure to follow from a maximum escalation of the exchange, are an essential element of deterrence.

My own view remains that a full-scale thermonuclear exchange would constitute an unprecedented disaster for the Soviet Union and for the United States. And I am not at all persuaded that what started as a demonstration, or even a tightly controlled use of the strategic forces for larger purposes, could be kept from escalating to a full-scale thermonuclear exchange. But all of us have to recognize, equally, that there are large uncertainties on this score, and that it should be in everyone's interest to minimize the probability of the most destructive escalation and halt the exchange before it reached catastrophic proportions. Furthermore, we cannot count on others seeing the prospects of a nuclear exchange in the same light we do.

Therefore, U.S nuclear forces, in a state of rough quantitative parity with the Soviet Union must, just as before parity, do more than dramatize the risk of uncontrolled escalation. Our forces must be in a position to deny any meaningful objective to the Soviets and impose awesome costs in the process.

As I pointed out last year, no potential enemy should labor under the illusion that he could expect to disable portions of our nuclear forces without in turn losing assets essential to his own military and political security, even if the exchange were to stop short of an all-out destruction of cities and industry. In our planning, we take full account of the fact that the things highly valued by the Soviet leadership appear to include not only the lives and prosperity of the peoples of the Soviet Union, but the military, industrial and political sources of power of the regime itself. Nor should any possible foe believe that our hands would be tied in the event that he threatened or attacked our allies with nuclear weapons. He too would place critical targets at risk, both in his own homeland and in the territory of his allies--targets, I might add, the destruction of which would undermine his political and military ability to gain control over such vital regions as Western Europe and Japan. The notion that, somehow, our only available response to enemy attacks on allied targets would be to strike at enemy cities is incorrect. We have had, and will continue to improve, the options necessary to protect our interests

and, when challenged, to deny an enemy any plausible goal, no matter how he might attempt to reach it. That is the essence of our countervailing strategy to assure deterrence.

B. Other Objectives

Important as deterrence is, it is only one of our strategic objectives. We must also strive to maintain stability in the nuclear balance, both over the long term and in crisis situations. Because nuclear weapons also have political significance, we must maintain actual and perceived essential equivalence with Soviet strategic nuclear forces. We also want the structure of our nuclear forces to be such as to facilitate the negotiation of equitable and verifiable arms control agreements. Finally in the event deterrence fails, our forces must be capable (as described at length above) of preventing Soviet victory and securing the most favorable possible outcome for U.S. interests.

1. Essential Equivalence

In addition to their purely military capabilities, strategic nuclear forces, like other military forces, have a broader role in the world.

On the U.S. side at least, it has been recognized for more than 20 years by close students of the situation that our alleged nuclear superiority could not be converted into a war-winning strategy at an acceptable cost or at an acceptable level of confidence, given feasible Soviet actions. In other words, while we must respond to the perceived differences that follow from a world of strategic parity--and must certainly avoid parity turning into inferiority--it is simply a myth that from the standpoint of responsible policymakers, the United States has suffered a major loss of leverage because of the Soviet nuclear buildup. It is equally untrue that the supposed loss of U.S. nuclear superiority makes us any less willing to act than in those days when the Soviets threatened our allies in Europe over Suez, made life exceedingly difficult over Berlin, or deployed missiles to Cuba. If a golden age of American nuclear superiority ever existed, sober decision-makers starting with President Eisenhower never thought so at the time.

That said, it is conceivable, nonetheless, that some parts of the Soviet leadership see these matters in quite a different light. Certainly without SALT, and to some degree with it, there will be dynamism in the Soviet strategic programs. The Soviets are expanding the hard-target kill capability of their ICBM force; they are MIRVing their SLBM force and increasing its range; they are continuing to upgrade their air defenses and pushing ABM research and development; their civil defense program continues to grow.

In any event, many countries make comparative judgments about our strength and that of the Soviets. The behavior of all those nations will be influenced by their judgments about the state of the nuclear balance. It is in this regard that essential equivalence is particularly relevant.

The need for essential equivalence reflects the fact that nuclear forces have a political impact influenced by static measures (such as numbers of warheads, throw-weight, equivalent megatonnage) as well as by dynamic evaluations of relative military capability. It requires that our overall forces be at least on a par with those of the Soviet Union, and also that they be recognized to be essentially equivalent. We need forces of such a size and character that every nation perceives that the United States cannot be coerced or intimidated by Soviet forces. Otherwise the Soviets could gain in the world, and we lose, not from war, but from changes in perceptions about the balance of nuclear power. In particular we must insure that Soviet leads or advantages in particular areas are offset by U.S. leads or advantages in others. And although the United States need not match Soviet capabilities in all respects, we must also insure that the Soviet Union does not have a monopoly of any major military capability.

As long as our relationship with the Soviet Union is more competitive than cooperative--and this is clearly the case for the relevant future--maintaining essential equivalence of strategic nuclear forces is necessary to prevent the Soviets from gaining political advantage from a real or perceived strategic imbalance.

2. Stability

Long-term stability in the strategic balance--another objective of U.S. strategic policy--is maintained by ensuring that the balance is not capable of being overturned by a sudden Soviet technological breakthrough, either by innovation or by the clandestine development of a "breakout" potential. To accomplish this goal we must continue a vigorous program of military research and development, as well as a number of hedge programs. We must also maintain an intelligence effort which will enable us to detect Soviet technological breakthroughs or preparations for a breakout. These efforts insure that the United States is not placed at a disadvantage should the Soviets ever attempt to upset the balance.

Crisis stability means insuring that even in a prolonged and intense confrontation the Soviet Union would have no incentive to initiate an exchange, and also that we would feel ourselves under no pressure to do so. We achieve crisis stability by minimizing vulnerabilities in our own forces, by improving our ability to detect a Soviet attack (or preparations for an attack), and by enhancing our ability to respond appropriately to such a situation.

3. Arms Control

The United States also seeks to secure its strategic objectives through equitable and verifiable arms control agreements whenever such accords are possible. Accordingly, we will pursue negotiation and be willing to reduce or limit U.S. capabilities where Soviet programs are appropriately limited. In addition, in order to enhance the possibility of concluding meaningful limits in the future, we will maintain a capability to meet our strategic objectives in the event of failure to reach agreement. In designing our posture, we will continue to avoid giving it characteristics that might be interpreted as an intention to seek a full first-strike disarming capability.

### 4. The TRIAD

Just as we have long had targeting options, so we have insisted for many years on maintaining a TRIAD of strategic retaliatory forces, as have the Soviets, although they differ sharply from us on the strengths they give to the legs. The U.S. TRIAD has several purposes. Perhaps the most important one is to give us high confidence that a sufficient portion of our countervailing force could ride out an enemy attack and retaliate with deliberation and control against the designated portions of the target system. Our assumption, well supported in the face of impending developments, has been that while an enemy might be able to develop the capability to knock out or otherwise neutralize one leg of the TRIAD at any given time, he would find the task of simultaneously neutralizing all three legs well beyond his ingenuity and means. We, for our part, would have the time--without a renewed fear of bomber or missile gaps--to redress any shortcomings in the exposed leg. That assumption, and maintenance of the TRIAD, are still valid today.

### C. Summary

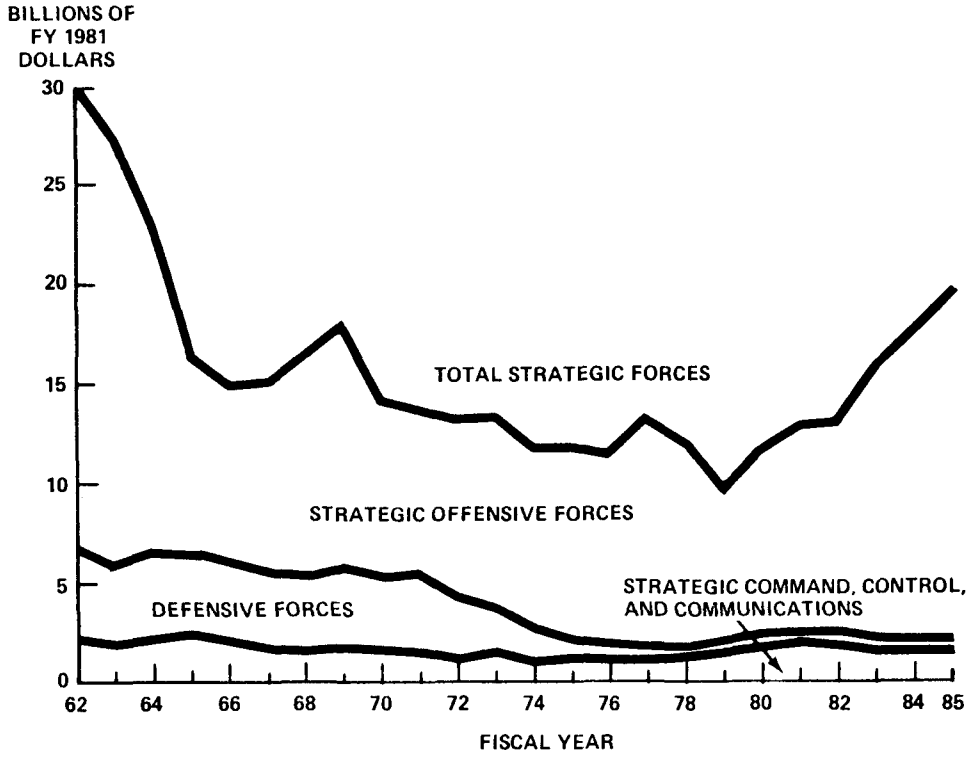
These goals set a high standard, though I believe it is one we already meet and will continue to meet. But as with other aspects of our military forces, we face critical challenges in this area. As Soviet forces have become more powerful, options appear that could seem to them to offer some hope of advantage unless we respond adequately in our forces and our plans--and are seen to do so. Moreover, the task of providing enhanced flexibility and effectiveness in response is no simple one, even from a straightforward technical point of view. And, special problems arise as we seek to ensure that we could if necessary sustain not only a brief, intense war but also a relatively prolonged exchange. All these tasks will engage our increased attention in the coming years.

## II. CURRENT U.S. STRATEGIC CAPABILITIES

The past and projected trend in Total Obligational Authority (TOA) allocated to the U.S. strategic nuclear forces (in the program budget) is shown in Chart 5-1.

Chart 5-1

## STRATEGIC FORCES BUDGET TREND




At the end of FY 1981, as in recent years, the U.S. ICBM force will continue to consist of:

-- 54 TITAN IIs;

-- 450 single-warhead MINUTEMAN IIs; and

-- 550 MINUTEMAN IIIs.

Of this total, a significant number of MINUTEMAN IIIs will be refitted with the MK12A warhead, which will give each MINUTEMAN III reentry vehicle a higher kill probability against very hard targets such as silos. Eventually, a total of 300 MINUTEMAN IIIs will receive the MK12A warhead.

All 10 POLARIS submarines will be retired by the end of FY 1981. The 544 U.S. submarine-launched ballistic missiles (SLBMs) will be deployed on 33 submarines. The missile inventory will consist of:

-- 320 POSEIDON C-3s on 20 POSEIDON submarines;

-- 176 TRIDENT I C-4s on 11 POSEIDON submarines; and

-- 48 TRIDENT I C-4s on two TRIDENT submarines.

The air-breathing leg of the strategic nuclear TRIAD will have unit equipment of:

-- 316 PAA (which stands for primary aircraft authorized and substitutes for the term unit equipment) B-52 long-range bombers organized in 21 squadrons;

-- 60 PAA FB-111 medium-range bombers organized in four squadrons; and

-- 615 PAA KC-135 tanker aircraft in 33 active and 16 reserve component squadrons.

About 30 percent of the bomber/tanker force will be kept at a high level of ground alert. We will maintain the option to increase the number on alert from their peacetime level should international conditions warrant it.

Inventory force loadings, those independently targetable weapons in our ICBMs, SLBMs, and long-range bombers, will amount to approximately 9,200 warheads and bombs by the end of FY 1981.

Our continental air defenses will be based on:

-- 108 active-duty manned interceptors in six squadrons;

-- 165 Air National Guard manned interceptors in 10 squadrons; and

-- Seven Airborne Warning and Control System (AWACS) aircraft.

These aircraft, together with one squadron of 18 manned interceptors in Alaska and two Canadian squadrons of 36 manned interceptors, provide the 327 combat-capable aircraft dedicated to North American air defense. Depending on the nature of an emergency, CONUS-based fighters and additional CONUS-based AWACS aircraft could augment the dedicated air defenses. All dedicated surface-to-air missiles (SAMs) have been phased out of the basic CONUS defense system. While we will continue to base some Army SAM units at CONUS training installations, their primary mission is to support the Field Army.

In 1976, our one anti-ballistic missile (ABM) installation, located in North Dakota and deployed to defend a MINUTEMAN wing, was deactivated and dismantled. However, we continue to keep its Perimeter Acquisition Radar Attack Characterization System (PARCS) operational as a missile warning and attack characterization sensor.

The first and most important signals in our system to provide surveillance and early warning of missile attacks will continue to come from early warning satellites. The Ballistic Missile Early Warning System (BMEWS) and the PAVE PAWS SLBM Radar Warning System will provide both radar confirmation of satellite reports and additional attack characterization data. Warning of attacks by air-breathing systems will come from the Distant Early Warning (DEW) Line along the 70th parallel, the PINETREE Line in mid-Canada, and CONUS-based radars. Over-the-Horizon (OTH) radar will remain in prototype development status.

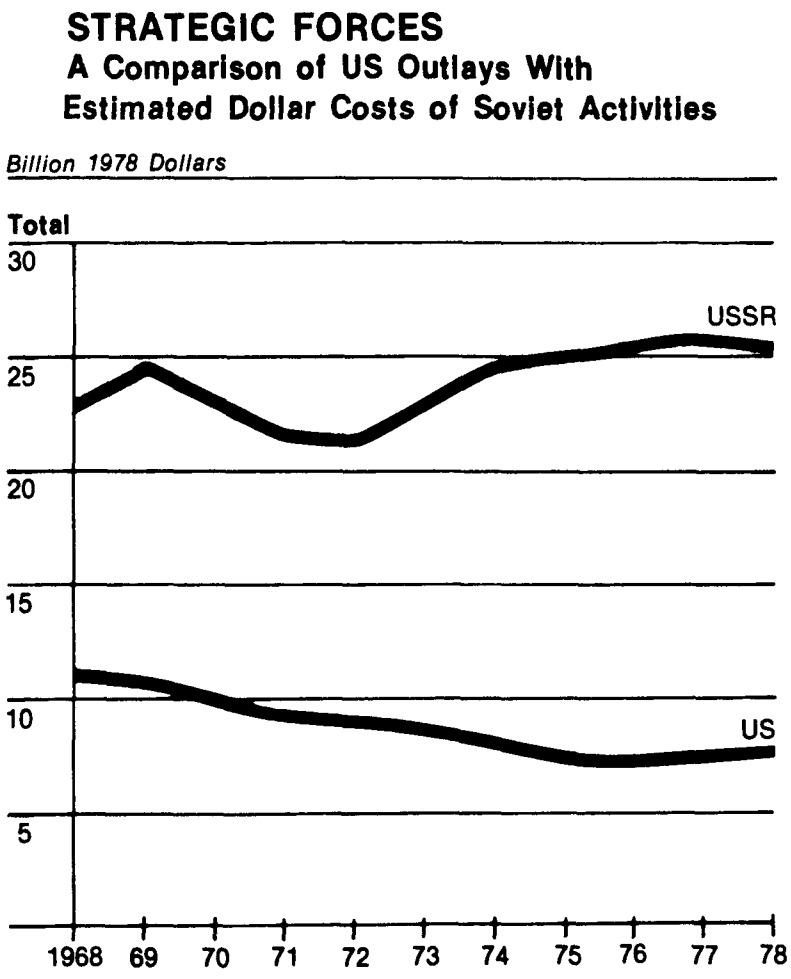
Our civil defense program, which we consider as part of our strategic capability, continues to be of modest proportions. Responsibility for the program has now been transferred to the Federal Emergency Management Agency (FEMA). However, I continue to have a responsibility for overseeing the program so as to ensure that civil defense complements our other strategic policies. The current program does not reflect any change in the U.S. policy of continuing to rely primarily on our strategic nuclear retaliatory forces for deterrence. Its primary focus remains the planning of how to relocate our people (particularly those in the high-risk areas around our strategic forces) to low-risk areas during a crisis of days or weeks so as to reduce their vulnerability to major nuclear attack. The program also focuses on improved emergency communications and the survey of shelter spaces that would provide fallout protection for people near their places of work or residence. About $120 million will be programmed for these activities in FY 1981, but not in the defense budget.

## III. SOVIET STRATEGIC CAPABILITIES

The Soviets, regrettably, do not make it entirely clear to what extent they share the limitations we have set on the goals of our strategic programs. On the one hand, they accept the Anti-Ballistic Missile Treaty and negotiated SALT II--with all the restrictions imposed by these agreements--which assist our maintenance of a balanced, second-strike offensive capability that has a high probability of reaching its targets. On the other hand, the improvements they have made in their ICBMs, their continued emphasis on anti-bomber, anti-missile, and strategic anti-submarine defenses, together with their ongoing civil defense program, can be seen as a concerted effort to take away the effectiveness of our second-strike forces.

The estimated constant-dollar cost to the United States of reproducing Soviet strategic activities, along with comparable U.S. outlays, are shown in Chart 5-2. The Soviets are believed to have been devoting over 3.3 times the resources to strategic forces in 1978 that the United States did. However, when the costs of peripheral attack forces (some of which could reach the U.S. on some missions) and strategic defense forces are removed from the comparison, the Soviets outspent us on intercontinental attack forces by about a factor of 1.5.

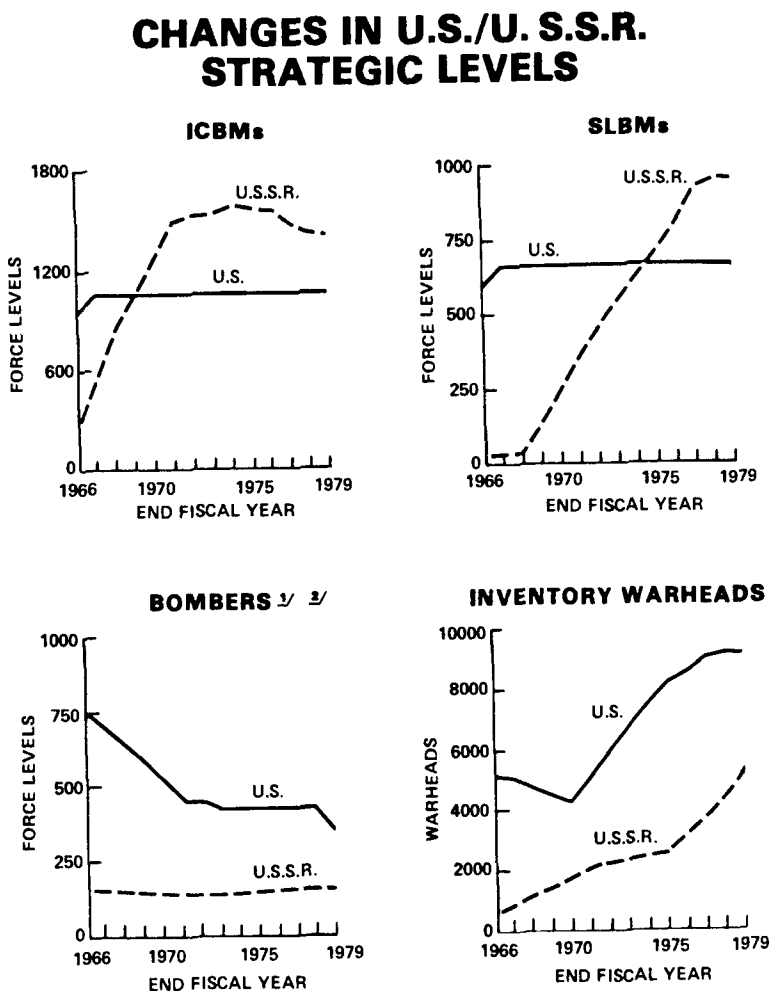
Chart 5-2




A. Offense

The trend in Soviet and U.S. strategic offensive forces since 1966 is shown in Chart 5-3. As of January 1, 1980, the Soviets had deployed 2,504 strategic nuclear delivery vehicles, or about a hundred more than the total that would be permitted under the initial SALT II ceiling of 2,400, and some 10 percent more than they would be allowed under the final SALT II ceiling of 2,250. The ballistic missile component of this capability consists of 1,398 ICBM launchers (of which more than 650 are MIRVed) and 950 SLBM launchers (of which more than 100 are MIRVed) in 62 modern ballistic missile submarines.

Chart 5-3




1/ FB-111 and BACKFIRE are excluded
2/ Excludes approximately 220 B-52s in deep storage

Under the provisions of SALT I, the Soviets have deactivated 209 of their older SS-7 and SS-8 ICBM launchers, and have removed the missile launchers from a number of YANKEE-class SSBNs; these may eventually be converted to nuclear attack submarines (SSNs).

The Soviet long-range bomber force now consists of 156 BISON and BEAR aircraft. In addition, the Soviet Long-Range Aviation (LRA) contains about 30 BISON tankers and some BEAR reconnaissance aircraft. The LRA also includes about 50 BACKFIRE strike aircraft,more than 400 BADGER, and over 100 BLINDER aircraft of all types. Another 50 BACKFIREs are in Soviet Naval Aviation.

The BACKFIRE bomber has been in production for ten years. In its various versions, a total of over 100 aircraft have been deployed. Its rate of production would be limited to 30 aircraft a year under the commitments made by the Soviets at the Vienna Summit in June, 1979. We continue to believe that the BACKFIRE's primary functions are to perform peripheral attack and naval missions. However, it undoubtedly has some intercontinental capability in the sense that it can (for example) surely reach the United States from Soviet home bases on a one-way, high-altitude, subsonic, unrefueled flight with recovery in the Caribbean area. With Arctic staging, refueling, and certain high altitude cruise flight profiles, it can probably execute a two-way mission to much of the United States.

We estimate that total Soviet force loadings (independently targetable weapons that can be carried by the deployed strategic missiles and bombers) have risen from around 450 in 1965 to more than 6,000 at the present time. The total has increased by about 1,000 since last year, which reflects the continued deployment of MIRVed ICBMs and SLBMs.

B. Active Defenses

Numerically, Soviet active defenses have not changed appreciably during the past year. The Moscow ABM defense system still consists of only 64 GALOSH missile launchers, although the ABM Treaty of 1972 permits expansion of the system to 100 launchers.

Anti-bomber defenses depend on about 2,600 manned interceptors and about 10,000 SAM launchers. The SAM launchers actually can accommodate around 12,000 missiles since some of the launchers have multiple rails. There currently are eight classes of manned interceptors deployed, which suggests that the Soviets may have a standardization problem of their own. A limited airborne early warning and control capability is based on a number of modified TU-126 MOSS aircraft. These probably have some lookdown capability, but it does not appear to extend to low-altitude targets. It is clear that the Soviets are about to begin deploying a significant look-down shoot-down capability in some versions of the MIG-25. As I noted last year, the Soviets also have an operational but limited anti-satellite (ASAT) capability.

The U.S. and Soviet strategic postures as of January 1, 1979, and January 1, 1980, are shown in Table 5-1.

Table 5-1

## U.S. AND SOVIET STRATEGIC FORCE LEVELS

| | 1 JANUARY 1979 | | 1 JANUARY 1980 | |
|---|---|---|---|---|
| | U.S. | USSR | U.S. | USSR |
| OFFENSIVE | | | | |
| OPERATIONAL ICBM LAUNCHERS 1/ 2/ | 1,054 | 1,398 | 1,054 | 1,398 |
| OPERATIONAL SLBM LAUNCHERS 1/ 3/ | 656 | 950 | 656 | 950 |
| LONG-RANGE BOMBERS (TAI) 4/ | | | | |
| OPERATIONAL 5/ | 348 | } 156 | 348 | } 156 |
| OTHERS 6/ | 221 | | 225 | |
| FORCE LOADINGS 7/ WEAPONS | 9,200 | 5,000 | 9,200 | 6,000 |
| DEFENSIVE 8/ | | | | |
| AIR DEFENSE SURVEILLANCE | | | | |
| RADARS | 99 | 7,000 | 88 | 7,000 |
| INTERCEPTORS (TAI) | 327 | 2,500 | 327 | 2,500 |
| SAM LAUNCHERS | 0 | 10,000 9/ | 0 | 10,000 9/ |
| ABM DEFENSE LAUNCHERS | 0 | 64 | 0 | 64 |

1/ INCLUDES ON-LINE MISSILE LAUNCHERS AS WELL AS THOSE IN CONSTRUCTION, IN OVERHAUL, REPAIR, CONVERSION, AND MODERNIZATION.
2/ DOES NOT INCLUDE TEST AND TRAINING LAUNCHERS OR 18 LAUNCHERS OF FRACTIONAL ORBITAL MISSILES AT TYURA TAM TEST RANGE.
3/ INCLUDES LAUNCHERS ON ALL NUCLEAR-POWERED SUBMARINES AND, FOR THE SOVIETS, OPERATIONAL LAUNCHERS FOR MODERN SLBMs ON G-CLASS DIESEL SUBMARINES.
4/ 1980 FIGURES EXCLUDE, FOR THE U.S.: 66 FB-111s; FOR THE USSR: MORE THAN 100 BACKFIREs AND LESS THAN 120 BISON TANKERS, BEAR ASW AIRCRAFT, AND BEAR RECONNAISSANCE AIRCRAFT.
5/ INCLUDES DEPLOYED, STRIKE-CONFIGURED AIRCRAFT ONLY.
6/ INCLUDES, FOR U.S., B-52s USED FOR MISCELLANEOUS PURPOSES AND THOSE IN RESERVE, MOTHBALLS OR STORAGE, AND 4 B-1 PROTOTYPES; FOR THE USSR: BEARS AND BISONS USED FOR TEST, TRAINING, AND R&D.
7/ TOTAL FORCE LOADINGS REFLECT THOSE INDEPENDENTLY-TARGETABLE WEAPONS ASSOCIATED WITH THE TOTAL OPERATIONAL ICBMs, SLBMs AND LONG-RANGE BOMBERS.
8/ EXCLUDES RADARS AND LAUNCHERS AT TEST SITES OR OUTSIDE NORTH AMERICA.
9/ THESE LAUNCHERS ACCOMMODATE ABOUT 12,000 SAM INTERCEPTORS. SOME OF THE LAUNCHERS HAVE MULTIPLE RAILS.

### C. Passive Defenses

Civil defense in the Soviet Union is an ongoing nationwide program under military control. It is not a crash effort, but its pace increased beginning in the late 1960s. It is directed by a highly structured organization led by a General who is also a Deputy Minister of Defense. The operating personnel in the program--those who would supervise civil defense actions in a crisis--are organized into military civil defense units, communications elements, and civilian formations. We estimate the number of full-time civil defense personnel to be about 100,000. Counting all civilian units and formations supposedly available, the total number of people in the program would be upwards of 16 million. The combined costs of three major elements of the

program--salaries for full-time civil defense personnel, operation of military units for civil defense, and construction of blast shelters--probably represented something less than one percent of Soviet defense spending in 1978. The United States, by contrast, has been spending only about a tenth of one percent of its smaller defense budget on civil defense.

Hardened command posts have been constructed near Moscow and other cities. For the some 100,000 people we define as the Soviet leadership, there are hardened underground shelters near places of work, and at relocation sites outside the cities. The relatively few leadership shelters we have identified would be vulnerable to direct attack.

The Soviets could probably shelter about 6-to-12 percent of the total work force at key industrial installations. Exactly how many would depend on shelter occupancy factors, which would have to be as low as one square meter or 0.5 square meters per person in order to accommodate either of these numbers. Nationwide, the Soviets have probably constructed at least 20,000 blast-resistant shelters, more than half of which are intended for key industrial workers. With an occupancy factor of 0.5 square meters, they can protect approximately 13 million people, or roughly 10 percent of the total residents in cities of 25,000 people or more. Some additional protection would be available to the Soviet population in the form of subway tunnels and stations. However, the vast majority of the urban population would have to be evacuated from cities in order to receive some degree of protection. On the average, two or three days would be required to evacuate the major portion of these people, but it could take as much as a week to clear larger cities such as Moscow and Leningrad of all but essential personnel. The required times could be lengthened by shortages of transportation, other bottlenecks, or adverse weather. Evacuees would be quartered in rural areas and required to construct expedient shelters. There is no evidence that evacuation exercises have been conducted involving the movement of large numbers of people. However, we do have evidence of small-scale evacuations and numerous exercises with civil defense staffs.

The Soviet program for the geographic dispersal of industry, as indicated in Table 5-2, is not being implemented to any significant degree. New plants have often been built next to major existing plants. Existing plants and complexes have been expanded. No effort has been made to increase the distance between buildings or to locate additions in such a way as to minimize fire and other hazards in the event of a nuclear attack. Previously open spaces at fuel storage sites have been filled with new storage tanks and processing units. In sum, the value of overall productive capacity has been increased proportionately more in existing sites than in new areas.

Table 5-2

Estimated Cumulative Percentage Distribution of Soviet Population and Industrial Production

| Number of Cities | Population 1966 | Population 1975 | Industrial Production 1966 | Industrial Production 1975 |
|---|---|---|---|---|
| 10 | 8.0 | 8.7 | 18.4 | 17.1 |
| 50 | 17.2 | 19.6 | 40.0 | 38.4 |
| 100 | 22.5 | 26.0 | 52.4 | 51.9 |
| 200 | 28.1 | 32.9 | 64.5 | 65.3 |
| 300 | 31.4 | 36.6 | 70.9 | 72.5 |

Little evidence exists to suggest a comprehensive program for hardening Soviet economic installations. Published civil defense guidelines acknowledge the high cost of such measures, and the Soviets appear to have given greater emphasis to the rapid shutdown of equipment and other measures that could facilitate longer term recovery after an attack.

The Soviets will probably continue to emphasize the construction of urban blast sheltering. If the current pace of construction is continued, the number of people that can be sheltered will be roughly doubled in 1988. The actual percentage of the population that can be sheltered in cities of 25,000 people or more will increase, but the absolute number of people that would have to be evacuated will also increase because of growth in the urban population. During the same time, the continuing concentration of economic investment in previously existing plant sites, together with an absence of construction-hardening techniques, suggests that a future attack on urban-industrial targets would be about as destructive as now. Soviet leaders may continue to believe that civil defense contributes to war-survival and warfighting capabilities, but their uncertainties about its actual effectiveness will continue.

## D. Force Improvements

The Soviets are continuing to modernize their strategic forces and related capabilities at a steady pace. While their offensive systems are understandably the center of attention, it must be stressed that they are allocating substantial resources to the improvement of their active and passive defenses as well.

### 1. Offense

The deployment of the SS-17, SS-18, and SS-19 ICBMs has continued at a rate of approximately 125 total launchers a year. There are now more than 200 SS-18s in converted SS-9 silos. The vast majority of these are of the eight and 10-MIRV variety. About 150 SS-17s and more than 200 SS-19s are now deployed in converted SS-11 silos. All of the converted silos may be capable of withstanding very high static overpressures.

The Soviets are believed to have a substantial number of excess missiles. Most of these missiles are older ICBMs that have been replaced by newer models and cannot be launched operationally because they are not compatible with existing launchers. There is no evidence that production of missiles for which there are existing launchers (SS-17, SS-18, and SS-19) is significantly greater than the number of those launchers. Although the SS-17 and SS-18 are designed for cold launch and could therefore in principle take reloads in a relatively short time, there is no evidence that the Soviets have any plan or capability to use excess missiles as reserves, or refires. We are quite confident they have not tested or trained in those ways. Characteristics of the newer Soviet ICBMs are shown in Table 5-3.

Table 5-3

| MISSILE | SS-16 | SS-17 | | SS-18 | | | SS-19 | |
|---|---|---|---|---|---|---|---|---|
| MISSILES DEPLOYED | * | ABOUT 150 | | MORE THAN 200 | | | MORE THAN 200 | |
| | | MOD | | MOD | | | MOD | |
| | | 1 | 2 | 1 | 2 | 3 | 1 | 2 |
| WARHEADS | 1 | 4 | 1 | 1 | 8/10 | 1 | 6 | 1 |
| MAX. RANGE (KM)** | 9,200 | 10,000 | 11,000 | 12,000 | 11,000 | 16,000 | 9,600 | 10,100 |
| LAUNCH MODE | HOT | COLD | COLD | COLD | COLD | COLD | HOT | HOT |
| FUEL | SOLID | LIQUID | LIQUID | LIQUID | LIQUID | LIQUID | LIQUID | LIQUID |

* NONE DEPLOYED
** EXCLUSIVE OF RANGE IMPARTED BY POST-BOOST VEHICLE

The SS-16 is a solid-fuel, three-stage ICBM with a post-boost vehicle (PBV), but armed with only a single warhead. It has been flight-tested only once since 1975, and then unsuccessfully. It was designed for deployment in a mobile mode. Its production, deployment, and testing are expressly banned by SALT II, and it has not been deployed. The main current significance of the SS-16 is that the SS-20--a mobile intermediate-range ballistic missile (IRBM)--is a derivative of it.

The Soviets still have their follow-on series of ICBMs and SLBMs in development. There are at least four ICBMs in this series, some of them probably modifications of ICBMs already deployed.

In the past, the Soviets kept a rather small percentage of their ICBMs on what we would consider a quick-reaction alert. Today, with the deployment of more modern vehicles, we estimate that most if not all are on a high alert. Soviet long-range and medium bombers do not maintain a peacetime quick-reaction alert.

Modernization of the Soviet SLBM force continues. Construction of the YANKEE-class submarine stopped five years ago at 34 boats (544 tubes) armed with the 3,000-kilometer liquid-fuel SS-N-6 missile. Several of the boats have had their missile tubes removed and eventually may be converted to SSNs. One other YANKEE has been backfitted with the 3,000 to 4,000-kilometer SS-NX-17, a solid-fueled missile with a post-boost vehicle and greater accuracy than the SS-N-6.

The Soviets now have a total of 32 operational DELTA-class submarines. The 12-tube DELTA Is carry the SS-N-8, a single-warhead, liquid-fuel missile with a range of about 8,000 kilometers. The DELTA IIs with 16 tubes are also armed with the SS-N-8. The DELTA IIIs in service (each with 16 tubes) carry the SS-N-18, a liquid-fuel missile with a range of 6,500-to-7,700 kilometers and a post-boost vehicle capable of dispensing three MIRVs in one version and seven in another. In addition, a new large SSBN continues under construction. It may be a larger version of the DELTA, or what the Soviets refer to as TYPHOON.

Both the SS-N-8 and the SS-N-18 permit the Soviets to cover targets in the continental United States from patrol areas in the Barents Sea and Sea of Okhotsk. This, coupled with the advent of MIRVs in the Soviet force structure, increases the number of SLBM warheads they are able to keep on station.

For some time, we have been expecting but have not yet detected the roll-out of one or more types of new, long-range Soviet bombers. We assume that if any one of these aircraft appears, and goes into series production, it will replace the old BISONs and BEARs as the mainstay of the Soviet intercontinental bomber force. About two-thirds of the BEAR aircraft are configured to carry one AS-3 air-to-surface missile (ASM). The BACKFIRE can carry two AS-4 ASMs. The Soviets may be working on a long-range cruise missile of their own design.

2. Defense

The Soviets continue to engage in an active and costly ABM research and development effort, as both sides are permitted to do under the ABM Treaty of 1972. Their main concentration appears to be on improving the performance of their large phased-array detection and tracking radars, and on developing a rapidly deployable ABM system which includes a new interceptor. Although the Soviets may be investigating the application of high-energy lasers and even charged particle beams to ABM defenses, severe technical obstacles remain in the way of converting this technology into a weapon system that would have any practical capability against ballistic missiles. We still have no evidence, moreover, that the Soviets have devised a way, even conceptually, to eliminate these obstacles.

The SA-X-10 surface-to-air missile (SAM) is expected to be deployed soon and will be able to engage aircraft-sized targets at any altitude. It will almost certainly have some capability against a cruise missile within a small engagement envelope. At the same time, a new Soviet AWACS is under development.

The Soviets have not yet managed a solution to the problem of intercepting bombers and cruise missiles penetrating their defenses. However, a number of systems near initial operating capability (IOC), if deployed, will improve their capability. A modified FOXBAT is under development with a look-down capability.

The Soviets continue their efforts to develop an anti-submarine warfare capability both against alliance SSBNs and in protection of their own SSBNs. However, the performance of their ASW forces is improving only gradually, and remains substantially below that of comparable U.S. forces. The VICTOR-class nuclear-powered attack submarine (SSN) remains the most capable Soviet ASW platform. At present, neither it nor other currently deployed Soviet ASW platforms constitute a significant threat to our SSBNs.

E. Soviet Doctrine

I have already outlined the objectives of U.S. strategic nuclear forces--deterrence, stability, and essential equivalence--and in particular the countervailing strategy which guides our efforts to maintain deterrence. Articulation of the principles of our countervailing strategy focuses us on an obvious but too often ignored point: to deter effectively we must affect the perceptions of Soviet leaders whose values, objectives, and incentives differ sharply from our own. Our understanding of Soviet concepts of the role and possible results of nuclear war is uncertain. This is partly because our evidence is ambiguous and our analysis clouded by that ambiguity, and partly no doubt because even in the totalitarian Soviet state different leaders address these inherently uncertain issues from different perspectives.

Soviet leaders acknowledge that nuclear war would be destructive beyond even the Russian historical experience of the horrors of war. But at the same time some things Soviet spokesmen say--and, of even more concern to us, some things they do in their military preparation--suggest they take more

seriously than we have done, at least in our public discourse, the possibility that a nuclear war might actually be fought. In their discussion of that prospect, there are suggestions also that if a nuclear war occurred, the time-honored military objectives of national survival and dominant military position at the end of the fighting would govern and so must shape military preparations beforehand.

Beyond the murky teachings of these doctrinal presentations, the Soviet leaders make evident through their programs their concerns about the failure of deterrence as well as its maintenance, and their rejection of such concepts as minimum deterrence and assured destruction as all-purpose strategic theories. Those concerns are understandable; some of us share them ourselves. What must trouble us, however, is the heavy emphasis in Soviet military doctrine on the acquisition of war-winning capabilities, and the coincidence (in one sense or another of that word) between their programs and what have been alleged as the requirements of a deliberate war-winning strategy.

I recognize that the current generation of Soviet political leaders has been cautious about actions which could lead to nuclear war, and that published Soviet military doctrine may not fully reflect its views. Nevertheless, these leaders should know by now, as we learned some years ago, that a war-winning strategy--even with high levels of expenditures--has no serious prospect of success either in limiting damage in an all-out nuclear exchange or in providing meaningful military superiority. The enduring validity of this conclusion depends, of course, on our taking the necessary countermeasures ourselves. If Soviet efforts persist, and we do not counter them, the Soviets may succumb to the illusion that a nuclear war could actually be won at acceptable, if large, cost. Accordingly, it is essential to continue to adapt and update our countervailing capabilities so that the Soviets will clearly understand that we will never allow them to use their nuclear forces to achieve any aggressive aim at an acceptable cost. This is a feasible U.S. goal, whatever one's view of the doctrinal issues; however, it does require that we carry out the force improvement measures I am presenting here.

To recognize that strong war-winning views are held in some Soviet circles--and that Soviet advocates of such concepts as minimum deterrence or assured destruction are rare or absent--is not necessarily to cast any accusation of special malevolence, for these are traditional military perspectives by no means unreflected even in current Western discussion of these matters. Still less is it to say that the Soviets are not subject to deterrence. The task, to paraphrase a thinker familiar to the Soviet leadership, is not to debate deterrence with the Soviets, but to maintain it in our competition with them. There is, to be sure, little evidence of any Soviet view corresponding to that sometimes expressed in the West that assured destruction as a strategy would be a positive good, making further military analysis unnecessary or even wrong. But there is at the same time every reason to believe that the Soviet leadership has in fact been deterred and can continue to be, not by theory, but by recognition of the certain costs of aggression to things most valued by that leadership.

## IV. OTHER NUCLEAR CAPABILITIES

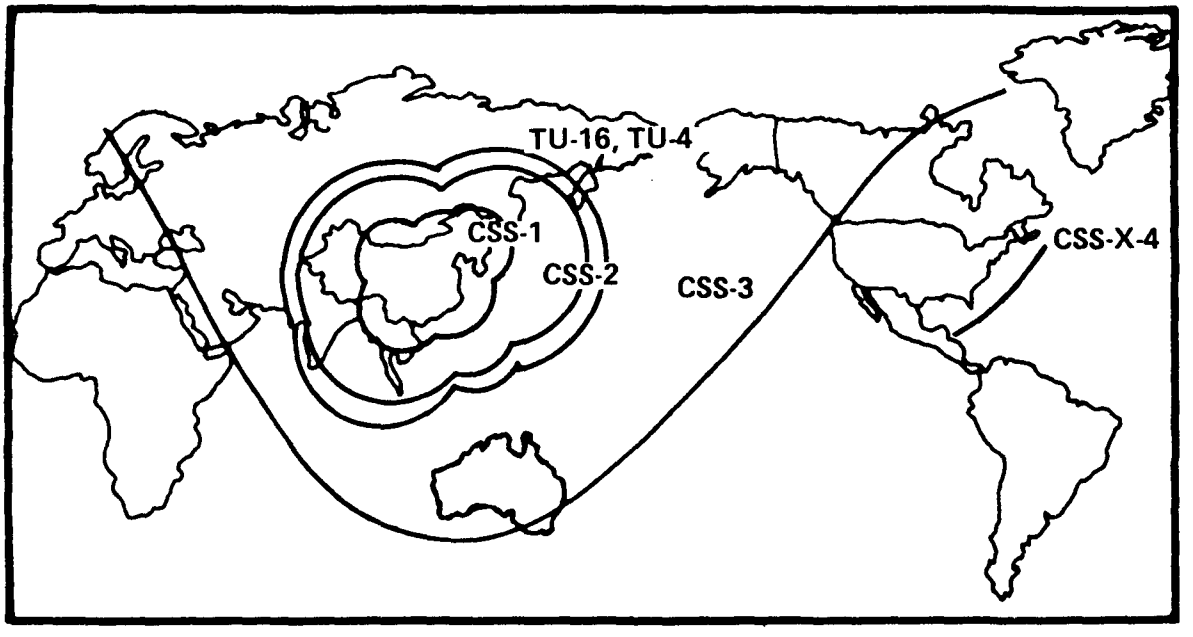
In addition to the United States and the Soviet Union, three countries have deployed strategic nuclear capabilities. Great Britain continues to maintain four RESOLUTION-class SSBNs, armed with 64 POLARIS A-3 missiles, and 56 VULCAN bombers. The close U.S. cooperation with this capability reflects our judgment that the British force, which is committed to NATO, contributes to our mutual defense interests. The British are considering a replacement for their SSBNs and SLBMs, and have scheduled the VULCANs for retirement in the near future.

France has four REDOUBTABLE-class SSBNs which will have 64 M-2 or M-20 missiles, and plans to deploy two more SSBNs and modernize her SLBMs with the M-4 system, which has some limited MIRV capability. She also deploys 18 IRBMs and 34 MIRAGE IVA aircraft supported by 11 KC-135F tankers.

The People's Republic of China currently deploys three types of liquid-fuel ballistic missiles: an MRBM (the CSS-1) with a range of about 1,000 kilometers; an IRBM (the CSS-2) with a range of around 2,500 kilometers; and a multi-stage ICBM (the CSS-3) with a maximum range of 7,000 kilometers. The Chinese, in addition, have over 100 TU-16 (BADGER) and TU-4 (BULL) medium-range bombers with an operational radius of about 3,000 kilometers. The areas covered by these delivery vehicles are shown in Chart 5-4.

Chart 5-4

**RANGE OF PEOPLE'S REPUBLIC OF CHINA STRATEGIC SYSTEMS**



The PRC still has under development a full-scale, liquid-fuel ICBM (the CSS-X-4) with a range estimated at over 10,000 kilometers. The missile has been tested only inside China and at reduced ranges, but it has been used successfully as a satellite launcher. There is no progress to report on the SLBM program of the PRC, although work probably continues on a nuclear-powered submarine and a solid-fuel missile to go with it.

## V. ADEQUACY OF THE U.S. STRATEGIC CAPABILITIES

It is, of course, the Soviet nuclear force (not that of our British and French allies, or of China) that must be of primary concern to us. What, in particular, is the military impact of recent Soviet strategic nuclear developments, and what do these developments signify for the design of our nuclear strategy and force structure?

At present, there are excellent grounds for confidence in the U.S. strategic deterrent. Our alert bombers, SLBMs on patrol, and a number of our ICBMs could be expected to survive even a well-executed Soviet surprise attack. Several thousands of warheads could be launched in a comprehensive retaliation, and most of the bombers and missiles should be able to penetrate to their targets. If the U.S. force were generated to a high alert before being attacked, even more warheads could be launched. We would also have the option to withhold a number of these warheads and use a part of the force with deliberation and control against subsets of targets. However, we would not have high confidence, on a second strike, of destroying the majority of the Soviet ICBM silos and other very hard targets with our quick-reacting missile forces, although our bomber weapons (bombs now and ALCMs later) would have a good albeit delayed capability against hard targets.

The Soviets, at the present time, would have a somewhat comparable capability. Even supposing a U.S. first strike, they too would have a substantial number of surviving weapons. However, they could not cover as many targets, since their inventory of surviving alert warheads would be smaller. As with the United States, if the Soviets generated their offense prior to being attacked, the number of their surviving weapons would increase.

Because of this Soviet capability, which matches ours for all practical purposes, we have a situation of essential equivalence. It can also be said with some confidence that a state of mutual strategic deterrence is currently in effect. It follows that nuclear stability would probably prevail in a crisis as well.

Longer-term stability is not equally assured. The most immediate source of future instability is the growing Soviet threat to our fixed, hard ICBMs. Although the Soviets have only just begun to deploy a version of the SS-18 ICBM with 10 MIRVs, within a year or two we can expect them to obtain the necessary combination of ICBM numbers, reliability, accuracy, and warhead yield to put most of our MINUTEMAN and TITAN silos at risk from an attack with a relatively small proportion of their ICBM force. For planning purposes, therefore, we must assume that the ICBM leg of our TRIAD could be destroyed within a very short time as one result of a Soviet surprise attack.

To say this is not to imply that the probability of a Soviet surprise attack will increase as this hypothetical vulnerability grows greater. Prudent Soviet leaders would not be certain of obtaining the necessary performance from or coordination in their forces to make such an attack effective. Nor could they be sure that we would not launch our ICBMs on warning or under attack (as we would by no means wish to rely on having to do). However, less prudent or more desperate Soviet leaders might not be constrained by these considerations.

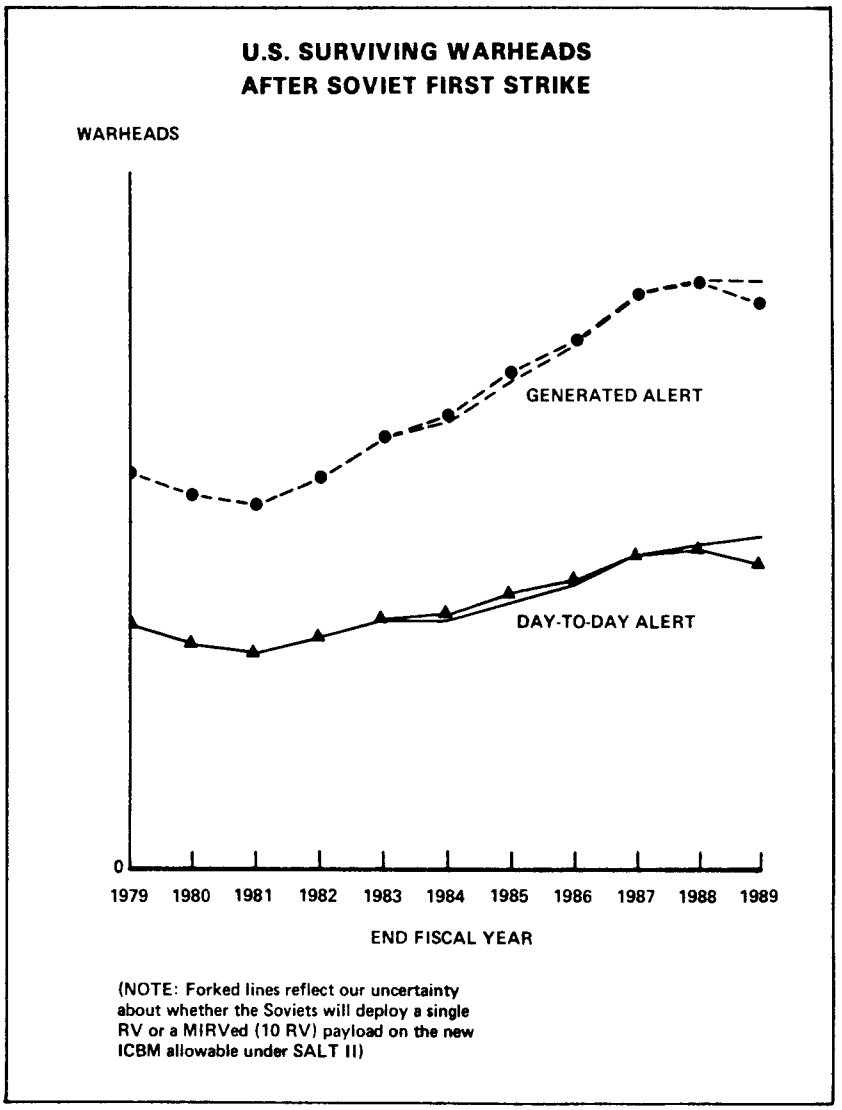
Still, even if the Soviets were able, in a surprise attack in the 1980s, to eliminate most of our ICBMs, all our non-alert bombers, and all our ballistic missile submarines in port, we would still be able to launch several thousand warheads at targets in the Soviet Union in retaliation. And we would still have the option of withholding a number of these warheads while directing still others to a variety of non-urban targets, including military targets of great value to the Soviet leadership.

These results, in general terms, are shown in Chart 5-5. In other words, the hypothetical ability of the Soviets to destroy over 90 percent of our ICBM force cannot be equated with any of the following: a disarming first strike; a Soviet advantage that could be made meaningful in an all-out nuclear exchange; a significant contribution to a damage-limiting objective; or an increased probability of a Soviet surprise attack. It would amount to none of these. What it would amount to is that the United States, in these hypothetical circumstances, could lose an important leg of the TRIAD and a significant but not crippling number of valuable warheads. We would suffer a loss in our ability to attack time-urgent hard targets and a reduction in the flexibility with which we could manage our surviving forces. However, as Chart 5-5 indicates, despite growing MINUTEMAN vulnerability, the total number of surviving U.S. warheads would actually increase after 1981, because of TRIDENT and ALCM deployments, followed by MX.

In the decade ahead, we will have strategic retaliatory forces sufficient to deter Soviet attack, not only by the risk of escalation to massive destruction of cities and industry, but also by the certainty of our ability to destroy, on a more selective basis, a range of military and industrial targets and the seats of political control. That should surely deny the Soviet Union any advantage from embarking on a course of action that could lead to nuclear exchanges.

I must add this important caveat, however: my assessment is based on the assumption that Soviet forces remain within the limits set by SALT II. Should the treaty fail of ratification, and should Soviet force levels then increase (as I believe and, in any event, must assume they would), we would have to make a larger commitment of resources to the strategic nuclear element of our defense--a commitment which, though then necessary, would not improve our security beyond that available--at far lower cost--given ratification of SALT II.

Chart 5-5




If our situation promises to be so favorable with SALT, why is such an issue being made over MINUTEMAN vulnerability, and why do we need to go to the expense of the mobile MX ICBM, particularly an MX with a significant hard-target kill capability of its own? Why should we not settle for the new status quo and plan to launch our ICBMs on warning, or replace MINUTEMAN--if we must replace it at all--with what some would call a less threatening (meaning less versatile and effective) system than MX?

These questions have several answers. The first is that it is one thing (and by no means an easy one) to have an operational capability to launch nuclear weapons, with warning or under attack. It is quite another matter to be obliged to launch them simply in order to avoid losing them to the attacker. The latter posture, with its vulnerability to accidents and false alarms, and still more with its premium on hasty action rather than deliberation and control, is unacceptable to the United States. In a given situation, the President may decide to order a launch, with or without warning. The duty of the Department of Defense is to plan and procure systems so that the force can ride out an attack if that is what the situation calls for, and what the President directs. It is not our duty to force his hand.

The second answer is that we can live temporarily with the vulnerability of one TRIAD leg, so long as the other two are in good working order. But we would be ill-advised to accept that vulnerability as a permanent condition in light of what could happen to the survivability of the other two legs. Indeed, right now, considering the momentum behind current Soviet strategic programs, it is not unreasonable to assume that in such a case:

-- the Soviets would be tempted to expand greatly their efforts to neutralize the effectiveness of the bomber and SLBM legs;

-- our acquiescence in MINUTEMAN vulnerability would encourage them to increase the resources dedicated to that enterprise; and

-- they would be able to transfer resources from their ICBM program for this purpose.

In other words, if we stand still, and do not repair the vulnerability of the ICBMs, we may find that the bombers and then the SLBMs have become vulnerable as well.

The third answer follows from the second. We would have preferred to see both sides retain their fixed hard ICBMs in a survivable state. And in our SALT proposals of early 1977 we specified offensive limitations and reductions that might have been able to minimize ICBM vulnerability for some years to come. The Soviets saw fit to reject those proposals. Now both sides--not just the United States--must be made to face the consequences of that rejection. Essential equivalence requires no less.

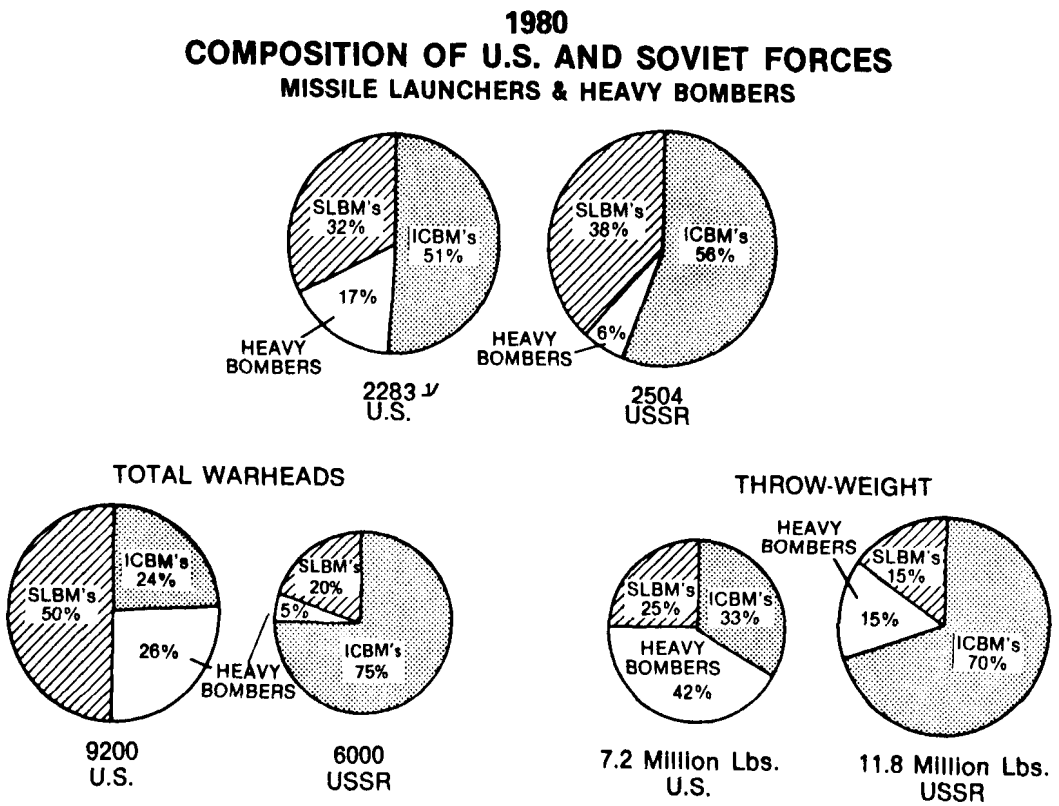
## VI. STRATEGIC PROGRAMS

The United States, for its part, will proceed with the mobile MX so as to restore the survivability and increase the deterrent value of the ICBM leg of the TRIAD. As we proceed, we plan to give the MX missile a high single-shot kill probability against hard targets: including silos, submarine pens, nuclear storage sites, and command bunkers. We see no reason to make these targets safe from U.S. ICBMs when comparable targets in the United States would be at risk from Soviet ICBMs.

Although MX could place a large percentage of the Soviet strategic force in jeopardy, Soviet ICBMs are a large percentage of a very large total force, as shown in Chart 5-6 for 1980. The Soviets would not be disarmed any more than we would by the loss of their ICBMs. At a minimum, hundreds of their SLBM launchers would survive, and these launchers will soon be capable of carrying thousands of warheads. If the Soviets should feel they need more, they can (like us) spend the large additional resources required to restore the survivability of their ICBMs. Such a situation would be more conducive to stability than to allow them onesidedly to make our ICBMs vulnerable, and having succeeded on that score, transfer resources to other and even less benign programs. Moreover, by having an efficient, time-urgent, hard-target kill capability--such as will be provided by MX--we should reduce Soviet incentives to expand their silo-based forces in the absence of SALT.

Just as we consider conservatively designed, second-strike, countervailing forces to be essential to the security of the United States and its allies, so we accept the same need on the part of the Soviet Union. Because our own goals are essentially defensive in nature, we can accept a relationship of mutual deterrence. We do not seek to take away from the Soviets their basic second-strike capabilities. But we will not permit them to take away ours. We insist on that kind of essential equivalence, and are dedicated to achieving it through the mutual constraints of arms control or, if necessary, by unilateral means; hence the MX program.

Chart 5-6




1/ The number 2283 includes approximately 220 B-52s in deep storage, but these bombers are not considered in the chart percentages

In addition to developing MX, which is planned to have an initial operating capability in 1986, we are continuing deployment of the Mark-12A reentry vehicle on 300 MINUTEMAN III ICBMs. This program will improve the capability of these missiles against hard targets. Indeed, it is worth pointing out that because of accuracy and yield improvements, the MINUTEMAN III will by the mid-1980s give us a considerable counter-silo potential, even without MX. The unique feature of MX is that it provides this capability in a survivable basing mode and thereby serves our objective of stability.

We must continue to modernize the other two legs of the strategic TRIAD as well. The TRIDENT I (C-4) SLBM will be backfitted into 12 POSEIDON submarines by the end of FY 1982; the first two refitted SSBNs already are operational. The first TRIDENT submarine will become operational in FY 1981. Through FY 1980, eight TRIDENT submarines have been authorized. A building rate of one SSBN a year is programmed through FY 1983, shifting to three SSBNs every two years in FY 1984. We are proceeding with research and development on TRIDENT II missiles to provide higher accuracy than TRIDENT I. We are also retaining the option to give them more payload than TRIDENT I.

To heighten the effectiveness of the air-breathing leg of the TRIAD, we are improving the penetration capabilities of the B-52 bomber and moving ahead rapidly on the development and deployment of air-launched cruise missiles (ALCMs). The competitive flyoff between the two versions of the ALCM is on the way to completion, and we expect our first full ALCM-equipped squadron of B-52Gs to be operational by December, 1982. Around 80 percent of the B-52Gs should be equipped with 12 ALCMs each by the end of FY 1985. We are planning, in addition, to keep the option of having a new Cruise Missile Carrier (CMC) aircraft ready for service by FY 1987, or earlier if the need should arise.

A number of other items in the FY 1981 budget will improve the reliability and survivability of our strategic command, control, and attack warning systems. Those qualities, along with the endurance of the system, are critical to the maintenance of stability and essential equivalence in performance during the years ahead.

All of these programs will require a steady increase in strategic funding over the next five years, especially as we approach deployment of the MX ICBM. However, the increased effort will be well worth its cost. The aging of our strategic retaliatory forces will be reversed. The survivability of the ICBM leg of the TRIAD will be restored and its performance improved. The second-strike effectiveness of the submarine and air-breathing legs of the TRIAD will be strengthened. Our ability to cover a comprehensive target system containing hundreds of urban-industrial areas and thousands of political, economic, and military points will be even more beyond doubt than it is now.

With the execution of this program, I can see no reason why the Soviets would have any incentive, even in the most desperate circumstances, to launch a nuclear attack on the United States or its forces. They could not disarm us. They could not significantly limit damage to themselves. And they would have no advantage in any strategic bombing exchange that followed an attack. There is no reason why a nuclear attack on our allies or even the threat of it should

look any more attractive, provided that overall stability can be enhanced and our theater nuclear forces modernized to contribute effectively to deterrence, as part of a continuum of capability.

## VII. THEATER NUCLEAR CAPABILITIES

The reasons for being concerned about the European theater nuclear balance lie in the history of our efforts to keep Western Europe independent and secure despite the long shadow cast by the close proximity of Soviet military power. The contingency that has dominated U.S. defense planning for 35 years has been much less a surprise attack with strategic weapons on the United States than a massive Soviet invasion of Western Europe. Because of that concern, during most of those years, a strategic nuclear exchange has been envisaged, not as a separate and independent phenomenon, but as a part (and an increasingly decisive part) of a much larger and more traditional campaign of the kind we had experienced in World War II. It was quite natural, therefore, that nuclear weapons and delivery systems should have been adapted for use against tactical targets of all sorts, and deployed directly to key theaters.

Theater nuclear forces represent a critical part of the Alliance tripod */ of conventional, theater nuclear, and strategic forces that supports our strategy of flexible response. The theater nuclear forces, by providing strong links between conventional forces and strategic forces, and a wide range of targeting options, greatly strengthen deterrence. They enhance our capability for forward defense and they create the risk of escalation to higher levels of conflict.

I should stress that our objectives and plans for the theater nuclear defense apply equally to our allies in Europe and Asia. Our capabilities are worldwide. However, because the Warsaw Pact has concentrated such extensive capabilities in Central Europe, the development of theater nuclear requirements has tended to focus on Europe. And it is known that we have deployed for some time about 7,000 nuclear weapons to the European theater in support of NATO--the majority of the weapons being associated with relatively short-range capabilities.

Owing to the way NATO and Warsaw Pact forces have evolved, we now believe that three main conditions must be present in order for our theater deterrent to be fully effective. Not only must we be able to cover a wide range of targets--including troops on the battlefield, echeloned reinforcements, lines of communication, and (where possible) relevant enemy nuclear delivery systems. Our capabilities must be highly survivable in the aggregate, at least against conventional and limited nuclear attack. And we must have powerful non-nuclear as well as strategic nuclear forces that will provide an unbroken continuum of military options.

In the past, in order to avoid a duplication of effort, we assigned most targets in the Soviet Union to the U.S. strategic forces and the more tactical targets to the theater-based forces. The distinction, however, was dictated as

*/ I use the word tripod to distinguish it from the U.S. strategic TRIAD; the word triad is often used for both.

much by planning convenience and the range limitations of the existing theater-based forces as by anything else, and it may cause Soviet misperceptions. We would not want the Soviets to make the mistaken judgment, based on their understanding of our targeting practices, that they would be spared retaliatory attacks on their territory as long as they did not employ strategic weapons or attack U.S. territory. Because in an era of nuclear equivalence, the Soviets might make that mistake, we are developing longer range theater nuclear delivery systems.

A. Current U.S. Capabilities

The PERSHING IA missile is the only U.S. delivery system currently dedicated solely to the tactical delivery of nuclear weapons, and its range is limited. For the rest, we rely on dual-purpose artillery, missiles such as LANCE, fighter-attack aircraft, surface ships, and SAMs to deliver our theater-designated weapons.

In addition to the 7,000 nuclear weapons in the European theater, many thousands more are allocated to tactical use worldwide. We have also committed POSEIDON strategic warheads to SACEUR, and they can reach targets in the Soviet Union.

B. Soviet Capabilities

The Soviets, by now, have deployed large numbers of theater-oriented nuclear delivery systems, and we believe they have stockpiled sufficient warheads to supply these systems.

The Soviets, like us, have relied on dual-capable systems for much of their shorter-range theater nuclear delivery capability. Some of their 203 mm and 240 mm artillery pieces, now deployed only in the USSR, have been adapted to fire nuclear projectiles. Their more modern fighter aircraft--the SU-17 (FITTER C/D), SU-24 (FENCER), and some versions of the FLOGGER (MIG-23 and 27)--appear to be dual-capable as well. Their nuclear-chemical-conventional launchers consist of the FROG series, the SCUD B, the SS-12 SCALEBOARD, and three follow-on missiles--the SS-21 for the FROG launchers, the SS-X-23 for the SCUD launchers, and the SS-22 for the SCALEBOARD launchers. The other members of the Warsaw Pact also have some nuclear-capable aircraft.

All members of the Warsaw Pact continue to equip and train their forces to operate in chemical and nuclear environments. They also continue to improve their capabilities for the actual use of chemical weapons.

Of even greater political significance, the Soviets maintain large nuclear-capable peripheral attack forces based in the Soviet Union. These forces, compared with roughly equivalent NATO capabilities, are shown in Table 5-4. They include more than 450 intermediate-range bombers of the BADGER and BLINDER type, and around 60 BACKFIREs, over 400 older MRBMs and IRBMs, and more than 100 SS-20 mobile IRBM launchers (with an estimated reload capability), and with each missile carrying three MIRVs. In addition, the Soviets have older submarines in the Baltic and North Sea fleets armed with ballistic missiles.

Table 5-4

# US/NATO AND SOVIET LAND-BASED LONG-RANGE THEATER NUCLEAR FORCES[a]

| MISSILE RANGE/ AIRCRAFT RADIUS (KM) | | STRIKE INVENTORY 1980 TOTAL WORLDWIDE | 1980 EUROPEAN THEATER[b] | MID-1980's (ESTIMATED) TOTAL WORLDWIDE | MID-1980's (ESTIMATED) EUROPEAN THEATER[b] | WEAPONS PER SYSTEM[c] |
|---|---|---|---|---|---|---|
| **SOVIET** | | | | | | |
| SS-20 LAUNCHERS | ≥4400 | 100 | 60 | 250-300 | e | 3 |
| BACKFIRE BOMBERS[d] | 4200 | 60 | 40 | 100-150 | e | 4 |
| OLDER MISSILE LAUNCHERS | 1900-4100 | 450 | 450 | 50-?[f] | 50-?[f] | 1 |
| OLDER BOMBERS[d] | 2800-3100 | 450 | 350 | 350 | 300 | 2 |
| **NATO** | | | | | | |
| UK VULCAN BOMBER | >2000 | 56 | 56 | 0 | 0 | ? |
| US F-111 DCA | 1800 | 365 | 170 | 254 | 166 | 2 |
| US GLCM[g] | >2000 | 0 | 0 | 464 | 464 | 1 |
| US PERSHING II[g] | >1000 | 0 | 0 | 108 | 108 | 1 |

NOTES:

a. SYSTEMS WITH MISSILE RANGES OR UNREFUELED COMBAT RADII SUCH THAT (a) SOVIET SYSTEMS CAN UNAMBIGUOUSLY HIT TARGETS IN WESTERN EUROPE FROM BASES IN THE SOVIET UNION, AND (b) NATO SYSTEMS CAN HIT THE SOVIET UNION UNAMBIGUOUSLY FROM BASES IN WESTERN EUROPE. AIRCRAFT RADII ARE ILLUSTRATIVE FOR EUROPEAN MISSIONS.

b. INVENTORY NORMALLY BASED IN EUROPE OR WITHIN STRIKING RANGE OF EUROPE.

c. ILLUSTRATIVE WEAPONS LOAD. ACTUAL LOAD WOULD VARY ACCORDING TO MISSION AND TYPE OF WEAPON (ASM OR BOMBS).

d. STRIKE-CONFIGURED BOMBERS AND ASM CARRIERS ONLY. DOES NOT INCLUDE BOMBERS OR ASM-CARRIERS ASSIGNED TO SOVIET NAVAL AVIATION.

e. TWO-THIRDS OF TOTAL WORLDWIDE INVENTORY COULD BE DEPLOYED AGAINST NATO.

f. THE DECLINE IN THE FORCES SHOWN IS BASED UPON CURRENT TRENDS. IT IS POSSIBLE, HOWEVER, THAT THE SOVIETS MAY WISH TO RETAIN A LARGER PORTION OF THE CURRENT FORCE, PERHAPS FOR USE AS A BARGAINING CHIP IN FUTURE ARMS-CONTROL NEGOTIATIONS.

g. ASSUMES COMPLETION OF NATO-APPROVED PROGRAM

The SS-20 and BACKFIRE are gradually augmenting older missiles and bombers. There already is a substantial base structure for the SS-20 missile, and it is expanding. As noted, BACKFIRE production is going ahead at a rate of 30 new aircraft a year. As President Carter has pointed out, the SS-20 is a substantially more capable missile than its predecessors. Not only is it mobile and difficult to target; its range is greater, and we estimate that each of its three warheads is substantially more accurate than the older SS-4s and SS-5s. The BACKFIRE, similarly, is much more capable than the BADGER and BLINDER. It carries more weapons and has better penetration capabilities than the older bombers.

Soviet planning for war in Europe has not undergone any notable change in the past year. Its authors continue to emphasize the likelihood that any major clash in Europe would escalate to nuclear warfare. However, as I pointed out last year, some recent writings have ventured the opinion that a war in Europe might continue for some time below the nuclear threshold, and Soviet military authorities appear to have begun acknowledging such a possibility in their plans, training, and exercises. Even so, however, they stress the need to be able to destroy the tactical nuclear forces of NATO at an early stage in a European conflict.

C. Allied Responses

It has always been difficult to see how either the Warsaw Pact or NATO could possibly benefit from the wholesale use of nuclear weapons in a theater such as Europe. But to provide a continuum of deterrence, we must be prepared for such an undesirable eventuality. Deterrence and escalation control are also served by forces that can survive conventional attrition or limited nuclear attack. Our surviving nuclear forces in the theater must also be able to deliver various strikes--using several tens to several hundreds of weapons--ranging from direct battlefield employment against engaged enemy forces to destruction of military targets well inside the Soviet Union. We do not plan our theater nuclear forces to defeat, by themselves, a determined Soviet attack in Europe, and we rely mainly on conventional forces to deter conventional attack.

It remains essential, nonetheless, for NATO to maintain, or as necessary acquire, the flexibility to leave the Soviets under no illusion that some way exists, by nuclear means, to gain military or political leverage on the Alliance. U.S. central systems, of course, remain the ultimate deterrent, and are inextricably linked to the defense of Europe. Augmentation of NATO's long-range theater nuclear forces based in Europe, however, would complete the Alliance's continuum of deterrence and defense, and strengthen the linkage of U.S. strategic forces to the defense of Europe. Indeed, increased NATO options for restrained and controlled nuclear responses reduce the risk that the Soviets might perceive--however incorrectly--that because NATO lacked credible theater military responses, they could use or threaten to use their own long-range theater nuclear forces to advantage.

We have already developed the flexibility with our theater nuclear forces to execute:

- -- limited nuclear options that permit the selective destruction of particular sets of fixed enemy military or industrial targets;
- -- regional nuclear options that, as one example, could aim at destroying the leading elements of an attacking enemy force; and
- -- theaterwide nuclear options that take under attack aircraft and missile bases, lines of communication, and troop concentrations in the follow-on echelons of an enemy attack.

We must also be able to counter the SS-20s and BACKFIREs from the theater,and place at risk Pact forces and assets deep in Eastern Europe and the western military districts of the USSR. As one example, we cannot permit a situation in which the SS-20 and BACKFIRE have the ability to disrupt and destroy the formation and movement of our operational reserves, while we cannot threaten comparable Soviet forces.

We do not plan to match the Soviet program system-by-system or warhead-by-warhead in an attempt to create a separate European nuclear balance. We do seek to preserve the continuum of capability from conventional to intercontinental forces. In parallel, NATO has given special consideration to the role arms control can play in contributing to a more stable military relationship between East and West. Modernization of the long-range theater nuclear forces will provide a firm foundation for the pursuit of serious arms control negotiations with the Soviet Union, which the United States will be prepared to undertake within the framework of SALT III.

Against this background, we are taking five steps to deal with the theater nuclear problem. First, we are continuing to modernize, protect, and improve the command and control, safety and security of, those parts of our tactical nuclear capabilities that are designed principally for battlefield use and shallow interdiction targets. Second, we are proceeding with the development of two longer range, more mobile missiles: the more accurate PERSHING II and the Ground-Launched Cruise Missile (GLCM). Third, we have agreed with our allies on a program for the deployment of these missiles in Great Britain and on the European continent. Fourth, we and our NATO allies have agreed on the outlines of an arms control approach to the Soviets on long-range theater nuclear forces in the context of SALT III. It is our hope that arms control could reduce Soviet long-range theater nuclear forces. However, it is unrealistic to think that arms control could obviate the need for any new long-range systems in NATO's inventory. Fifth, over the course of 1980, we will withdraw 1,000 nuclear warheads from Europe. These reductions can be made as part of an overall modernization program without reducing the effectiveness of our theater nuclear forces.

Since the new theater nuclear systems will be deployed with U.S. units in Europe, we will necessarily assume most of their costs. The Alliance has agreed that funding for their basing will be shared through the NATO Infrastructure Program. However, because the proposed deployment plan was only recently approved by NATO, and because we need to begin modernizing our theater nuclear forces as soon as possible, I am asking for $19 million to prefinance facilities construction, which will be paid back by the Infrastructure Program in accordance with the Alliance-agreed deployment plan.

Procurement of the GLCM will begin in FY 1981, and the missile will reach an initial operational capability in December, 1983. We will deploy 160 in Europe by the end of FY 1985, and 464 in hard shelters in Europe by the end of FY 1988. All the existing U.S. PERSHING IAs will be replaced by PERSHING IIs by the end of FY 1985. These deployments will release more of our tactical aircraft for non-nuclear missions and will increase the survivability and flexibility of our nuclear forces.

I should stress, in designing this response, that one of its purposes is to lay to rest any questions about the credibility of the U.S. commitment to the defense of Europe. In the event of nuclear threats to Europe, these forces will add to our options. We would not, in any event, be faced with a cruel choice between doing nothing and attacking Soviet cities, thereby virtually assuring the destruction of the United States. Our strategic, theater nuclear, and conventional forces are and will remain capable of thwarting the purposes of any attacks on Europe and inflicting heavy costs on the attacker. That is the essence of the flexible response embodied in NATO's military guidance (MC-14/3) and of our countervailing strategy, and it is at the heart of credible deterrence.

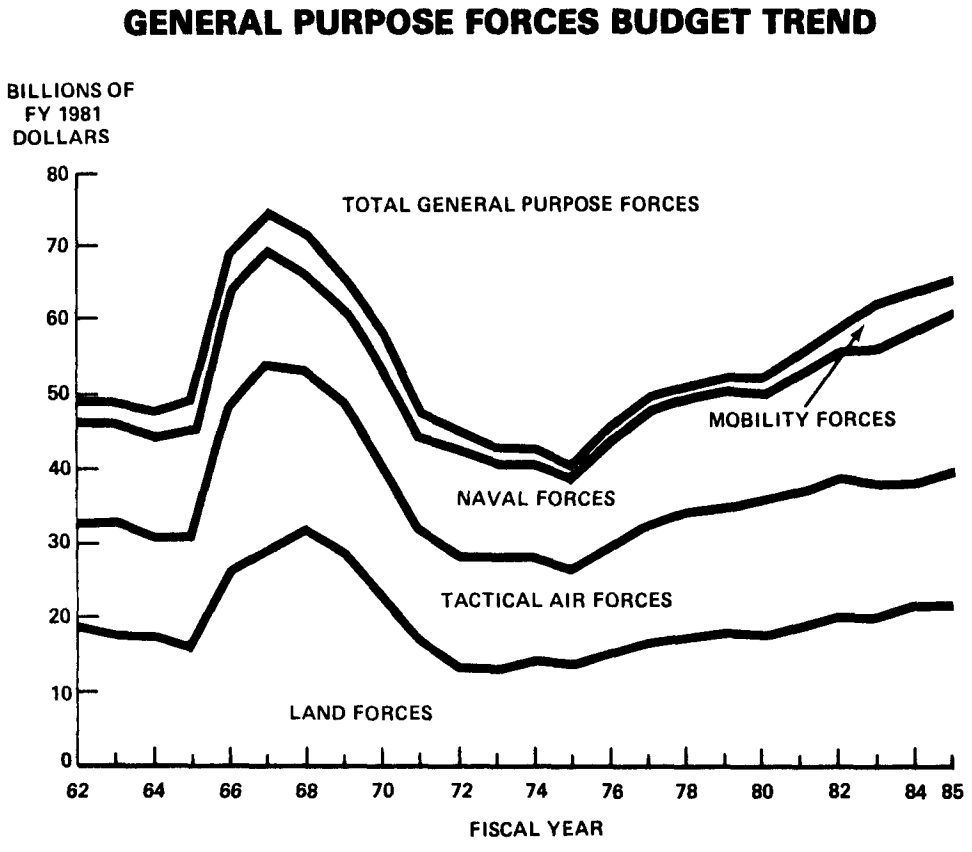
Accordingly, I have no hesitation in saying to all who will look at the facts, including those in Europe and in this country who should know better but still continue to question our determination to defend our allies come what may: The United States is committed to the integrity and security of Western Europe because it is in the vital interest of the United States to defend Europe. We followed that course in 1917 and again in 1941. Let no one think otherwise; we are fully prepared to follow it again.

CHAPTER 6

THE NON-NUCLEAR CAPABILITIES

Despite all the understandable attention given to nuclear warfare and its deterrence, the last 20 years have witnessed a growing recognition that this is an era in which non-nuclear force is still the kind most likely to be used. As a consequence, we maintain substantial and costly general purpose forces, most of which are intended for the deterrence and conduct of non-nuclear warfare. The trend in Total Obligational Authority allocated to the general purpose forces since FY 1962, and the expected direction of funding for these forces during the coming five years, is shown in Chart 6-1.

Chart 6-1



## I. DETERMINING STRATEGY AND POSTURE

During these same 20 years, we have seen a recurring effort to arrive at a U.S. non-nuclear posture that would be not only acceptable in budgetary terms, but also militarily sufficient in light of our international responsibilities, the forces of our allies, and opposing military capabilities. It has not been an easy task.

For most of the 1960s we defined such a posture as one capable, in conjunction with allies, of conducting a forward defense against three separate attacks: two of them of major dimensions; one of them relatively minor in scale. A posture with this capability was also considered to be flexible enough to deal with a range of contingencies not specifically foreseen in the design of the forces, which was based largely on the supposition of having to fight in Europe, Asia, and possibly the Caribbean.

In 1969, with the formal acknowledgment of the Sino-Soviet split and the resumption of Chinese-American contacts, we changed the definition of non-nuclear adequacy. A capability to deal simultaneously with one major and one minor contingency in conjunction with allies was now said to suffice. Although the non-nuclear posture did not decline proportionately, reductions followed in ground, tactical air, and naval forces. Since then, the strategy has remained constant--with Europe as its primary focus for planning purposes--while increases have been made in active-duty ground force structure and Air Force tactical air wings.

## II. IMPLEMENTATION

The issue of whether we ever acquired the capabilities necessary to implement either of these strategies has been a matter of debate. There is, however, fairly widespread agreement about the main requirements that must be satisfied if the basic concept is to work and the non-nuclear deterrent is to be reasonably effective.

For the United States to have the posture to deal with two or more simultaneous contingencies, and to keep such a posture within reasonable cost bounds:

- We must depend primarily (but not solely) on our allies to hold forward defense positions in peacetime.
- This, in turn, permits us to organize a central reinforcement capability of combat-ready ground and tactical air forces, located in the United States and able to move in support of a threatened theater.
- Such economy of force and the flexibility that goes with it, however, require the presence of a number of other capabilities:
  - naval forces for sea control and, where appropriate, power projection;

-- early-arriving guard and reserve forces to support the initial efforts of the active-duty forces;

-- war reserve stocks to keep forces supplied and equipped in combat for at least as long as enemies; and

-- the ability to move with great power and speed on a worldwide basis through an appropriate mixture of strategic airlift, sealift (some of it with prepositioned stocks aboard), and what has come to be known as POMCUS (Prepositioned Overseas Materiel Configured to Unit Sets)--equipment and supplies stored in theaters of greatest danger, to which personnel can be flown rapidly without absorbing large quantities of expensive lift.

That, I should emphasize, is the theory. Our practices have not been entirely consistent with it. We have never fully acquired the agility and the mobility required by such a reinforcement strategy. We have tended to settle for a lower level of combat-readiness than is desirable for sudden and rapid long-distance movement and prompt fighting effectiveness. Despite our desire to build barriers to the early use of nuclear weapons, we have economized (some would say skimped) on the nuts and bolts needed to sustain a non-nuclear conflict in a particular theater for more than a relatively short time. And our allies have been even more cavalier about the support of their forces, especially in Europe.

A great deal of the 1960s' modernization in our weapons and equipment, even much of the buildup in the stocks of our supplies, took place under the pressure of the war in Southeast Asia. Since then we have been replacing our aging materiel with much more sophisticated weapons and equipment, but at a much decelerated rate: so slowly, in fact, that the Navy is now forced to stretch the service life of existing aircraft in order to avoid losing more combat aircraft to accidents and obsolescence than it is replacing with new procurement.

## III. CHANGING CONDITIONS

This is not a new experience for the Department of Defense and its predecessors. Americans have gone through cycles of total war and at least the hope of total peace before. Whether we can go through another such cycle without paying an exorbitant price is, however, growing much less certain.

### A. Old Conditions

We have been able to get away with a relatively unbalanced posture in recent years for several reasons. One has been the aura of great U.S. military power--a legacy of World War II, Korea, the Cuban missile crisis, and even (up to a point) Southeast Asia--which has created a persistent impression, and left many observers both here and abroad with perhaps excessive expectations and fears about where and how we would apply this capability. To some degree, the aura of power has even substituted for its substance and its presence in many of the disturbances with which we have had to contend.

A second reason for our good luck has been the relative sluggishness and limited geographical reach of potentially hostile forces. Not only were there major constraints on the ability of the Soviets, in particular, to pursue major military operations on more than one front at any one time; the reaction-times of their forces were slow and their ability to project military power much beyond their periphery quite limited. Containment was almost self-enforcing in the circumstances.

## B. New Conditions

Now those conditions appear to be vanishing. Whereas expectations about the availability and effectiveness of American military power may have risen too high in the past (as others assigned us the role of world policeman regardless of our preferences), lately they may have fallen too low. In other realms and circumstances, there may be something to say for a revolution of falling expectations. In the military arena, unless reversed, such a change could lead to miscalculations about U.S. will and capability, and to a growing temptation to use force against the United States, our allies, or our other vital interests--especially if that use can be quick, economical, and decisive.

### 1. Soviet Capabilities

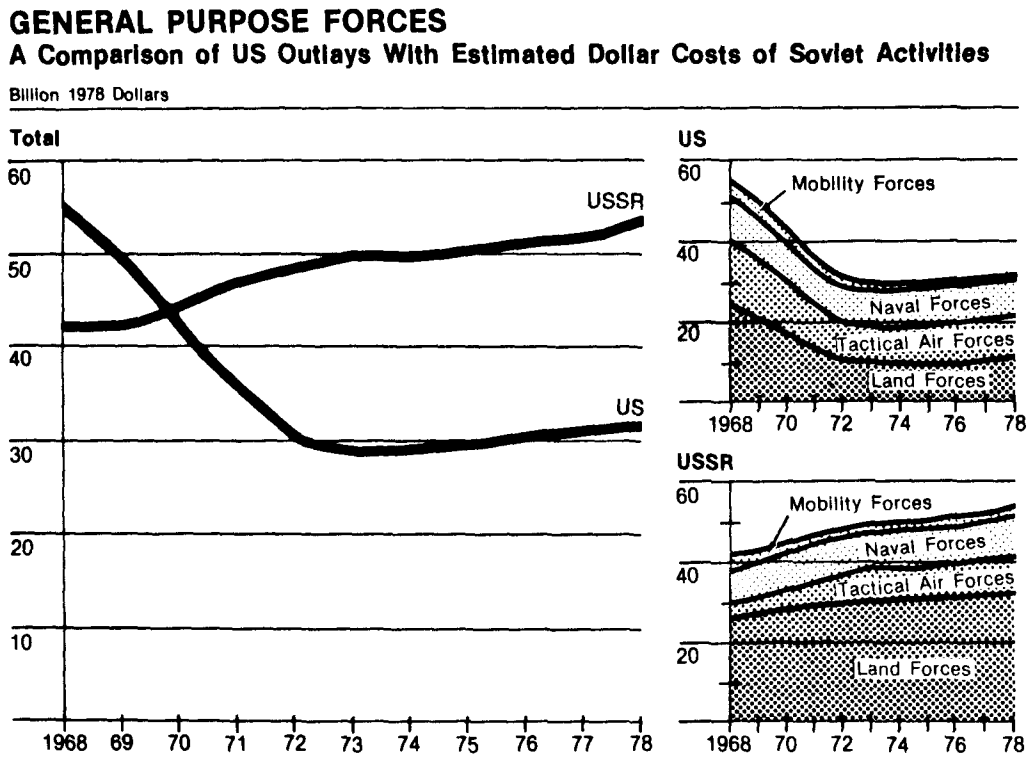
One development gains especially in importance against this background. It is the continuing evolution of the Soviet non-nuclear posture.

The details of that evolution have been reported before, but are worth repeating again. In the mid-1960s, Soviet land and tactical air forces consisted of about 1.4 million men. They have now expanded to over two million men, not including 450,000 border guards and internal security units with military capabilities. Much of this expansion has resulted from the Soviet military buildup in the Far East, which grew from 20 divisions and 210 fighter aircraft in 1965 to 46 divisions and 1,200 fighter aircraft in 1979. But even with this effort (and it should be kept in mind that Soviet forces can be redeployed either eastward or westward), approximately 154,000 men have been added during the past 11 years to the Soviet forces stationed in Eastern Europe, including the 70,000 men and five divisions deployed in Czechoslovakia since 1968.

Since 1965, the Soviets have increased the total number of their divisions from 148 to over 170, and added about 1,400 aircraft and 31 regiments to their tactical air armies. As noted earlier, the chemical capabilities of these theater forces have also been improved. Soviet naval forces have remained relatively stable in total numbers during this period, but the quality as well as the size of their ships has increased. Of growing interest, the Soviets continue to add to their military sealift capability through their merchant marine, and they have expanded the capacity of their long-range military airlift.

These changes have caused the estimated dollar costs of the Soviet general purpose forces to increase by about 27 percent between 1968 and 1978. The trend in these costs, compared with equivalent U.S. outlays, is shown in Chart 6-2.

Chart 6-2




a. Ground Forces

Soviet ground forces consist of roughly 1.8 million men, in contrast to the U.S. Army and Marine Corps which contain just under a million men and women. Since the Soviets maintain over 170 active divisions compared with our 19, it is evident that their division forces (or slices) must be much smaller than ours. Moreover, the Soviets keep the majority of their divisions at less than full combat readiness. Only about a third of them are fully-equipped active units deployed primarily in Eastern Europe or along the Sino-Soviet border. The remaining two thirds are at reduced or cadre strength. They have varying percentages of active-duty personnel and equipment assigned to them, and would have to be filled out in an emergency with reservists, many of whom have received little or no training since their departure from active service. However, over 900,000 ground force personnel are released from active duty in the USSR each year, creating a pool of around four million men with military experience in the ground forces within the past five years.

The Soviets field three types of divisions. There are motorized rifle divisions (with an authorized strength of 12,500 per division), tank divisions (each with an authorized strength of 9,800), and eight airborne divisions (with an authorized strength of 7,300 per division). One of the airborne divisions is a training unit.

Most of the 46 divisions in the Far East are deployed in the vicinity of the Sino-Soviet border. Over 100 divisions are deployed west of the Urals, with 31 of them in Eastern Europe. The central reserve consists of 24 divisions, including all eight airborne divisions.

The Soviets began to expand the size of their tank and motorized rifle divisions in the mid-1960s. At the same time, they added to their non-divisional combat capability (at Army and Front levels), and modernized their weapons and equipment, most notably in the Group of Soviet Forces in Germany (GSFG). Since the 1960s, about 1,000 men have been added to the authorized strength of each tank division, and 1,500 to the authorized strength of each motorized rifle division.

At least in the GSFG, modern tanks and self-propelled artillery, new anti-tank missiles and armored personnel carriers, attack helicopters and organic air defenses have been provided in quantity. About three-fourths of the tanks in the GSFG are the relatively modern T-62, and the T-64 has been deployed to replace older tanks. The BMP, an armored fighting vehicle, makes up about half of the combat troop vehicles in the GSFG. The newer artillery consists of heavy, mobile, multiple rocket launchers and the self-propelled armored versions of the 122mm and 152mm guns. Organic air defenses rely on the S-60/57mm anti-aircraft gun, the ZSU-23-4 fully tracked, radar guided anti-aircraft gun, and five types of mobile or man-portable surface-to-air missiles.

The USSR is better prepared than any other nation to conduct chemical warfare. There are about 60,000 chemical troops in divisional and nondivisional units, and this number could double after mobilization. Practical field training significantly increases their readiness.

Although the combat capability of the GSFG has been substantially upgraded, we remain uncertain about its exact level of readiness and sustainability. About 20 percent of the enlisted personnel are recruits who are rotated every six months into the divisions. Some of these personnel have not completed their basic training when they join the divisions. Portions of the support structure, including older trucks, are returned to the USSR between May and October to assist with the harvesting. Rear services at army and front levels are manned at reduced levels during peacetime, but the mobilization plans for augmenting this capability are exercised.

We should not take too much comfort from these deficiencies. The Soviets seem increasingly confident, as they should be, that they need not fear a surprise attack from NATO. Consequently, they would be able to choose their own time and place of attack, and repair most of their weaknesses well in advance of taking the initiative.

b. Tactical Air Forces

Soviet Frontal Aviation continues to be organized into 16 air armies containing 112 regiments and seven independent squadrons. Of the 16 air armies, four (with over 1,300 fighter aircraft) are based in Eastern Europe. The others are stationed in the varous military districts in the Soviet Union.

The total Soviet fighter, electronic countermeasures, and reconnaissance force consists of approximately 4,500 first-line combat aircraft. In addition, some 500 BADGER intermediate-range bombers and BACKFIREs from Long-Range Aviation could conceivably be used for conventional operations.

The Soviets continue to modernize their air armies with late-model MIG-21s (FISHBED), MIG-23s and 27s (FLOGGER B/G and D), SU-17s (FITTER C/D/G/H), and SU-24s (FENCER). About 80 percent of the fighter force in Frontal Aviation now consists of these aircraft. Because of their ranges and payloads, they give the Soviets--for the first time--the capability to attempt deep air superiority and interdiction missions. We would expect them to try, at the outset of an attack, to hit targets such as command centers, nuclear storage sites, airfields supporting nuclear delivery aircraft, stockpiles of ammunition and equipment, and the maritime and aerial ports through which reinforcements to Europe might come. It remains the case, however, that Soviet avionics, munitions, pilot training, and flying time do not approach U.S. requirements. We continue to expect the Soviets to introduce new-design tactical combat aircraft by the mid-1980s.

c. Naval Forces

While the overall size of the Soviet general purpose naval forces has not changed significantly since last year, we observe in their construction programs ships that appear to reflect a change in the mission orientation of the Soviet navy. The ocean-going surface warship force consists of two KIEV-class light, VTOL, guided missile carriers already in service (with a third carrier fitting out); two MOSKVA-class guided missile aviation cruisers, and 269 other surface warships, including 19 with anti-ship missile launchers. The 27-30,000 ton nuclear powered warship described last year, continues fitting out in Leningrad, and could be in service by 1981. A sister ship is under construction, and three other new classes of smaller cruisers displacing from about 7,600 to 12,000 tons are being built.

Construction also continues on KRIVAK-II and GRISHA-class frigates. We estimate that the Soviets deliver ocean-going surface warships at a rate of about 10 a year.

The Soviet active general purpose submarine force (excluding SSBNs and SSBs) consists of 270 boats. Of this total, 205 are attack submarines, 65 are cruise missile submarines, and several are auxiliary diesels. Some of the cruise missile boats can launch anti-ship missiles while submerged. Current general purpose submarine construction is now running at a rate of about 10 boats a year.

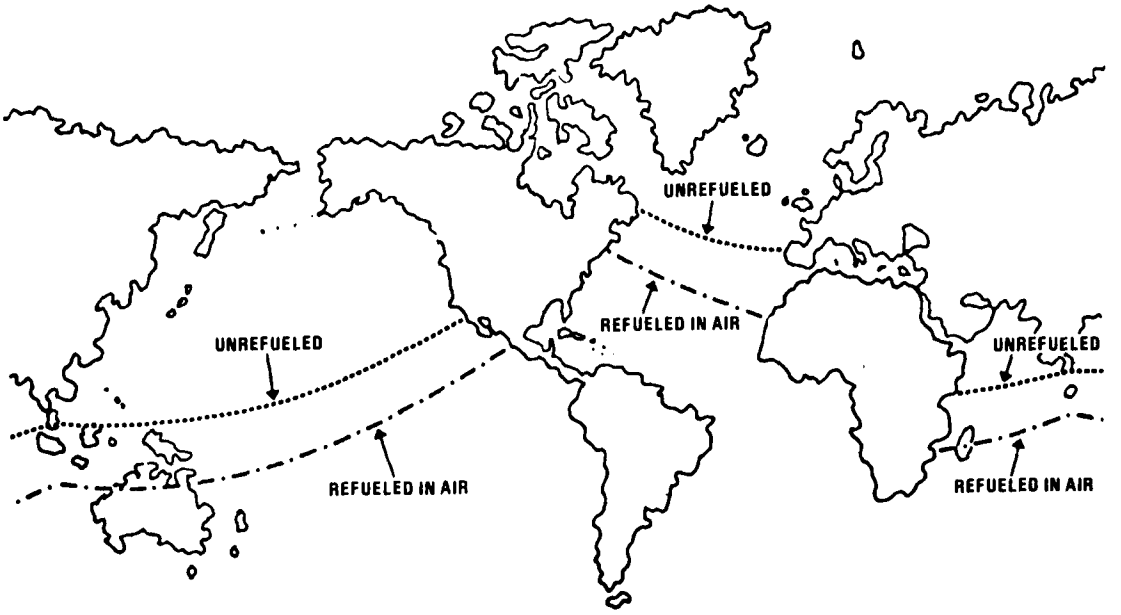
The ALFA SSN, with a titanium alloy hull, recently completed its initial out-of-area deployment. It can probably operate at greater depths than other SSNs, and has demonstrated high sustained speed. It is noisy by U.S. standards. We are not yet clear about the mission it is intended to perform but it is clearly superior to current Soviet SSNs, and will probably fulfill the same functions as VICTOR SSNs.

The Soviets assign around 370 of their medium bombers to Naval Aviation, including a considerable number of BACKFIREs. The majority of these aircraft, supported by the Soviet system for ocean surveillance, will be able to attack ships with air-to-surface missiles at extended distances from their home bases. Chart 6-3 shows the possible operating radius of the BACKFIRE on an anti-shipping mission with two air-to-surface missiles on board.

Chart 6-3

**SOVIET BACKFIRE OPERATING RADIUS**

**(ANTI-SHIPPING MISSION PROFILE)**




The Soviets now deploy a total of 91 amphibious warfare ships, of which 26 are capable of open-ocean transit and extended operations. The new 13,000 ton IVAN ROGOV class Amphibious Assault Transport Dock (LPD) was assigned to the Pacific Fleet last year. It is designed to operate high-speed air-cushion landing craft. The Soviet merchant marine also has the capability to support overseas operations, especially with roll-on/roll-off ships, of which 45 are now in service. The Soviet naval infantry force consists of about 12,000 men.

Direct support of Soviet naval forces comes from 85 replenishment ships. There are also 65 material support ships and 135 fleet support ships providing direct underway support to Soviet naval forces. The introduction of the 40,000 ton fleet oiler (AOR), BEREZINA, means that Soviet ships are

no longer confined to anchorages for refueling. It is expected that more of these modern logistics ships will enter the Soviet fleet in the 1980s. In addition, the first Soviet hospital ship reportedly was launched in Poland early in 1979. Soviet writings indicate that there is a need for large, high-speed hospital ships to give close support to combat fleets in distant waters.

The distribution of warships (excluding SSBNs and SSBs), and combat aircraft among the four Soviet fleets is shown in Table 6-1. Among the missions of the Northern and Pacific Fleets are defense against U.S. aircraft carriers and interdiction of the major shipping lanes to Europe and Japan. However, we believe the Soviets still give the highest naval priority to anti-submarine warfare against ballistic missile submarines, even though they normally discuss the mission in terms of attacking sea-based nuclear delivery forces, and we estimate that the KIEV-class, guided missile, VTOL aircraft carrier was designed primarily for this purpose. The KIEV is assigned to the Northern Fleet, and her sister ship, the MINSK, has completed her sea trials and joined the Pacific Fleet.

Table 6-1

## DISTRIBUTION OF THE SOVIET NAVY — 1979

| | NORTHERN FLEET | BALTIC FLEET | BLACK SEA FLEET | PACIFIC FLEET | TOTAL |
|---|---|---|---|---|---|
| GENERAL PURPOSE SUBMARINES | | | | | 270 |
| NUCLEAR | | | | | 90 |
| NON-NUCLEAR | | | | | 180 |
| SURFACE WARSHIPS | 71 | 43 | 79[1] | 78 | 271 |
| AMPHIBIOUS WARFARE SHIPS | | | | | 91 |
| NAVAL AVIATION | 340 | 270 | 370 | 360 | 1,340[4] |
| BOMBERS[2] | 90 | 140 | 110 | 110 | 450[5] |
| OTHER AIRCRAFT[3] | 200 | 130 | 260 | 250 | 890 |

1 INCLUDES FRIGATES IN THE CASPIAN SEA FLOTILLA
2 INCLUDES STRIKE, BOMBER, AND FIGHTER-BOMBER AIRCRAFT
3 INCLUDES ASW/PATROL, RECONNAISSANCE/EW, TANKER AND V/TOL AIRCRAFT AND HELICOPTERS
4 INCLUDES TRAINERS
5 INCLUDES BADGER AND BLINDER MEDIUM-RANGE BOMBERS, BACKFIRE BOMBERS, AND FITTER AND FORGER FIGHTER-BOMBERS

NOTE: FIGURES AS OF 1 DECEMBER 1979 RESERVE UNITS ARE NOT INCLUDED

While comparisons are usually made between the Soviet and U.S. general purpose naval forces, neither would be likely to engage the other without the involvement of allies. Accordingly, trends in the number of ships, and in the tonnages, of the NATO and Warsaw Pact navies (with ballistic missile submarines and their supporting vessels excluded) as shown in Chart 6-4.

d. Distant Operations

As part of the evolution of their general purpose forces, the Soviets have been taking a number of steps to improve their capability for operations increasingly distant from their borders. Starting in the early 1960s, they have upgraded the road, rail and airfield infrastructure along their frontiers. In addition to their airborne divisions and naval infantry, they have organized air mobile brigades with specialized missions in enemy territory.

Their roll-on/roll-off (RO/RO) ships are ideal for transporting and rapidly loading and unloading wheeled and tracked vehicles, even in less developed harbors. The Soviets, in fact, made extensive use of their RO/RO ships to resupply Ethiopia in her conflict with Somalia.

The KIEV-class carriers, with their vertical takeoff and landing (VTOL) FORGER aircraft, HORMONE helicopters, long-range anti-ship missiles, and ASW weapons, could engage in limited power projection missions. They have the capability to provide escort for Soviet sealift operations and a measure of air support for amphibious assaults. Perhaps more important, they can make the risk of outside interference with these activities look high. We are already observing an increased Soviet naval presence in such distant areas as the Indian Ocean, and their newly-acquired access to Vietnamese air and naval facilities is being used with increasing regularity. The large and sustainable new cruisers that will become operational in the next few years will give the Soviets additional capability to project power at great distances from their own homeland.

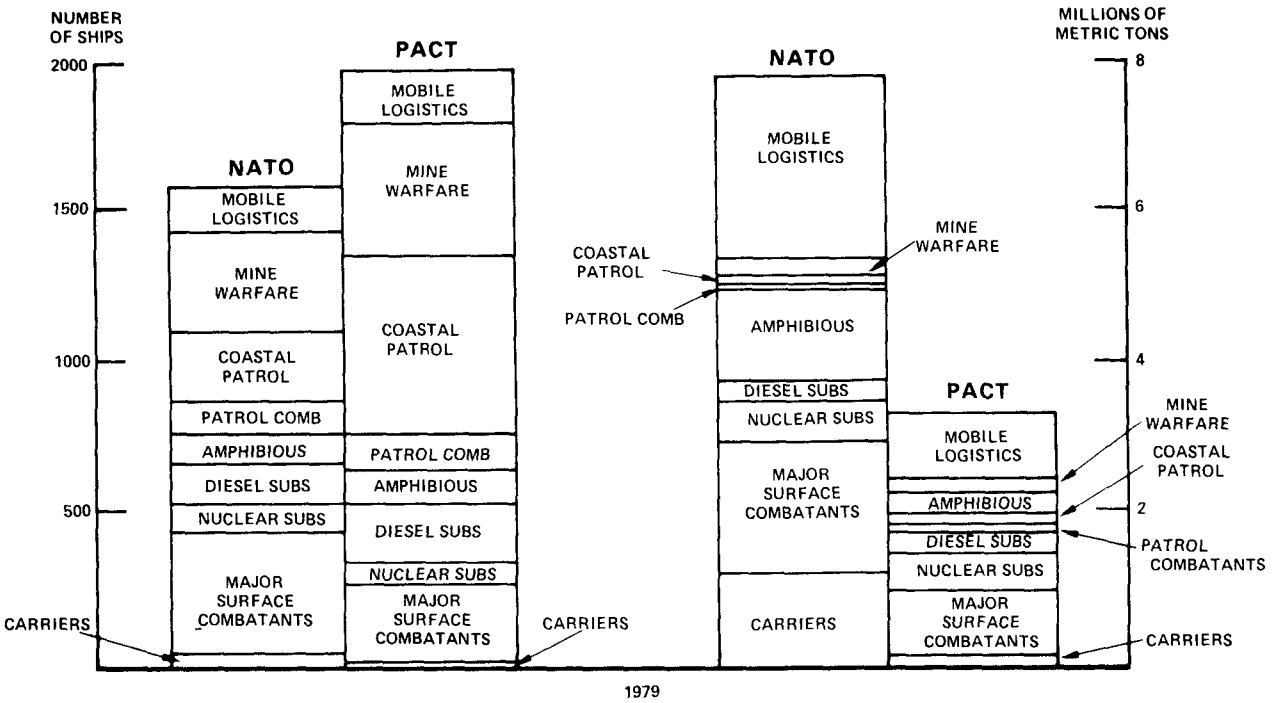
Soviet strategic airlift is still limited in the amount and type of outsize or oversize equipment it can transport. Although wide-bodied aircraft prototypes have been built, they have not yet been introduced into Military Transport Aviation (VTA).

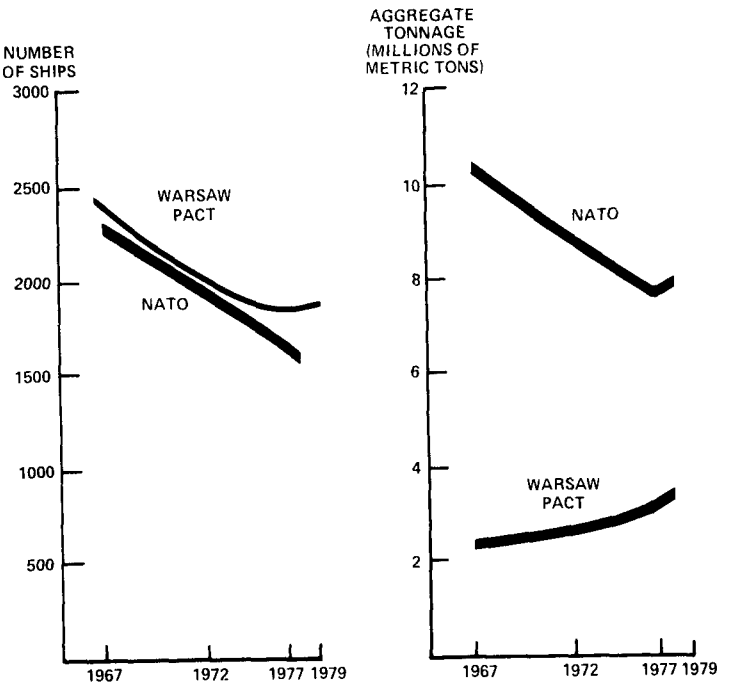
e. Some Conclusions

To summarize, the Soviets have substantially expanded their non-nuclear posture during the last 15 years, largely as a result of the buildup of ground and tactical air forces in the Far East. Before we take comfort from that fact, however, it is well to recall that these forces could be used to reinforce in Europe, for example, because they have been added to rather than subtracted from capabilities already in place elsewhere.

The non-nuclear posture has also grown more modern with the introduction of new weapons into the ground, tactical air, and naval forces, and portions of the posture have reached a higher state of combat readiness,

## GENERAL PURPOSE NAVAL FORCES OF NATO AND THE WARSAW PACT




NOTES:

1. MOBILE LOGISTIC SHIPS INCLUDE ONLY THOSE AUXILIARIES WHICH PROVIDE UNDERWAY REPLENISHMENT OR DIRECT MATERIAL SUPPORT TO UNITS OPERATING AWAY FROM HOME BASE. A NUMBER OF OTHER AUXILIARY TYPES ARE NOT INCLUDED IN THESE TOTALS.

2. DISPLACEMENTS SHOWN ARE FULL LOAD FOR SURFACE SHIPS AND SUBMERGED FOR SUBMARINES.

especially in Eastern Europe. Now, the Soviet posture contains a substantial component of forces designed primarily for operations beyond the periphery of the Soviet Union, and at least the beginnings of long-distance air and sea mobility.

Not all the implications of this evolution are yet entirely clear. However, it does appear as though the Soviets are moving closer to a capability to operate simultaneously on several widely separated fronts. This is a considerable departure from their previous capability.

2. *The Situation in Europe*

Currently we can only speculate as to whether the Soviets have actually adopted a three-contingency strategy just a decade after we abandoned it. But we can be reasonably confident that in Eastern Europe, the Soviets have improved their ability to launch heavy attacks with relatively little advance preparation and warning. I myself remain somewhat skeptical as to whether the Soviets--and particularly the other members of the Warsaw Pact--could successfully assemble a major assault force and move into action with the speed with which they are credited. And I doubt that we would have to contend with such an assault as a bolt out of the blue. But it is a possibility that grows increasingly troublesome as the Soviets continue their investments in general purpose forces. Even if we rule out the more extreme cases of Pact speed in preparing an attack, there can be no doubt about the seriousness and pertinacity with which the Soviets pursue their doctrinal objectives. If they are not there now, they will work hard to arrive in the future. We must not be caught by surprise, either tactically or strategically.

That NATO can buy the capabilities necessary to deal with these attacks is made evident by Table 6-2. The United States and its European allies have the GNP and population to do whatever needs to be done for their defense. They have already gone a long way, in fact, toward acquiring the forces and weapons that should give them high confidence in their defenses. But all of us have to recognize--as Chart 6-5 demonstrates--that the Pact effort is increasing more rapidly than our own. We cannot allow that trend to continue. Nor can we seriously contemplate decreasing--we must instead increase--our military involvement in and with Europe.

3. The Situation in Asia

As this prospect has been developing in Europe, we have had to face an increasingly awkward set of circumstances in Asia. Soviet military forces there continue to expand, even in Japan's Northern Territories, with implications that go well beyond China. Although the power of the relatively light Soviet aircraft carrier, the MINSK, has been exaggerated, its appearance in the Far East, and the modernization of the Soviet Pacific Fleet in other dimensions, are bound to raise concerns among the nations of the Pacific.

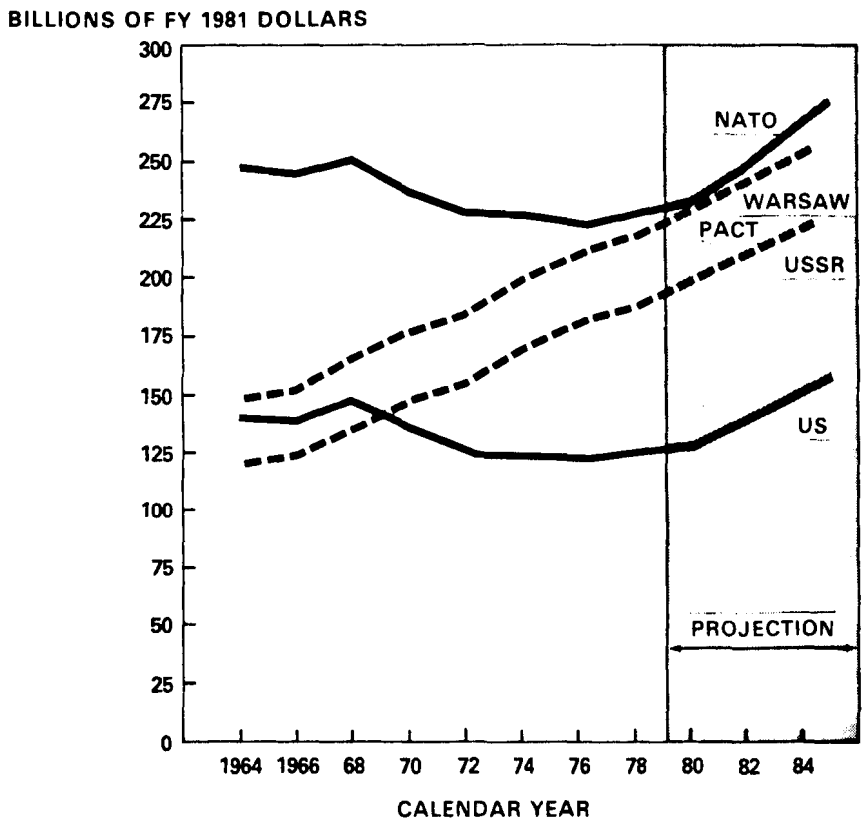
Table 6-2

# TOTAL NATO AND WARSAW PACT ASSETS

| | NATO | WARSAW PACT |
|---|---|---|
| GNP ($ BILLIONS) | 3,773 | 1,638 |
| POPULATION (MILLIONS) | 564.0 | 371.3 |
| MILITARY MANPOWER (MILLIONS) | 4.85 | 5.2 |

Chart 6-5

***COMPARISON OF NATO & WARSAW PACT TOTAL DEFENSE COSTS***




NOTES:
1) EXCLUDES RETIREMENT AND SOUTHEAST ASIA INCREMENTAL COSTS

2) PROJECTIONS ARE BASED ON 3% REAL GROWTH IN OUTLAYS FOR USSR, 3% FOR NATO, 15 YEAR AVERAGE GROWTH RATE FOR WARSAW PACT, AND FOR US REAL GROWTH AS PROJECTED IN FYDP.

The Republic of Korea appears to have weathered successfully the assassination of President Park, although the potential for serious internal problems remain. Moreover, the North Korean military buildup and North Korean behavior along the 38th Parallel inevitably raise doubts in Seoul and Tokyo, as well as Washington, about future threats to the stability of the Korean peninsula. In response, the United States and the Republic of Korea (ROK) have taken a number of steps to bolster deterrence and redress deficiencies in ROK defenses.

To the south, the Soviet encouragement of Vietnam and the interest of the Soviets in Cam Ranh Bay and Danang suggest, among other things, that the Soviet Navy would like to be able to break out of the Sea of Okhotsk and the Sea of Japan, thereby complicating the task of the Seventh Fleet in helping to defend Japan's lines of communications. More immediately, the Vietnamese invasion of Cambodia has led to two tragedies: the starvation of the Cambodian people and a short war between China and Vietnam. If the Vietnamese occupation of Cambodia continues, fighting could spill over into Thailand, a nation with which we continue to have close security ties.

In the circumstances, it seems unlikely that we will get any early relief from our security responsibilities in Asia. Indeed, as in Europe, they are likely to become more demanding as we strive to maintain a measure of stability in this vital area.

## IV. THE U.S. RESPONSE

We have already responded to the new conditions in Europe with the NATO-wide Long-Term Defense Program (LTDP) which President Carter proposed in 1977, and the Alliance accepted in 1978. It includes a U.S. effort to increase dramatically the rate at which it can deliver ground and tactical air reinforcements to Central Europe.

The success of the Long-Term Defense Plan depends on real annual increases in defense expenditures of three percent, increases to which the United States and its NATO allies have already committed themselves. Our reinforcement goal is to triple the number of U.S. combat planes in the European theater to 1,900 in a week, and to increase U.S. troop strength in the theater from 200,000 to 350,000 within two weeks.

In order to reach these goals, we will have to maintain all our current divisions. In addition, we plan to activate some additional Army battalions, and "heavy up" more existing infantry battalions. We will also increase the number of Army unit equipment sets (POMCUS) prepositioned in Europe. These rapid reinforcement divisions correspond roughly in their function to the reserve divisions of our European allies. They would be deployed in place at about the same time--before an attack began--if we were given sufficient warning time and used it (thus, we would hope, deterring the attack). The Warsaw Pact could attack from a standing start with less warning, but that would be an attack of much smaller size, for which the NATO forces in place in peacetime should act as a deterrent.

Modern equipment will be necessary for these forces as well. To improve their firepower and mobility, we will be buying 3,900 XM-1 tanks, 3,800 IFV/CFV armored fighting vehicles, 140 General Support Rocket System launchers, and 700 helicopters. To augment the air defenses of the ground forces, we will acquire 90 PATRIOT, 100 ROLAND, and 550 DIVADS air defense fire units.

At the same time, Air Force active and fully equipped tactical fighter wings will increase from 24 to 26, and reserve wings from 11 to 14 1/2. This increase will require us to acquire 850 fighter and attack aircraft. We plan to fund six U.S. AWACS aircraft over the five-year period, and also to fund the U.S. share of the NATO AWACS program.

These improvements will directly affect our ability to reinforce NATO. By FY 1986, they will permit us to reach our goals of increasing troop strength from 200,000 to 350,000 within two weeks, and of tripling the number of our combat planes in the theater.

These are essential and costly programs, although we expect to reduce their burden through increased standardization, rationalization, and interoperability within NATO. In one way or another, they also absorb a significant portion of our non-nuclear capabilities. We already have the equivalent of nearly six heavy divisions and about eight fighter wings in Europe. In addition, we will continue to deploy the Sixth Fleet in the Mediterranean and keep the Second Fleet available in the Atlantic. How readily we can swing these capabilities--or parts of them--elsewhere to deal with other contingencies will depend on circumstances, the details of which are difficult to foresee under present conditions.

At the same time, the situation in the Far East has caused us to stabilize our deployments there. We have deferred for reconsideration in 1981 the withdrawal of any further combat elements from the 2nd Infantry Division in South Korea and we will continue to keep the Third Marine Amphibious Force with its division/wing team in Japan. As previously indicated, we have stationed F-15s in Japan. At the same time, the Seventh Fleet, with two attack carriers and an increasingly modern force of surface combatants and submarines will also remain in the theater (barring the most critical emergencies elsewhere), and will continue to be supported by the Third Fleet in the Eastern Pacific. In short, we plan to maintain a major presence in and around Asia. Should the circumstances warrant, we will not hesitate to expand it.

These deployments in Europe and the Western Pacific are well within the capabilities of our current non-nuclear posture. They still leave us with a large deployable force based on the Continental United States (CONUS) and Hawaii--a force consisting of about 11 active Army and two Marine divisions, along with two large Marine wings and nearly 15 Air Force fighter wings. In addition, we will continue to have in our National Guard and Reserve forces eight Army divisions, 11 Air Force fighter wing equivalents, and one Marine division with its wing. In principle, all of these forces would be available on relatively short notice to reinforce our active units.

As matters now stand, the existing force structure does not warrant reinstituting peacetime conscription. However, we will continue to examine various systems of registration in peacetime for draft-age individuals. Advance registration could be warranted if required for earlier wartime utilization of the draft. But adequately refurbishing the Selective Service System would appear to serve much of the purpose of supplying personnel as quickly as the training base can accept it.

## V. WHERE WE STAND

Assuming that our allies in Europe and Asia continue to expand their defense efforts, and assuming that European and Asian contingencies were to represent the only demands on us, their forces in conjunction with ours should provide a moderate level of non-nuclear deterrence in these two vital theaters. I would myself prefer to see our allies increase their efforts, so as to provide a larger margin of safety in Central Europe, and I remain concerned about the situation on the NATO flanks. Indeed, we will continue to commit some of our scarce ground and tactical air forces to help in the defense of the flanks, and we are already planning to preposition heavy equipment in the area as a hedge against that possibility.

### A. Central Europe

In the Central Region of Europe, a rough numerical balance exists between the immediately available non-nuclear forces of NATO (including France) and those of the Warsaw Pact. It is estimated that, after a short period of preparation, the Pact could launch an attack made up of two fronts from its forward deployed forces, but we would probably receive some warning of these preparations. NATO (including France) has an equivalent capability at a roughly comparable level of readiness. The Pact has the advantage in number of combat units, tanks, and artillery. It would probably have the advantage of the initiative and possibly of tactical surprise. NATO, on the other hand, possesses advantages in anti-tank weapons, logistics, and air support for its ground forces. However, NATO forward defenses still are not manned in sufficient strength and depth, and its forces are not as ready as they should be.

How well NATO would do against larger Pact capabilities is not so much a function of force structure as of other factors. It is conceivable that the Pact, after some preparation, would make ready all its forces in Eastern Europe, bring in additional divisions from the western military districts of the Soviet Union, and deploy aircraft from its reserve and training establishments before attacking. With ample time, NATO should have a high probability of defending against even an attack on this scale. But actual NATO performance would depend not only on Pact mobilization and deployment times, on warning (and the political will in NATO to use it to reinforce), but also on how far the Alliance succeeds in its plans for modernization and rapid reinforcement. Of the utmost importance in this regard is the continuation of programs to provide:

- -- shelters and support facilities for rapidly deploying U.S. tactical aircraft;

-- additional airlift capability;

-- a central operational reserve for SACEUR in addition to the forces in the line; and

-- reception facilities for U.S. reinforcements.

As matters now stand, even though most force and firepower ratios favor the Pact, the Soviets could not be considered to have a high probability of shattering allied resistance in the early stages of an attack. NATO, on the other hand, could not have high confidence of containing an attack. Once our various improvement programs are completed, the situation will undoubtedly become more favorable to the alliance. But NATO still will not have as high confidence as I consider desirable of making an attack look unattractive, regardless of the circumstances.

B. Asia

The main test of our non-nuclear forces in Asia would come from a sudden North Korean attack on South Korea. The buildup of North Korean ground forces is bound to be troublesome as a reflection of, and even an interest in, that possibility. North Korean ground forces are now larger than those of South Korea, and they have advantages over the South in artillery and tanks. They would benefit, in addition, from tactical surprise and the initiative.

Despite these advantages, North Korea would not have an easy time of it in trying to reach Seoul. Its forces would have to break through or otherwise circumvent extensive fortifications, and defeat strong South Korean forces. Assuming satisfactory flying weather and no substantial disruption of our air base operations, North Korean ground units would also have to run the gauntlet of superior South Korean and U.S. tactical air power. They would, in addition, have to contend, within a short time, with a U.S. ground presence and with substantial U.S. reinforcements. As a consequence, the deterrent on the Korean peninsula continues to look reasonably firm.

C. Sea Control

Conflict in Europe or Asia, or in both simultaneously, would place heavy burdens on our naval general purpose forces. A non-nuclear conflict of any duration would require us to make extensive use of the sea lanes to both theaters. Accordingly the sea control mission--which might entail power projection operations--would become the Navy's first order of business.

Should there be a major war in Europe, for example, the Navy would be prepared to contain Soviet naval forces in home waters, destroy deployed forces, and at the same time give local protection to our own and allied maritime assets. After successful completion of these tasks, offensive operations would be conducted as required to eliminate any further contribution by the Soviet naval forces--including Soviet naval aircraft--to the outcome of the war.

I believe that the general purpose naval forces are currently sufficient in numbers to execute this strategy. They should be able to hold Soviet surface combatants north of the Greenland-Iceland-United Kingdom (GIUK) line in the Atlantic, to exact a significant attrition of Soviet submarines and older aircraft if they attempt to come south of it, and to provide appropriate close-in protection to capital ships and (in conjunction with allies) to convoys. I also believe we and our allies could establish the necessary control of the Mediterranean and close down the main exits from the Sea of Okhotsk and the Sea of Japan into the Pacific. Moreover, where appropriate, we could concentrate forces for offensive battle group operations in higher threat areas.

As I pointed out last year, because individual kill probabilities tend to be low in conventional anti-submarine warfare (ASW), it could take as long as three months to bring the Soviet submarine threat under control in the Atlantic and Pacific. During those months, if typical estimates are valid, we could lose a significant percentage of U.S. and allied reinforcement and resupply shipping, while the Soviets could lose a very large number of their submarines. Essential supplies, under these conditions, would get through.

Although these estimates could be conservative, they give us no grounds for comfort. With the appearance of the BACKFIRE, Soviet land-based naval aviation may expand in size and will certainly grow in capability, especially as techniques for ocean surveillance and long-range air-to-surface missiles are linked with this aircraft. Indeed, the BACKFIRE is likely soon to become a greater threat to our naval forces and sea lines of communication than Soviet submarines. In part, this is because we invested so many resources in so few surface combatants during the late 1960s and early 1970s. But it is also because we lack an adequate defense against massed bomber and missile attacks. How well we can now counter the threat with land-based and carrier-based aircraft and AEGIS-equipped ships remains to be seen.

## VI. OTHER CONTINGENCIES

Beyond these demands on our non-nuclear posture, we must now more than ever allow for the dangers that are arising elsewhere and that could place new demands on our capabilities, especially in the Middle East and the area of the Caribbean.

### A. The Problem

I would be misleading you if I pretended that, at present, we can define clearcut and plausible contingencies in these two regions on the basis of which we should plan and program additional non-nuclear capabilities.

The Soviets have about 23 divisions, some in relatively low states of readiness, and about 300 tactical aircraft, stationed in the military districts north of Iran and, now, in Afghanistan. But given the wide range of contingencies that could arise in the Middle East, it would be unwise to focus our planning on only one specific threat--especially a Soviet threat to countries with which our relations are at present so fluid. One of the few confident predictions we can make about the region is that it will probably continue to be a highly unstable region, and that the course of events will thus be unpredictable.

Only a few years ago, many people felt that U.S. interests in the region could be protected by a strong Iran. Few predicted that Iran's strength would disappear so quickly, let alone that its leaders would become hostile to the United States. It is hardly surprising, in the circumstances, that we should be wary about predicting the nature of the next threat or the direction from which it might come. To some extent, in any event, the threat comes from the simple danger of conflict in any form.

It is important to note, nonetheless, that there exists a large, and almost certainly continuing, military imbalance in the region. The weaker states in the Persian Gulf area also happen to include most of the largest oil producers and the states most friendly to the United States, including Saudi Arabia. The strongest local military power is Iraq. Soviet interests could also be supported by Cuban forces in the region.

In the Caribbean region, Cuba--with Soviet encouragement and support--could conceivably go beyond subversion and military assistance of local radical forces. However, direct Cuban military involvement in the turmoil of the area could occur only at great risk to them.

B. Actions Taken

These circumstances do not, I judge, now require us to add very much to our current force structure. There remains, after all, a great deal we can do with the resources already at our disposal. Force structure aside, however, we very much need to--and can--give ourselves the capability to engage more of our forces more rapidly than we have been able to do heretofore. And we can organize our forces so as to be able to do so more effectively.

We have already slightly expanded the number of surface combatants under the control of Commander, Mideast Force, from three to five ships, and we have increased the number of naval battle group force deployments into the Indian Ocean from three to four annually. We will need to enlarge our presence still further.

At the President's direction, we have established a permanent, full-time Caribbean Joint Task Force Headquarters at Key West, Florida, begun the expansion of our military exercises in the Caribbean region, increased the surveillance of Cuba, and taken other measures to assure that, in the President's words, "no Soviet unit in Cuba can be used as a combat force to threaten the security of the United States or any other nation in this hemisphere." We will, in any event, be responsive to a request for assistance from any nation in the hemisphere to meet a threat from Soviet or Cuban military forces.

C. Rapid Deployment Forces

These measures should help contribute to regional stability in the immediate future. However, the President and I believe that the prospect of renewed turbulence in the Middle East, the Caribbean, and elsewhere, and the possibility of new demands on our non-nuclear posture, require additional precautionary actions. As a consequence, we will accelerate our efforts to improve the capabilities of our Rapid Deployment Forces (RDF).

We have established a CONUS-based Joint Task Force (JTF) to plan, train, and exercise as well as prepare selected units of the Rapid Deployment Joint Task Force for deployment and employment. A Marine Corps lieutenant general has been appointed to command the JTF; in the event of a crisis, he will command the forces assigned to the JTF. None of this, however, should be taken to suggest a U.S. intention to threaten the sovereignty of any country or to intervene where we are not wanted. Rather, mobile, well-equipped, and trained conventional forces are essential to assist allies and other friends should conditions so dictate, and should our assistance be needed.

We have already designated some specific units as components of the RDF. I should emphasize, however, that we do not intend to establish the RDF as a separate force of a given size. Instead, the units designated for the RDF will constitute a reservoir from which to draw a capability specifically tailored to the contingency at hand. The Army contribution for example, could be anywhere from a platoon of rangers or other specialists to a multi-division corps. Naval, Marine, and Air Force elements of various kinds will also constitute building blocks in the RDF.

We can already airlift a unit of brigade size to a remote area quite quickly. But it would have to be lightly armed. To move a mechanized or an armored brigade an equivalent distance would tie up most of our airlift capability for a considerable time, even assuming enroute basing and overflight rights were available. To accelerate this kind of movement, in FY 1981 we will fund the first two of 14 Maritime Prepositioning Ships to be acquired over the next five years, as well as the equipment for three Marine brigades to be placed aboard these ships in dehumidified storage. In peacetime, the ships would be stationed in remote areas where U.S. forces might be needed. Though not designed for amphibious assault, they will be able to debark their equipment over the beach, if necessary. The Marine personnel, and other equipment not well suited to prepositioning, would be airlifted to the location of the ships to marry up with their gear, and be ready for battle on short notice.

The other major initiative to improve our rapid deployment capability is the development and production of the C-X--an aircraft able to carry outsized cargo over intercontinental distances. Several general design options are being considered. One would be a relatively minor modification of one or another existing design, which offers the benefits of earliest availability and minimal research and development costs. Another would be a new design, possibly incorporating some of the technology developed for the AMST; it would offer the benefit of better adaptability to smaller, austere airports.

Other measures will be needed as well. We plan to acquire a total of 26 advanced tanker aircraft to permit modest deployments over very long distances without the need for enroute base rights. We are extending the life of the entire C-5 fleet from 7,100 to more than 30,000 hours, and stretching all 271 of the existing C-141 aircraft to increase their payload by 30 percent. We are also funding the adaptation of 36 commercial aircraft so as to increase the cargo capacity of the Civil Reserve Air Fleet, and adding 12 dry cargo ships and six tankers to the Ready Reserve Fleet.

These measures offer two major benefits. They enhance our strategic mobility. At the same time, they permit us to increase our presence in theaters of vital interest, should that prove necessary, while limiting expensive and time-consuming additions of force structure to those absolutely necessary. In this challenging decade, getting there first with the right kind of capability may be even more important than getting there second with the most.

Along with these improvements in mobility, we are funding other measures to increase the effectiveness of the RDF. We are adding to the anti-tank capability of Marine tactical air and improving the firepower of the Marine units to be used with the Maritime Prepositioning Ships. We are also expanding the program to test our capability for rapid joint-Service operations.

## VII. ADEQUACY OF THE PROGRAMS

One of the more interesting and fruitful outcomes of the debate on SALT II has been the recognition that while there are some problems with our nuclear posture, the most serious issues for the future concern our non-nuclear forces and their adequacy. Despite the rhetoric about superiority and inferiority in the nuclear realm, it is increasingly acknowledged that the non-nuclear arena is where the main dangers and action are likely to be, and that our non-nuclear needs are as important as our nuclear needs.

This recognition, in its turn, has led to a number of questions about our current non-nuclear posture and programs. It is appropriate, therefore, to conclude this section of the Annual Defense Report with a summary of how we see our problems and needs as we enter the decade of the 1980s.

As I emphasized at the outset of this Report, there is no fixed "requirement" that must be satisfied in order to assure our security. Even within a given budget, it is possible to design a variety of postures, depending on such matters as how we define success, which of the many factors contributing to success we wish to emphasize, and what probability of success we seek to achieve. And whether a budget is increased in real terms annually by three, four, or five percent, we will not escape having to decide where among the many possibilities to allocate our resources. Weapons and people are the most obvious and popular choices. But weapons are useless if they are not maintained in working order, and people will simply be endangered if they are not trained and made ready for combat. Even then, the value of weapons and people will depend on whether they can be mobilized and moved into theaters of operations in a timely fashion and, once there, sustained in combat with supplies, equipment, and replacements. Not only do we have to decide on force size, composition, and equipment; we have to refine our mobilization process and choose explicitly how well we want the overall posture to work.

To help with these choices, we try in the first instance to understand the international situation, its dangers, and the demands that are likely to be made on the Armed Forces. This effort has led to the formulation of national objectives for the non-nuclear forces. These objectives, in effect, specify that we should:

-- Be prepared for two simultaneous contingencies, one major and one minor;

-- Have the readiness, the deployments, and the mobility to respond to emergencies rapidly enough to conduct forward defenses of the threatened areas; and

-- Be able to sustain these forces in combat, without any resort to nuclear weapons, for at least as long as the enemy--subject to the caveat that it is not appropriate to fund U.S. sustainability much greater than that of our allies in theaters where only an alliance strategy is feasible.

Those, in short, are the basic demands we must be prepared to meet. They define in broad terms what constitute our need for forces, weapons, training, readiness, mobility and sustainability. They also shape the mobilization process and say something about how we should balance these capabilities. Right now, for example, it is our view that future events will create an increasing demand for high combat readiness and great speed in moving into particular theaters of operations. We also expect that while individual weapons will grow more sophisticated, numbers of weapons will still be substitutable to an important degree for quality.

Considerations such as these, together with the fact that the United States will continue as a leading actor in world affairs, mean that our posture will have to be more balanced among the main determinants of effectiveness than we have deemed necessary in the past. Thus, to the extent that we buy more force structure and weapons, we must also buy the support to go with them, so as to assure their readiness, mobility and sustainability. Otherwise, in this turbulent world, the additional force structure and weapons will be of only limited use to us.

At present, we appear to have enough divisions and tactical air wings to meet current demands, even if those demands should comprise simultaneous contingencies in Central Europe and the Persian Gulf. However, I am not satisfied that we have acquired enough strategic mobility to move the forces and their support elements into the two theaters with the necessary dispatch. Nor is it clear that we have all the options necessary for graduated or rapid and complete mobilization.

We have tried to circumvent our shortages of lift, where the European theater is concerned, by increasing our forces stationed there, and by emphasizing POMCUS. But there are limits to what we should invest in these partial substitutes for mobility. Beyond what we would need to store anyway as War Reserve Materiel (WRM), we cannot afford to tie down too many of our assets in one theater. That, accordingly, is why we place such stress on the CRAF program, the KC-10 aerial tankers, the C-X airlift aircraft, and the maritime prepositioning ships.

We have, in addition, a special problem with the Navy. I believe we can meet the future demands for sea control and power projection with a force of about 550 active and reserve ships--about the size of the Fleet we expect to have by 1984--if they are the right ships. However, there are three challenges we still must face. The first is the continued aging of certain components of the Fleet, particularly our surface combatants and support ships. The second is the growing BACKFIRE threat, which will exceed the menace of Soviet attack submarines. The third is the growing need for deployments in such waters as the Indian Ocean, the Persian Gulf itself, and the Caribbean.

I believe that our enhanced five-year shipbuilding program will deal with the aging problem. In the coming years, we will be funding 97 new ships--a number consistent with the 550-ship fleet. Of the 97 new ships, 17 will be nuclear submarines and 40 will be surface combatants.

In the category of surface combatants, we are allocating relatively more resources to the CG-47 AEGIS guided missile cruiser class, and relatively less to the FFG-7 frigate class. This reflects the judgment that the future Soviet air threat (which the AEGIS ships are designed primarily to counter) will be relatively more serious than the future Soviet submarine threat (which the FFG-7 is designed primarily to counter). However, we will maintain production of the FFG-7, or a successor class--the FFX--throughout the period.

The FFX would be intended primarily for the Naval Reserves, and is one of the three new designs intended to assure adequate fleet size at reasonable cost. The other two are the FA-SSN, a successor to the current SSN-688 class attack submarine, and the DDGX, a lower-cost major fleet escort that would complement and work with the AEGIS ships.

We will continue the force of 12 aircraft carriers and maintain all our present Navy and Marine air wings (12 Navy and three Marine active, and two Navy and one Marine reserve). This will require procurement of about 700 new Navy and Marine fighter and attack aircraft during the 1981-to-1985 period. We will also buy enough new land-based maritime patrol aircraft to maintain and modernize all existing 24 active and 13 reserve squadrons, as well as about 200 modern anti-submarine warfare helicopters to operate from escort ships.

With this program, we will assure the ability of the Navy to maintain control of the seas and protect vital lines of communication, both military and economic. By concentrating forces, the option to carry out selected operations in high threat waters should be feasible as well. The Navy will also be able to provide the strong maritime component of our Rapid Deployment Forces essential for operations in remote but vital areas of the world.

In FY 1965 alone, we funded the acquisition of 650 fighter aircraft, close to 1,300 helicopters, 16 surface combatants, and six nuclear attack submarines. In FY 1977, by contrast, we funded 307 fighters, 142 helicopters, nine surface combatants, and three nuclear attack submarines. No doubt these newer weapons are more effective than their predecessors, but it is not at all clear that effectiveness has risen commensurately with costs. What we know, though, is that unit equipment costs have gone up, on the average, by a factor of 2.5, while the costs of maintaining the systems have jumped by 50 percent--all in real terms.

During the past decade, Soviet procurement--measured in U.S. prices--has been cumulatively 27 percent greater than comparable U.S. activities, and in 1979 alone it was 85 percent greater. As a consequence, we have seen an increase in the quality and quantity of Soviet weapons in almost every mission area, non-nuclear as well as nuclear, and a reduction in the average age of most deployed Soviet systems.

Obviously, we must respond to this modernization effort. To lessen the cost of the response, we are trying to achieve greater efficiency within NATO in both R&D and procurement. Alliance efforts aside, we are striving to introduce more continuity into our own modernization programs. In both areas, we will need Congressional support. In particular, where the most expensive items are involved--as they are with SSBNs, attack carriers, attack submarines, and fighter aircraft--we must be willing to sacrifice the last 10 percent of technical sophistication (which usually represents a substantially higher percentage of the cost), however nice to have, for increased numbers of systems. Otherwise we will either confront unrealistic increases in the budget in order to satisfy modernization needs, or have to live with large and growing components of the force in a state of obsolescence.

We have made some progress in improving the individual training of our personnel during the last three years, and I do not foresee any major problem in that area--unless rapidly rising fuel costs force us to reduce our flying hours and steaming days still further. However, we continue to have problems with materiel readiness, in part because of the advanced equipment coming into the forces. This is also an area from which funds are most readily removed during the long budgetary process. Maintenance--and operations, too--lack a strong constituency; thus their funding becomes an easy target when resources are needed for other defense purposes, or when reductions in the defense budget are sought. We must abandon that practice. We need and are programming steady funding to ease the backlogs of overhauls and the shortages of spare parts. It is important that we get on with the job without interruption.

How much combat sustaining capability we should have on hand in peacetime is one of the most difficult questions we have to face. Not only do we live with uncertainty about the nature of the wars we might be called upon to fight; there is even greater uncertainty about their duration. The safe position in these circumstances, but an extremely costly one, is to stock materiel and combat consumables for a period long enough to tide us over until production can equal wartime consumption--the D-to-P concept. For many items, however, that can be longer than 6-to-12 months. Present conditions do not warrant such a commitment. In the circumstances, our currently planned war reserve procurement programs, coupled with our existing inventories of older, less effective items, entail an acceptable level of risk.

Finally, and most important, we are encountering problems in satisfying our personnel needs. Our active-duty personnel are only slightly below the strength authorized by the Congress, and the overall quality of the people entering the Services compares favorably with our intake from the draft prior to Vietnam. But in 1979, for the first time since the advent of the All-Volunteer Force (AVF), all the Services fell short of their recruiting goals; and we are now

encountering increasing difficulty retaining personnel in areas of skill where the private sector of the economy also has a strong interest. We have made progress in recruiting for the Reserve Components, and the supply of manpower in the Individual Ready Reserve (IRR) is beginning to increase. However, in the near-term, in the case of the Army, there is a significant shortage of the pretrained individuals necessary to bring our active and reserve units to full wartime strength, and to replace combat losses. If not remedied, it could result in the "cannibalization" of Selected Reserve units on which we depend for rounding out, augmenting, supporting, and reinforcing the active-duty forces.

Peacetime conscription will not solve these problems. And it would not help to retain the trained and skilled personnel we need most. We have rather to face several realities: that our compensation scales have lost at least seven percent of real purchasing power since the beginning of the AVF; that military pay has failed to keep pace with wages for civilian employment alternatives; that other benefits, including post-service education, are less than they used to be; and that military service still suffers from unfavorable publicity. We need to take a long-term look at our personnel needs to see how to respond further than we are already doing to these problems.

This budget, as discussed in Section II of this Report, attempts to come to grips with these various problems, even as we continue to watch them with the greatest care. The rest of our efforts, after all, will be in vain without strongly motivated and dedicated people. With them, we can and will do whatever needs to be done for the security of the United States.

# SECTION II

# U.S. DEFENSE PROGRAMS

CHAPTER 1

STRATEGIC FORCES

# I. STRATEGIC OFFENSIVE FORCES

## A. Program Basis

The total Department of Defense request for Strategic Offensive Forces in FY 1981 is approximately $10.2 billion. This is about six percent of the DoD budget. Allocating overall support costs among functional areas gives an estimate of about 12 percent.

### 1. U.S. Strategic Force Objectives

The main objective of U.S. strategic forces is to deter a nuclear attack on the United States, our forces, our allies or others whose security is important to us. In conjunction with general purpose and theater nuclear forces, our strategic forces also enhance deterrence of non-nuclear aggression against NATO and our Asian allies.

### 2. The Strategic Balance

Although Soviet ICBMs will increasingly threaten the survivability of our land-based missiles in the 1980s, the Soviets must be concerned with the future survivability of their own ICBMs. However, now and for the future, neither the United States nor the Soviet Union could launch a first strike that would prevent the other side from retaliating with devastating force.

We cannot measure deterrence directly. We commonly look at a variety of static force measures, such as number of warheads and equivalent megatonnage, in comparing the strategic forces of the United States and the Soviet Union. We also perform assessments of the capabilities of U.S. forces to achieve particular levels of damage against various numbers and classes of targets. Although not conclusive, such measures and assessments have a bearing on deterrence through their influence on perceptions of relative strengths.

We must be confident that our strategic force posture is resilient enough to enable us to respond to a variety of potential crisis or conflict situations that would impose varying demands and stress different force attributes. These situations should include conflict scenarios that appear to be of concern to the Soviets. A meaningful but by no means complete way to assess the deterrent capability of our strategic posture is to examine how our forces might perform in response to a hypothetical Soviet attack on them and on command, control, and communications ($C^3$) facilities associated with the operational control and employment of these forces. We have performed the assessment of such an attack for two cases: a surprise attack with our forces on day-to-day alert, and an attack following sufficient strategic warning so

that both Soviet and U.S. forces have been generated to a high-alert status. This assessment does not test our forces' endurance, a desirable attribute for deterrence in that it reduces Soviet expectations of prevailing in a protracted nuclear conflict, nor does it reflect the uncertainties resulting from the attacks on our $C^3$ systems.

We assume that the initial Soviet attack uses ICBM warheads against U.S. silos, forward-deployed SLBM warheads against time-urgent $C^3$ and bomber base targets, and ICBMs and SLBMs against SSBN ports and other supporting installations. The U.S. retaliatory counterforce attack uses surviving ICBM and SLBM warheads against Soviet bomber bases, SSBN ports, and hardened $C^3$ targets, and uses surviving ICBM and bomber warheads against Soviet ICBM silos.

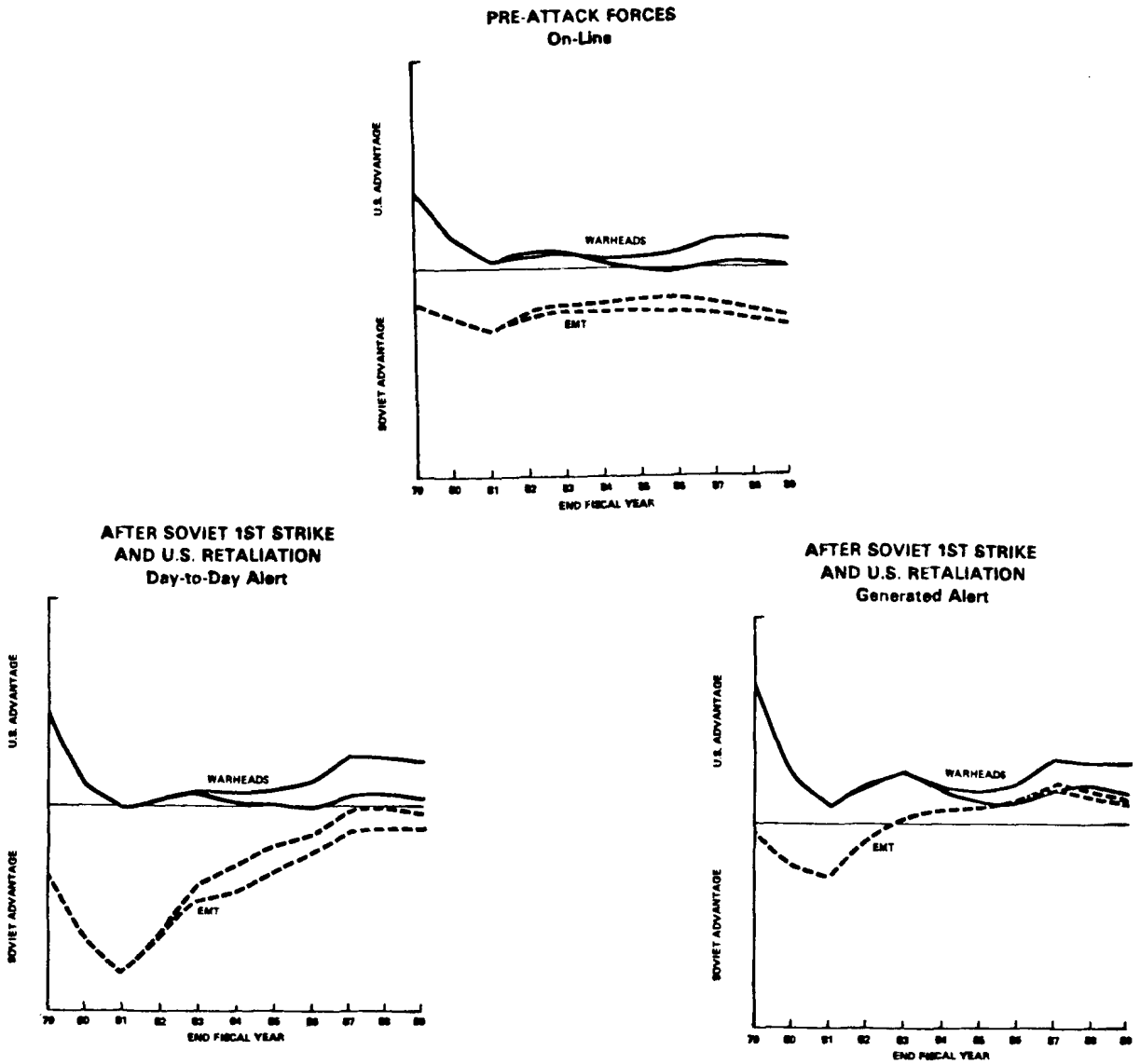
Chart 1-1 compares the expected remaining warheads and EMT (equivalent megatonnage) for U.S. and Soviet forces over the period 1979-1989 under these attack assumptions. Chart 1-2 portrays the expected residual U.S. retaliatory capability following the U.S. counterforce attack, against Soviet industrial and military targets. Both charts reflect the numbers and calculated capabilities of planned U.S. and projected Soviet strategic forces under SALT constraints, using detailed performance characteristics (e.g., yield, accuracy, reliability).

In the early 1980s, the results of this counterforce exchange shown in Chart 1-1 suggest that the U.S. will maintain a lead in warheads, albeit marginal in the day-to-day case, but that the remaining Soviet warheads will be substantially more powerful. However, even in this period, the Soviets would not significantly improve their relative position by a nuclear attack, given our ability to retaliate against their strategic capability. As U.S. strategic modernization programs are deployed, the U.S. warhead advantage grows and the Soviet equivalent megatonnage (EMT) advantage diminishes or disappears. This occurs despite significant Soviet modernization. Chart 1-2 shows a steady improvement in U.S. retaliatory capability in the 1980s after the counterforce exchange.

Chart 1-1

U.S. and Soviet Strategic Forces Comparison Under SALT II

(Note: Forked lines reflect our uncertainty about whether the Soviets will deploy a single RV or a MIRVed (10 RV) payload on the new ICBM allowable under SALT II.)

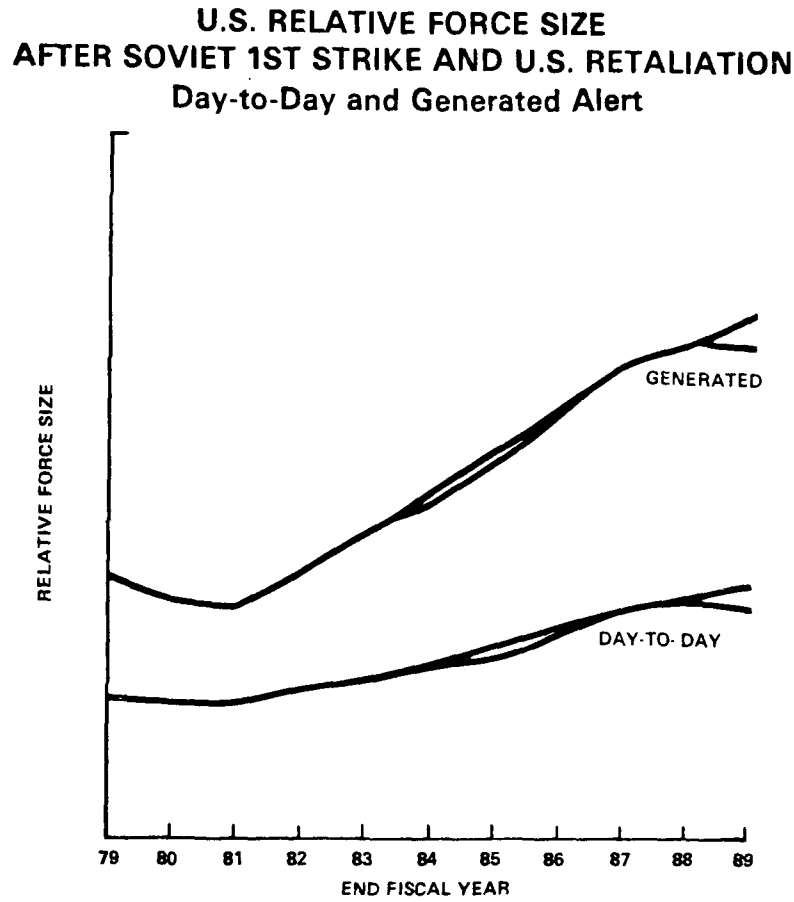



Note: This chart depicts programmed U.S. forces and projected Soviet forces assuming SALT II limits. Pre-attack level represents on-line warheads and EMT. The post-exchange levels show the residual warheads and EMT after an initial Soviet counterforce strike and a retaliatory U.S. counterforce strike.

Chart 1-2

U.S. Retaliatory Capability

(Note: Forked lines reflect our uncertainty about whether the Soviets will deploy a single RV or a MIRVed (10 RV) payload on the new ICBM allowable under SALT II.)




Note: This chart represents a measure of the residual retaliatory capabilities of programmed U.S. forces after undergoing an attack by projected Soviet forces and responding with a counterforce attack. The measure, while comprehensive, does not reflect the basis on which we plan to use the forces, including allowances for theater purposes. Even after riding out a Soviet first strike while on day-to-day alert the United States will be capable of attacking a comprehensive list of military and non-military targets.

### 3. Key Needs for Strategic Forces

I believe that the best way to meet our strategic goals--deterrence, essential equivalence, and stability--is to maintain strategic forces with the diversity, redundancy and flexibility of the current TRIAD. With three largely independent, survivable systems, our capability has been well hedged in the past. Emerging problems such as silo vulnerability, block obsolescence, and advances in Soviet strategic defense require action to prevent our current effective strategic forces from becoming unduly dependent on one or two components. Thus, our strategic offensive force programs address the following interrelated challenges: (1) reducing the vulnerability of our land-based ICBMs; (2) maintaining the high survivability and effectiveness of the SLBM force as POLARIS/POSEIDON submarines reach the end of their planned service lives; and (3) continued high reliability, survivability and penetration probability of the air breathing leg of our strategic TRIAD. These programs represent the most vigorous strategic force modernization program in more than a decade.

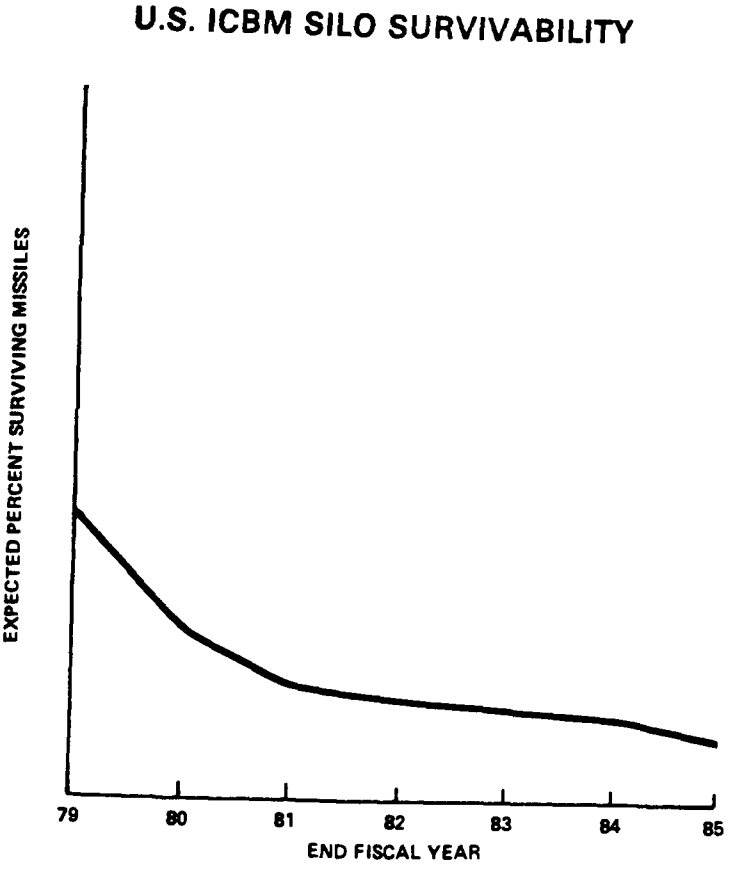
## B. Program Description

### 1. Reducing the Vulnerability of Land-Based ICBMs

Reducing the vulnerability of the land-based ICBM force is the highest priority strategic initiative in the five-year program. Intensive study during the past year has enabled us to begin full scale development of the MX missile and to select a survivable basing mode.

All available evidence suggests that targeting U.S. ICBM silos continues to be a high priority for the Soviet ICBM force. The numbers of high quality warheads on new versions of the SS-18 and SS-19 seriously threaten our MINUTEMAN force in the early 1980s, as is illustrated in Chart 1-3. While the outcome of an attempt to destroy our silos would be more uncertain than this curve suggests, the clearly unfavorable trend warrants corrective action.

Chart 1-3




The decision to proceed with full-scale development of the MX reflects the Administration's view that there are persuasive military and perceptual reasons for increasing the deterrent value of the ICBM component of our strategic forces. These reasons are discussed in Section I. The decision to proceed reflects, in particular, a consensus that a strategic TRIAD of forces is the best way to hedge against unexpected breakthroughs in Soviet ASW or air defense capability in the late 1980s or beyond, and that such features of ICBMs as accuracy and good command and control, contribute a flexibility to the force that should be made survivable against Soviet preemptive attack.

The MX missile configuration chosen for full-scale development has the largest throw-weight allowable under the proposed SALT II agreement and will carry the maximum allowable number of warheads. Equipped with an Advanced Inertial Reference Sphere (AIRS) guidance system, the MX will be capable of attacking the full spectrum of Soviet targets.

The basing method selected for the MX missile evolved directly from previous designs of both the underground trench and surface horizontal shelters. The method includes missiles transported by large vehicles (Transporter Erector Launchers or TELs) designed to operate on a loop road with shelters on spurs as depicted in Chart 1-4.

Chart 1-4

## LOOP ROAD FOR 1 MISSILE WITH 23 SHELTERS

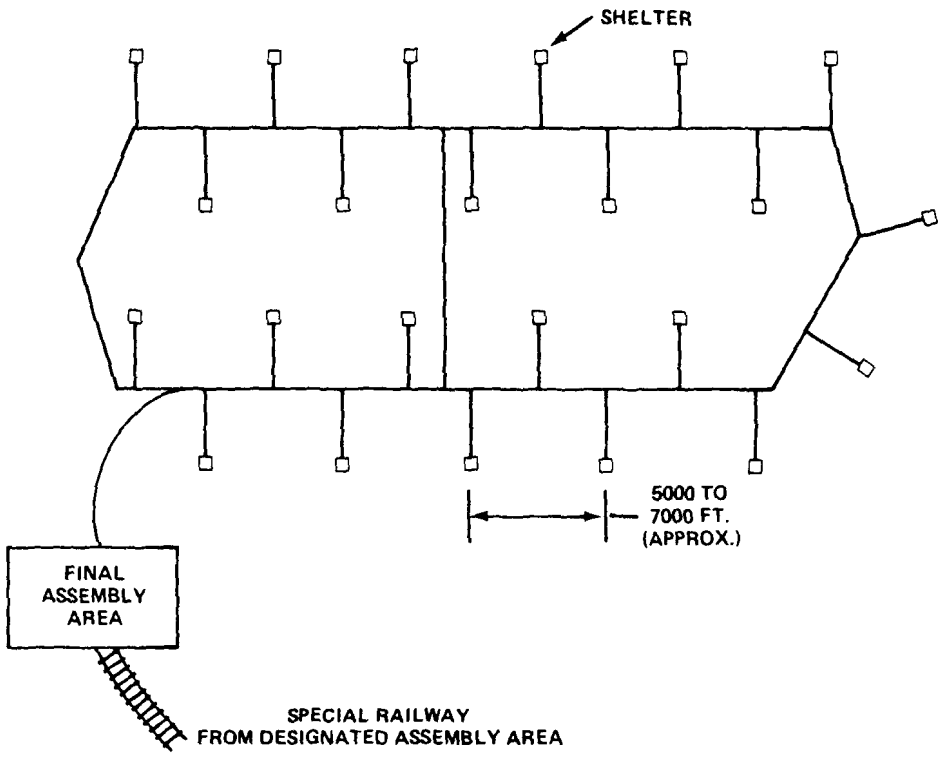


Table 1-1 summarizes the major considerations taken into account in the choice of the MX basing mode.

Table 1-1

| Consideration | Resolution |
|---|---|
| Preservation of Location Uncertainty | Periodic, covered movement of TELs; continuous TEL motion in crisis or dash on tactical warning. |
| Strategic Arms Limitations (SAL) Verification | Geographical confinement; system design and operational flow allows monitoring at various stages; periodic shelter opening. |
| Environmental Impact | Point security withdraws minimum of public land; roads open to public; possible use of renewable energy sources to power the shelters. |
| Resilience to Threat | System can be expanded to meet survivability requirements. |

The current MX plan is to deploy 200 missiles in 4,600 shelters by the end of 1989. An initial operational capability for 10 missiles is planned for July 1986. The final mix of missiles and shelters need not be decided at least until the initial production decision is made, and will then reflect the conditions existing at the time such as the threat, SAL agreements, and prospects for future agreements.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| MX Engineering Development | Development: $ Millions | 150.0 | 670.0 | 1,551.0 | 2,179.6 |
| MINUTEMAN improvements (MK-12A warhead to increase yield, silo and communication improvements). | Development: $ Millions | 50.3 | 35.3 | 48.3 | 40.0 |
| | Procurement: $ Millions | 66.1 | 87.1 | 87.0 | 33.6 |

## 2. Strengthening the SLBM Force

Strategic submarines and their associated ballistic missiles continue to provide a unique mix of capabilities for our strategic forces. The ability to patrol, virtually unchallenged, in the vast ocean areas presents a multi-azimuth and so far untargetable retaliatory capability. The existence of a survivable at-sea ballistic missile force decreases any incentives for large-scale attacks on U.S. soil (whatever forces we base in the U.S.), since such attacks would not eliminate our ability to retaliate. The problem we now face is how to provide a cost/effective transition from a submarine force designed in the 1950s to a force that will continue to provide high-confidence sea-based deterrence into the 21st century.

The 41 POLARIS/POSEIDON SSBNs in the active force were constructed in the late 1950s and early 1960s. The 10 oldest SSBNs, armed with 16 POLARIS multiple reentry vehicle (MRV) missiles per submarine, will be retired from the strategic force by FY 1981 (five SSBNs in FY 1980, five in 1981). The remaining 31 POSEIDON SSBNs were converted to carry 16 POSEIDON missiles with Multiple Independently Targetable Reentry Vehicles (MIRVs). Twelve POSEIDON submarines are planned for further modification to carry the TRIDENT I missile. This missile will significantly enhance our strategic force effectiveness by improving yield, accuracy, and range relative to the POSEIDON missile. The greater range considerably enhances survivability of the SSBN force, allowing these 12 TRIDENT backfitted submarines to operate in much larger ocean areas while on-station, thus hedging against the possibility of a Soviet ASW breakthrough. The first submarine finished conversion in December 1978, and the SSBN was deployed with the TRIDENT I missile in October 1979; program completion is planned for FY 1982. No POSEIDON submarine retirements are programmed through FY 1985.

The ultimate size and missile configuration of the SLBM leg of the TRIAD has yet to be determined. These decisions will be based on many and changing variables, including: (a) assessments of the size and capability of Soviet strategic and ASW forces; (b) determination of the cost/effective life span of the POSEIDON force; (c) the attractiveness of alternative strategic programs when compared to TRIDENT; and, (d) progress in strategic arms limitations negotiations.

There have been eight TRIDENT submarines authorized through FY 1980. Long-lead funding has been authorized for a total of 11 submarines. The lead submarine, USS OHIO, is scheduled for sea trials in July 1980, with a planned Initial Operational Capability (IOC) of August 1981. The TRIDENT has more (24) and larger missile tubes than the POSEIDON boat, is quieter, making acoustic detection more difficult, and will have an increased at-sea, on patrol time. A basic building rate of one SSBN per year is programmed through 1984, with a subsequent building rate of three ships every two years. Funds are programmed to support concept and design studies leading to a follow-on, less expensive SSBN. This SSBN could either be a reengineered TRIDENT design or a new design of a 24-tube SSBN with tubes of the same size as the TRIDENT SSBN.

A modest research and development effort will continue to explore the feasibility of improving SLBM accuracy and payload, either for the existing TRIDENT I missile, or the development of a new missile (TRIDENT II). Research and development funds are provided for TRIDENT II in FY 1981.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| Acquisition of TRIDENT submarine | Procurement: $ Millions | 487.1 | 1,379.4 | 1,129.4 | 1,388.3 |
| Acquisition of TRIDENT I missile | Procurement: $ Millions | 890.0 | 764.0 | 855.0 | 813.3 |
| POSEIDON Submarine conversion for TRIDENT I missile | Procurement: $ Millions | 36.2 | 10.6 | 13.5 | 8.9 |
| Research and Development of TRIDENT II (SLBM Improvement) | Development: $ Millions | 5.0 | 25.6 | 36.4 | - |
| Research and Development of SSBN-X | Development: $ Millions | 3.0 | 10.0 | 12.6 | 80.9 |

3. Maintaining the Air-Breathing Leg

Our strategic bombers continue to be an effective component of the TRIAD. We maintain their second-strike capability by keeping a significant percentage of the bombers at high readiness levels on day-to-day alert, planning to penetrate Soviet defenses at low altitudes, avoiding known and suspected ground-controlled intercept (GCI) radars and surface-to-air missile (SAM) sites, using electronic countermeasures (ECM) to confuse radars, and attacking heavily defended targets from outside their defenses by using short-range attack missiles (SRAM). The Soviets, however, are projected to modernize and increase their defenses with a new Airborne Warning and Control Aircraft, (SUAWACS), as well as with new interceptors with a lookdown/shootdown capability, and an improved, mobile, low-altitude surface-to-air-missile (SAM). The probability of our bombers reaching their targets when these systems are fully deployed will decrease significantly unless we take action now to counter these Soviet programs.

The modernization and modification programs described below should maintain the capability of our air-breathing leg of the TRIAD, at least through the 1980s and into the 1990s--with further actions, through the 1990s.

a. Cruise Missile Program

The air-launched cruise missile (ALCM) program constitutes the major modernization effort for the strategic bomber force. The ALCM is a small, long-range, highly accurate, winged vehicle which can be launched by bombers penetrating Soviet defenses or from entirely outside Soviet defenses. These weapons will ultimately be loaded both under the wings and in the bomb bays of our B-52G bombers, almost doubling the number of weapons these aircraft carry.

The competitive flyoff between the Boeing AGM-86 and the General Dynamics AGM-109 was scheduled to be completed in January 1980. It included ten live missile launches from a B-52G by each of the competing contractors, providing data for a source selection and a production decision early in 1980. Nineteen additional flights (eight more than originally planned) are currently programmed for the selected missile. The competitive flyoff, extensive ground testing, and the follow-on flight testing will provide high confidence in the mission reliability of the cruise missile we select.

During January of 1978, I initiated a survivability assessment of the cruise missile because of the important role the ALCM is projected to assume in the air-breathing leg of the TRIAD. Phase I of that assessment, using the TOMAHAWK as a representative missile, was completed in September 1978. It consisted of seven flights designed to test the vulnerability of the cruise missile to a spectrum of current and future hostile air defense systems. Additionally, a follow-on live firing test and evaluation program has been initiated to address further the issue of cruise missile vulnerability to current and potential air-to-air missiles and surface-to-air missiles. So far, nothing in the assessment program has changed my view that our successive generations of cruise missiles will be able to perform their mission effectively against evolving Soviet defenses.

Initial operational capability (IOC) for the ALCM is planned for December 1982, when the first B-52G squadron is loaded with external cruise missiles. Full operational capability is projected to occur in 1990, when all 151 B-52G aircraft will be loaded, each with 12 external and eight internal cruise missiles.

b. Cruise Missile Carrier Aircraft

The cruise missile carrier aircraft (CMC) development program continues to offer a prudent option for rapid growth in our strategic capability, should that be necessary, by providing significant increases in the number of cruise missiles that could be carried by the air-breathing leg of our strategic TRIAD. The Air Force has completed its concept/system definition studies. A sub-sonic prototype aircraft will undergo flight demonstration prior to entering advanced development for possible use in the CMC mission. In the unlikely event that B-52 vulnerability to Soviet defenses requires it, production of a new CMC could begin as early as FY 1985.

c. B-52 Modification

Several modification programs are planned for the B-52 force to improve aircraft reliability and maintainability and to equip the B-52G aircraft for air-launched cruise missile carriage. Specifically, the present B-52G/H bombing-navigation avionics systems, designed with technologies available in the early 1950s, are experiencing decreasing effectiveness and increasing maintenance costs. Phase I of the offensive avionics system (OAS) modifications will solve this immediate problem and reduce support costs. In addition, OAS Phase I will integrate the cruise missile weapon system with the B-52G avionics and provide a common system for the B-52H should cruise missile carriage be desired at a later time for that aircraft. Flight testing and evaluation will begin later this year using a test aircraft. The first aircraft will be modified by September 1981.

A second phase of the B-52 modification program addresses the B-52G/H reliability and maintainability problems associated with the 1950's designed penetration-related systems such as the forward-looking radar, automatic flight control systems and aircraft electrical systems. This program is currently funded in FY 1981 as an R&D effort.

d. Bomber R&D

Although our B-52 force, particularly when employed with cruise missiles, is projected to be effective well into the 1990s, our newest B-52, the B-52H, will be more than 25 years old by the end of FY 1988. Therefore, we are starting long-range planning for a possible follow-on manned bomber. The FY 1981 budget request will provide for conceptual studies to identify required aircraft characteristics such as payload, range, speed and other performance parameters.

In the same vein, we are continuing to test and evaluate the offensive and defensive avionics suite on the fourth B-1 test aircraft delivered in the spring of 1979. The data from these flight tests will be applied to the design of future strategic penetrating aircraft, particularly in the areas of defensive avionics and engine design as well as hardening to nuclear effects. The FY 1981 work will consist primarily of a nuclear hardness test at the Air Force Weapons Laboratory.

We are also continuing to explore active defenses for bombers and cruise missile carriers. One such program, in the technology stage of development, is the Advanced Strategic Air-Launched Missile (ASALM). One of the purposes of this missile would be to destroy the projected SUAWACS, thereby degrading the Soviet Union's potentially effective forward defense against both bombers and cruise missile carriers. In addition, the ASALM would provide an air-to-ground capability to be used in the primary strike mission as a possible replacement or follow-on to the currently deployed short-range attack missile (SRAM). The missile uses a rocket ramjet engine. The FY 1981 budget request will allow subsystem validation and demonstration of the air-to-air guidance for the missile.

e. Aerial Tankers

The current KC-135A force supports all peacetime aerial refueling requirements for land-based aircraft. However, simultaneous execution of the Single Integrated Operational Plan (SIOP) and a major contingency action in Central Europe, the Persian Gulf or Korea, for example, could demand more refueling support than is available.

KC-10A procurement can provide added capability in this area if it is needed. So also could KC-135A reengining, but at a very high cost. Source selection for possible KC-135 reengining will take place early this year. The FY 1981 budget includes some development funding for this program (see Chapter 6 - Mobility Forces for KC-10A cost information).

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Air-launched Cruise Missile Program | Development: $ Millions | 338.9 | 90.0 | 108.4 | 32.8 |
| | Procurement: $ Millions | 94.2 | 371.2 | 571.1 | 517.0 |
| Cruise Missile Carrier Aircraft | Development: $ Millions | 13.2 | 30.0 | 30.3 | 50.7 |
| Modification of B-52 Strategic bomber | Development: $ Millions | 71.9 | 96.3 | 142.4 | 107.5 |
| Advanced Strategic Air Launched Missile (ASALM) | Development: $ Millions | 48.5 | 25.0 | 25.7 | 50.6 |
| Research and Development of B-1 bomber and other bomber studies | Development: $ Millions | 60.3 | 54.9 | 45.8 | 20.3 |
| KC-135 Reengining Program | Development: $ Millions | 9.0 | 10.0 | 15.0 | 22.0 |
| | Procurement: $ Millions | - | 5.0 | 44.0 | 1.5 |

## II. STRATEGIC DEFENSIVE FORCES

### A. Program Basis

Strategic defense is an integral part of our strategy of deterrence. In particular, timely and reliable warning and assessment of an attack is essential to our offensive forces. Such warning and assessment increase the survivability of our retaliatory and $C^3I$ resources and add credibility to our statements that the Soviets cannot count on finding our increasingly vulnerable ICBMs still in their silos during any first-strike attempt. The latter is of obvious importance in the 1980s and could have even longer-range implications. We recognize, however, that attempting to construct a complete defense against a massive Soviet nuclear attack would be prohibitively costly, destabilizing and in the end, almost certain to fail. And cost aside, the Anti-Ballistic Missile (ABM) Treaty of 1972 and the 1974 Protocol restrict the deployment of ABM systems in order to prevent a futile damage-limiting competition. Our current programs for active defense reflect these constraints and the emphasis we place on offensive forces for deterrence.

We need to maintain vigorous programs to provide warning and assessment of missile or bomber attack on North America, permit control over our sovereign airspace, warn of attack on U.S. space systems, give us an R&D hedge against future defense requirements, and enhance the survivability of our population in the event of a major nuclear war. These key objectives are addressed within the four elements of our strategic defense program: Ballistic Missile Defense (BMD), Air Defense, Space Defense and Civil Defense.

### B. Program Status and Description

A major part of the strategic defense program is related to warning and attack assessment. Because of the close relationship of the warning systems to the command and control functions essential for strategic deterrence, the bomber and missile warning and attack assessment programs are discussed together with these topics in Section IIIC.

#### 1. Ballistic Missile Defense (BMD) R&D

It is important for us to pursue an R&D program in Ballistic Missile Defense to maintain a balance with the Soviets in this field and to encourage their compliance with the ABM treaty. The BMD program is a continuing R&D effort to provide a hedge against the ballistic missile threat to the United States. The program consists of two balanced and complementary efforts--an Advanced Technology Program and a Systems Technology Program.

The Advanced Technology Program involves broad research on the technology of all BMD components and functions. Its purposes are to search for potentially revolutionary concepts and ideas and to develop emerging technologies to a point where the Systems Technology Program can incorporate them into system design. Program objectives are achieved through laboratory and field experiments in missile discrimination, simulations, data processing, interceptor components, and research in radar and optics technologies.

The Systems Technology Program, drawing on the accomplishments of the Advanced Technology Program, integrates components and tests key system concepts. The program maintains the capability to develop and deploy a full BMD system should it be required. Major thrusts in the Systems Technology Program include the development and demonstration of new sensors and guidance techniques for intercept and non-nuclear kill of an attacking RV outside the earth's atmosphere.

We are also continuing R&D on a ballistic missile point defense system that could protect our land-based missiles, bomber bases, and other critical strategic force and $C^3$ assets. Such a system would defend specific force elements by low-altitude intercept of incoming RVs. Recent technological advances achieved through the Advanced Technology Program may make a Low Altitude Defense (LoAD) system a potentially attractive option. We are considering a prototype demonstration of a LoAD system as part of the Systems Technology Program.

2. Air Defense

We have deactivated the United States Air Force Aerospace Defense Command (USAF ADCOM) as a major command. Resource management responsibility for active Air Force fighter interceptor squadrons and ground based air defense radars and control centers has been transfered to the Air Force's Tactical Air Command (TAC). Space surveillance and missile warning resources will be managed by the Strategic Air Command (SAC), and communication resources by the Air Force Communications Command (AFCC). The Commander-in-Chief of North American Air Defense Command (CINCNORAD) will retain operational control of strategic air defense, space surveillance, and attack warning assets. Realignment of these support responsibilities does not change defense force structure or the resources dedicated to NORAD's strategic defense missions. The provisions of the reorganization preserve the authority, influence and control of CINCNORAD as commander of the specified Aerospace Defense Command (ADCOM), a command distinct from the deactivated major Air Force command mentioned above.

The agreement with Canada creating the combined North American Air Defense Command (NORAD) is due for renewal by May 1980. Many of NORAD's atmospheric surveillance, warning, and defense systems, representing concepts and technology from the 1950s, are becoming increasingly costly to maintain and operate. Recognizing these issues, the Canadian Minister of Defense and I chartered a joint U.S. and Canada Air Defense Study. The study has been completed and is being evaluated, along with previous analyses, by our respective governments as a basis for recommending air defense policy, plans, and programs that could meet future North American air defense needs. Several tactical warning and defense program decisions have been deferred until these evaluations and recommendations are available.

a. Interceptor Forces

U.S. and Canadian active and U.S. Air National Guard (ANG) F-106, F-101 and F-4 squadrons provide 327 interceptors dedicated to North American air defense. The continental United States (CONUS) interceptor forces, along with some Tactical Air Command (TAC) F-15 and F-4 forces, maintain a

peacetime alert at 26 sites around the periphery of the 48 contiguous states. The Air Force, Navy, and Marines are tasked to provide additional interceptors in a crisis.

b. Surveillance and Command and Control Systems

The CONUS-based network of airspace surveillance radar sites formerly operated and maintained by the Air Force, duplicated much of the Federal Aviation Administration (FAA) air traffic control system. In 1973, under an agreement with FAA, we began to phase out most of the Air Force surveillance radars in favor of a Joint Surveillance System (JSS).

In crises and wartime we plan to augment the Joint Surveillance System with E-3A AWACS aircraft. A total of 34 AWACS are tentatively planned for operation by TAC: at present seven of these are designated for North American Air Defense in peacetime.

3. Space Defense

Our policy is to abide by the agreements limiting the use of space to peaceful purposes. The Soviets have tested an anti-satellite (ASAT) system with limited capabilities against U.S. space systems. The U.S. is developing but has not tested an ASAT capability.

The President has stated our preference for verifiable limitations on anti-satellite (ASAT) systems and our opposition to a space weapons race. We have begun discussions with the Soviets on these subjects. However, in the absence of an agreement and in the face of proven Soviet capabilities, we must work to defend our satellites, if necessary. Our space defense program consists of four elements. The first element focuses on deterring an attack by improving our ability to monitor space activities. We are working on an improved ground-based system to enhance detection and tracking of satellites, and several research and development activities have been initiated to develop spaceborne sensors for responsive surveillance.

The second element of our program would make our satellites less vulnerable to attack.

As the third element of our program, we will continue the prototype development of an anti-satellite capability to destroy enemy military satellites that represent a threat to our forces.

The fourth element provides the command, control and communications to effectively manage all space defense resources. In October 1979, the Air Force established an initial Space Defense Operations Center (SPADOC) capability at the North American Air Defense Command Cheyenne Mountain Complex in Colorado. The initial SPADOC, while limited in capability, will allow for growth as planned improvements and weapon systems become operational.

4. Civil Defense

Executive Order 12148 (July 15, 1979) transferred responsibility for the U.S. Civil Defense program from the Secretary of Defense to the Director of the Federal Emergency Management Agency (FEMA). The order also made the Secretary of Defense and the National Security Council responsible for overseeing the development of civil defense policies and programs by the Director, FEMA, so that civil defense planning will continue to be fully compatible with overall U.S. strategic policy, and to maintain an effective link between strategic nuclear planning and nuclear attack preparedness planning.

The purpose of the U.S. civil defense program is to enhance, in the event of a nuclear war, the survivability of the American people and its leadership, thereby improving the basis for eventual national recovery. The primary focus of the program is to develop a capability for moving our people to low-risk areas over a period of several days during a crisis, so as to reduce significantly their vulnerability to a major Soviet nuclear attack and to avoid major asymmetries in population fatalities. In addition to population relocation, though not as effective, the civil defense program would provide fallout protection for the population near places of work or residence.

Achieving these civil defense goals should contribute to perceptions of both overall U.S.-Soviet strategic equivalence and of U.S. determination in a crisis, thereby reducing the temptation of the Soviets to attempt to coerce us. The program in no way changes the U.S. policy of relying on strategic offensive nuclear forces to maintain deterrence, nor does it require civil defense efforts equivalent to those of the Soviets.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| Development of Ballistic Missile Defense Advanced Technology | Development: $ Millions | 113.5 | 120.8 | 132.8 | 143.5 |
| Development of Ballistic Missile Defense Systems Technology | Development: $ Millions | 114.0 | 120.8 | 133.5 | 176.1 |
| Procurement of the Joint Surveillance System | Procurement: $ Millions | 37.0 | 70.5 | 1.9 | - |
| Development of Space Defense Systems | Development: $ Millions | 78.2 | 80.5 | 125.0 | 125.7 |

## III. STRATEGIC COMMAND, CONTROL AND COMMUNICATIONS

### A. Program Basis

The purpose of our strategic command, control and communications ($C^3$) systems is to enable the National Command Authorities (NCA) to have flexible operational control of the strategic forces at all levels of conflict. We must insure that our strategic $C^3$ can fully support an effective response by our strategic forces whether we choose to retaliate at onset, during or after an enemy's attack. Strategic $C^3$ must also facilitate termination of nuclear strikes. This includes the capacity to communicate with adversaries, if necessary. Our deterrence strategy requires that strategic $C^3$ should be capable not only of supporting assured retaliation after an initial surprise attack, but also of managing our strategic reserve forces throughout a protracted nuclear war. The survivability, flexibility and endurance of these $C^3$ systems should be at least comparable to that of our strategic forces. They should be capable of operating in environments disrupted by electromagnetic, nuclear and chemical/biological effects. At present, our ability to meet these objectives falls considerably short.

To respond to this situation, we will continue to maintain and improve various strategic $C^3$ systems, and we have initiated a number of efforts aimed at enhancing $C^3$ endurance. We plan to increase greatly the capability of our airborne command and control network, since it offers the best near-term prospects for survivable decision-making and direction of the strategic forces. We will continue to improve our missile attack warning system consisting of ground-based radars and space-based sensors. Survival of the bomber force and important elements of our $C^3$ systems depend on high-confidence tactical warning. The land-based ICBMs are becoming increasingly vulnerable and tactical warning is, as a consequence, increasingly important to the mission accomplishment of this leg of the TRIAD. Our programs will reduce the vulnerability of our strategic communications to physical attack, jamming, and nuclear effects.

### B. Strategic Command, Control and Communications

#### 1. World-Wide Military Command and Control System (WWMCCS)

To support strategic nuclear retaliation even after the $C^3$ system itself has been attacked, we have developed a number of command centers, both fixed and mobile, with redundant lines of communications from the NCA to the strategic offensive forces.

The National Military Command System (NMCS) is the central component of the WWMCCS. It consists of the National Military Command Center (NMCC) in the Pentagon, the Alternate National Military Command Center (ANMCC), and the National Emergency Airborne Command Post (NEACP). In addition to the NMCS, four commanders (CINCSAC, CINCEUR, CINCLANT, and CINCPAC) have both fixed and airborne command posts capable of communicating with the nuclear forces. Only CINCSAC maintains a continuous airborne alert command post.

2. The Advanced Airborne Command Post (AABNCP) Program

The AABNCP system of E-4B aircraft will provide survivable command, control and communications for the NCA and CINCSAC. The program is designed to enable the NCA to execute the Single Integrated Operational Plan (SIOP) and direct the operations of our strategic retaliatory forces, even if an enemy attack destroys our fixed, ground-based command centers and communications networks. We now have three E-4As in operation and one E-4B test aircraft with improved $C^3$ capability which has recently completed operational testing. We will upgrade the three operational E-4As to the E-4B configuration (by retrofitting one aircraft each in FY 1980, 1981, and 1982) and procure two additional E-4Bs (one aircraft in FY 1984 and 1985) giving us a deployed force of six E-4B aircraft.

The six E-4B aircraft will support both a continuous airborne alert for CINCSAC and a ground alert for the NCA. These aircraft will provide considerable improvements in $C^3$ capability that could not be accommodated in the EC-135 aircraft they replace. Airborne endurance is increased with refueling, and secure, anti-jam communications are provided. Communication improvements will allow more direct and reliable communications to MINUTEMAN and TITAN wings and the TACAMO aircraft relaying execution messages to our SSBNs. To assure continued operations during nuclear war, the E-4B is hardened against nuclear effects including electro-magnetic pulse (EMP). The increased capacity of the E-4B supports a larger battle staff and can accommodate automatic data processing equipment in the future, thus improving our capability for survivable management of our strategic forces.

3. Air Force Satellite Communications (AFSATCOM) System

The AFSATCOM system will provide world-wide communication links to strategic nuclear forces and theater nuclear weapons storage sites. The space segment consists of ultra-high frequency (UHF) communications transponders on several satellite communications systems. In addition, we are continuing to install satellite communication terminals on airborne command posts, SAC bombers, RC-135 reconnaissance aircraft, TACAMO aircraft, and at ground-based command posts and ICBM Launch Control Centers (LCCS).

4. Improved Airborne Naval Strategic Communications Systems (TACAMO) Operations

We depend on Navy TACAMO aircraft for survivable communications to our ballistic missile submarines. Currently, one of these aircraft is continuously airborne over the Atlantic to ensure that NCA orders could be relayed to SSBNs in that area, even if fixed, ground-based transmitters were destroyed. A similar requirement exists to support our current SSBNs in the Pacific and also our TRIDENT submarines when they enter service. To provide continuous airborne operations in both the Atlantic and the Pacific we have been procuring additional TACAMO aircraft to attain a fleet of 18 aircraft by FY 1983. We are also funding in FY 1981 the relocation of the TACAMO squadron from Guam to a West coast base to support TRIDENT.

## C. Strategic Surveillance and Warning

### 1. Missile Attack Warning and Attack Assessment

We have begun a number of efforts aimed at enhancing the survivability of our missile attack warning systems and improving the quality of attack assessment information supporting NCA response option selection (including maintaining the option of a Presidential decision to launch our missiles when they are under attack). We are planning both near-term and long-term improvements in the early warning satellite system, for early warning of ICBM and SLBM attacks. Evolutionary improvements to increase the survivability and capability of the satellite systems continue to be incorporated during the production cycle for replacement satellites.

Our ground-based radar systems would confirm satellite warning of ICBM or SLBM attacks. For the northern approaches, we depend on the Ballistic Missile Early Warning System (BMEWS) radars at sites in Greenland, Alaska, and England to confirm an ICBM attack. Programmed improvements of the Greenland BMEWS radars, which view the missile approaches to central CONUS, will produce better estimates of attack size and impact points that should be sufficient to verify an attack on our MINUTEMAN force. We also plan to complete the replacement of obsolete computers at all three BMEWS sites. The Perimeter Acquisition Radar Characterization System (PARCS), a converted ABM radar, will act as a backup for BMEWS coverage of ICBM attacks against central CONUS until the BMEWS improvements are completed. The PARCS is being upgraded to provide more timely and accurate impact point prediction for a larger number of RVs.

Ground-based surveillance radars along our coasts would confirm satellite warning of an SLBM attack. Two new PAVE PAWS phased-array radars will replace all but one of the FSS-7 SLBM warning radars. PAVE PAWS radars provide improved coverage along the east and west coasts. In addition to PAVE PAWS, we will continue to operate the older FPS-85 phased-array radar and one FSS-7 in Florida to cover possible SLBM launch areas southeast of the United States.

### 2. Bomber and Cruise Missile Warning

The CONUS Over-the-Horizon-Backscatter (OTH-B) radar system, if deployed, could provide long-range surveillance of aircraft and warning of a bomber attack along coastal approaches to North America. Operational feasibility testing of the experimental system in Maine is expected to be completed by the end of FY 1981.

Since an OTH-B radar for northern approaches is not feasible because of auroral effects, we are continuing to study improvements to the Distant Early Warning (DEW) Line. Current NORAD planning envisions replacing the existing DEW radars with modern systems for improved warning coverage, particularly at low altitude, at lower maintenance and operating cost.

### 3. Integrated Operational Nuclear Detection System (IONDS)

IONDS is being developed to increase our capability to detect; quickly locate, and report nuclear detonations on a global basis. The system will provide nuclear trans- and post-attack damage assessment information to the NCA. To increase the survivability of our nuclear damage assessment system we plan to install detection sensors on the satellites of the NAVSTAR Global Positioning System (GPS) in addition to early warning satellites, which host our current nuclear detection sensors. The FY 1981-1985 program funds further development needed to integrate the IONDS payload on future GPS satellites.

The development and procurement costs for strategic $C^3$ programs discussed in this section are given below.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| AABNCP | Development: $ Millions | 26.0 | 24.5 | 8.1 | 7.2 |
| | Procurement: $ Millions | 10.0 | 121.1 | 148.5 | 156.6 |
| AFSATCOM | Development: $ Millions | 19.7 | 19.2 | 61.3 | 63.4 |
| | Procurement: $ Millions | 28.2 | 35.9 | 40.7 | - |
| TACAMO | Development: $ Millions | - | - | - | - |
| | Procurement: $ Millions | 32.0 | 98.8 | 46.3 | 62.5 |
| Early Warning Satellite | Development: $ Millions | 30.6 | 31.0 | 72.9 | 135.3 |
| | Procurement: $ Millions | 140.7 | 130.6 | 143.5 | 192.3 |
| BMEWS | Development: $ Millions | 5.0 | - | 9.1 | 14.5 |
| | Procurement: $ Millions | 6.0 | - | 44.0 | - |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| PAVE PAWS | Development: $ Millions | 4.7 | 4.2 | - | - |
| | Procurement: $ Millions | 1.8 | .3 | - | - |
| CONUS OTH-B | Development: $ Millions | 11.2 | 11.2 | 12.1 | 4.2 |
| IONDS | Development: $ Millions | 9.1 | 11.9 | 12.1 | 7.4 |

# CHAPTER 2

# THEATER NUCLEAR PROGRAMS

## I. PROGRAM BASIS

### A. Force Structure

The United States has many thousands of weapons designated for theater use. About 7,000 warheads are deployed in Europe in support of NATO, including air-delivered bombs, short and medium-range ballistic missile warheads, artillery projectiles, surface-to-air missiles, atomic demolition munitions, and depth bombs. In addition, a substantial number of POSEIDON submarine-launched ballistic missile reentry vehicles are committed to the Supreme Allied Commander Europe (SACEUR) for targeting.

### B. Program Objectives

#### 1. Improving the Military Effectiveness of Battlefield Theater Nuclear Forces (TNF)

New nuclear artillery rounds are being developed to improve NATO's battlefield TNF capability. We also plan to deploy additional LANCE short-range missiles in FY 1981-1983 to upgrade our battlefield forces.

#### 2. Improving NATO's Long-Range TNF Capability

In recent years, Soviet deployments of the SS-20 ballistic missile and BACKFIRE bomber have given rise to concern among the NATO Allies about the credibility of the Alliance's nuclear deterrent in the context of perceived U.S.-Soviet parity in central systems. In response to this concern, NATO's Nuclear Planning Group (NPG) in 1977 established a High Level Group (HLG) of senior experts from NPG countries to study NATO's long-term needs for TNF modernization. In its final report, presented to the North Atlantic Council (NAC) in 1979, the High Level Group determined that NATO's goals in this area could best be met by deploying a total of 572 new long-range weapons in Europe - 108 PERSHING II missiles on launchers and 464 ground launched cruise missiles. Also in 1979, a companion NATO body to the HLG--the Special Group on Arms Control--reported to the NAC on a parallel arms control approach to long-range TNF in Europe.

Acting upon the factual basis provided by these study groups, Foreign and Defense Ministers of 14 Alliance nations met in Brussels on December 12, 1979 to adopt a combined program of long-range TNF modernization and arms control on behalf of NATO. Under the terms of this program, the Alliance will move ahead in the 1980's with deployments of the PERSHING II and GLCM's while simultaneously advancing serious TNF arms control proposals in the context of SALT III.

### 3. Improving TNF Safety, Security and Survivability

If TNF are to provide a credible deterrent, they must be highly survivable in the aggregate, at least against conventional or limited nuclear attack. To a large extent, force survivability against these threats depends on mobility and concealment from Warsaw Pact target acquisition systems. Given the relatively limited deployment area for NATO land-based systems and short time of flight for Soviet ballistic missiles, absolute survivability against large-scale, bolt-out-of-the-blue nuclear attacks is probably infeasible and certainly excessively costly.

In addition to wartime survivability, our theater nuclear weapons must meet the requirements of safety and security in the face of sabotage and terrorist threats. The vulnerability of the warheads to accidental detonation or terrorist exploitation must be minimized. Improving TNF safety, security and survivability is a major objective and the subject of continuing study and action within DoD.

### 4. Improving the Command, Control, Communications and Intelligence ($C^3I$) Systems Supporting TNF

It is imperative for the survivability and effective employment of TNF that we receive adequate warning of impending attack, that we be able to respond rapidly and appropriately upon receipt of warning, and that we retain the means of controlling and directing the use of the weapons throughout the conflict. This requires a $C^3I$ system that is secure, protected, redundant, reliable and as survivable as the weapon systems it supports. Efforts are underway to improve the $C^3I$ systems supporting TNF. Planned improvements in the tactical $C^3I$ systems supporting land, naval and air forces (see Chapters 3-5) will also benefit our theater nuclear forces.

## II. PROGRAM DESCRIPTION AND STATUS

### A. Battlefield TNF

Battlefield TNF include 8-inch and 155mm howitzers and associated nuclear projectiles, LANCE and HONEST JOHN surface-to-surface missiles, and certain tactical air-delivered weapons. These forces would directly support ground forces in contact with the enemy, and would complement theater strike systems intended for shallow interdiction and deeper nuclear strikes.

A number of modernization programs are underway to upgrade battlefield TNF capability. LANCE has replaced HONEST JOHN and SERGEANT in all U.S. delivery units but HONEST JOHN continues to be deployed in non-U.S. NATO units. Approximately 340 additional LANCE warheads will be produced during 1981-1983. These warheads will offer the option for inclusion with relatively short lead time of an enhanced radiation (ER) feature, should the President decide to add such a capability.

A new 8-inch artillery round is completing engineering development and entering production. A new 155mm artillery round is also in engineering development.

B. Long-Range TNF

Long-range theater nuclear systems could be used for selective employment or as part of a general nuclear response. NATO's current theater arsenal includes no land-based missiles with ranges capable of striking targets in the Soviet Union. NATO can, however, rely on the UK's POLARIS missiles and on certain strategic POSEIDON warheads which the United States has committed to NATO. United States aircraft carriers, if they are in range, could also use their attack aircraft in nuclear roles.

The United States has several systems under development that could strengthen NATO's long-range TNF. In December 1979, NATO decided to deploy the following:

-- PERSHING II, this ballistic missile is currently in engineering development; it is a follow-on to the shorter range PERSHING IA now deployed in Europe.

-- Ground-Launched Cruise Missile (GLCM), currently in engineering development with a December 1983 IOC. GLCM has a range of 2500km.

The land-based PERSHING II and GLCM would visibly demonstrate U.S. resolve to respond with an in-theater system to Soviet nuclear threats in Europe. Both systems will possess a range sufficient to reach the Soviet Union from NATO Europe, thereby reducing even further any Soviet misperception that it might be possible to fight a theater nuclear war limited in such a way that their nuclear forces could operate from a sanctuary. Both PERSHING II and GLCM offer high accuracy and are expected to be highly reliable and survivable. Each system has distinctive characteristics that complement those of the other. PERSHING II offers a particularly high assurance of penetrating Soviet defenses, the capability to strike time-urgent targets and take advantage of existing PERSHING IA infrastructure. GLCMs have lower life cycle costs and have longer range, so that they can attack a wider range of targets from many different bases, thereby increasing the opportunity for participation among the allies through deployments on their soil. In addition, the deployment of a mixed ballistic/cruise missile force hedges against the failure of one type of system, provides the flexibility to select the best weapon for a given mission, and greatly complicates enemy planning.

As mentioned earlier, long-range TNF provide a capability for both selective strikes and a general nuclear response. For selective employment, an important measure of effectiveness--the number of targets hit--will depend upon the systems' prelaunch survivability, reliability, and ability to penetrate to the target.

SACEUR's general nuclear response is embodied in a program in which NATO employs its long-range TNF and a number of dual (nuclear and conventional) capable aircraft (DCA) against fixed Warsaw Pact targets. The new deployment will contribute to NATO's general nuclear response capability in two ways. The new systems could be used to expand the number of targets covered or they could replace DCA, thus releasing those aircraft to fly conventional missions or nuclear missions against mobile targets. Even if all DCA were released for other missions, the new PERSHING II and GLCM deployments would provide an improvement over our present capability to destroy targets.

C. Land-Based Defensive Systems

These include NIKE-HERCULES air defense systems and atomic demolition munitions. NIKE-HERCULES levels are programmed for gradual reduction as improved conventional systems are developed and deployed.

D. Fleet Systems

These include fleet anti-air, anti-submarine, and anti-surface ship warfare (AAW, ASW and ASUW) systems: ASROC, SUBROC, TERRIER and air-delivered nuclear depth bombs. A research and development effort is preserving the option to deploy a nuclear version of the STANDARD anti-air missile should future conditions and the result of our ongoing examination so dictate.

E. TNF Safety, Security and Survivability

As we pursue more survivable, higher readiness theater nuclear forces we must necessarily expose these systems to an increasing peacetime threat. We are therefore placing more emphasis, in close collaboration with the Department of Energy and its weapons laboratories, on measures to make our theater nuclear systems safer and more secure. Among the improvements being considered for our newer theater nuclear systems are:

-- Insensitive high explosive to reduce the risk that an accident or terrorist act could detonate the high explosive in a nuclear weapon.

-- Improved Permissive Action Link (PAL) -- PALs require a unique combination to gain access to or to arm a weapon.

-- Enhanced Electrical Safety features and packaging intended to reduce still further the potential for accidental arming or detonation through electrical system malfunction.

-- Nonviolent Command Disable systems that can render a weapon inoperable.

-- Continuing storage site security upgrade and transportation safety and security features intended to defend against terrorist action.

In addition, we are continuing efforts to enhance the wartime survivability of TNF. For example, we plan to house GLCM in shelters hard enough to withstand a surprise conventional strike.

F. $C^3I$ Systems Supporting TNF

SACEUR's ability to execute the decisions of the National Command Authority to use nuclear weapons is limited by marginal $C^3I$ system capabilities. Improvements are underway.

To improve our communications with U.S. theater nuclear forces, we are providing them with ultra-high frequency satellite communications. A total of 200 AN/MSC-64 satellite terminals will be deployed in FY 1981-1984. Of course, $C^3I$ systems supporting U.S. general purpose forces also support our theater nuclear forces.

We have recently begun to address mid-term and long-term $C^3I$ requirements for NATO theater nuclear forces in a wartime environment. Our improvement efforts will cover nuclear release procedures, communications, and command and control. We plan to develop a TNF $C^3I$ improvement program in time to be included in the FY 1983 Defense Budget.

# CHAPTER 3

# LAND FORCES

## I. PROGRAM BASIS

### A. Missions and Functions

United States land forces (Army and Marine Corps) are our only military forces capable of holding or retaking territory and, as such, they are the mainstay of our conventional forces. While our interests are worldwide, our land forces are designed primarily to counter Soviet/Warsaw Pact ground forces in Europe as part of the NATO alliance. We believe that this is prudent not because that conflict is most likely, but because the consequences of being unprepared for that contingency would be especially grave.

While the majority of our land forces are designed for NATO, certain other ground units, including the Army's XVIII Airborne Corps and the three active Marine Corps divisions, have the capability to respond rapidly to crises worldwide. We believe that some portion of our land forces must be structured, equipped, and supported by the necessary strategic mobility assets to defend our national interests in areas of the world other than central Europe. We are in the process of improving the ability to respond quickly wherever our interests are at stake. While the exact composition of our forces for such rapid deployments would vary depending on the particular contingency, we must recognize the increasing sophistication and firepower capability of land forces, designed on the Soviet model, that might be confronted. This reality requires that we also plan for the deployment of some divisions with more firepower and mobility (that is, "heavier" divisions) in response to less than theater level contingencies. While these forces may not be moved to the area of crisis as quickly as other lighter divisions, their greater capability once in the theater will offset their higher demand for strategic mobility if they are facing modern forces.

### B. Forces

#### 1. Composition

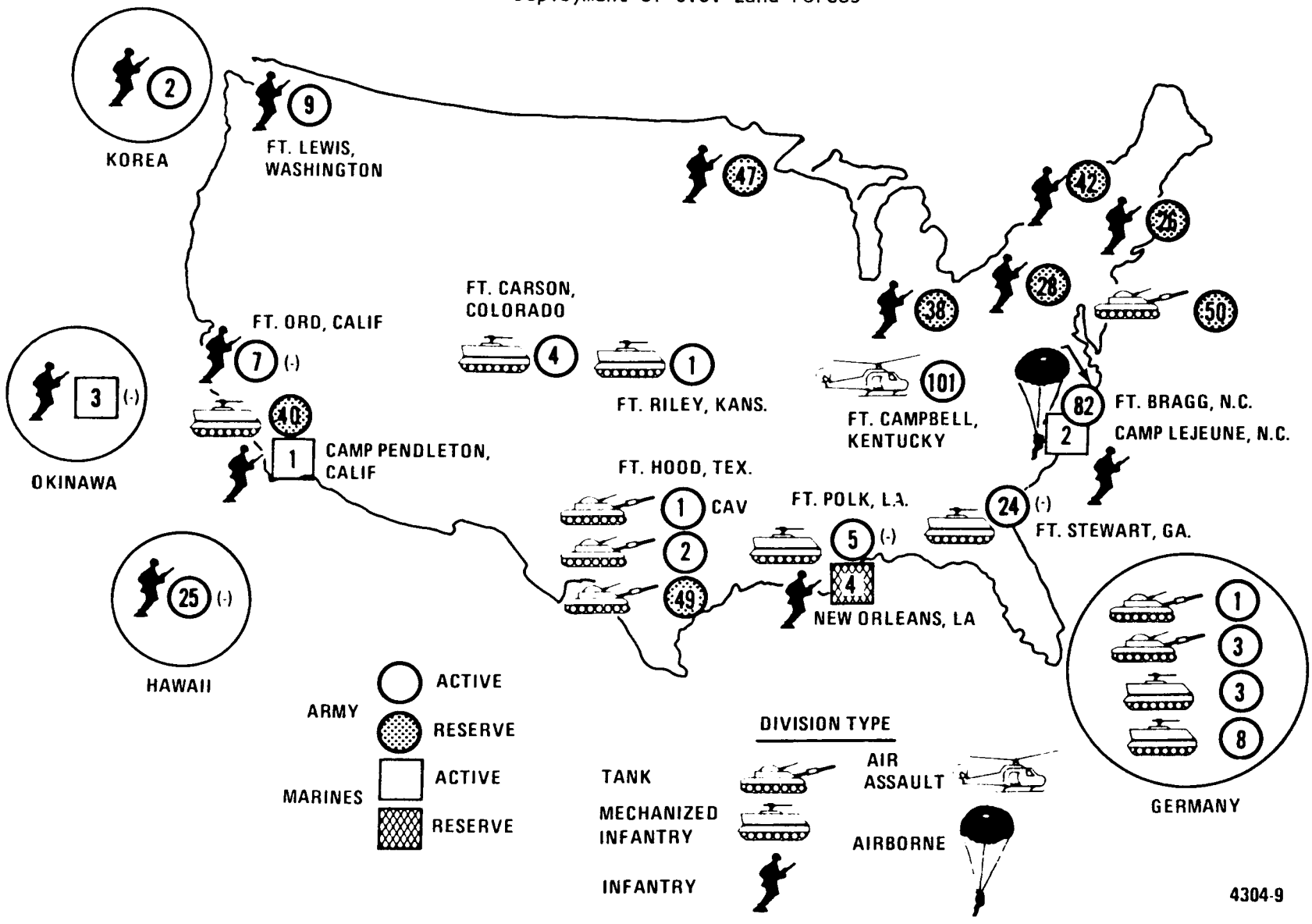
The basic composition of our land forces is essentially unchanged from last year. We retain a total of 28 divisions: 19 active divisions (16 Army and three Marine Corps) and nine Reserve Component divisions (eight Army National Guard and one Marine Corps). These divisions represent the cutting edge of our land force capability and are backed up by a comprehensive training and support base that enables us to man, operate, and maintain this force structure.

#### 2. Disposition

Chart 3-1 shows the current location of all active and reserve divisions. In addition to the major units, the Marine Corps maintains a brigade

Chart 3-1

Deployment of U.S. Land Forces



in Hawaii and a relatively modest ground defense force at Guantanamo Bay, Cuba, while the Army force structure contains a significant number of separate brigades and regiments deployed as follows:

Active Units

| CONUS | Europe | Other |
|---|---|---|
| 1 Infantry Brigade<br>1 Armored Brigade<br>1 Armored Cavalry Regiment<br>1 Cavalry Brigade (Air Combat) | 2 Armored Cavalry Regiments<br>3 Forward Deployed Brigades (one each from 3 CONUS-based divisions)<br>1 Infantry Brigade (Berlin) | 1 Infantry Brigade (Alaska)<br>1 Infantry Brigade (Panama) |

Reserve Units

CONUS

11 Infantry Brigades
10 Mechanized Infantry Brigades
3 Armored Brigades
4 Armored Cavalry Regiments

## II. PROGRAM DESCRIPTION

### A. Objectives

The major objectives of the five-year program (FY 1981-1985) are:

-- to improve the anti-armor capability of our forces,

-- to improve their responsiveness in both NATO and non-NATO contingencies, and

-- to improve the manpower and materiel levels that back them so as to sustain combat operations for a time comparable with the sustainability of the Warsaw Pact Forces, with the caveat that sustainability much greater than that of our NATO allies is not an effective use of our resources.

### B. Initiatives

The program initiatives designed to meet these objectives are described below. These initiatives are complemented by continuing equipment modernization programs that will field an array of new systems during the program period.

1. Improved Combat Capability

The five-year program includes the following changes in force structure designed to improve the combat capability of U.S. land forces:

a. The Army will mechanize the 9th Infantry Division in FY 1984 by converting four Army infantry battalions to tank or mechanized infantry.

b. Additionally, several new maneuver battalions will be activated to augment existing Army divisions.

2. Improved Responsiveness

Several initiatives will improve the ability of our land forces to respond quickly throughout the world. Forward-deployed and CONUS-based early deploying active and reserve component units will receive the highest priority, specifically:

a. Early combat support for our NATO units will be improved by prepositioning war reserve equipment and ammunition.

b. The Army has programmed to fill the existing division sets of POMCUS to a higher percentage of their allowance and to preposition additional division sets in Europe.

c. The Army program also provides enlistment and reenlistment incentives aimed at increasing the manning level of reserve components, while also funding increased full-time manning in selected reserve units to improve their readiness.

d. Funds have been programmed to enhance Marine Corps responsiveness by prepositioning a set of unit equipment and 30 days of supplies for three Marine Amphibious Brigades (MABs) aboard new construction commercial type shipping. These ships will remain afloat overseas in areas of potential crisis.

e. Funds are programmed for prepositioning war reserves in the vicinity of the Northern Flank.

3. Improved Sustainability

The FY 1981-1985 program provides funds to achieve an inventory of war reserve munitions adequate to:

-- preserve our current ability to support U.S. and Republic of Korea (ROK) forces,

-- increase the sustainability of U.S. forces in Europe, and

-- sustain U.S. forces in a non-NATO contingency.

In addition to this growth in sustainability, much of the inventory will be modernized in the process and, as a result, some older, but less effective ammunition will provide an additional increment of sustainability.

## C. Force Modernization

A major part of our efforts to improve the combat capability of land forces is a significant modernization program. The Army is modernizing in almost every category of equipment; the Marine Corps effort is more modest. A general transition of major Army programs from development to procurement is currently underway. The XM-1 tank, the Infantry Fighting Vehicle (IFV) and the Cavalry Fighting Vehicle (CFV), the BLACKHAWK utility/transport helicopter, the COPPERHEAD 155mm cannon-launched guided projectile, and the PATRIOT surface-to-air missile are just some of the programs entering service within the Army. Marine Corps acquisition funding is concentrated on procurement of M198 155mm howitzers to replace the 105mm howitzers in the direct support artillery battalions of Marine divisions and a service life extension program underway for the LVTP-7 amphibious assault vehicle.

The following section outlines major land force acquisition programs in the FY 1981 budget. The programs are grouped by mission area.

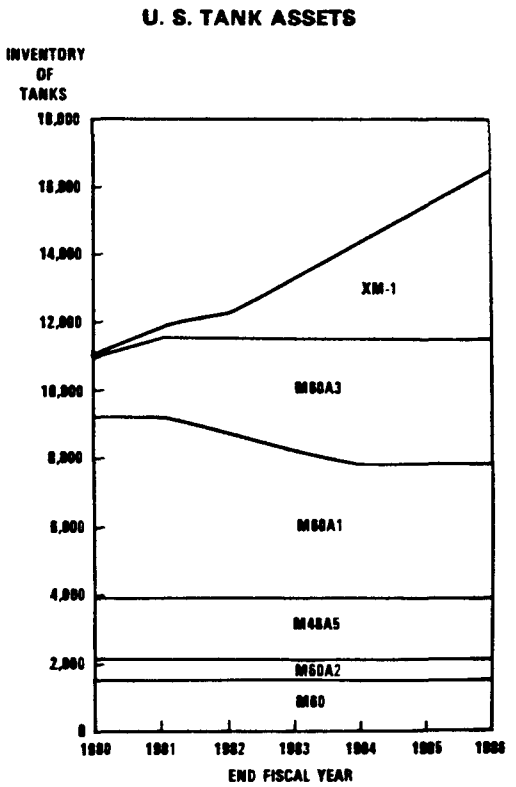
### 1. Close Combat

Close combat capabilities enable our land forces to engage directly the ground combat formations of the enemy in conventional land warfare. Our mechanized infantry and armor units are of primary importance within this mission area. Because of the emphasis that our potential adversaries continue to place on armored warfare, our major initiatives have concentrated on force improvement for close combat. Specifically, we will continue to upgrade our tanks, infantry carriers, and direct fire anti-armor weapons systems.

#### a. Tanks

At the end of the FY 1980 funded delivery period, our 105mm gun tank inventory will be 78 percent of estimated requirements. The proposed program will increase this to 83 percent by the end of the FY 1982 funded delivery period. Chart 3-2 shows the Army primary tank assets projected through 1986.

Chart 3-2




| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| XM-1 | | | | | |
| Procurement of the XM-1 main battle tank, began in FY 1979. Funding is sufficient to achieve a 60/month production rate by FY 1982 and the rate will increase to 90 tanks per month by FY 1985. Funds are also provided for facilities to support a 150/month emergency production rate. | Development: $ Millions | 78.4 | 63.8 1/ | 51.3 | 14.9 |
| | Procurement: Quantity | 110 | 352 | 569 | 720 |
| | $ Millions | 372.9 | 647.6 | 1,032.4 | 1,005.5 |

1/ Includes $14.2 million for the XM-1 Advanced Diesel Engine Technology program.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| **M-60 Series** | | | | | |
| M-60 production will cease by the end of FY 1981 as the XM-1 production rate is established. We will continue to upgrade existing M60A1s to the M60A3 configuration by modifications. | Procurement: | | | | |
| | Quantity | 410 | 64 | - | - |
| | $ Millions | 345 | 53 | - | - |
| | Modifications: | | | | |
| | Quantity | 380 | 687 | 148 | 445 |
| | $ Millions | 132.4 | 162.0 | 54.2 | 174.5 |

b. Armored Carriers

| | | | | | |
|---|---|---|---|---|---|
| **M113 Series Armored Personnel Carriers** | | | | | |
| Procurement of the M113 chassis for the Improved TOW Vehicle was completed in FY 1979. Existing M113s are undergoing three vehicle improvement modification programs: dieselization, improved suspension, and improved cooling. | Procurement: | | | | |
| | Quantity | 512 | - | 42 | 35 |
| | $ Millions | 44.5 | - | 4.7 | 4.3 |
| | Modifications: | | | | |
| | Quantity | 1,100 | 1,460 | 1,282 | 2,333 |
| | $ Millions | 34.7 | 35.1 | 31.6 | 29.3 |
| **IFV/CFV (formerly MICV)** | | | | | |
| The Infantry/Cavalry Fighting Vehicle (IFV/CFV) is an armored fighting vehicle that will replace the M113A1 in mechanized, tank and cavalry units. Its main armament consists of the TOW anti-tank missile and a 25mm automatic dual-feed cannon (BUSHMASTER). Its introduction permits these units to engage | Development: | | | | |
| | $ Millions | 30.9 | 33.0 | 42.0 | 29.9 |
| | Procurement: | | | | |
| | Quantity | - | 100 | 400 | 600 |
| | $ Millions | 39.0 | 225.4 | 464.4 | 541.9 |

| | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|
| IFV/CFV (formerly MICV) (Con't) | | | | |
| effectively armored vehicles while improving their battlefield survivability and mobility. The IFV will carry nine men, and the CFV will carry five. We expect delivery of the first vehicle in May, 1981. | | | | |

c. Anti-Armor Weapons

| | | | | | |
|---|---|---|---|---|---|
| TOW | | | | | |
| In 1981 we will continue procurement of the TOW anti-tank missile, but with an improved warhead and guidance system hardened against electro-optical countermeasures. Concurrently, existing missiles will be retrofitted with improvements. | Procurement: Quantity | 9,600 | 6,260 | 12,000 | 12,000 |
| | $ Millions | 42.3 | 28.0 | 76.6 | 92.0 |

2. Helicopters

The helicopter provides an added degree of mobility and firepower to our land forces. Improved technology and materials have increased helicopter power-to-weight ratios and reduced their vulnerability. However, the intensity of the modern battlefield calls for special tactics to minimize combat losses. The purpose of our helicopter program is to modernize our fleet of attack and transport helicopters.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| **COBRA-TOW (AH-1S)** | | | | | |
| The AH-1S, armed with the TOW anti-armor missile system remains the current attack helicopter system. This fleet has been formed by modifying AH-1G gunships to the AH-1S configuration, and by procurement of new AH-1Ss. The new production program was completed with FY 1980 funds. Funds are provided in FY 1981 to complete the conversions. The conversion and recent production program will give us a fleet of 959 AH-1Ss when completed. | Development: | | | | |
| | $ Millions | 7.3 | 1.0 | 9.7 | 4.5 |
| | Procurement: | | | | |
| | Quantity | 66 | 15 | - | - |
| | $ Millions | 118.7 | 30.0 | - | - |
| | Modifications: | | | | |
| | Quantity | 137 | 160 | 64 | - |
| | $ Millions | 184.8 | 256.5 | 109.8 | - |
| **UH-60A BLACKHAWK** | | | | | |
| BLACKHAWK is designed to replace the UH-1 (HUEY) in selected combat support, air cavalry, and aeromedical evacuation units. The Army will procure a total of 1,107 helicopters. BLACKHAWK attained IOC in November 1979. | Development: | | | | |
| | $ Millions | 9.5 | - | - | - |
| | Procurement: | | | | |
| | Quantity | 90 | 94 | 80 | 96 |
| | $ Millions | 389.5 | 379.2 | 338.6 | 407.6 |
| **New Attack Helicopter** | | | | | |
| We are examining two alternatives for our new attack helicopter: an armed variant of the BLACKHAWK, which will use the same weapons suite as the Advanced Attack Helicopter (AAH) now in development, or the AAH itself. | Development: | | | | |
| | $ Millions | 179.4 | 176.0 | 171.6 | 58.2 |
| | Procurement: | | | | |
| | Quantity | - | - | - | 14 |
| | $ Millions | - | - | 50.4 | 399.1 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| HELLFIRE Missile System | | | | | |
| The HELLFIRE, a helicopter-fired anti-tank weapon, has a semi-active laser seeker designed to home in on laser-illuminated targets. It represents a significant improvement over TOW in speed, range, and lethality. Production will begin in FY 1981. | Development: $ Millions | 66.4 | 61.0 | 54.8 | 21.3 |
| | Procurement: $ Millions | - | - | 20.8 | 123.4 |

3. Air Defense

The Army and Marine Corps plan to spend over $8 billion on new systems during FY 1981-85 in order to enable our theater air defenses to counter the threat of the late 1980s. Four major new systems are replacing those currently deployed:

| System Type | Existing System | Replacement Systems |
|---|---|---|
| High-to-medium altitude missiles (with some low-altitude capability) | NIKE HERCULES<br>HAWK | PATRIOT |
| Short-range missiles (for high-value target point defense) | CHAPARRAL | U.S. ROLAND |
| Man-portable missiles | REDEYE | STINGER |
| Mobile Guns | VULCAN | DIVAD |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| STINGER | | | | | |
| STINGER, now in production, will soon begin to replace REDEYE. In addition, an improved seeker will be fielded. | Development: $ Millions | 24.6 | 17.6 | 9.9 | - |
| | Procurement: Quantity | 2,250 | 2,400 | 1,356 | 1,974 |
| | $ Millions | 105.1 | 81.2 | 71.0 | 168.9 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| **DIVAD GUN** | | | | | |
| The Army plans to equip 14 active divisions with the DIVAD all-weather gun. | Development: | | | | |
| | $ Millions | 75.7 | 25.5 | 64.7 | 20.7 |
| | Procurement: | | | | |
| | Quantity | | | 12 | 98 |
| | $ Millions | | | 183.1 | 413.1 |
| **CHAPARRAL** | | | | | |
| CHAPARRAL, the short-range air defense missile organic to most of the Army active divisions, will remain in service into the 1990's. Funds are provided for rocket motors to replace those reaching end of shelf-life. Initial development funds for a new seeker are programmed in FY 1981. | Development: | | | | |
| | $ Millions | 0.5 | 6.1 | 20.6 | 19.0 |
| | Procurement: | | | | |
| | Quantity | 850 | - | - | - |
| | $ Millions | 35.1 | 3.2 | 3.4 | 3.6 |
| | Modifications: | | | | |
| | $ Millions | 7.6 | 16.9 | 42.5 | 36.6 |
| **U.S. ROLAND** | | | | | |
| ROLAND will provide point defense for selected rear area vital targets (mostly air bases) in the U.S. sectors of the Central European front. | Development: | | | | |
| | $ Millions | 27.8 | 11.3 | 12.6 | - |
| | Procurement: | | | | |
| | Quantity | 75 | 410 | 600 | 1,230 |
| | $ Millions | 167.6 | 296.9 | 402.1 | 551.4 |
| **IMPROVED HAWK** | | | | | |
| Development to improve the resistance of HAWK missiles to radar and electronic countermeasures (ECM) continues. Procurement of missiles for stockage in Europe will be completed with FY 1980 funds. Funds are also provided for replacement missile motors and ECM modifications. | Development: | | | | |
| | $ Millions | 5.2 | 10.1 | 7.4 | 3.9 |
| | Procurement: | | | | |
| | Quantity | 608 | 197 | - | - |
| | $ Millions | 73.8 | 36.5 | 10.1 | 4.5 |
| | Modifications: | | | | |
| | $ Millions | - | 44.1 | 25.9 | 22.4 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| PATRIOT | | | | | |
| A PATRIOT production decision is scheduled for mid-FY 1980. As part of the NATO Long-Term Defense Program, 3 other NATO countries, the FRG, Belgium, and the Netherlands, are planning to procure PATRIOT; the possibility of co-production is being explored. | Development: $ Millions | 228.4 | 128.7 | 51.6 | 28.7 |
| | Procurement: Quantity | - | 155 | 184 | 400 |
| | $ Millions | 67.3 | 440.7 | 488.3 | 582.7 |

4. Artillery Fire Support

Soviet improvements in the area of artillery systems, surface-to-surface tactical missiles, rockets, and associated target acquisition and fire control systems have been considerable. We are therefore, pursuing the following programs:

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| PERSHING | | | | | |
| PERSHING 1A is an intermediate-range missile with a nuclear delivery capability. Procurement through FY 1981 will maintain stockage levels. Its improved replacement, PERSHING II, will use a new reentry vehicle, new propulsion stages, and new ground support equipment. | Development: $ Millions | 29.6 | 144.8 | 146.0 | 150.0 |
| | Procurement: Quantity | 6 | 39 | 31 | - |
| | $ Millions | 18.7 | 65.6 | 70.6 | - |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| General Support Rocket System (GSRS) | | | | | |
| The GSRS is a high rate-of-fire free rocket sys- to supplement cannon artillery fire. | Development: | | | | |
| | $ Millions | 70.8 | 69.2 | 64.2 | 39.7 |
| | Procurement: | | | | |
| | Quantity | - | 1,764 | 3,000 | 3,200 |
| | $ Millions | - | 61.9 | 92.7 | 150.2 |
| M109A2 Howitzer | | | | | |
| We are procuring addi-tional M109A2 self-propelled 155mm howitzers, the mainstay of U.S.artil-lery. These weapons will be used to improve our capabilities in Europe. | Procurement: | | | | |
| | Quantity | 250 | 136 | 36 | - |
| | $ Millions | 98.2 | 64.6 | 20.0 | - |
| M198 Howitzer | | | | | |
| The M198 towed 155mm howitzer will replace the M114 155mm towed howitzer currently in use in direct support battalions in infantry divisions and active force corps artil-lery. It will also replace the M101A1 and M102 105mm towed howitzers now in use in direct support battalions in infantry divisions and separate brigades. The M198 has 50 percent greater range and better reliability than the existing M114. | Procurement: | | | | |
| | Quantity | 107 | 208 | 144 | 99 |
| | $ Millions | 28.1 | 54.7 | 44.9 | 33.5 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| **COPPERHEAD** | | | | | |
| COPPERHEAD is a 155mm laser-guided projectile designed to improve the capability of artillery against point targets. IOC is scheduled for FY 1981. | Development: $ Millions | 15.0 | 7.0 | 6.0 | 3.3 |
| | Procurement: Quantity | - | 2,100 | 4,300 | - |
| | $ Millions | 23.1 | 66.3 | 121.0 | - |
| **Ground Laser Locator Designator (GLLD)** | | | | | |
| The GLLD is a laser range-finder and illuminates/designates targets for COPPERHEAD and other guided projectiles, laser-guided bombs and HELLFIRE. | Development: $ Millions | 9.2 | 3.6 | - | - |
| | Procurement: Quantity | - | 130 | 235 | 235 |
| | $ Millions | - | 26.5 | 36.2 | 40.5 |
| **Counter-Battery Radars** | | | | | |
| We will procure AN/TPQ-37 and AN/TPQ-36 radars for location of hostile artillery and mortar batteries, respectively. Accuracy will be sufficient for counter-battery fire. | Development: $ Millions | 7.8 | 4.2 | - | - |
| | Procurement: Quantity | 35 | 56 | 72 | - |
| | $ Millions | 90.1 | 126.0 | 193.4 | - |
| **Target Acquisition** | | | | | |
| The Standoff Target Acquisition System (SOTAS) is under development to locate moving targets by radar from a helicopter. In addition, remotely piloted vehicles (RPVs) are being developed to locate targets, adjust artillery fire and designate targets for laser-guided weapons. | Development: $ Millions | 55.0 | 115.7 | 109.3 | 83.7 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| Fire Control | | | | | |
| The TACFIRE system provides computer-assisted fire allocation and direction for artillery. | Development: | | | | |
| | $ Millions | 1.4 | - | 3.5 | 5.1 |
| | Procurement: | | | | |
| | Quantity | 31 | 43 | 23 | - |
| | $ Millions | 85.8 | 94.8 | 95.2 | - |

5. Procurement of Artillery Ammunition

Ammunition procurement in FY 1981 will continue building our inventories of improved conventional munitions (ICMs), rocket-assisted projectiles (RAPs), propelling charges for the new long-range weapons, and scatterable mines. A total of $713.1 million is requested for FY 1981 funding of these items for 155mm and 8-inch artillery. Ths amount includes the following items:

| | USMC | | Army | |
|---|---|---|---|---|
| Type Round | $ Millions | Quantity | $ Millions | Quantity |
| 155mm COPPERHEAD | - | - | 121.0 | 4,300 |
| 155mm improved conventional munitions | 5.5 | 14,000 | 227.3 | 519,000 |
| 155mm rocket-assisted projectiles | - | - | 10.6 | 18,000 |
| 155mm scatterable mines | 1.7 | 2,000 | 111.2 | 37,000 |
| 155mm propelling charge | 13.1 | 217,000 | 154.6 | 1,154,000 |
| 8-inch propelling charge | 1.0 | 8,000 | 13.5 | 51,000 |
| 8-inch rocket-assisted projectiles | - | - | 18.1 | 12,000 |

6. Chemical Warfare and NBC Defense

The objectives of the U.S. chemical warfare (CW) program are to deter the use of chemical weapons by other nations and to provide an option to retaliate in kind should deterrence fail. The United States, as a signatory to the Geneva Protocol, has renounced the first use of lethal chemical weapons or incapacitants. However, the United States and many of the other signatories have retained the right to retaliate with chemical weapons against a chemical attack.

We continue to strive for an agreement with the USSR banning offensive CW weapons. However, in the absence of an adequate agreement eliminating the threat of chemical warfare and in view of the improving Soviet CW capabilities, we must maintain a credible chemical warfare retaliatory capability to ensure that there are no real or perceived advantages to them in initiating a chemical attack.

Our CW planning places primary emphasis on the protection of our forces. The program for development of protective equipment includes: improved therapy and prophylaxis against chemical agents, improved decontamination equipment, collective protection for vehicles and shelters, CW agent detection devices, and training systems. We also intend to maintain a stockpile of CW munitions. Toward this end, we are requesting $4.2 million for maintenance of the deterrent stockpile in FY 1981. In addition, research and development continues on binary chemical munitions. A binary munition consists of two chemical agents that are harmless when separated, but when mixed become toxic. These agents would be mixed during the delivery phase (i.e., after a shell is fired, or a bomb is dropped). A facility that will have the capability to build binary chemical bombs, warheads and projectiles is being designed.

## 7. Tactical Communications

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| Ground Mobile Forces (GMF) Satellite Communications | | | | | |
| The GMF program is designed to improve communications link reliability and minimize the effects of terrain on tactical commmunications. The Army, Air Force, and Marine Corps will procure several hundred of the various types of transportable terminals, as well as supporting equipment. | Development: $ Millions | 9.5 | 20.6 | 26.7 | 40.8 |
| | Procurement: $ Millions | 10.3 | - | 15.5 | - |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Joint Tactical Communications Program (TRI-TAC) | | | | | |
| Under the TRI-TAC program all the Services will procure interoperable and standardized communications systems which are more reliable, less susceptable to intercept, and more rapidly deployable than existing equipment. | Development: $ Millions | 103.9 | 105.3 | 72.5 | 92.3 |
| | Procurement: $ Millions | - | - | 4.8 | 44.7 |

# CHAPTER 4

# NAVAL FORCES

## I. BASIS FOR PLANNING

A strong and balanced Navy is essential to our national defense posture. The Department of the Navy's General Purpose Forces budget for FY 1981, excluding tactical aviation, is about $ 16 billion. The planned Navy program will enhance current readiness and fund a program of modernization that will ensure the effectiveness of our forces in the future.

### A. Functions of General Purpose Naval Forces

Owing to their inherent flexibility, naval forces are capable of performing a wide variety of tasks under scenarios that range from peacetime to nuclear war. Key naval missions and roles in support of national objectives include:

-- Presence Overseas: Forward deployments of naval forces both reassure our allies and deter potential enemies. U.S. Naval Forces are positioned where they can engage hostile forces and rapidly support our own ground and air forces in the event of an outbreak of hostilities. They aid in maintaining stability throughout the world by providing a powerful and capable deterrent.

-- Sea Control and Power Projection: Should deterrence fail, naval forces provide a full range of options for applying power rapidly and flexibly to control the scope and intensity of any conflict. They are unique in their ability to project power on a sustained basis without the need to depend on support bases in close proximity to potential or actual areas of conflict. Their deployment demonstrates our intent and resolve. If hostilities occur, our naval forces would be used to deny an enemy the use of the sea and/or to project power ashore in support of our objectives.

-- Protection of Sea Lines of Communication (SLOC): The United States has traditionally supported freedom of the seas. The success of our forward military strategy depends on our ability to maintain open sea lines of communication to reinforce our allies and our own forward deployed forces in times of need while ensuring the uninterrupted flow of essential raw materials.

## B. Programmed Force Levels

### 1. Aircraft Carrier Battle Groups

Construction of the aircraft carrier approved in the FY 1980 budget and the carrier Service Life Extension Program (SLEP) will permit the United States to maintain an inventory of 12 active, routinely deployable carriers through the turn of the century. With one carrier homeported overseas, this force level is sufficient to maintain our current forward deployment posture of two carriers in the Mediterranean and two in the Western Pacific, except as an Indian Ocean carrier presence may require redeployments.

The aircraft carriers are primarily justified not only by this peacetime forward deployment posture but by the necessity to be able to bring projection forces to bear rapidly during both NATO and non-NATO contingencies. For these purposes, the programmed force level of 12 routinely deployable carriers appears adequate.

Because carriers would be used in a NATO contingency to perform a number of missions, they would need a varying level of protection to counter the threat posed by Soviet naval forces. Our priorities for use of naval forces--including carrier battle groups--in a NATO war are scenario dependent, but we would aim to control the Mediterranean, seal off the Greenland-Iceland-United Kingdom line and corresponding straits in the Pacific, and conduct offensive sea control operations outside these lines against naval and air forces. After successful completion of these tasks, we would retain the option to attack Soviet coastal targets, and to support ground campaigns on the NATO flanks. Some Battle Group ship and airwing forces are thus structured to cope with the demands placed on them for these tasks during a NATO war.

Battle Group ship and airwing forces need not be uniformly capable of meeting the most severe concentration of Soviet forces because the degree of threat the Soviets could bring to bear against us would vary geographically and over time as fighting proceeded. Thus battle groups formed today around less capable ships, such as the MIDWAY or CORAL SEA, still would be useful for some important missions in a NATO war. Similarly, future battle groups formed around medium-sized aircraft carriers, of the recently proposed CVV class, would be fully adequate for certain operations during a NATO contingency.

### 2. Amphibious Forces

We currently plan our amphibious forces to provide sufficient capability to lift the assault echelon of 1.15 Marine Amphibious Forces (MAF). Allowing 15 percent ship non-availability for overhaul, this enables us, by combining amphibious assets of the Atlantic and Pacific Fleets, to lift the assault echelon of up to a MAF (division/wing team-sized force) in response to worldwide contingencies. The follow-on echelon of a MAF is programmed to travel on commercial ships.

Because we want a capability to respond to Marine Amphibious Brigade (MAB) sized contingencies with our Pacific and Atlantic amphibious forces and maintain our peacetime forward deployments in the Mediterranean and in the Western Pacific, we must also ensure that our amphibious forces are properly sized and distributed between the Atlantic and Pacific fleets. While planning and debate on amphibious force structure has centered on lift ships, the ability of our amphibious forces to conduct opposed operations also depends on several support functions such as the availability of lift for the follow-on support elements of the assault echelon, mine countermeasures, gunfire support, and the number and quality of helicopters and landing craft for ship-to-shore movement.

3. Surface Combatants

Surface combatants provide the close-in or local defense element of the defense-in-depth concept for anti-submarine and anti-air warfare protection of carrier battle groups, convoys, amphibious task groups, and underway replenishment groups. We buy a mix of surface combatants in order to remain responsive to a wide range of threats. The more combat capable, and therefore more costly, cruisers and destroyers are bought to protect carrier battle groups and other elements that are expected to operate in higher threat areas. The moderately capable, less expensive frigates are intended to protect convoys and other groups of ships that will operate in areas where the threat is less severe. We continually strive to obtain the most effective and affordable balance among surface combatant forces to counter the projected Soviet threat.

4. Underway Replenishment and Support Forces

While a few UNREP ships are needed for amphibious forces or other surface groups, the majority are required to support carrier battle groups. Decisions affecting the number of carriers would, therefore, have a proportional effect on the UNREP force structure. For the foreseeable future the trend toward civilian-crewed UNREP ships assigned to the Military Sealift Command (MSC) can be expected to continue.

5. Attack Submarines

The modern nuclear attack submarine has demonstrated impressive performance in many mission areas. The currently authorized building program will buy a force of more than 90 nuclear attack submarines by FY 1984. A force level of this magnitude will allow our submarines to perform the traditional submarine ASW barrier and sea denial roles as well as other missions such as direct support of carrier battle groups or employment in forward areas. How SSNs will compete in these roles with other methods in the 1990s remains to be determined, and will strongly influence their future numerical requirements.

C. Force Structure

The U.S. General Purpose Naval Forces are summarized in Table 4-1.

TABLE 4-1

Naval General Purpose Ship Force Levels 1/
(End FY 1980)

| | Active Fleet | Naval Reserve Force | Naval Auxiliary Fleet Force | Total Ship Operating Forces |
|---|---|---|---|---|
| Aircraft Carriers 2/ | 13 | | | 13 |
| Surface Combatants | | | | |
| Cruisers | 26 | | | 26 |
| Destroyers | 80 | 20 | | 100 |
| Frigates | 72 | | | 72 |
| Submarines | | | | |
| Nuclear Powered Attack | 76 | | | 76 |
| Diesel | 5 | | | 5 |
| Patrol Combatants | 3 | | | 3 |
| Amphibious Warfare Ships | 63 | 3 | | 66 |
| Mine Warfare Ships | 3 | 22 | | 25 |
| Mobile Logistics Ships | 54 | 2 | 12 | 68 |
| Fleet Support Ships 2/ | 20 | 6 | 10 | 36 |
| TOTALS | 415 | 53 | 22 | 490 |

1/ Includes all ships other than those assigned to Programs 1 and 4.
2/ Includes miscellaneous auxiliaries and combatants.

(U) In addition to the ships listed in Table 4-1, there are 83 ships that have been authorized by Congress but which will not be delivered prior to the end of FY 1980:

TABLE 4-2

General Purpose Forces Ships Authorizied But Not Delivered Prior to the End FY 1980

| | |
|---|---|
| Aircraft Carriers (CVN) | 2 |
| Destroyers 1/ | 5 |
| AEGIS Guided Missile Cruisers | 2 |
| Guided Missile Frigates | 33 |
| Nuclear Guided Missile Cruiser | 1 |
| Nuclear Powered Attack Submarines | 22 |
| Auxiliaries 2/ | 11 |
| Patrol Combatants | 5 |
| TOTAL | 81 |

1/ Includes 4 guided missile destroyers originally ordered for Iran.
2/ Includes 3 TAGOS ocean surveillance ships.

The overall age of the entire fleet will be 15.8 years at the end of FY 1980. 1/ Retirements of older ships and commissionings of new vessels are expected to lower the overall fleet age generally during the next several years. The average age of the active fleet ships in FY 1980 is 14.1 years. The average age for selected categories of ships is indicated in Table 4-3.

TABLE 4-3

Average Age of the Active Fleet
(End of FY 1980)

| | Average Age (Years) |
|---|---|
| Aircraft Carriers | 19.7 |
| Cruisers | 13.2 |
| Destroyers | 13.4 |
| Frigates | 9.7 |
| Nuclear Powered Attack Submarines | 11.1 |
| Amphibious Ships | 12.4 |
| Mine Warfare Ships | 25.8 |
| Auxiliaries | 20.4 |

Land-based P-3 aircraft, designed to have a high degree of effectiveness against modern submarines, also form an important segment of our force structure. At the end of FY 1980, this force will consist of the following squadrons:

TABLE 4-4

Land-Based ASW Squadrons
(End of FY 1980)

| Active | Reserve Component Forces | Total |
|---|---|---|
| 24 | 13 | 37 |

D. Deployments of Naval Forces

Approximately one-quarter of the active fleet is currently deployed overseas. This force represents the Navy's initial warfighting capability in forward areas. Its proximity to potential and actual areas of turmoil overseas combined with its inherent mobility allows it to redeploy rapidly to meet the needs of U.S. security interests in widely separated parts of the world. A typical deployment pattern is shown below:

1/ Including Fleet Ballistic Missile Submarines

TABLE 4-5

June 1979 Overseas Deployments

| | Western Pacific | Mediter-ranean | Eastern Atlantic | Mideast |
|---|---|---|---|---|
| Aircraft Carriers | 2 | 2 | 0 | 0 |
| Surface Combatant Ships | 19 | 12 | 4 | 4 1/ |
| Attack Submarines | 7 | 5 | 3 | 0 |
| Mobile Logistics Support Ships | 10 2/ | 9 2/ | 0 | 0 |
| Amphibious Ships | 9 | 5 | 0 | 1 |
| Land-Based ASW Squadrons | 4 | 1.5 | 2.5 | 0 |

1/ This represents a two-ship increase over the previous peacetime levels. For the time being, the additional two ships have been drawn from the Sixth Fleet in the Mediterranean.

2/ Includes Naval Fleet Auxiliary Force ships.

### E. Objectives for FY 1981-1985

To ensure that the Navy will be capable of countering potential threats in the coming years, the following key objectives have been indicated in the five-year defense program for General Purpose Naval Forces:

-- Improving fleet air defense capabilities;

-- Improving anti-submarine warfare capabilities;

-- Maintaining worldwide presence and crisis management forces;

-- Improving fleet balance and weapons modernization;

-- Improving fleet readiness.

## II. FORCE AND PROGRAM STATUS

### A. Improving Fleet Air Defense Capabilities

Soviet anti-ship missiles (ASM) launched from bombers, submarines and surface ships are a serious and growing threat to our naval forces. Of these, bomber and submarine-launched ASMs are the predominant danger to carrier battle groups. As the Soviets replace the BADGER with the AS-4 missile-equipped BACKFIRE, the air threat increases in terms of bomber operating radius, penetration speed, and ASM launch range. Bomber attacks on carrier battle groups are also expected to be supported by extensive electronic countermeasures, including

extensive jamming. Furthermore, compared to the BADGER, the BACKFIRE can reach much farther into the sea lines of communication and threaten convoys, amphibious ready groups and underway replenishment groups. Defending against such attacks is both expensive and difficult.

Our deficiencies in air defense are addressed primarily by the accelerated procurement of CG-47 ships with the AEGIS weapon system, the acquisition of the planned new DDGX surface combatants, and by the backfit of improved AAW systems on existing cruisers and destroyers. Programmed improvements for E-2C early warning aircraft and the PHOENIX air-to-air missile weapon system will also help carrier battle groups keep pace with the increased threat. The needs, and the capability provided by the defense program to meet them, are expanded upon below. 1/

1. AEGIS Ships

The current five-year defense plan (FYDP) accelerates the procurement of CG-47 class ships with AEGIS so that more of our most capable air defense ships will enter the fleet earlier to meet the expanding air threat. The shipbuilding program contains 16 CG-47s in the FY 1981-1985 period. These, together with the two ships previously authorized, will give us 18 AEGIS ships by the late 1980s. AEGIS, with phased-array radar and automated control systems, will substantially increase our air defense firepower as measured by the number of intercepts against saturation attacks by ASMs. It will become the key ship-based air defense system for carrier battle group protection.

To utilize fully the capability provided by the AEGIS phased-array radar, we have an improved version of the STANDARD MISSILE 2 (SM-2) under development that will provide longer intercept ranges and increased lethality.

2. CG and DDG Modernization

We have underway several modernization programs for existing cruisers and destroyers that will increase their capability to provide an adequate defense against the projected ASM threat. The major air defense modernization programs include the conversion of TERRIER ships (CGs, CGNs and DDG-37 class) to the SM-2 missile, and the follow-on improved New Threat Upgrade Program for both TERRIER and TARTAR ships. At the end of our modernization programs in the late 1980s, we will have about 47 air defense ships, in addition to the 18 CG-47s, capable of performing well against attacks that attempt to saturate our defenses with air launched missiles.

3. DDG-993 Acquisition

The four destroyers we are acquiring that were ordered and then cancelled by Iran will significantly boost the total fleet air defense capability. They are outfitted with the TARTAR D system used on the CGN-38

1/ Carrier-based aircraft and their contributions are covered in Chapter 5, Tactical Air Forces.

class ships. Except for AEGIS, this system is our most capable ship-board medium-range air defense weapon system. These ships are programmed for the follow-on SM-2 upgrades mentioned above. With these upgrades, the DDG-993s will continue to be effective air defense ships through the 1990s.

4. DDGX/DD-963 Air Defense Backfit

Eventually, the modernized CGs and DDGs will have to be replaced. We have started examining ship and air defense weapon system options for a new class of surface combatant (the DDGX). Currently, the shipbuilding program estimates a 1985 start for the DDGX. Studies are being conducted to define the best approach for the design of the ship and air defense weapon system. The options are to strive for an early initial operational capability (IOC) by using a derivative weapon system or to develop a new generation shipboard air defense system.

We are also studying the feasibility of adding a more capable air defense system to the DD-963 class ships. Currently, these ships are programmed to receive only point defense weapons. One option is to backfit them with the upgraded air defense systems to be installed on the DDG-993s. This could also satisfy the near-term DDGX requirement.

5. Land-Based Aircraft

To reach some important shipping lanes, BACKFIRE bombers must fly through areas where they could be detected and perhaps intercepted by U.S. or allied land-based aircraft. One such area is the gap between Greenland, Iceland and the United Kingdom -- the Soviet access route to Atlantic shipping. We have a squadron of Air Force F-4 air defense interceptors stationed in Iceland and are deploying AWACS aircraft on a rotational basis to provide surveillance of Soviet aircraft and warning of BACKFIRE raids. With such warning, interceptors from both Iceland and the United Kingdom would be able to engage enemy aircraft under either AWACS or ground control.

In addition, AWACS' long mission range and endurance, coupled with its surveillance capabilities enable it to perform collateral missions in support of our sea forces. The AWACS E-3A can automatically exchange digital data with U.S. Naval air and surface forces to aid the E-2C and F-14 interceptors in fleet air defense operations.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| Development and Procurement of AEGIS-armed Cruisers | $ Millions | 10.4 | 820.2 | 1,627.2 | 2,695.2 1/ |

1/ Includes R&D

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Modernization of DDG-2 Class Destroyers | $ Millions | 73.0 | - | - | - |
| Continued Development of AEGIS Ship Air Defense System | $ Millions | 66.1 | 52.3 | 39.8 | 34.6 |
| Procurement of STANDARD Missiles | $ Millions | 145.0 | 182.0 | 265.7 | 435.7 |
| Procurement of PHALANX Close-in Weapons System (CIWS) | $ Millions | 58.4 | 131.1 | 151.2 | 143.5 |
| Procurement of Electronic Warfare Systems (AN/SLQ-32) | $ Millions | 57.9 | 52.4 | .8 | - |

B. Improving Anti-Submarine Warfare Capabilities

Our Navy has continued to maintain its technological lead in the field of anti-submarine warfare (ASW). This is not a cause for complacency, however, as we face a Soviet submarine force that is numerically superior to our own and projected to grow in numbers of highly capable nuclear-powered submarines. New Soviet initiatives such as the ALFA class submarine demonstrate the need for further development and improvements in our ASW posture if we are to maintain our ability to defeat the threat in the future.

The programs in the FY 1981 Defense Authorization Request will improve our capability and maintain our margin of superiority in this vital area. The key elements of the ASW program are listed below:

1. Attack Submarine Programs

Our nuclear attack submarine force continues to play a key role in our anti-submarine warfare posture. Congress has authorized construction of 35 SSN-688 class nuclear attack submarines, of which ten have been delivered thus far. These are the most capable ASW submarines in the world and are fitted with the latest noise quieting and sonar processing features.

Production of these units has improved and stabilized; earlier problems that caused construction delays have been substantially reduced. When these ships are delivered, they will make a substantial contribution to our forces.

Although our submarines now maintain a qualitative advantage over the numerically superior Soviet submarines, we must continue to upgrade our forces to maintain this lead in the future. Development of improved sonar sensors and data processing capability is receiving priority attention. Submarine weapons are being modernized to increase their capability to meet current and future threats. In this regard funds have been requested to develop an ASW standoff weapon to enable our submarines to engage enemy forces at ranges beyond those attainable with the MK-48 torpedo. In addition, we are continuing the program to upgrade the MK-48 torpedo so as to maintain its effectiveness against current and future Soviet targets.

It has become apparent that there is a need to develop a lower cost attack submarine if we are to maintain the submarine fleet size we desire. Recent studies suggest that, for many submarine missions, a smaller and somewhat less expensive ship could perform as well as the SSN-688. Plans are being developed for a new class of SSN known as the Fleet Attack (FA) submarine. I have requested funding to support the initial procurement of long-lead components in time to request initial construction authorization in FY 1983. Although not as capable as the SSN 688 in every respect, the FA class submarine will be equally effective in those missions areas where submarines have been clearly shown to be superior to other platforms.

Meanwhile, it is our intention to continue procuring SSN-688s while transitioning to the new FA class. The initial production buildup of the FA class ships will be gradual to avoid the problems encountered in the early production stages of the 688 class ships.

We intend to pursue a building policy that, together with the SSBN construction program, will maintain two nuclear submarine shipbuilding sources. This will provide the necessary base to expand production in the future.

2. Patrol Aircraft

Ongoing Navy studies reconfirm previous analyses that suggest that our land-based maritime patrol aircraft (P-3s), in conjunction with our undersea surveillance systems, would make the largest contribution to our anti-submarine efforts prior to and during a major conflict with the Soviets. In a NATO contingency, we would expect to be able to operate these aircraft from an extensive worldwide U.S./allied basing system. These aircraft could thus avoid operating in highly vulnerable areas, such as those near the Soviet Union, where hostile interceptor aircraft or air defense systems are likely to be encountered.

Accordingly, given the high priority we assign to P-3 force modernization, we will continue to buy P-3C aircraft. To expand world-wide fleet offensive capability at very low cost, we are continuing to backfit the HARPOON anti-ship missile into our active fleet squadrons. The avionics system upgrades in existing P-3s, as described last year, will also be installed. In addition, we have programmed navigation improvements in existing aircraft, particularly for the reserve squadrons since they would play a substantial role in a mobilization contingency.

3. Surface Warship Tactical Towed Array Sonar (TACTAS)

Towed arrays continue to be the most important surface ship anti-submarine warfare (ASW) development in a generation. The SQR-18A system is a long-range sensor currently in production for backfit in existing surface combatants. The first ship with this array became operational in CY 1979. In FY 1981, we have budgeted for four more sets of SQR-18A array/electronics to complete backfit in our KNOX class (FF-1052) ships currently equipped with independent variable depth sonars (IVDS). As previously reported, we plan to install SQR-18 TACTAS systems on each of the 46 FF-1052 ships.

An advanced towed array sonar, the SQR-19, will be installed in the DD-963, FFG-7, CG-47 and DDG-993 classes. The FY 1981 request includes funding for development and testing of the SQR-19; this will include installation of the engineering development model system on board a test ship. The SQR-19 will significantly improve fleet ASW effectiveness even over the SQR-18A. We estimate that the SQR-19 will be deployed beginning in 1985.

4. Light Airborne Multipurpose System (LAMPS MK III)

Our studies continue to show that the LAMPS MK III system is needed to exploit fully the long-range ASW detections that tactical towed array sonars can provide. This combination promises to improve significantly our surface-ship ASW capability.

The Navy plans to take delivery of the first five test vehicles later this year and commence testing next year. Although on a very tight schedule, the Navy is confident that the Congressionally mandated IOC date of FY 1984 remains achievable. The FY 1981 budget contains long-lead funding to support FY 1982 procurement of the first 18 production units. Recent changes in the Army BLACKHAWK procurement plan will increase the unit cost of LAMPS MK III. However, the Navy does not intend to reduce its planned procurement quantity. An estimate of the cost impact of the revised Army program on LAMPS MK III is currently being developed.

5. Torpedo Programs

The MK-46 is an in-service conventional lightweight torpedo designed for launch from surface ship torpedo tubes and anti-submarine rocket (ASROC) systems, as well as from fixed wing and rotary wing aircraft. Because the existing MK-46 torpedo will not meet the threat foreseeable in the early 1980s,conversion and procurement of existing assets to a newer version of the MK-46, the MK-46 NEARTIP were initiated in FY 1978. The MK-46 NEARTIP, features improvements in countermeasure resistance and the acoustic system.

The FY 1981 budget also includes funding to continue the research and development for an advanced lightweight torpedo (ALWT)--the probable replacement for the MK-46 NEARTIP--to counter the projected submarine threat in and beyond the late 1980s.

The MK-48 torpedo is a heavyweight anti-submarine and anti-ship torpedo capable of sinking submarines or surface ships. It is the Navy's only effective submarine-launched torpedo. An improvement and standardization program for this weapon is in progress. This program incorporates the necessary interim changes to expand the MK-48 operating envelope to increase its capabilities against the higher speed, deeper diving ALFA class submarine.

A major modification of the acoustics and control electronics in the MK-48 torpedo will start in FY 1980. This modification--will improve the MK-48's effectiveness.

6. Surveillance Towed Array Sensor System (SURTASS)

The SURTASS system will have a considerably greater range than the TACTAS towed array sonar and will be fitted to special TAGOS support ships.

Last year I reported to the Congress that significant problems had been uncovered during SURTASS tests in the summer of 1978. I indicated that a carefully planned effort was underway to correct these problems, and that full system sea testing was planned for July through September 1979, followed by System Technical Evaluation (TECHEVAL) in October-November 1979, and Operational Evaluation (OPEVAL) in 1980.

I can now report to you that SURTASS successfully held to this schedule through the first phase of TECHEVAL. The system sea tests confirmed that the shore processing software, computer loading and array reliability problems have been corrected. In fact, system acoustic performance surpassed the goals we had established. During the second phase of TECHEVAL, however, problems were encountered. There will be some change to the OPEVAL schedule pending successful verification of problem correction. A Defense System Acquisition Review Council meeting will be held subsequent to OPEVAL to assess the readiness of SURTASS for production.

The Navy did not award the two FY 1979 TAGOS SURTASS ships in September 1979 as planned because of Congressional direction to delay the award until after OPEVAL of the SURTASS system. The Navy will be prepared to make the ship award subsequent to OPEVAL as directed by the Congress. We are requesting five ships in the FY 1981 budget to continue the procurement program started in FY 1979 with the authorization of the lead ships.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| Procurement of SSN-688 Class Nuclear Attack Submarines | $ Millions | 765.8 | 809.6 | 448.7 | 496.7 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Procurement of FA-Class Nuclear Attack Submarines | $ Millions | - | - | 14.4 | 77.6 |
| Procurement of P-3C Patrol Aircraft (including HARPOON backfits) | $ Millions | 312.8 | 309.5 | 241.5 | 433.3 |
| Modification of and Procurement of SH-2 and Acquisition of SH-60B Light Multi-Purpose Systems (LAMPS MK I and MK III) | $ Millions | 13.8 | 13.6 | 132.2 | 812.8 |
| Modification of SH-3 Helicopter | $ Millions | 53.6 | 14.3 | 1.1 | 2.1 |
| Procurement of Sonobuoys | $ Millions | 101.8 | 104.0 | 111.4 | - |
| SQR-18 Towed Array Sonar Backfit Program, SQR-19 Towed Array Sonar Development | Procurement: $ Millions | 22.9 | 22.7 | 10.1 | - |
| | Development: $ Millions | 27.1 | 27.8 | 22.8 | 15.2 |
| Development of ASW Standoff Weapon (SOW) | $ Millions | - | 7.0 | 19.0 | 50.1 |
| Acquisition and Conversion of MK-46 ASW Torpedoes | $ Millions | 113.5 | 65.0 | 44.9 | 42.8 |
| Procurement of MK 48-ASW Torpedoes | $ Millions | 108.7 | 122.5 | 34.9 | - |
| Development of Advanced Lightweight Torpedo (ALWT) | $ Millions | 44.3 | 60.0 | 79.7 | 80.7 |
| Procurement of SURTASS | $ Millions | 81.3 | 34.6 | 200.2 | 152.9 |
| Development of (Sound Ocean Surveillance System) Improved SOSUS | $ Millions | 47.6 | 48.2 | 58.2 | 69.2 |

7. CAPTOR

The CAPTOR, a mine designed to be able to detect, classify and launch a MK-46 torpedo at a transiting submerged submarine, has thus far failed to provide the high level of effectiveness we had hoped for. Consequently, we have decided not to request funds for further production. The FY 1981 budget requests research and development money to continue efforts to improve CAPTOR's effectiveness and, failing this, to examine other alternatives to provide a deep water mine capability.

C. Maintaining World-Wide Presence and Crisis Management Forces

1. Aircraft Carrier Battle Groups

As discussed previously, we intend to maintain 12 active, routinely deployable carriers for the foreseeable future to support at least the current level of forward deployments. Recent events in the Indian Ocean and Persian Gulf regions have led to a decision to increase our naval presence in this area. As a result--and in conjunction with other studies of rapidly deployable forces for non-NATO contingencies--we are considering various options that might assist in achieving greater presence and crisis response capability.

While the number of deployable carriers remains constant, the Navy will find it difficult to expand carrier forward deployments to new areas on any kind of fixed schedule without drawing down the current deployment levels in the Mediterranean and Western Pacific. The hardships that such increased deployments would have on the Navy's personnel are well known and documented. In view of these factors, we are examining several near- and long-term options that could provide better forward deployment flexibility, improved crisis response capability and increase presence without unacceptable impacts on the Navy's people. Given our successful experience with the USS MIDWAY in Japan, one alternative being examined is expansion of overseas homeporting.

2. Amphibious Lift Capability

The U.S. will have 63 active 1/ and three Naval Reserve Force (NRF) amphibious ships at the end FY 1980. This force will include the fifth newly constructed Amphibious Assault Ship (LHA). We are currently investigating the cost/effectiveness of alternative modernization options for amphibious forces. The outcome of this investigation will dictate the numbers and types of amphibious ships and landing craft we intend to procure in the future.

a. Assault Craft

At present, the surface portion of the ship-to-shore movement in an amphibious assault is conducted by landing craft and amphibious tractors that use World War II technology. Their effectiveness is limited by

1/ Excluding the USS LA SALLE currently being used as the Mideast Force flagship.

their slow speed and need for relatively favorable beach and tide conditions. We have included in this budget request funding for testing and evaluation of the Landing Craft Air Cushion (LCAC), capable of delivering troops from ship to shore and inland from the shore line at high speed. The LCAC is compatible with all existing well-decked amphibious ships (i.e., Landing Ship Dock (LSD), Landing Platform Dock (LPD), and Amphibious Assault Ship (LHA)). The LCAC, if procured, would also have assault capabilities over about four times the number of beaches now suitable for conventional craft. While LCACs are individually more capable than conventional landing craft, they would also be larger and more expensive.

b. Amphibious Ships

Future requirements for amphibious ships depend upon many factors. The block obsolesence of amphibious ships in the 1990s, when 70 percent of the current force reaches the end of its expected service life, would require a significant new construction and service life extension program in order to maintain the current lift objective. Future requirements for amphibious ships are also closely related to whether LCACs are procured, since these would require more well-deck ships to carry them than would an otherwise comparable amphibious force equipped with conventional landing craft. Finally, we need to ensure that we have sufficient amphibious ships to maintain our peacetime forward deployments.

We have placed three LSD-41 class amphibious ships in the shipbuilding plan to compensate partially for the projected retirement of LSD-28 class ships in the late 1980s and to spread out the costs of a replacement program for retiring ships.

c. Mobility Enhancement

In order to improve dramatically our crisis response time for non-NATO contingencies, we have included funds in the shipbuilding program for procurement of 14 commercial roll-on/roll-off ships (T-AKX). We consider the T-AKX an excellent opportunity to capitalize on major improvements in the capabilities of commercial cargo ships at minimal cost to the Department of Defense. These ships will be manned by civilian crews and will provide a capability to maintain forward-deployed combat unit equipment and 30 days of supply for three Marine Amphibious Brigades (MABs) afloat in various regions of the world when procurement is complete in FY 1987. (See also Chapter 6, Mobility Forces)

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| Procurement of Aircraft Carriers (CVN) | $ Millions | 86.0 | 2,102.0 | 131.4 | 21.4 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Development of Air Cushion Landing Craft (LCAC) | $ Millions | 19.8 | 22.2 | 22.2 | - |
| Procurement of LSD-41 | $ Millions | - | 41.0 | 340.3 | - |
| Acquisition of Maritime Prepositioning Ships (T-AKX) | $ Millions | - | - | 220.0 | 400.8 |
| | Procurement: $ Millions | - | - | (207.0) | (337.8) |
| | Development: $ Millions | - | - | - | - |
| | Military Construction: $ Millions | - | - | (13.0) | (63.0) |

## D. Improving Fleet Balance and Weapons Modernization

### 1. Surface Combatants

Surface combatant force levels are expected to increase until the mid-1980s because of the deliveries of the DD-963 and the FFG-7 class warships. However, the DD-931/945, and the DDG-31 classes are all scheduled for retirement during the mid and late 1980s; the DDG-2, DDG-37, FF-1040/1052 and CG-16/26 classes will begin to reach the end of their expected service lives in the 1990s. Barring further service life extensions, projected block retirements of these older classes will require continued new ship construction to prevent a serious reduction in our surface combatant force levels by the early 1990s.

Because of the growing complexity and costs of our new ships, naval construction budgets would have to rise very sharply if we are to replace these retiring ships with highly sophisticated ships on a one-for-one basis. There are ways to moderate this rise while maintaining adequate numbers and insuring that the unit capability of our surface combatants is sufficient to meet the threat. A mix of both highly capable, more expensive ships (CG-47) and moderately capable, less expensive surface combatants (FFG-7) is being requested to replace the retiring ships. The DDGX, which will be capable of operating in a carrier battle group and is planned to augment the CG-47, has been slipped one year to FY 1985 so that planning may proceed on an appropriate combat systems suite. When introduced, the DDGX, together with the CG-47 and DD-963, is expected to provide an effective response to the projected Soviet threat.

We are also requesting funds to support the development of a new ASW Frigate (FFX). This ship will be less costly than the FFG-7 but capable of fulfilling naval requirements such as convoy protection in low threat areas. It would be procured for both our active and reserve forces.

a. USS OLIVER HAZARD PERRY Class Guided Missile Frigates (FFG-7)

Authorization of funding for an additional four FFG-7s is requested in FY 1981. This program is designed to offset some of the existing numerical deficiencies in surface combatants required for sea lane defense as well as other operations in ocean areas where the threat is less concentrated. While we would like to procure more of these ships at this time, the need to provide more anti-air warfare (AAW) protection to our carrier battle groups is considered more urgent than the need to build more frigates.

b. USS SPRUANCE Class Destroyer (DD-963)

The 31-ship, DD-963 class destroyer program is nearing completion. USS FLETCHER (DD-992) is expected to be delivered in mid-CY 1980. The thirty-first ship of this class, the DD-997, authorized by Congress in FY 1978, was placed under contract in late FY 1979, and is scheduled for completion in FY 1982. As noted above, we plan to equip the DD-963 class ship with the SQR-19 TACTAS and LAMPS III systems to increase their ASW effectiveness. This year we are requesting funding to explore the feasibility of a suitable AAW suite for the DD-963 ships to increase their effectiveness and versatility in battle group employment. This ship class has performed impressively during recent deployments to the Mediterranean, the Indian Ocean, and the Western Pacific.

2. Underway Replenishment and Support Ships

The Navy continues to face a serious underway replenishment (UNREP) and support ship aging problem despite several new construction programs in the past few years. At the end of FY 1979, the average age of the 96 UNREP and support ships in the active and fleet auxiliary forces was about 22 years. About 49 of these ships are older than 25 years. Several of the large oilers, tenders and many minor fleet support vessels date from World War II.

UNREP forces resupply warships at sea in forward areas with fuel, munitions, provisions, and spare parts. The number of each type of ship we need depends on: (1) the numbers and types of combatants, (2) the location of operations, (3) the availability of resupply bases, (4) the UNREP ships' capabilities, (5) the projected attrition of UNREP forces relative to that of the combatants they support, and (6) the intensity and duration of the conflict.

Support ships provide a variety of services to the fleet. For example, destroyer tenders (ADs) and repair ships (ARs) provide mobile intermediate-level maintenance to surface forces whereas submarine forces are supported by submarine tenders (ASs).

a. Fleet Oilers

The greatest need for UNREP ships is that for fleet oilers that carry marine diesel fuel (DFM) and aviation fuel (JP-5) from forward bases or consolidation areas to the multi-product ships that maintain station with the carriers. We are now planning to buy four fleet oilers (T-AOs) at a rate of two in FY 1983 and two in FY 1984. These T-AOs will use commercial standards and construction techniques to the maximum extent possible.

b. Salvage Ships

This year we have added four salvage ships (ARS) to the shipbuilding program with the lead ship scheduled for delivery in FY 1984. These ships will repeat the successful basic design of the ARS-38 class, but incorporate current habitability and environmental requirements. Combined with the three salvage and rescue ships (ATS), these ARSs will provide a force sufficient to maintain one ship forward deployed in the Mediterranean and Western Pacific at all times.

c. Fleet Tenders

Congress has received the Navy's review of its needs for further construction of destroyer and submarine tenders. Even when the four YELLOWSTONE (AD-41) class tenders have been delivered, a shortfall in surface force tenders will occur in the mid-1980s. Contracts for all four AD-41s have been awarded. The USS YELLOWSTONE is expected to be delivered in early CY 1980.

3. Mine Warfare Forces

The USSR mine threat continues to increase, with an expanding deep-water mine warfare capability and an increase in the quality and quantity of mines in their inventory. The U.S. deep-water capability is inadequate. We must, therefore, take steps to provide a deep-water capable force to counter the improvements to Soviet mines.

a. Mines

Mines are cost/effective sea control weapons used to close ports, to form barriers at geographic choke points, and to sink or deter transiting surface ships or submarines. The mining of Haiphong Harbor demonstrated the deterrent effect of mines--their ability to stop shipping even though there may be a rather low probability of a mine detonating against a given ship. A weapon that will cause no harm unless challenged is one we wish to retain and improve. Three mine programs suport this capability:

-- QUICKSTRIKE - a backfit program to convert existing bombs to mines and to develop a new 2,000 lb (909 kg) mine.

-- Intermediate Water Depth (IWD) Mine - for use against submarines and surface ships.

-- Submarine-Launched Mobile Mine (SLMM) - a self-propelled, submarine-launched mine that will permit covert mining of waters inaccessible to other delivery vehicles.

b. Mine Countermeasure Forces

The three active ocean minesweepers (MSO) and 22 Naval Reserve Force MSOs are reaching the end of their service lives. Part of the MSO shallow-water capability is being assumed by mine countermeasure helicopters. The MSO has limited deep-water capability. We have placed nine mine countermeasure (MCM) ships in the five-year shipbuilding plan so that we can deal more effectively with the Soviet deep-water mine threat by incorporating improved mine sweeping, mine hunting and neutralization systems. The initial ship would be procured in FY 1982--a one-year slip from last year's plan--because of a redesign of the ship to make it smaller and more cost/effective.

4. Weapons Modernization

The Navy is pursuing a number of weapons modernization initiatives that will significantly upgrade the combat capability of its ships and aircraft. These programs are necessary if we are to meet the potential challenge of a Soviet Fleet that is continuing to improve in combat capability.

a. TOMAHAWK Cruise Missile

The TOMAHAWK cruise missile system will provide our forces with an enhanced long-range tactical capability.

The TOMAHAWK anti-ship missile system will be deployed on destroyers and nuclear attack submarines, significantly increasing their long-range offensive power. In particular, the programmed destroyers will be able to offset the most severe Soviet surface-to-surface missile threat.

b. HARPOON

We will continue to procure and deploy the HARPOON missile. This highly capable weapon is a ship, air, and submarine-launched, all-weather anti-ship cruise missile that is highly effective against enemy destroyers, light cruisers, and patrol craft as well as enemy merchant shipping. It provides our naval forces with a powerful standoff capability against the large number of increasingly capable Soviet surface ships.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| Procurement of Guided Missile Frigates (FFG-7) | $ Millions | 1,516.6 | 1,257.3 | 1,109.1 | 1,192.2 |
| Development and Procurement of Frigates (FFX) | $ Millions | - | - | 8.0 | 20.0 |
| | Procurement: | - | - | - | - |
| | Development: | - | - | (8.0) | (20.0) |
| Procurement of Fleet Support ships | $ Millions | 311.6 | 10.9 | 100.4 | 168.8 |
| Conversion of Ships for Fleet Support | $ Millions | - | 6.5 | 45.3 | 2.2 |
| Procurement of Mine Countermeasures Ships (MCM) | $ Millions | - | - | - | 87.3 |
| Development of QUICKSTRIKE Mines | $ Millions | 7.8 | 6.7 | 4.9 | 2.6 |
| Development of IWD Mines | $ Millions | 13.2 | 3.0 | 24.3 | 45.9 |
| Development and Procurement of Submarine-Launched Mobile Mines (SLMM) | $ Millions | 3.7 | 2.8 | 2.9 | 16.8 |
| | Development: | (3.7) | (2.8) | (2.9) | (1.6) |
| | Procurement: | ( - ) | ( - ) | ( - ) | (15.2) |
| Acquisition of HARPOON Anti-Ship Missiles | $ Millions | 139.0 | 147.5 | 180.1 | 200.6 |
| Acquisition of TOMAHAWK Missiles | $ Millions | 154.1 | 133.4 | 205.1 | 252.1 |
| | Procurement: | ( - ) | (30.1) | (74.9) | (140.6) |
| | Development: | (154.1) | (103.3) | (130.2) | (111.0) |
| | Military Construction: | ( - ) | ( - ) | ( - ) | ( .5) |
| Development of Guided Gun Ammunition | $ Millions | 39.1 | 26.4 | 41.7 | 18.1 |

## E. Improving Fleet Readiness

We anticipate continuing the progress made in improving the Navy's combat readiness in recent years.

### 1. Materiel Readiness

Adequate funding has been provided at all three maintenance levels (organizational, intermediate and depot) to sustain current levels of fleet materiel readiness. The ship overhaul backlog will be essentially eliminated by the end of FY 1984. We also plan to invest nearly $600 million in the next five years in shipyard modernization that should contribute to increased long-term readiness. Aircraft materiel readiness is expected to level out and may even turn downward slightly in FY 1981 due to decreased support funding in FY 1980. However, increased support funding in the FY 1981 budget submission is expected to result in an increase in FY 1982 mission readiness.

### 2. Personnel Readiness

There will be some reduction in manpower for most fleet units and shore activities in view of retention and some recruitment problems. Naval Reserve forces will be used to offset some of this shortfall after mobilization. Continuing shortages of skilled non-commissioned officers at the middle grade level and second-term re-enlistees compound the problem. Naval life imposes extra hardships, even in peacetime, that work against our goal of keeping working hours and conditions compatible with adequate retention. Programs to alleviate these problems are addressed in Chapter 12.

### 3. Training Readiness

The contribution of training to the readiness of the Navy is difficult to assess. It is now measured with some realism only during combat exercises. Traditional surrogates for training readiness include ship steaming days and aircraft flying hours.

In FY 1981, the steaming days per quarter programmed and desired are:

| | Fleet | Programmed | Desired |
|---|---|---|---|
| | 2 | 31 | 39 |
| | 6* | 42 | 50 |
| | 3 | 27 | 31.5 |
| | 7* | 45 | 54 |
| Total Average | | 36.3 | 43.6 |

* Forward-deployed fleets

Aircraft flying hours are one way to estimate the contribution of training to an aircraft squadron's readiness. This year's budget provides the following hours, expressed in terms of percent of what is judged to be full readiness to support the aircraft's primary combat mission, otherwise known as "primary mission readiness" (PMR):

| | Percent PMR |
|---|---|
| Actual Flying Hours | 85.1 |
| Simulator Time | 3.4 |
| Total Programmed | 88.5 |

This 88 percent PMR represents an acceptable level of readiness to support peacetime fleet needs.

These operational tempo levels for both ships and aircraft remain unchanged from those budgeted in FY 1980. Our requested funding will be adequate to accomplish these operational rates except for expanded operational commitments such as an increased presence in the Indian Ocean, and rising fuel costs.

The objective of the training simulator program is to provide effective training at the least cost. The use of simulation, while not a perfect substitute for hands-on experience, makes specialized instruction available to more people while reducing the number of costly steaming days and flying hours for training. These devices can also simulate equipment breakdowns that could not be duplicated aboard ships or aircraft without jeopardizing the platform or its crew. Operators can attain proficiency in varying scenarios including some that are impossible to duplicate at sea, except in actual tactical situations. The present five-year defense program contains funds for the purchase of devices that will provide training for new equipment being introduced to the fleet and improve the overall level of training in the Navy.

TABLE 4-6

FY 1981 Shipbuilding Program
(Fiscal Year)

| Type of Ship | 1981 | 1982 | 1983 | 1984 | 1985 | FY 1981-85 Five Year Total |
|---|---|---|---|---|---|---|
| TRIDENT (Ballistic Missile (Submarine) | 1 | 1 | 1 | 1 | 2 | 6 |
| SSN-688 (Attack Submarine) | 1 | 1 | 1 | 2 | 0 | 5 |
| FA-SSN (Attack Submarine) | 0 | 0 | 1 | 1 | 4 | 6 |
| CV (Aircraft Carrier) SLEP 1/ | 1 | 0 | 1 | 0 | 1 | 3 |
| DDGX (Guided Missile Destroyer) | 0 | 0 | 0 | 0 | 1 | 1 |
| CG-47 (Guided Missile Cruiser) AEGIS | 2 | 3 | 3 | 4 | 4 | 16 |
| DDG-963 (Modernization) | 0 | 0 | 0 | 1 | 0 | 1 |
| FFG-7 (Guided Missile Frigate) | 4 | 4 | 3 | 4 | 0 | 15 |
| FFX (Frigate) | 0 | 0 | 1 | 0 | 4 | 5 |
| LSD-41 (Amphibious Ship) | 1 | 0 | 1 | 0 | 1 | 3 |
| MCM (Mine Countermeasure Ships) | 0 | 1 | 0 | 4 | 4 | 9 |
| TAGOS (SURTASS) | 5 | 4 | 0 | 0 | 0 | 9 |
| T-AO (Oiler) | 0 | 0 | 2 | 2 | 0 | 4 |
| T-AK (Cargo Ship Conversion) | 1 | 0 | 0 | 0 | 0 | 1 |
| T-AKX (Commercial Roll-on Roll-off Ships) | 2 | 3 | 3 | 3 | 3 | 14 |
| ARS (Salvage Ship) | 1 | 2 | 1 | 0 | 0 | 4 |
| Total New Ships | 17 | 19 | 17 | 21 | 23 | 97 |
| Total Conversion | 2 | 0 | 1 | 1 | 1 | 5 |

1/ SLEP - Service Life Extension Program

CHAPTER 5

# TACTICAL AIR FORCES

## I. PROGRAM BASIS

Tactical air forces include fighter and attack aircraft as well as aircraft that provide combat support such as airborne warning and control, tactical reconnaissance, electronic warfare and defense suppression. The missions of these land- and sea-based forces are to control friendly airspace and support land and sea forces in the execution of their missions.

### A. Force Structure

The structure and deployment of U.S. Tactical Air Forces is displayed in Chart 5-1.

#### 1. U.S. Air Force Tactical Air Forces

Air Force fighter/attack squadrons are generally equipped with 18 or 24 aircraft and nominally are organized into wings consisting of 72 aircraft. Combat support aircraft are normally grouped into squadrons of 12 to 24 aircraft. Presently, the active fighter/ attack force is organized into 26 wings, but these units are not yet fully equipped. By 1984, all 26 wings will have full aircraft complements.

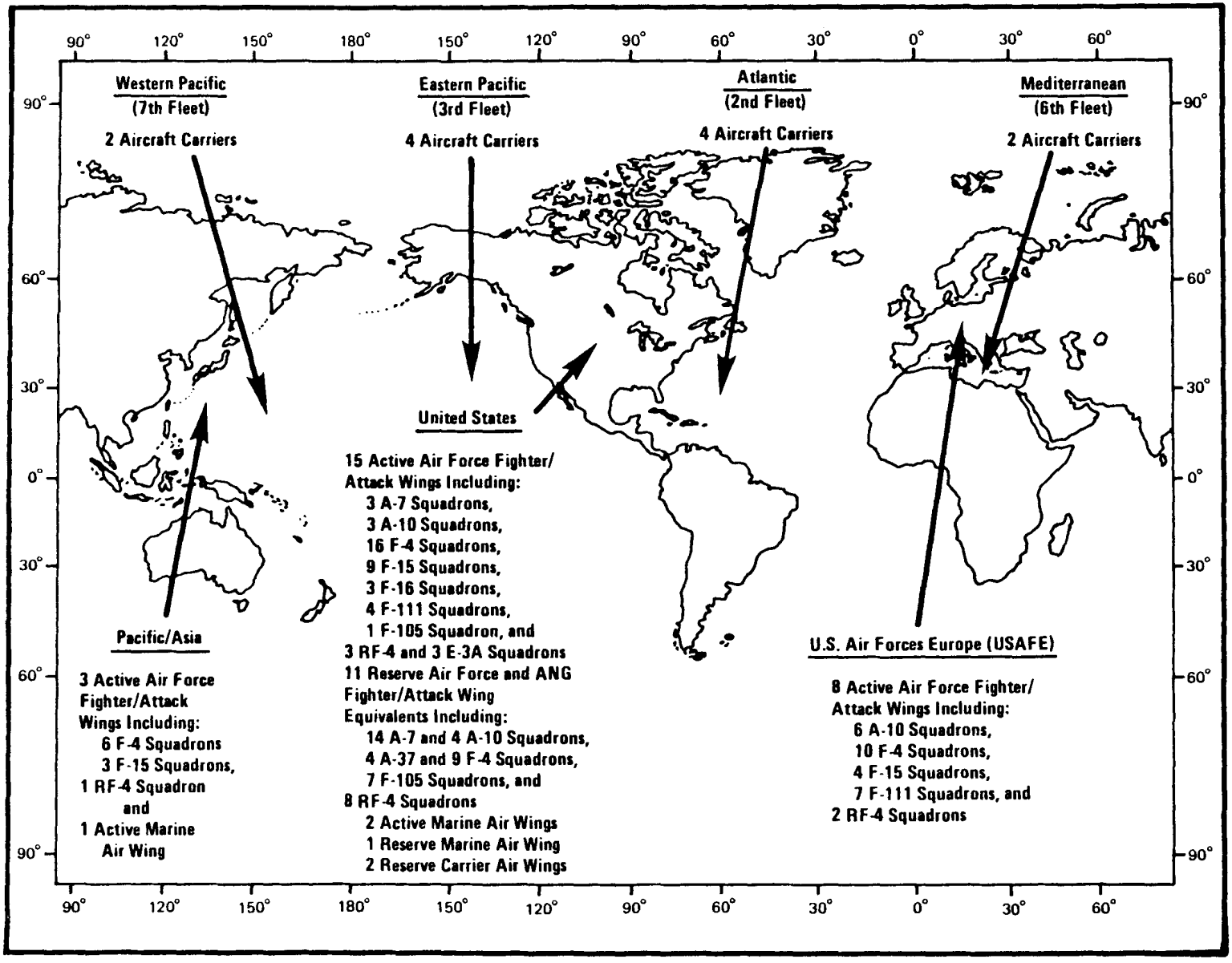
#### 2. U.S. Navy and Marine Corps Tactical Air Forces

Navy and Marine Corps air wings are task oriented and include many types of aircraft, unlike Air Force wings which generally consist of one type of aircraft.

The number of active carrier air wings in the force will remain at 12 and reserve air wings at two throughout the five-year period. A typical active carrier air wing consists of the following types and numbers of aircraft.

| Aircraft Type | Function | Squadrons | Aircraft |
|---|---|---|---|
| F-4, F-14, F-18 | Fighter | 2 | 24 |
| A-7, A-18 | Light Attack | 2 | 24 |
| A-6 | Medium Attack | 1 | 10 |
| KA-6D | Tanker | 1 | 4 |
| S-3A | ASW (Fixed-Wing) | 1 | 10 |
| SH-3H | ASW (Rotary-Wing) | 1 | 6 |
| EA-6B | Electronic Warfare | 1 | 4 |
| E-2 | Airborne Early Warning | 1 | 4 |
| RA-5, RF-8, F-14 TARPS | Reconnaissance | 1 | 3 |
| TOTAL | | 11 | 89 |

## CHART 5-1 END FY 1980 DEPLOYMENT OF U.S. TACTICAL AIR FORCES



During the program period, the F/A-18 will start to enter the force and replace F-4s and A-7s. The two reserve carrier air wings are organized similarly to the active wings but fly older aircraft and lack some support aircraft.

Marine Corps tactical air forces consist of three active wings and one reserve wing. These wings support Marine Corps ground forces and amphibious operations. A notional active Marine air wing consists of the following elements:

| Aircraft Type | Function | Squadrons | Aircraft |
|---|---|---|---|
| F-4, F-18 | Fighter | 4 | 48 |
| A-4, A-18, AV-8A | Light Attack | 2-3 | 46 |
| A-6 | Medium Attack | 1-2 | 17 |
| KC-130 | Tanker/Transport | 1 | 12 |
| EA-6B | Electronic Warfare | 1 | 5 |
| RF-4 | Reconnaissance | 1 | 7 |
| OV-10 | Observation | 1 | 12 |
| AH-1 | Attack Helicopters | 1 | 24 |
| CH-53, CH-46, UH-1 | Transport/Utility Helicopters | 6-7 | 131 |
| TOTAL | | 18-21 | 302 |

During the five-year period, F/A-18s will be introduced into active fighter and light attack squadrons. The reserve Marine Air Wing is composed primarily of F-4s, A-4s and transport/utility helicopters.

B. The Basis for Planning

Defense against a major Warsaw Pact attack on NATO is the most demanding scenario used for structuring our tactical air forces. As is the case with our other conventional force programs, improving our NATO capabilities also increases our ability to fight elsewhere. The continued modernization and improvement of Warsaw Pact air and ground forces, coupled with the steady rise in our procurement and operating costs, makes our defense planning increasingly difficult, especially when we are compelled to make quality/quantity choices.

Our planning for Europe is based, in part, on roughly matching the likely number of Warsaw Pact tactical aircraft, even though the missions of the opposing forces are somewhat different. The current Warsaw Pact modernization effort is projected to continue, since the Soviets are still producing very large numbers of new fighter and attack aircraft. However, the overall size of the Warsaw Pact tactical air forces is projected to remain relatively constant over the next few years, reflecting their emphasis on force modernization rather than expansion. These efforts have increased the Warsaw Pact

nations' air-to-air capability, significantly enhanced their potential air-to-ground capability and appear to have altered their tactical force structure from a defensive to an offensive orientation.

Present NATO FY 1981-1985 force plans indicate that with U.S. reinforcement, we will continue to have rough parity with the Warsaw Pact in numbers of combat aircraft and maintain an edge in air-to-ground capability. However, because the newer Pact ground attack aircraft are more capable than their predecessors, our advantage is diminishing. Despite the Pact improvements, we continue to believe that NATO air forces can gain control of friendly airspace after D-Day and support the ground forces. Our goal is to disrupt the Pact's ground operations so that NATO's ground forces can deny the Pact victory as well as restore pre-war boundaries. This task is difficult as important ground targets such as armored vehicles are small, hard, mobile and difficult to acquire. Our ability to attack these targets at night or in bad weather is limited.

Gaining air superiority will be a challenge owing to the increased capability of newer Warsaw Pact air-to-air aircraft, the size and diversity of their ground-based defense systems, and their substantial electronic warfare capabilities. The large number of Warsaw Pact air-to-air aircraft remains of great concern as joint Air Force/Navy tests have demonstrated the advantages of large numbers (a Pact strength) even against sophisticated aircraft (a NATO strength). Even though these tests may not reflect the combat environment in Central Europe, it is clear that better quality aircraft cannot always offset larger numbers.

The entry of the E-3A Airborne Warning and Control System (AWACS) offers an important early warning and surveillance capability to help allocate our forces. AWACS was developed to overcome the limitations of ground-based radar systems and provide improved capabilities in support of tactical and theater-level operations. Improvements are needed and planned to develop its communications capabilities in order to exploit the full potential of the system.

We are also concerned that our Air Force European base structure for the mid-1980s may be inadequate. Congress has eliminated almost all "prefinanced" USAF construction projects, as well as many which are not eligible for NATO funding, and directed DoD to rely on NATO Infrastructure support as much as possible. But it will be some time before the present NATO program will provide adequate basing support. Therefore, even though we plan to reinforce Europe quickly, we may not be able to support the augmentation aircraft as well as we desire. Continued NATO and increased Congressional support is needed to improve our basing support structure in Europe.

The number of new shelters that can be built will depend on the level of NATO Infrastructure funds and on the rate at which we use those funds to recover the costs of earlier prefinanced shelter construction.

C. Major Needs

The FY 1981-1985 Defense Program continues to improve the quality and quantity of U.S. tactical air forces and to sustain many initiatives begun in previous years. This year's program emphasizes:

-- Increasing combat readiness;

-- Modernizing the active and reserve components of the Air Force, Navy and Marine Corps.

-- Enhancing defense suppression, $C^3$ and $C^3$ countermeasures capabilities; and

-- Improving target acquisition, surveillance, warning, and reconnaissance capabilities.

## II. PROGRAM DESCRIPTION

The five-year program places major emphasis in the following areas:

### A. Increasing Combat Readiness

Maintaining the combat readiness of our aircrews and their increasingly complex equipment has become an exceedingly difficult challenge that threatens to jeopardize our combat capability. We believe that U.S. aircrews are better trained and are more flexible than those of the Warsaw Pact. However, this advantage could erode if the disturbing trend is allowed to continue in several of our readiness and training indicators. These indicators show a decline in flying hours, training sorties well below stated requirements, increasing maintenance backlogs, losses of experienced aircrews to the private sector, and increases in our accident rates.

To change these adverse trends in readiness measures, significant efforts are required. Starting this year, operations and maintenance funding has been increased to accommodate a phased growth in Air Force flying hours for the A-10, F-4, F-15, F-16, and F-111. By FY 1985, all of these aircraft and their crews will meet fully their stated flying hour requirements. In addition, we are increasing both Air Force and Navy depot-level maintenance funding. In retrospect, our operations and maintenance funding accounts have increased very slowly compared to our procurement accounts. Thus, we may have been buying future capability at the expense of current capability.

We are continuing our emphasis on realism in training. Instrumented Air Combat Ranges are installed or planned at several locations in CONUS and overseas, offering U.S. and allied aircrews a unique training aid not duplicated by the Warsaw Pact. We intend to give all active and reserve units experience in the large-scale "Red Flag" exercises held at Nellis Air Force Base, Nevada. However, our test ranges lack realism in matching all likely wartime environments. Crews trained in our Western deserts may face problems in adapting to conditions in Western Europe. To compensate, we annually deploy selected units to their overseas wartime operating locations. Realistic battle management training for senior military commanders is being provided through "Blue Flag" exercises.

## B. Modernizing the Active and Reserve Components of the Air Force

We are trying simultaneously to build the active Air Force up to 26 fighter/attack wings and modernize both the active and reserve components of the force. This has become increasingly difficult owing to the high costs of modern aircraft. Accordingly, we have decided to stretch out the A-10, F-15 and F-16 programs and retain older aircraft such as the F-4 longer than previously planned. However, we have decided to procure 92 more A-10s than previously planned to insure that the projected life of the A-10 force will be maintained. We will achieve the full 26-wing active force in FY 1984. At the same time, we are accelerating the modernization of our reserve forces and plan to increase the number of notional reserve wings from 11 to 14-1/2 by FY 1985. In FY 1981, we are also adding 110 aircraft to the tactical fighter training structure to meet our increased training needs. In order to ensure that our backup aircraft authorizations are sufficient for maintenance support and attrition reserve, we are adding 80 aircraft to these accounts. The expected size and composition of the active and reserve forces are shown in Charts 5-2 and 5-3.

The details of the modernization program are as follows:

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| F-16 | | | | | |
| The multi-purpose F-16 will increase both our air-to-ground and air-to-air combat capabilities. | Development: | | | | |
| | $ Millions | 107.9 | 27.8 | 41.9 | 7.9 |
| | Procurement: | | | | |
| | Quantity | 145 | 175 | 180 | 120 |
| | $ Millions | 1,462.0 | 1,656.5 | 1,877.3 | 1,506.7 |
| F-15 | | | | | |
| The Air Force's all-weather air superiority fighter. Procurement funding of the total force of 729 F-15s is expected to be completed in FY 1983. | Development: | | | | |
| | $ Millions | 10.0 | 0.5 | - | - |
| | Procurement: | | | | |
| | Quantity | 78 | 60 | 30 | 30 |
| | $ Millions | 1,387.3 | 1,052.7 | 860.6 | 956.3 |
| A-10 | | | | | |
| A low cost, extremely effective close air support aircraft. The last of a total of 825 will be procured in FY 1984. | Procurement: | | | | |
| | Quantity | 144 | 144 | 60 | 46 |
| | $ Millions | 809.3 | 894.8 | 439.2 | 415.4 |

Chart 5-2

**U.S. AIR FORCE**
**ACTIVE FIGHTER/ATTACK AIRCRAFT**

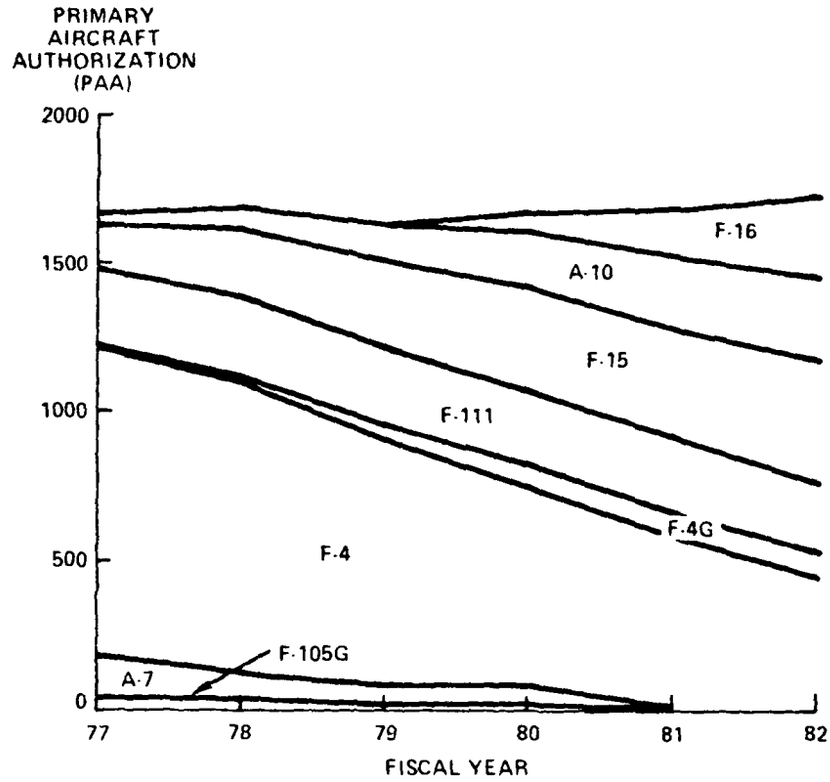
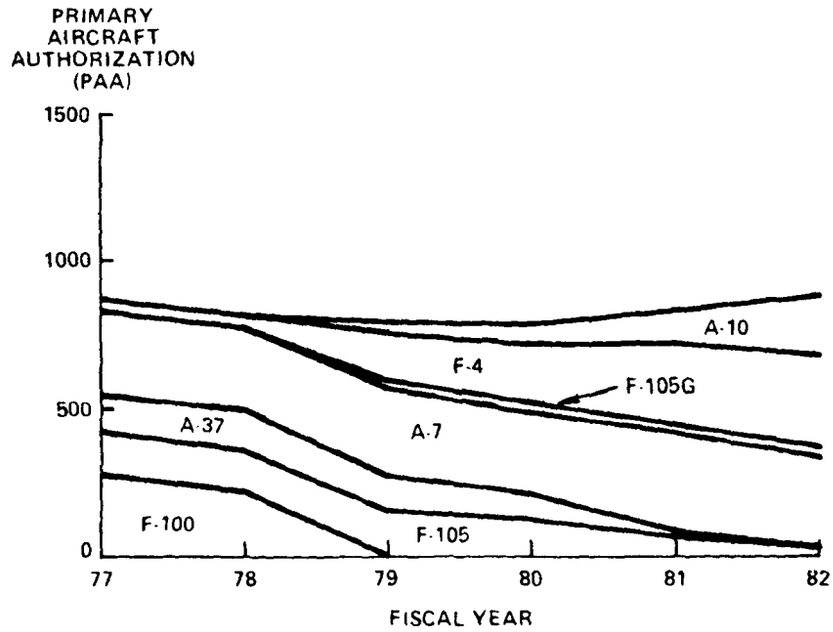



Chart 5-3

**U.S. AIR FORCE RESERVE**
**AND AIR NATIONAL GUARD AIRCRAFT**



| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Advanced Medium-Range Air-to-Air Missile (AMRAAM) | | | | | |
| This new all-weather air-to-air missile will be a small, high-speed, launch-and-leave system. Funding includes Air Force and Navy Programs. | Development: $ Millions | 35 | 54 | 47 | 76 |
| IIR MAVERICK Anti-Armor Air-to-Ground Missile | | | | | |
| An imagining infrared (IIR)-guided version of the TV-guided MAVERICK. | Development: $ Millions | 58.5 | 60.0 | 41.7 | 15.7 |
| | Procurement: Quantity | - | - | - | 490 |
| | $ Millions | - | - | - | 196.0 |
| GBU-15 | | | | | |
| A modular guided, air-to-ground weapon designed for low altitude attacks. | Development: $ Millions | 49.1 | - | 37.2 | 38.6 |
| | Procurement: $ Millions | - | - | 31.0 | 64.0 |
| Tactical Aircraft Modifications | | | | | |
| This account funds aircraft changes to correct problems identified in the field or to enhance the capability of existing aircraft. Over thirty percent of the funds are earmarked for the F-15, as we are updating and modifying its avionics as well as adding diagnostic equipment for the F-100 engine. The F-111 aircraft modifications are reliability improvements. | Modifications: $ Millions | 346.1 | 352.2 | 315.6 | 383.1 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| AIM-7F/M (SPARROW) | | | | | |
| Starting in FY 1980, an improved version of the AIM-7F/M air-to-air missile will enter production with greater ECM resistance and look-down/shoot-down capability. | Procurement: Quantity | 1,500 | 1,320 | 910 | 960 |
| | $ Millions | 122.8 | 124.6 | 118.5 | 122.6 |
| AIM-9L/M (SIDEWINDER) | | | | | |
| Beginning in FY 1981, an updated SIDEWINDER air-to-air missile, the AIM-9M, with improved background and countermeasures capabilities, will enter production. | Procurement: Quantity | 2,500 | 2,050 | 260 | 280 |
| | $ Millions | 96.4 | 86.9 | 45.6 | 43.1 |

C. Modernizing the Active and Reserve Components of the Navy and Marine Corps

Naval tactical air force procurement continues to be a problem, owing to the increasing costs of modern aircraft. These high unit costs have resulted in low rates of procurement, causing the average age of aircraft in the Navy inventory to increase to about ten years. This age trend will continue until the F/A-18 is introduced in quantity. The F/A-18 modernization program of Navy/Marine Corps tactical air forces will start in FY 1983, when the first aircraft reach operational status. In order to maintain Navy and Marine Corps tactical aircraft force levels, it makes sense to emphasize procurement, in quantity, of a moderately-priced multi-purpose aircraft. The F/A-18 has been developed explicitly for that purpose. Preliminary results from the F/A-18 carrier qualification trials indicate that it is fully suitable for shipboard operations.

When the F/A-18 program is completed, all 24 Navy light attack and all nine Marine fighter squadrons will be equipped with this aircraft. In addition, we plan to equip six Navy fighter squadrons with the F-18 and to replace AV-8As and A-4Ms with F/A-18s in Marine Corps light attack squadrons. This will greatly reduce the number of types of aircraft in carrier and Marine Corps airwings, and, in turn, result in reduced operating and support costs. The expected size and composition of the active and reserve Navy and Marine Corps forces are shown in the charts below.

Chart 5-4

**DEPARTMENT OF THE NAVY**
**RESERVE FIGHTER/ATTACK AIRCRAFT**

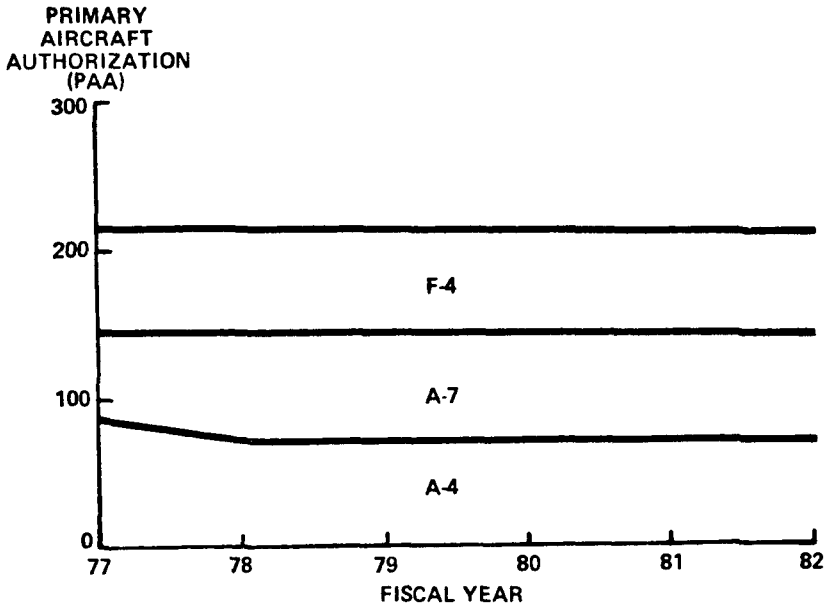
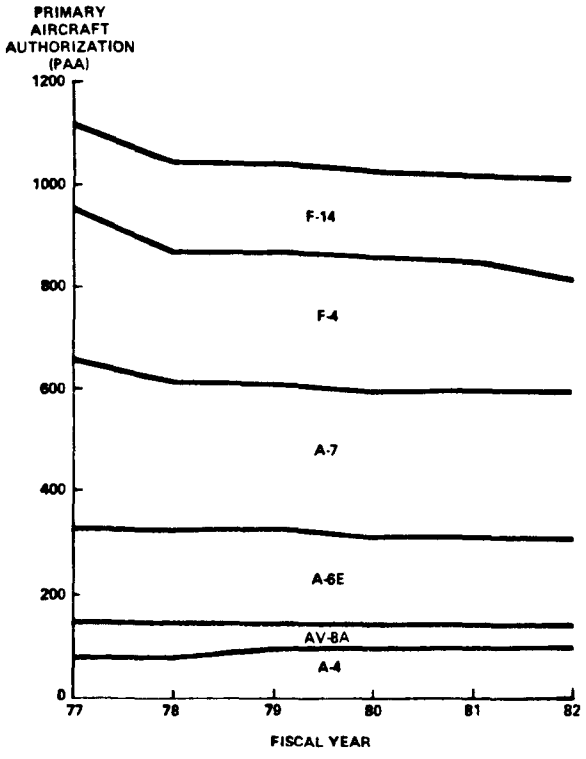



Chart 5-5

**DEPARTMENT OF THE NAVY**
**ACTIVE FIGHTER/ATTACK AIRCRAFT**



Although the V/STOL performance of the AV-8B gives it unique capabilities, it is not as capable as the F/A-18 in most close air support missions and is markedly inferior in air-to-air and interdiction missions. Because we wish to maintain Navy and Marine Corps force levels and performance at a reasonable cost, we have decided that proceeding with the AV-8B program is not justified at this budget level and have not included funding for it in the FY 1981 budget. However, we will continue to work with the United Kingdom to determine whether there exists the potential for a common U.S.-U.K. venture which would procure enough AV-8Bs to change our view about continuing the program.

The Navy is continuing its Sea-Based Air Master Study Plan, which is examining the cost and effectiveness of alternative aircraft to meet the Navy's needs in the 1990s and beyond. Industry is participating in these study efforts. Aircraft systems under review include:

-- Conventional Takeoff and Landing (CTOL)
-- Short Takeoff and Landing (STOL)
-- Short Takeoff, Vertical Landing (STOVL)
-- Vertical/Short Takeoff and Landing (V/STOL)

Details of the Navy/Marine Corps tactical air force program are as follows:

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| F-14 | | | | | |
| Designed as the Navy's maritime air superiority aircraft, the F-14 is equipped with the PHOENIX missile. | Procurement: | | | | |
| | Quantity | 36 | 30 | 24 | 24 |
| | $ Millions | 848.5 | 764.9 | 768.9 | 843.1 |
| F/A-18 | | | | | |
| This multi-purpose aircraft will replace A-4s, F-4s, A-7s, and AV-8As. | Development: | | | | |
| | $ Millions | 498.6 | 310.8 | - | - |
| | Procurement: | | | | |
| | Quantity | 9 | 15 | 48 | 96 |
| | $ Millions | 536.9 | 1,116.9 | 1,619.0 | 2,436.7 |
| AIM-7F/M (SPARROW) | | | | | |
| An all-weather air-to-air radar-guided missile. The M model, which will replace the F model starting in FY 1981, has improved resistance to countermeasures. | Procurement: | | | | |
| | Quantity | 410 | 240 | 770 | 112 |
| | $ Millions | 52.6 | 65.8 | 127.5 | 149.8 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| AIM-9L/M (SIDEWINDER) | | | | | |
| An infrared-guided all aspect air-to-air missile. Initial procurement of the M model, with improved background and target countermeasures capability, starts in FY 1981. | Procurement: Quantity | 650 | 320 | 220 | 230 |
| | $ Millions | 33.1 | 23.4 | 40.0 | 32.7 |
| AIM-54A/C (PHOENIX) | | | | | |
| This long-range all-weather air-to-air missile is used exclusively on the F-14. The improved C model enters production in FY 1980. | Procurement: Quantity | 210 | 60 | 60 | 72 |
| | $ Millions | 92.2 | 108.0 | 115.1 | 112.6 |
| Tactical Aircraft Modifications | | | | | |
| This account funds aircraft changes to correct problems or to enhance the capability of existing aircraft. Funding includes the installation of the Target Recognition and Attack Multisensor (TRAM) on the A-6E and the Forward Looking Infrared set (FLIR) on the A-7E. | Modifications: $ Millions | 977.3 | 692.8 | 680.7 | 831.4 |

D. Enhancing Defense Suppression, $C^3$ and $C^3$ Countermeasures Capabilities

Degradation of enemy defenses, disruption and destruction of their command, control, and communications systems and protection of our tactical air forces communications can have a decisive effect on the outcome of an air campaign. The following programs were designed to increase our ability to neutralize enemy radars, control systems, and communications and to protect our air forces:

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| EF-111A | | | | | |
| This program modifies current Air Force F-111As by adding flexible, high-power multi-purpose jammers for support of tactical air operations. | Modifications: $ Millions | 151.3 | 102.0 | 238.5 | 237.4 |
| EA-6B | | | | | |
| This sophisticated Navy and Marine Corps electronic support aircraft will be procured through FY 1982. | Procurement: Quantity | 6 | 6 | 3 | 3 |
| | $ Millions | 173.6 | 179.3 | 148.3 | 141.9 |
| Airborne Self-Protection Jammer (ASPJ) | | | | | |
| This joint Navy/Air Force effort will provide improved electronic countermeasures for protecting tactical aircraft from modern radar-controlled weapon systems. The equipment will be suitable for installation within the aircraft or in an externally carried pod. The Army will investigate applications of ASPJ technology for some of their aircraft. | Development: $ Millions | 15.2 | 13.2 | 29.0 | 24.0 |
| High-Speed Anti-Radiation Missile (HARM) | | | | | |
| This is a joint Navy and Air Force program to field a high-speed anti-radiation missile with better performance than the SHRIKE missile. | Development: $ Millions | 44.6 | 52.6 | 52.0 | 13.0 |
| | Procurement: Quantity | - | - | 80 | 80 |
| | $ Millions | - | - | 103.8 | 97.2 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Joint Tactical Information Distribution System (JTIDS) | | | | | |
| A jam-resistant secure digital information distribution system for tactical use. | Development: $ Millions | 65.4 | 72.7 | 108.2 | 128.7 |
| Precision Location Strike System (PLSS) | | | | | |
| An integrated Air Force system for near real-time location and strike of radars, jammers, and non-radiating targets. | Development: $ Millions | 86.8 | 15.0 | 62.6 | 60.8 |

E. Improving Target Acquisition, Surveillance, Warning and Reconnaissance Capabilities

The location and destruction of enemy air defenses and other ground targets is of critical importance to effective air operations as well as the outcome of the ground battle. The following programs improve this capability:

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| E-3A (AWACS) | | | | | |
| Designed to provide improved surveillance, warning, and command and control capabilities in support of tactical and theater-level operations. | Development: $ Millions | 37.9 | 52.1 | 65.6 | 64.1 |
| | Procurement: Quantity | 3 | 3 | 2 | 2 |
| | $ Millions | 245.1 | 326.8 | 260.6 | 241.8 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| E-2C | | | | | |
| Provides tactical air-borne early warning, command, control, and communications to Navy and Marine Corps forces. | Development: $ Millions | 6.3 | 11.1 | 19.6 | 18.6 |
| | Procurement: Quantity | 6 | 6 | 6 | 6 |
| | $ Millions | 209.1 | 198.1 | 239.5 | 228.7 |
| TR-1 | | | | | |
| A multi-sensor Air Force reconnaissance aircraft that uses the U-2 air-frame. It is designed to provide continuous all-weather stand-off recon-naissance. | Procurement: Quantity | - | 2 | 4 | 8 |
| | $ Millions | 10.2 | 44.2 | 128.8 | 308.1 |

# CHAPTER 6

# MOBILITY FORCES

## I. PROGRAM BASIS

Mobility forces move people, equipment and supplies to wartime locations, provide sustaining support, and allow our forces to respond to unpredictable shifts in the demands of combat. Our goal is to have mobility forces adequate to satisfy all three transport demands, although estimating what is needed involves some scenario-dependent assumptions.

Mobility programs involve airlift and sealift forces and the prepositioning of equipment and supplies to reduce movement requirements. Airlift and sealift provide the flexibility necessary to respond to the unexpected. They are unique among the components of U.S. forces in that many of the assets we depend upon are operated and maintained by the U.S. civil sector and in a NATO war also include civil assets of our NATO allies. During a sustained conflict, sealift would carry the bulk of the necessary supplies and reinforcements. However, existing sealift cannot provide a sufficiently rapid response in many scenarios; and airlift, beyond that available from the civil sector, is relatively expensive. Consequently, when the location of conflict can be predicted, prepositioning, up to a considerable level, is an attractive mobility option.

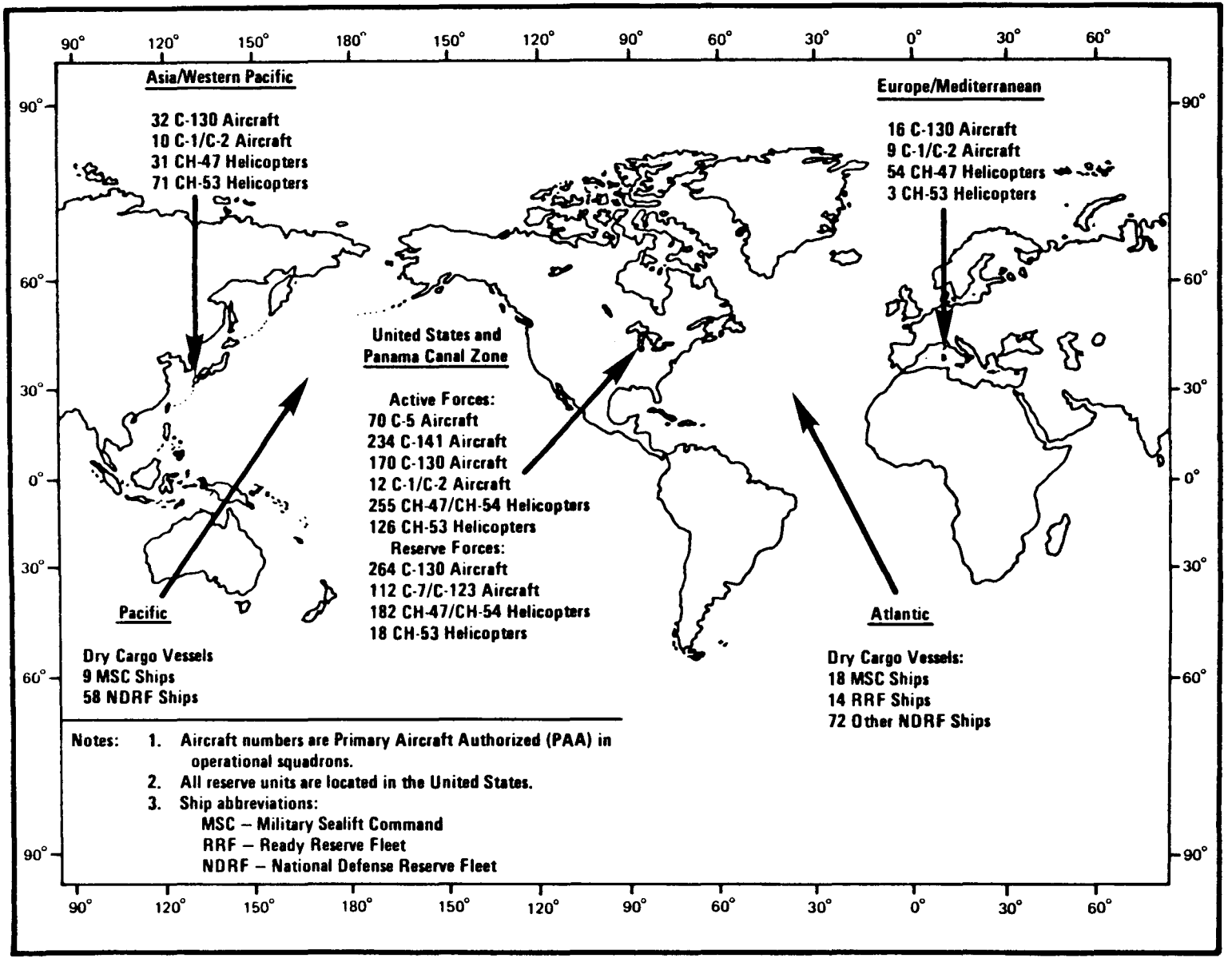
### A. Force Structure

Mobility forces operate in peacetime to fulfill some of the transportation demands of our forward deployed forces, and therefore their location changes from day-to-day. Chart 6-1 shows the normal peacetime location of our major organic mobility forces. Not shown are the civil assets committed to DoD use in time of war or national emergency: the Civil Reserve Air Fleet (CRAF) consisting of 250 passenger aircraft and 123 cargo-carrying aircraft, and the U.S. Flag Merchant Fleet containing 279 dry cargo ships. Of the ships, 166 would have been available during FY 1979 in time of national emergency under the terms of PL 95-298, and 37 under other provisions of the Sealift Readiness Program. The remainder are available by charter or Government requisitioning. In a war involving NATO, our sealift of reinforcements to Europe would be augmented by over 400 ships belonging to our NATO allies, under agreements with the NATO civil authorities.

### B. Mobility Objectives

By far the most demanding contingency considered in U.S. defense planning is a war between NATO and the Warsaw Pact which potentially could also result in fighting in non-European areas. In addition to NATO, there are other areas of the world, such as the Middle East, the Persian Gulf, or Korea, that are important to the United States and where the potential for conflict is probably greater than NATO, warranting additional consideration in our mobility planning. A simultaneous all-out deployment to one of these locations and to Europe would place the greatest demand on our mobility forces.

## CHART 6-1 DISPOSITION OF MOBILITY FORCES



1. Objectives for Reinforcement of Europe

As discussed in Section I, the Warsaw Pact forces deployed opposite NATO's Center Region might conceivably be ready for combat within a short time of a Pact mobilization and it is at least possible that a smaller attack could take place with less warning. The Pact advantage in the first few days after they begin to mobilize can be reduced only by strengthening in-place forces, by speeding NATO's own decision to mobilize, and by speeding the mobilization of the reserves of our European allies. The objective of our mobility programs is to be able, by FY 1982, to double the number of American divisions in-place within about 10 days and to deploy the remaining active divisions at a rapid rate thereafter. We also plan a 30 percent increase in the number of tactical fighter squadrons in Europe by M+10, and we plan to provide minimum essential support to both our ground and air forces by airlift until sealift can deliver a more substantial support package. Attaining this objective will be difficult. Not only must we procure additional mobility capability but we must also revise operational plans and exercise our forces. Such a deployment capability will not ensure a successful defense, but it will significantly reduce the estimated Pact advantage in the early days of conflict.

We are also concerned about NATO's flanks in our mobility planning. The Northern flank is vitally important to the success of our Atlantic naval campaign, since it includes the critical choke points between the Soviet Navy's Northern Fleet bases and the Atlantic. The Northern and Southern Flank are difficult to reinforce, since NATO forces there are less dense than on the Central Front and in the case of the Northern Flank Soviet air and sea power are relatively greater threats. Accordingly, we have set as an objective the ability to reinforce both Flanks with substantial forces in a relatively short time.

2. Objectives for Non-NATO Contingencies

Although our Rapid Deployment Forces comprise far fewer forces than those which would be deployed to a NATO war, non-NATO contingencies may place more stringent demands on our mobility forces. First, we cannot predict where such contingencies will occur, and therefore, prepositioning supplies and equipment ashore is less effective and more risky. Second, we are likely to have fewer mobility assets available for a limited contingency. Finally, operational problems will be greater. In particular, we may be operating over longer distances with few or no intermediate bases, and reception facilities may be limited. Specific force deployment objectives, such as those we have for NATO, are not possible because the potential contingencies are too numerous and varied. Nonetheless, we seek to expand our capability to deploy modest, but effective combat forces very rapidly and support them in combat, and to reduce our need for intermediate foreign bases or overflight rights.

C. Major Mobility Deficiencies and Needs

Our existing mobility forces cannot meet the deployment objectives we have set for FY 1982 for NATO or for some non-NATO contingencies. Our own sealift resources, and those of our NATO allies in a NATO war, provide adequate sustaining capability, but early capability (force deployments before about M+25) cannot rely on conventional sealift. The least costly way to add to our early lift capability would be to expand our access to assets that are in the civil sector during peacetime. Our NATO allies have agreed to assign a portion of their cargo-carrying civil air fleet and negotiations are going on to ascertain the specific commitment we can expect. The addition of more airlift and substantial additional prepositioning will permit us to achieve our FY 1982 goal for NATO.

While continuing these important programs, we must turn our attention to ensuring our capability to deploy forces for a limited contingency. We now have the ability to airlift components of a light infantry unit quickly to the scene of any minor contingency, so long as we possess overflight and enroute basing rights. We need to free our airlift from these restrictions and provide a capability to augment light forces quickly with more heavily armored units to counter the increasing number of possible enemies who possess mechanized and armored forces. We also need to have the capability to deploy forces to a non-NATO contingency without compromising our ability to fulfill our rapid reinforcement capabilities for NATO. Our mobility forces program is oriented toward these ends.

II. PROGRAM DESCRIPTION

The following paragraphs describe our planned programs for maximizing existing capabilities and procuring additional assets to meet the needs previously discussed.

A. Improving Capability for Rapid Reinforcement of NATO

Programs to improve our ability to reinforce Europe rapidly include taking advantage of NATO Allied mobility assets, maximizing the capabilities of existing airlift assets and prepositioning materiel for additional combat and support forces.

1. Airlift and Sealift Improvements

a. Allied Mobility Assets

The NATO allies have to date earmarked over 400 of their most militarily useful ships to help reinforce NATO starting on M-day. With the combination of U.S. and NATO allied ships, we should have about as much military dry-cargo shipping as we can use within the constraints of escort availability, the readiness of land combat units and the availability of supplies for movement. The NATO Civil Air Planning Committee is working on an agreement similar to that for ships under which the NATO allies would make some of their long-range civil aircraft available for use in reinforcement, but we do not yet know how many aircraft might be committed under this agreement. Our NATO allies

currently possess 14 wide-bodied and 96 narrow-bodied aircraft suitable for carrying military cargo. They also have approximately 151 wide-bodied and 127 narrow-bodied passenger aircraft. Although there are adequate numbers of aircraft in the U.S. airline industry to move our passengers, use of allied aircraft for passengers might permit early diversion of U.S. convertible aircraft to the cargo role.

b. U.S. Mobility Assets

U.S. air carriers own over 350 wide-bodied aircraft. Of these, over 300 carry passengers primarily (with a limited cargo capacity in the baggage compartments), 20 can be fully interchanged between passenger and freight and 24 carry freight only. We expect that the airlines will buy about 10 cargo and over 100 long-range passenger wide-bodied aircraft during the next five years.

A major DoD program encourages the airlines to purchase convertible aircraft, instead of aircraft which can carry only passengers, and to enroll them in the CRAF. Because convertible aircraft are both more expensive to purchase and heavier (thus more expensive to operate) than the passenger-only version, we would, under the CRAF Enhancement Program, compensate the airlines for this additional expense. Although the scope of the program will be limited by the pace of civil airline purchases, approval and funding of this program by the Congress will enable us to take advantage of this low-cost addition to wartime airlift. Eventually we hope to involve all new passenger aircraft in this program, and we envision adding a wartime reserve of about 30 convertible aircraft by FY 1986. These aircraft are expected to remain in service beyond the turn of the century. This CRAF Enhancement program would take less than 10 percent of the cost of procuring and operating additional military airlift for oversize and bulk (but not outsize) cargo, and it is quite competitive with prepositioning for those types of items that can be carried in civil aircraft.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| NATO Ships | | No cost to the U.S. | | | |
| NATO Aircraft | | No cost to the U.S. | | | |
| Civil Reserve Air Fleet (CRAF) Enhancement | Conversions: | | | | |
| | Quantity | 0 | 6 | 7 | 7 |
| | $ Millions | 150 | 38.6 | 78.9 | 85.0 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| C-141 Stretch/Refueling Modification | | | | | |
| The ongoing program to stretch the C-141 will give us, when it is completed in FY 1982, an increase in capability approximately equal to another 90 C-141s without incurring significant additional operating and manning costs that would be associated with more aircraft. The added aerial refueling capability will enable the C-141 to carry cargo to distant contingencies without enroute bases. | Modifications: | | | | |
| | Quantity | 85 | 124 | 35 | - |
| | $ Millions | 62.8 | 77.6 | 25.6 | - |
| C-5 and C-141 Utilization Rate Increases | | | | | |
| An ongoing program to increase the wartime rate of utilization of our C-5 and C-141 aircraft by adding crews in the Air Force Reserves and by increasing our inventory of spare parts. Cost figures are for spare parts only. | Procurement: | | | | |
| | $ Millions | 21.0 | 21.1 | 23.6 | 2.6 |

2. Prepositioned Overseas Materiel Configured to Unit Sets (POMCUS)

POMCUS is one of the most important initiatives in our program for the rapid increase of combat capability in Europe as well as for the projection of a formidable conventional deterrent in NATO. At present, the forward deployed U.S. ground force of five division equivalents and two armored cavalry regiments could be augmented within ten days of a decision to mobilize only by

the somewhat more than two division equivalents for which we now have prepositioned equipment in Europe. The current program, to provide POMCUS for three additional divisions by FY 1982 (one in FY 1980 and two in FY 1982), is a key part of our commitment to improve NATO's defenses.

Compared with other economically feasible means of rapid reinforcement, prepositioning results in faster deployments. Prepositioning enhances our flexibility by enabling us to move a substantial force to NATO's central region more rapidly and with less airlift assets than would be needed if the equipment were stored or deployed in the United States. However, prepositioned units do require some airlift support during their deployment phase.

Prepositioning of the first additional division set of equipment should be completed on schedule, by end of FY 1980, although there are still significant problems to be solved. Success in completing the second and third additional division sets will depend on support, especially storage sites, from Belgium and the Netherlands. Construction of storage facilities is funded through the NATO Infrastructure Program. Equipment transportation and routine maintenance are included in the Army's Operations and Maintenance appropriation.

## B. Improving Ability to Deploy and Support Forces for Non-NATO Contingencies

Dividing our mobility programs into those primarily for NATO and those primarily for non-NATO contingencies is somewhat arbitrary. For example, both deployments would benefit from the C-141 stretch program and the C-5 and C-141 utilization rate increases. The distinction is partly historical in that the programs described above were seen to be necessary in our analysis of NATO reinforcement capabilities, and programs described below are considered efficient investments for our Rapid Deployment Force. It should be noted that our mobility improvement programs are not competitive. They are at least complementary, and for the most part, usable in multiple roles.

### 1. USMC Prepositioning Afloat

Although we can airlift a brigade-sized force to the scene of a minor contingency very quickly, that force would be relatively lightly armed. Moving a Marine Amphibious Brigade (MAB) with substantial mechanized or armored elements, its required supporting forces, ammunition and supplies to a distant locale would occupy most of our organic DoD airlift force for a considerable time, even assuming that adequate enroute basing and overflight rights were available. To provide the capability to deploy quickly an armor-heavy Marine division-sized force, we propose to build maritime prepositioning ships of commercial design (see T-AKX discussion in the Naval Forces Chapter) and load them with equipment, supplies and ammunition for USMC forces including the ground support equipment for the sizeable accompanying Marine Air Wing component. These ships, manned by the Military Sealift Command and stationed in the vicinity of a potential crisis, would be immediately ready to move to assist an ally. Equipment not suitable for prepositioning, such as helicopters and some electronic gear, would be airlifted along with the personnel and join the bulk

of the equipment at a port, in roughly the same manner that Army units now deploy to POMCUS in Europe. This program would also permit reinforcement of Marine units which have conducted an amphibious assault, thus enhancing our amphibious capability.

| | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|
| USMC Prepositioning Afloat | | | | |
| Procurement: | | | | |
| Ships: | | | | |
| Quantity | - | - | 2 | 3 |
| $ Millions | - | - | 207.0 | 337.8 |
| Equipment: | | | | |
| $ Millions | - | - | 66.7 | 173.0 |
| Construction: 1/ | | | | |
| $ Millions | - | - | 13.0 | 63.0 |

2. Airlift

Airlifting equipment and supplies more than 6,000 kilometers without enroute basing depends on aerial refueling. The KC-10 aerial tanker procurement program will reduce our dependence on foreign bases and enhance the capability for rapid deployment of combat forces.

We have also programmed funds to develop a new airlift aircraft designated the C-X, which will improve significantly our ability to deliver the full range of military equipment, including the "outsize" materiel that, at present, can be airlifted only by the C-5. Procurement of the C-X will add to our ability to meet the demands of a NATO/Warsaw Pact war, and when complemented by the maritime prepositioning program, will enhance our ability to respond to contingencies outside of Europe. The design of this aircraft may be a derivative of the technology developed in Advanced Medium Short Take-off and Landing (AMST) prototypes, though substantially larger than the aircraft in that now terminated program. Or it may be based on relatively small modifications of other existing designs such as the C-5A or the 747. The aircraft will be optimized for inter-theater, not intra-theater missions. After initial deployment and resupply it could be used for intra-theater purposes (if surface transportation cannot do the job), perhaps at some sacrifice in payload and with some airfield operations problems.

1/ Includes Department of the Navy portion of the Diego Garcia facilities upgrade program.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| General Purpose Aerial Tanker (KC-10) | Procurement: | | | | |
| | Quantity | 2 | 4 | 6 | 6 |
| | $ Millions | 163.6 | 190.1 | 309.7 | 326.6 |
| New Military Cargo Aircraft (C-X) | Development: | | | | |
| | $ Millions | - | 1.7 | 80.7 | 253.3 |
| | Procurement: | | | | |
| | $ Millions | - | - | - | 152.6 |

C. Other Mobility Programs

Several important programs are not covered in the previous two sections, either because they serve to maintain existing capabilities or because they are intra-theater or tactical programs.

One such program calls for modification of the C-5A. The C-5A is the only aircraft, military or civilian, that can carry some of the largest pieces of Army and other Service equipment. Almost 50 percent of the weight of armored and mechanized combat units falls into this category and this percentage will increase as the Army fields the XM-1 tank and the Infantry/Cavalry Fighting Vehicle (IFV/CFV). Results of final tests conducted in 1979 confirmed that the service lives of these aircraft is about 7,100 flying hours. We will overcome this limitation by making structural modifications to the C-5A wings. Once modified, the aircraft are expected to have a service life of 30,000 flying hours. The first production version of the modification will begin in FY 1982, and the program will be completed in FY 1987.

The modification of all CH-47 helicopters (the Army's primary intra-theater cargo aircraft) to the "D" configuration will result in a considerable saving to the DoD. This modernization will produce essentially new aircraft that will satisfy Army medium-lift requirements until the year 2000.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| C-5 Wing Modification | Development: | | | | |
| | $ Millions | 36.5 | 12.7 | 11.1 | 15.2 |
| | Procurement: | | | | |
| | Quantity | - | 5 | 15 | 18 |
| | $ Millions | - | 85.4 | 167.5 | 182.6 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Army Medium-Lift Helicopter (CH-47) Modernization | Development: | | | | |
| | $ Millions | 19.5 | 22.5 | .6 | - |
| | Modifications: | | | | |
| | Quantity | - | - | 9 | 19 |
| | $ Millions | - | 27.4 | 186.4 | 162.8 |

# CHAPTER 7

# NATO RELATED ACTIONS AND PROGRAMS

## I. INTRODUCTION

As discussed in Section I, the North Atlantic Treaty Organization (NATO) occupies a major role in U.S. defense planning. In view of improved Warsaw Pact capabilities, chiefly Soviet, the need for the alliance to increase its war-fighting potential is essential.

## II. NATO LONG-TERM DEFENSE PROGRAM (LTDP)

The NATO Long-Term Defense Program represents the core of NATO cooperative defense planning through its emphasis on improving both individual and collective capabilities. The ten priority categories of the LTDP, which were discussed in Section I, are:

(1) Enhanced readiness.

(2) Rapid reinforcement.

(3) Strengthened European reserve forces.

(4) Improvements in maritime capabilities.

(5) Integrated air defenses.

(6) Command, control, and communications.

(7) Electronic warfare.

(8) Rationalized procedures for armaments collaboration; and

(9) Measures to promote logistics coordination and increase war reserves.

(10) Theater nuclear modernization.

## III. EUROPEAN MILITARY CONSTRUCTION AND THE NATO INFRASTRUCTURE PROGRAM

NATO Infrastructure refers to those military facilities that are used by two or more NATO countries or that have a high degree of common interest and are essential to the operations of NATO forces. Such facilities as airfields, aircraft shelters, naval bases, tank training areas, U.S. nuclear warhead storage sites, and fuel storage areas are considered infrastructure.

The NATO Infrastructure program is commonly financed by 13 nations, or by 14 if France participates in a project. It is managed by NATO on the basis of collectively developed rules, under which program financial ceilings and national cost shares are negotiated, subject in some cases to midterm program reviews.

The NATO Infrastructure program has been a useful means of financing common installations, such as war headquarters and the NATO Integrated Communications System (NICS). Participation in the program has been cost/effective for the United States as the total NATO capability is much greater than if the individual nations of the alliance had proceeded independently.

United States initiatives to increase early combat readiness in Europe, support existing and planned new weapon systems and improve the quality of life for our military personnel have substantially increased our requirements for facilities in Europe. At the same time, Congress, for the past several years, has directed that maximum use be made of the Infrastructure program for construction in Europe and has decreased U.S. unilateral military construction appropriations, particularly for operational and support requirements in Europe. In compliance with the mandate of Congress, we have reduced our military construction request so that it is in line with Congressional targets and have increased our funding requirements for the NATO Infrastructure program. Even though NATO has recently agreed to fund the next five year program (1980-84) at a much higher level than the previous one, our current estimate of U.S. requirements for NATO Infrastructure funding is still roughly 50 percent greater than what we expect NATO to provide under the presently agreed ceiling. Therefore, we will seek a substantial increase in the 1980-84 NATO Infrastructure program at the mid-term review.

While there are many advantages to continuing and increasing our reliance on the NATO Infrastructure program, several factors must be kept in mind. One is that the overall ceiling for the program, being a result of negotiations by 13 nations, requires compromises. Moreover, programming and approval by NATO and by 13 nations concerning projects to meet new requirements is usually a lengthy process. Accordingly, the urgency of some projects may require national prefinancing so as not to delay establishing a critical capability. Secondly, before advocating eligibility for new types of facilities, we should examine carefully what impact providing such facilities to all of its nations would mean to the alliance, and what effect this would have on the ratio of benefits to contributions for the United States.

Despite the advantages we gain from the Infrastructure program in strengthening the NATO defenses and in reducing what we pay for some of the construction we require in Europe, it would be a mistake for the United States to view the Infrastructure program principally as a device for letting our allies finance our construction needs. Such an approach would reduce the effectiveness of this program in promoting allied participation in high priority measures critical to NATO's defenses.

We are streamlining the procedures by which we plan, program and budget funding for European construction -- unilateral and NATO-funded. This entails, among other things, more rigorous and effective procedures for:

1. Establishing priorities among projects.

2. Determining funding source (unilateral vs. NATO).

3. Insuring coordination between unilateral and NATO-funded projects.

4. Informing NATO and host nations of our NATO Infrastructure requirements and priorities; and

5. Monitoring recoupment of prefinanced projects.

Regarding recoupments, we have established preliminary targets that will result in the elimination of the current balance of uncollected recoupment by the mid-1980s and simultaneously permit Infrastructure funding for new projects in support of important near-term initiatives.

## IV. RATIONALIZATION/STANDARDIZATION/INTEROPERABILITY

Calendar year 1979 was a year of significant progress in this very complex and difficult field, touching as it does on national political attitudes, economic interests, and military sensitivities. Nevertheless, good progress was made in our three-way approach of Memoranda of Understanding, Families of Weapons, and Co-production.

### A. General Procurement Memoranda of Understanding (MOU)

The common theme underlying this approach is elimination of "buy national" restrictions and opening of markets to reciprocal competition. Bilateral MOU have been signed with nine NATO countries (Belgium, Canada, France, Germany, Italy, the Netherlands, Norway, Portugal and the United Kingdom), and offers of negotiations have been made to Denmark, Greece and Turkey.

### B. Families of Weapons

This concept involves identification of weapon system development requirements in various military fields and agreement on a division of responsibilities for development, which takes account of national expertise, establishes an equitable distribution of agreed tasks, and reduces duplication of effort.

We are negotiating an agreement for an advanced air-to-air family of weapons; the principal remaining obstacle involves the terms of transfers to third countries.

An Anti-tank family of weapons is also under negotiation. The principal remaining task is refining requirements for an indirect fire capability, currently being considered for European development.

C. Co-production

Co-production of weapons systems can reduce unnecessary duplication in both research and development. Under this approach, a nation that has developed a system useful to others in the alliance permits other nations or consortia of nations to produce all or portions of the system.

We have offered seventeen U.S. systems for European co-production including:

Advanced Attack Helicopter (AAH)
High-Speed, Anti-Radiation Air-to-Surface Missile (HARM)
Helicopter-Borne Anti-tank Missile with Laser Seeker (HELLFIRE)
Infantry Fighting Vehicle (IFV)
Standoff Target Acquisition System (SOTAS)
BLACKHAWK Tactical Transport Helicopter
VIPER Light, Short-Range Unguided Antitank Rocket
M-483 155mm Artillery Round (SUBMUNITIONS)
COPPERHEAD 155mm Cannon-Launched Munitions*
AIM 9-L SIDEWINDER Air-to-Air Missile**
Forward Looking Infrared Seeker for Missiles (MOD FLIR)
PATRIOT Surface-to-Air Missile
STINGER Surface-to-Air Missile
Tank Ammunition (M-735)
Joint Tactical Information Distribution System (JTIDS)
Anti-Personnel Mines (M-692/M-731)
Remote Anti-Armor Mines (M-718/M-741)

* COPPERHEAD is the subject of a previously signed US/UK MOU.
** The AIM 9-L SIDEWINDER is the subject of a co-production MOU with the FRG, Italy, Norway and the United Kingdom.

In addition to the above programs the following actions are underway:

1. ROLAND Air Defense Missile System

A French-German Euromissile consortium has licensed to the United States an all-weather air defense system design which is completing the research, development, and test and evaluation process. When deployed in the mid-1980s, our ROLAND will have 90 percent interchangeability of the field-replaceable subassemblies with the German-French ROLAND.

2. Tactical Command and Control

Procurement of the German EIFEL/DISTEL system by the United States will represent a major improvement in interoperability. EIFEL/DISTEL I is a tactical air offensive command and control system that will enhance our abilities to conduct a sizeable air campaign in central Europe.

### 3. Identification Systems (IFF)

Positive and reliable identification of friends, foes, and neutrals (IFFN) is a problem common to all of our weapon systems, especially those that can engage targets beyond visual range. The United States has continued to participate in the formulation and definition of a NATO-wide development and acquisition strategy for a future system that will overcome the shortcomings of the present MARK X and MARK XII IFF Systems, which are early 1960s designs.

### 4. Navigation and Positioning

The United States has offered the NAVSTAR Global Positioning Satellite (GPS) for NATO use, including the possibility of production of user equipment by the allies.

## D. NATO Airborne Early Warning and Control (AEW&C) Program

The NATO AEW&C Program is designed to offset improvements in the offensive capability of the Warsaw Pact air forces and to increase NATO's detection, warning, and control capabilities. It includes acquisition of 18 NATO-owned E-3 AWACS aircraft, use of 11 British-owned NIMROD aircraft, modification of up to 52 European ground radar sites for compatibility with the AEW&C aircraft, and upgrading of air base facilities in several countries. The NATO AWACS force will be internationally manned, will have a main operational base in the Federal Republic of Germany and, complemented by the NIMROD force, will operate under command of the major NATO commanders. The program provides for common procedures and interoperability for the AEW&C "mixed force" of NATO AWACS and British NIMROD aircraft.

The AEW&C force will offer NATO distinctive advantages in all-altitude surveillance, warning, and control; will provide a "deep look" into unfriendly territory, eliminating gaps in conventional radar coverage; will present accurate and timely information to decision makers; and will deny a surprise attack capability to the Warsaw Pact's conventional forces.

The NATO AEW&C force, which is expected to incorporate the Joint Tactical Information Distribution System (JTIDS) as its electronic countermeasures (ECM) resistant communications system (ERCS), will achieve an initial operating capability in the early 1980s. The NATO AWACS aircraft, which will be produced along with the last few USAF E-3As, will be configured to a U.S.-NATO "standard" configuration. With 13 NATO nations participating in the various aspects of the NATO AEW&C Program, it will provide an unprecedented degree of dedicated tactical surveillance and control throughout the Alliance.

# V. NATO COMMON TRAINING

Common training can strengthen the collective capabilities of NATO. It has a direct and beneficial influence on the development of common military doctrine and military procedures, unified command and control arrangements, cooperative logistics support, and standardized weapons and equipment.

To encourage common training, the members of the Alliance have agreed to a reciprocal training arrangement known as STANAG 6002. The STANAG calls for the various members to open their training programs to other members, charging only those additional costs actually incurred because of the presence of other NATO trainees. This arrangement enables the Alliance to make the most effective use of the training facilities of the various members, avoiding needless duplication and providing a degree of common training that otherwise would not be possible.

Under existing law the United States cannot comply fully with the terms of STANAG 6002. We must charge all but indirect costs and administrative surcharges for training provided to the NATO allies. These charges are fixed by prorating program costs among all trainees, U.S. and NATO, even though no additional costs are incurred by the inclusion of NATO trainees in existing U.S. programs. The inability of the United States to adhere to the incremental cost principle established by STANAG 6002 has been a source of irritation out of proportion to the modest sums involved.

To remedy this situation, we have proposed an amendment to Title 10 of U.S. Code that would allow the United States to charge only incremental costs under STANAG 6002. Passage of the legislation would not give the NATO countries a free ride. They would pay whatever additional costs are incurred by the U.S. because of their trainees. In addition, its passage would assist our efforts to promote greater rationalization, standardization and interoperability.

## VI. SHARING THE NATO DEFENSE BURDEN

The question of an equitable distribution of the burden in NATO's defense deserves serious attention. We have an obligation to the American people to be sure that the United States is not carrying an excessive proportion of the load. It is equally important to the vitality and effective functioning of NATO itself that the defense burden be fairly apportioned. Historically, alliances have become subject to internal fissures, and eventually cleavages, when some members began to believe that other members were not contributing adequately to the common security. We cannot afford to have such a feeling develop either here or among our allies, because our only hope of effectively confronting Soviet military power at reasonable cost is to pool our common resources efficiently.

Preventing inequities is not a simple task, and preventing misperceptions of inequity is even more difficult. Our continental allies, for example, have maintained their peacetime conscription of young men but note that we, the British and the Canadians have opted for purely volunteer forces. Our own experience clearly establishes that the burden of conscription can outweigh its value. Some allies have noted suggestions in their own countries that unusual risks accompany their membership in the alliance, since a conflict involving NATO and fought on European soil could arise from a U.S.-Soviet confrontation elsewhere in the world. To us, this view gives insufficient weight to the risks of being geographically close to the Soviet Union while lacking a security connection with the United States.

Given the large variety of indicators of economic strength within the alliance, plus the intangibles involved in determining the potential benefit to be derived from participation in NATO, a precise calculation of equitable

shares is impossible. However, when all factors and indicators are considered, I believe that the U.S. contribution is neither lavish nor parsimonious. Although not fully satisfied with the efforts of each and every one of our NATO partners, we believe that by and large our contribution, compared with the combined contribution of allies is not excessive. Our attention should be focused on the sufficiently difficult question of whether, in the aggregate, we are doing enough rather than simply on the nearly impossible one of whether our individual contributions are equitable.

Some examination of relative spending can be instructive. The U.S. devotes about five percent of the its GDP 1/ to defense while our European allies average about 3.5 percent. However, since 1970 real spending by the allies has increased, on the average, by two percent per year, resulting in the U.S. share of total NATO expenditures falling from 70 percent in 1970 to 60 percent in 1978.

Furthermore, in recent years most of the allies have been allocating a growing share of their defense spending to capital 2/ expenditures, thereby reversing a downward trend that existed during the late sixties and early seventies.

Burdensharing must not be measured only in terms of dollar contributions. Force contributions also constitute an important element of any assessment of relative efforts. In this regard the following facts are of interest. The allies maintain on active duty about three million men and women compared with about two million for the United States. If we include reserves that have specific assignments after mobilization, the allied total is over six million compared with about three million for the United States. In the first thirty days of a mobilization, our allies would supply roughly two-thirds of NATO's aggregate ground combat firepower in the Center Region and would provide most of NATO's ground forces on the flanks throughout a conflict.

The NATO Infrastructure program is another good example of how burdensharing has worked in practice within the alliance. This commonly funded program has been in existence since the early 1950s and has provided many of NATO's operational military facilities, such as airfields, aircraft shelters, communications facilities and air defense warning installations. Although we account for about half of the gross domestic product of all alliance nations combined, our contribution to the NATO Infrastructure program in recent years has been on the order of only 20 to 30 percent. As alliance initiatives for NATO standardization and rationalization are implemented, we expect an increasing number of programs to be commonly funded through the NATO Infrastructure or other formalized sharing arrangements.

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1/ Gross domestic product (GDP) is the basic measure of aggregate national income used by NATO for studies and analyses.

2/ "Capital" is defined to include RDT&E, procurement of major equipment and ammunition, construction of facilities and contributions to the NATO Infrastructure program.

## VII. THE THREE PERCENT COMMITMENT

The goal of increasing each member's total defense spending "in the region of three percent per year in real terms" for 1979 and beyond was adopted by NATO nations in response to steady improvements in Warsaw Pact --particularly Soviet-- capabilities. NATO's objective is to obtain the resources needed to insure that alliance capabilities --both strategic and conventional-- balance those of the Soviet Union and its satellites.

NATO interprets the three percent commitment as applying to each nation's total annual defense spending and will measure progress on that basis. For measuring performance against the three percent goal the alliance uses outlays adjusted to conform to an agreed NATO definition that specifies exactly what is to be included in total defense spending. Although the three percent growth must be calculated on the basis of each nation's total defense spending, NATO does not require or expect each and every component of the budget to increase by three percent. NATO's intent and expectation is that a good portion of the additional funds resulting from the three percent real increase will be applied to those items that directly improve combat capability. This is the emphasis that we have striven to apply in the NATO Long Term Defense Program (LTDP). Our examination of allied budgets shows that in recent years the allies have, in fact, been increasing their real defense spending and have been allocating a growing share of their expenditures to capital projects such as force modernization.

There are now underway within the alliance some important initiatives to improve the combat capability of NATO forces. These efforts are described in detail in the DoD report to the Congress on Rationalization/Standardization within NATO.

## VIII. HOST NATION SUPPORT

The concept of host nation support calls for the nation in which foreign forces are stationed or may be stationed, or through which they may be deployed, to furnish essential services such as movement control, allocation of storage areas or facilities, and certain logistical support, normally of a nonmilitary nature. The purpose is to permit deploying forces to be designed to maximum combat potential, and to free them from service requirements which can be furnished by civilians of the host nation.

In order to facilitate the rapid reinforcement and sustained defense of Western Europe advanced planning is necessary. The success of our plans to reinforce Europe rapidly in the event of a crisis depends, in part, upon host nation support. Initial negotiations have been completed with several countries, particularly for reception and specified support for reinforcement air forces. Detailed planning of local arrangements and negotiations for further areas and types of support are continuing.

# CHAPTER 8

# SECURITY ASSISTANCE

## I. INTRODUCTION

The security of our friends and allies contributes directly to the security of the United States. For over thirty years the United States has made available materiel, services, and training to friendly countries to enable them to improve their own defense capabilities.

The Secretary of State has the statutory responsibility to determine the nature and scope of Security Assistance Programs and to provide continuous supervision and general direction of the program. The Department of Defense administers the following program elements:

-- The Military Assistance Program (MAP), through which defense articles and defense services other than training are provided to foreign governments as U.S. grant aid. MAP is planned for three countries (Spain, the Philippines, and Portugal) in FY 1981.

-- Foreign Military Sales (FMS), a program through which the Department of Defense sells defense articles, defense services, and training to foreign governments. Ninety foreign countries and three international organizations currently are authorized to participate in this program.

-- FMS Financing, which is provided by the U.S. Government in the form of either direct loans or guarantees of Federal Financing Bank loans to assist in financing the purchase by foreign governments of equipment and services through U.S. government channels or directly from contractors. FMS financing for FY 1981 is planned for 35 foreign governments.

-- The International Military Education and Training (IMET) Program, through which the Department of Defense provides training to foreign personnel as grant aid. For FY 1981 IMET is planned for students from 61 countries.

Three components of security assistance are not administered by the Defense Department. Economic Support Funds (ESF), a form of economic assistance, are administered by the Agency for International Development. Funds for Peacekeeping Operations (PKO) are administered by the State Department. In FY 1980, ESF totalled $1,904.5 million and PKO funds totalled $21.1 million. The third form of security assistance consists of direct exports through commercial channels of items controlled by the State Department Office of Munitions Control in accordance with the International Traffic in Arms Regulations (ITAR).

The Congress provides the statutory authorization and appropriations for MAP, IMET, and FMS financing in annual foreign assistance legislation. The security assistance program is separate from legislation authorizing and appropriating funds for other DoD programs. Foreign military sales may be made on cash terms or may be financed with credits provided or guaranteed by security assistance appropriations. For credit purchases, the U.S. is reimbursed in full, with interest, by purchasing governments (except for those sums "forgiven" for Israel by statute). MAP and IMET are grant aid for which the U.S. receives no reimbursement.

Today grant aid constitutes a very small part of the U.S. Security Assistance Program. Since FY 1973 Foreign Military Sales have been the major portion of our security assistance effort. In FY 1979 FMS contracts totalled $13 billion whereas MAP totalled $235.4 million and IMET $28.1 million.

## II. THE CONVENTIONAL ARMS TRANSFER RESTRAINT POLICY

When President Carter came to office the annual total of worldwide arms sales by all suppliers exceeded $20 billion. Shortly after assuming office, the Carter Administration began an effort to encourage restraint in arms transfers. The arms transfer policy limits transfers to those needed to achieve national security objectives and to meet the legitimate security requirements of U.S. allies and friends. It also seeks to encourage cooperation among other suppliers and recipients to achieve regional and worldwide restraint.

On May 19, 1977 President Carter announced the policy on conventional arms transfers. The policy stipulates that the U.S. will view arms transfers as an exceptional policy implement to be used only in instances where it can be clearly demonstrated that the transfers contribute to U.S. national security interests. It recognizes that the U.S. will continue to use arms transfers to promote its security and the security of its close friends, but puts the burden of persuasion on those who favor a particular arms sale, rather than on those who oppose it.

To implement this policy of restraint, the President established a set of controls (NATO, Japan, Australia, and New Zealand are exempted as appropriate).[1/] Key elements of those controls are as follows:

-- The United States will not be the first supplier to introduce into a region newly-developed, advanced weapons systems that would create a new or significantly higher combat capability.

-- Development or significant modification of advanced weapons systems solely for export will not be permitted.

1/ In addition, our military assistance program with Israel recognizes our commitment to insure that Israel retains the strength necessary to negotiate a broader peace without fear for its own security.

-- Coproduction agreements for significant weapons, equipment, and major components (beyond assembly of subcomponents and the fabrication of high-turnover spare parts) are generally prohibited.

-- The United States, as a condition of selling certain weapons, equipment, or major components, may stipulate that we will not entertain any requests for retransfers.

-- The United States will continue to promote respect for human rights in potential recipient countries. It will also assess the economic impact of arms transfers to developing countries.

-- This policy is binding unless the President determines that extraordinary circumstances necessitate a Presidential exception.

The restraint policy also established an annual ceiling on the dollar volume of weapons or weapons related items that might be transferred to non-exempt countries. The ceiling used FY 1976 as the baseline year, with adjustments for inflation in each subsequent year. It called for a reduction in constant dollars of eight percent from FY 1977 to FY 1978. In FY 1979 the ceiling was further reduced by eight percent from FY 1978. The ceiling figure for FY 1979 was $8.43 billion. United States Foreign Military Sales agreements for non-exempt countries totalled $6.4 billion, well within the established ceiling.

When the arms transfer policy was announced, the President made it clear that the ultimate success of our effort to reduce the world-wide traffic in arms depended in large part on the cooperation of all nations--arms recipients as well as other major arms suppliers. As a first step, the United States initiated the Conventional Arms Transfer (CAT) talks with the USSR. Although the talks have been conducted primarily on a bilateral basis thus far (U.S.-USSR), it has been our intention to eventually broaden them to include other suppliers. Moreover, it is our belief that if CAT is to succeed, those nations which are arms recipients must be involved in the implementation of any arms restraint regime that would apply to them.

The arms transfer policy of the Carter Administration has supported U.S. interests in restraint while meeting our foreign policy requirements and the defense needs of our allies and friends. The qualitative controls of the policy have been effective, and management of the arms transfer policy process has been improved.

## III. THE ARMS EXPORT CONTROL BOARD

The Arms Export Control Board (AECB) was established in order to aid in the implementation of the International Security Assistance and Arms Export Control Act of 1976. The purpose of the Board is to advise the Secretary of State, National Security Council, and the President in matters relating to conventional arms transfers. The Board functions in an advisory, not a decision-making capacity. It is composed of senior representatives from the Department of State, the Office of the Secretary of Defense, the Joint Chiefs of

Staff, the National Security Council Staff, the Arms Control and Disarmament Agency, the Treasury Department, the Office of Management and Budget, the Agency for International Development, the Commerce Department, and the Central Intelligence Agency. The Under Secretary of State for Security Assistance, Science and Technology, serves as chairperson.

The AECB provides recommendations in the following specific functional areas:

-- Provision of systematic and comprehensive policy oversight in the arms transfer field.

-- Review of security assistance plans and programs to ensure that they support overall U.S. policies and are fully coordinated with other policy instruments. Such reviews specifically include human rights and arms control considerations.

-- Preparation of annual program funding levels, budget submissions and consideration of proposed program changes. Establishment of general policy guidelines and criteria for arms transfers and related activities such as coproduction, technology transfer, third-country transfers, and export promotion policy.

-- Selective review of key transfers of defense articles and services to ensure they are in accord with overall U.S. policies.

## IV. REGIONAL SECURITY ASSISTANCE PROGRAMS

### A. Near East and South Asia

United States security assistance programs in the Near East and South Asia derive from a policy designed to promote conditions which will assure continued access to the region's energy resources, to support diplomatic efforts aimed at achieving a comprehensive peace resolving the major elements of the Arab-Israeli conflict, and to reassure our friends and allies in the region of the U.S. commitment to contribute to their capability to respond to threats to their security.

Our sizeable program with Israel is a clear statement of our commitment to insuring that Israel retains the strength necessary to negotiate a broader peace without fear for its own security. Our security assistance program with Egypt serves notice that those with the courage to take steps toward peace will receive our support. Continuing U.S. support will enable Egypt's military forces to make a strong contribution to Egypt's security and to regional stability.

Our security assistance programs with Jordan, Lebanon, North Yemen, and Bahrain, and our emerging relationship with Oman, are tangible manifestations of the U.S. commitment to the security and the territorial integrity of states in the region. With Saudi Arabia, we maintain a special relationship

composed primarily of sizeable cash sales programs which contribute substantially to Saudi security and modernization objectives, as well as to overall regional stability.

In view of the crisis in relations with Iran, we have suspended security assistance programs for that country.

We remain concerned with continued peace and stability in South Asia and the security of Pakistan, especially in light of events in Afghanistan. We also are concerned, however, with the problem of nuclear weapons proliferation, even as we work to safeguard the legitimate security interests of the regional states. In South Asia, we have a small training program for India, Bangladesh, Nepal, and Sri Lanka to help maintain professional contacts with current and future military leaders. We also maintain military cash sales programs with India and Pakistan. We have terminated programs for Afghanistan.

B. Europe

Security assistance programs for Europe are designed to promote the mutual objectives of enhancing the defense capabilities of the NATO Alliance and assisting friendly and neutral nations in their efforts to maintain forces for the preservation of their independence.

With the exception of Greece, Portugal, and Turkey, security assistance for our NATO Allies is limited to FMS purchases on a cash basis. This program supports NATO efforts toward standardization, interoperability and rationalization.

Portugal, Greece, Turkey, Austria, Finland, and Yugoslavia participate in additional security assistance programs to varying degrees. The U.S. will provide to Spain in FY 1981 the final increment of the grant military aid specified in the 1976 U.S.-Spanish Treaty of Friendship and Cooperation and the $120 million in FMS credits, $2 million in IMET funds, and $7 million in ESF required annually by the Treaty.

C. East Asia and Pacific

Events of the past year have accentuated the need for a strong security assistance program in the region. The Vietnamese invasion of Kampuchea has triggered decisions by our friends in Southeast Asia to acquire additional military equipment to strengthen their armed forces. Increases in FMS financing have been proposed for Thailand, Malaysia, and Indonesia to assist them in force improvements which should lead to greater military self-sufficiency and contribute to regional stability. The Philippines, which recently concluded an agreement with the U.S. permitting continued use of major air and naval facilities, is the only East Asian country receiving grant materiel assistance in addition to FMS financing.

Continuing a substantial though diminished FMS financing program for the Republic of Korea will further help to improve Korean defense capabilities and allow the country to assume a greater share of its defense responsibilities. The decision to hold further withdrawals of combat troops from Korea in abeyance until 1981 means that only limited amounts of the equipment authorized for cost-free transfer to Korea in the FY 1979 Security Assistance Act will be transferred as some U.S. support troops are withdrawn in 1980.

The IMET program for the region is particularly useful in view of its contribution to effective force modernization, exposure to the U.S. tradition of a professional military divorced from politics, and establishment of lasting associations among U.S. and foreign potential future military leaders. Even aside from the effects of inflation, the IMET program for the region has declined in current dollars from $5.7 million in FY 1979 to $5.1 million in FY 1980.

D. Latin America

Security assistance to Latin America consists of modest amounts of FMS financing and IMET. After more than a decade of decline in the levels of U.S. security assistance to the region, the President has directed that increased amounts of assistance be provided in FY 1981. The increase in security assistance will complement our other efforts to counter Soviet and Cuban influence in the region.

The major focus of our increased assistance is on new programs for the Eastern Caribbean and Central America, where our efforts could be especially important in view of the economic problems and potential instability in those areas.

E. Africa

The Security Assistance Program continues to serve as an instrument for promoting our interests in Africa, although traditionally, our security assistance to Africa has been modest and very selective with primary emphasis on IMET. We have not encouraged the development of large and costly military forces in Africa, nor have we sought to compete with the Soviets in offering substantial and sophisticated arms. At the same time, we value highly our defense relationships with friendly African states. In view of events in the Persian Gulf area, our programs in Africa have taken on increased significance. Their interest in increased sales of U.S. military equipment and in training opportunities in the United States is very keen. Consequently, we anticipate increased U.S. security assistance programs in the years ahead to meet the growing requirements of developing local defense forces, and also because we wish to offer the African states an alternative to excessive reliance on the Soviet bloc for equipment, training, and advisors.

# CHAPTER 9

# COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE

## I. PROGRAM BASIS

### A. Objectives and Requirements

Command, control, communications and intelligence ($C^3I$) systems are essential to the implementation of strategy, control of forces, and employment of weapons in modern warfare. These systems support day-to-day operations, rapid assessment of indications and warning information for decision makers in periods of tension and impending conflict, accurate situation monitoring and allocation of resources in crisis situations, and the conduct of military operations in wartime. Elements and areas requiring support include:

-- National Command Authorities and (as their agents) the Joint Chiefs of Staff, on a worldwide basis;

-- Unified and Specified Commands and other military commanders within their areas of responsibility;

-- Individual military units within their areas of responsibility.

The war-fighting capability of our armed forces and of our allies depends upon effective and survivable $C^3I$ systems. Furthermore, the interoperability of U.S. and allied systems is essential to the timely and unambiguous assessment of the situation and to military operations during a conflict.

### B. Major Needs

The key areas in which our $C^3I$ capabilities need improvement relate to their effectiveness in combat, survivability, and resistance to jamming and exploitation. These measures are particularly important in view of the emphasis that our potential adversaries place on destruction or disruption of our $C^3I$ capabilities.

## II. PROGRAM DESCRIPTION

Our $C^3I$ systems and programs are by their nature interrelated and numerous. Chart 9-1 summarizes these systems, displayed by major functional category.

### A. Strategic, Theater, and Tactical $C^3I$ Initiatives

#### 1. Overview

$C^3I$ programs which relate directly to strategic and theater nuclear, land, naval and tactical air capabilities and to our NATO-related initiatives have been presented in detail in the chapters dealing with those forces. The following is a summary of our initiatives in these areas.

# CHART 9-1
# $C^3I$ PROGRAM OVERVIEW

**STRATEGIC COMMAND AND CONTROL**

- E-4 Advanced Airborne Command Post
- Worldwide Military Command and Control System (WWMCCS)
- Post-Attack Command and Control System
- MX $C^3$

**THEATER AND TACTICAL COMMAND AND CONTROL**

- E-3A/NATO AWACS
- Joint Crisis Management Capability
- JINTACCS
- Tactical Flag Command and Control
- NATO Identification System

**STRATEGIC COMMUNICATIONS**

- AFSATCOM
- TACAMO
- ALCS Phase III
- SHF Communications

**STRATEGIC SURVEILLANCE**

- BMEWS/PARCS
- IONDS

**TACTICAL COMMUNICATIONS**

- TRI-TAC
- JTIDS/PLRS
- SEEK TALK
- SINCGARS-V
- Joint Services Weapons Data Link

**RECONNAISSANCE, SURVEILLANCE AND TARGET ACQUISITION**

- TR-1/GUARDRAIL
- BETA
- OTH Targeting

**ELECTRONIC WARFARE AND COUNTER-$C^3$**

- EF-111A
- ASPJ
- PLSS

**DEFENSE-WIDE PROGRAMS**

**COMMUNICATIONS**

- DSCS II, III
- AUTODIN
- Secure Voice Improvement Program
- Digital European Backbone
- European Telephone System
- KIP

**INTELLIGENCE**

- Consolidated Cryptologic Program
- General Defense Intelligence Program
- Special Activities
- Defense Foreign Counter-intelligence
- Indications and Warning
- Tactical Intelligence Related Activities

**NAVIGATION AND POSITION-FIXING**

- NAVSTAR Global Positioning System
- Microwave Landing System
- Laser Inertial Navigation System

**INFORMATION SYSTEMS**

- WWMCCS ADP
- Automated Message Handling System
- Computer Security

Our Strategic Force $C^3I$ programs emphasize:

-- Enhancing the survivability of the command, control, and intelligence capabilities of the National Command Authorities, beyond execution of the Single Integrated Operational Plan (SIOP) and into the period of reconstitution of forces and support of optional responses following an attack.

-- Ensuring that our forces are adaptable enough to meet future strategic threats.

-- Improving our attack assessment capabilities.

Our theater-level $C^3I$ initiatives also emphasize the survivability of essential command and control functions with concomitant efforts aimed at improving our capabilities for participation in multi-national operations in support of alliance commitments.

Command and control programs for tactical use stress improved interoperability between the Services and with the forces of our allies. Because tactical $C^3$ systems are typically procured in large numbers and require substantial maintenance resources and logistics support, we are also emphasizing greater operational utility and standardization. In addition, the FY 1981 program calls for continued development, acquisition, and deployment of counter-$C^3$ capabilities. These measures are needed to offset advances in military surveillance, communications, and command and control being made by potential adversaries.

2. Joint and Multi-Service Programs

a. Interoperability

The program for Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is designed to achieve increased interoperability and compatibility for the tactical command and control systems ($TC^2S$) of the Services and defense agencies. This program will continue in the test phase through FY 1981.

We are taking steps to ensure that U.S. efforts to achieve interoperability between U.S. and NATO $TC^2S$ are consistent with our efforts to achieve interoperability of U.S. systems under the JINTACCS program.

b. Joint Service Weapons Data Link

The effectiveness of weapons controlled and guided by data links is determined significantly by the resistance of these systems to intentional and unintentional jamming. The program to reduce the vulnerability of these systems to jamming is projected to cost $30 million. Initial tests are scheduled for mid-1981.

c. Joint Crisis Management Capability (JCMC)

The JCMC program will provide improved $C^3$ capabilities that can be deployed rapidly to extend temporarily the World-Wide Military Command and Control System (WWMCCS) for crisis management and control, to permit limited tactical operations, and to support joint task force operations.

The JCMC program incorporates the mobile, deployable, or transportable $C^3$ assets and R&D, acquisition, and modification programs that provide the capability for joint management and control during crises and contingency operations. Included in the JCMC program are the former WWMCCS Mobile Airborne Command Center and the rapid reaction deployable $C^3$ capabilities. In addition, the JCMC program will perform the principal service currently provided by the Joint Airborne Command Center/Command Post and the Joint Communications Support Element.

d. Battlefield Exploitation and Target Acquisition (BETA)

The purpose of this program is to expedite land target identification and location and data dissemination to air and ground combat elements. Project BETA is designed to evaluate the ability of automated centers to combine information on ground targets from many sensor systems. The BETA program has completed its design phase. Development is continuing in preparation for the 1980 NATO-based demonstration and follow-on tests.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| JINTACCS | | | | | |
| | Development: $ Millions | 25.7 | 42.2 | 46.7 | 63.5 |
| Joint Service Weapons Data Link | | | | | |
| | Development: $ Millions | 2.4 | - | 12.6 | 20.6 |
| JCMC | | | | | |
| | Development: $ Millions | - | - | 2.8 | 3.9 |
| | Procurement: $ Millions | - | - | 14.1 | - |
| BETA | | | | | |
| | Development: $ Millions | 17.9 | 19.5 | 15.4 | 7.8 |

## B. Intelligence Programs

### 1. National Intelligence

National intelligence supports the National Command Authorities and other senior military and civilian policymakers. It is used by force planners and those who develop weapons systems. The national intelligence effort is organized in a National Foreign Intelligence Program (NFIP), which comprises a significant portion of the intelligence efforts of the Departments of Defense, State, Energy, Treasury, the Drug Enforcement Agency (DEA), the CIA and FBI, and the counterintelligence efforts of the FBI, CIA, and Department of Defense.

Within the Defense portion of the NFIP, there are five intelligence programs--the Consolidated Cryptologic Program, the General Defense Intelligence Program, the Air Force and Navy Special Activities, and the Defense Foreign Counterintelligence Programs.

Within the Defense budget are intelligence programs integral to the strategic and general purpose forces which support operational commanders in the use of their forces. These "tactical" intelligence systems, as a secondary function, also provide intelligence to national level consumers, as national intelligence systems provide information to tactical commanders. The two processes are usually complementary rather than duplicative.

#### a. Consolidated Cryptologic Program (CCP)

The Consolidated Cryptologic Program (CCP) is managed by the Director, National Security Agency/Central Security Service and includes those national Signal Intelligence (SIGINT) resources in support of the NFIP. The Tactical Cryptologic Program (TCP) complements the CCP and comprises SIGINT resources in support of military field commanders. Intelligence derived from SIGINT provides information on political, scientific and economic matters as well as deployment and status of potentially opposing forces and insights into military technological advances often not obtainable by other means.

#### b. General Defense Intelligence Program

The General Defense Intelligence Program (GDIP) includes all Defense intelligence activities in the National Foreign Intelligence Program (NFIP) except SIGINT and specialized national programs. It includes all Defense intelligence production and collection in the NFIP, technical intelligence, the Atomic Energy Detection System, special security services, certain intelligence communications, and within the Defense Intelligence Agency, management systems for intelligence collection and production requirements and tasking.

GDIP efforts emphasize collection and production of defense intelligence to support the readiness and employment of U.S. forces. Intelligence needs are determined by missions assigned to the Department of Defense and its components which require intelligence information as a basis for weapons and materiel research and development, and in support of contingency planning and wartime operations.

The extensive range of peacetime national intelligence needs and those of the OSD/JCS, the Military Departments and the forces in their wartime missions puts the GDIP in the unique position of providing support simultaneously to the highest national level users, major commands, and tactical users of intelligence.

c. Air Force and Navy Special Activities

These specialized programs provide essential information to national policymakers and to force commanders.

d. Defense Foreign Counterintelligence (FCI) Program

This program consists of the counterintelligence activities of the three military departments including investigations of espionage and operations against hostile intelligence establishments. Also included are collection and production activities in support of national and departmental needs for counterintelligence and information on international terrorism. Defense counterintelligence activities are conducted in coordination with the FBI within the United States and in coordination with the CIA abroad.

2. Indications and Warning Intelligence

This program responds to national, departmental and command needs for both strategic and tactical warning of events that affect national security, including warning of attack on the United States and its allies. It includes the world-wide Defense indications network, indications and warning collection by human sources and operation of certain technical collectors which provide coverage of potential crisis areas.

3. Tactical Cryptologic Program (TCP)

The Tactical Cryptologic Program (TCP) is a new major component of DoD tactical intelligence and related activities. The long-range goal of the TCP is to maintain and strengthen selectively the capability to provide effective SIGINT to the commanders of combat forces. The immediate objective is to provide a management structure within DoD for tactical SIGINT systems to ensure maximum interoperability, minimize duplication, and produce a sound R&D, procurement, operations and training base consistent with service missions, personnel capabilities and force levels.

4. Intelligence Support to Tactical Forces

During the past year we have considered how to improve timely intelligence support to tactical forces. We want to enhance the multi-source information which is essential to combat commanders and directly related to their missions. This entails correlating and disseminating highly perishable data quickly enough to facilitate combat decisions and actions. So far, we have made significant progress in defining the intelligence needs of operational military forces, and in developing more effective mechanisms for guidance and review in the planning, programming and budgeting system (PPBS) process.

5. Intelligence Oversight

The Inspector General for Defense Intelligence continues to exercise independent oversight of all DoD intelligence and counterintelligence activities to assure their legality and propriety. The office monitors military service and intelligence agency inspection programs, and analyzes reports of inspection for compliance with oversight policy. Major functions include the investigation of allegations into questionable activities within the DoD Intelligence Community, and the performance of related studies. The Inspector General reports directly to the Deputy Secretary of Defense and communicates directly with the Intelligence Oversight Board.

The Inspector General also conducts independent inquiries and inspections of intelligence elements of the Army, Navy, Air Force, NSA, and DIA. During 1979, the emphasis was on counterintelligence and human intelligence collection activities.

The DoD oversight program continues to emphasize that intelligence and counterintelligence activities must be conducted within the law and in accordance with applicable policies and directives.

C. Navigation and Position-Fixing

The Department of Defense is requesting over $300 million for the development, procurement, operation, and support of positioning and navigation (POS/NAV) systems, equipments and services in FY 1981.

The NAVSTAR Global Positioning System (GPS) continues in development with an initial operational capability planned for the late-1980s. NAVSTAR GPS will play a major role in the mix of DoD navigation and positioning systems of the future because it will provide combat and support aircraft, vehicles and ships with precise, three-dimensional, all-weather position and velocity data without requiring potentially compromising transmissions (as is the case with the TACAN aircraft navigation system). It will also contribute to improved missile accuracy. Introduction of NAVSTAR into NATO's military forces will significantly enhance interoperability.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| NAVSTAR GPS | Development: $ Millions | 104.5 | 209.3 | 161.0 | 177.0 |

## D. Base and Support Communications

In FY 1981, we are requesting $1.4 billion for base and support communications. This area includes programs to provide and operate communications for military bases, command headquarters, port facilities, DoD agencies, and in support of range and test activities. Also included are dedicated Service-wide communications systems and links in support of specific activities such as the Air Weather Service.

We are continuing the consolidation and automation of Telecommunications Centers. The majority of DoD consolidation actions will be completed by the end of 1982. However, we will continue automating many of our large Telecommunications Centers in order to realize manpower savings and speed service to the users.

We expect to realize cost savings of $10 million per year when all planned automation/ consolidation actions are completed.

## E. Common-User Communications

### 1. The Defense Satellite Communications System (DSCS)

The DSCS, a Super High Frequency (SHF) satellite communications system, is a key to linking the continental United States with forces located overseas. Both large fixed terminals and mobile terminals will be located overseas and will be available to respond to Worldwide Military Command and Control System (WWMCCS) and some tactical service needs. Currently seven DSCS II satellites are in orbit. Four are providing operational service over the Atlantic, Western Pacific, Eastern Pacific and Indian Oceans and three are spares. The DSCS III program is being developed to provide greater satellite life and a major increase in jamming protection and communications capacity over DSCS II satellites. Two prototype DSCS III's are being procured with FY 1978 and FY 1979 R&D funds. The first DSCS III satellite is now scheduled for launch in the summer of 1981.

### 2. The Defense Satellite Communications System Ground Component

The DSCS Ground Component consists of satellite terminals and communications and control equipment. Procurement funds include satellite terminals for WWMCCS jam resistant secure communications. In addition, we are continuing the R&D program to assure the availability of ground equipment to meet future needs.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| DSCS Satellites | | | | | |
| | Development: $ Millions | 34.2 | 22.8 | 22.9 | 14.3 |
| | Procurement: Quantity | - | - | 4 | - |
| | $ Millions | 13.9 | 17.3 | 97.8 | 113.3 |
| DSCS Ground Component | | | | | |
| | Development: $ Millions | 8.9 | 12.0 | 18.3 | 24.9 |
| | Procurement: $ Millions | 1.3 | .9 | 2.2 | - |

3. The Defense Communications System

The Defense Communications System (DCS) provides United States military forces throughout the world with long haul, common-user voice, data, and teletype services through networks of United States government-owned and commercially-leased facilities. In order to support $C^3$ requirements in high levels of conflict the DCS must become more flexible and interoperable with systems of our NATO allies. Present telecommunications transmission facilities of the DCS, particularly in Europe, consist of equipment which is obsolete and difficult to maintain. There is also a need to make the major radio links secure from intercept, improve physical security, increase overall operability with allied systems, and provide adequate interconnection to the DSCS terminals. Specific programs to meet these needs are discussed below.

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Secure Voice Improvement Program (SVIP) | | | | | |
| The objective of the SVIP is to provide a secure voice capability to approximately 10,000 DoD users. After two years of program restructuring to satisfy Congressional concerns, a revised program was approved beginning in FY 1979. | Development: $ Millions | 5.7 | 1.8 | 15.3 | 6.6 |
| | Procurement: $ Millions | - | - | 2.3 | 21.7 |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authori-zation |
|---|---|---|---|---|---|
| Automatic Digital Network (AUTODIN) | | | | | |
| The AUTODIN is our primary network for transmission of data and and narrative messages within DoD. The AUTODIN I system, in operation since the mid-1960's, will continue to handle the DoD's narrative messages until the mid-1980's at which time it will be replaced by the integrated AUTODIN system. We are currently implementing Phase I of the AUTODIN II System in CONUS and in 1981-82 we will be extending AUTODIN II service to Europe and Hawaii. | Development: $ Millions | 4.2 | 6.9 | 6.3 | - |
| | Procurement: $ Millions | - | 2.1 | 3.4 | - |
| Digital European Backbone (DEB) | | | | | |
| The present Defense Communications System (DCS) in Europe is vulnerable to enemy intercept of unsecured circuits, and is old and costly to maintain. The DEB is an ongoing program that will upgrade the DCS system in Europe to a more reliable and secure system. Aside from the benefits of enhanced performance and reduced vulnerability to electronic eavesdropping, significant O&M and manpower reductions have been forecast. | Procurement: $ Millions | 14.9 | 5.8 | 21.0 | - |

| | | FY 1979 Actual Funding | FY 1980 Planned Funding | FY 1981 Prop'd Funding | FY 1982 Prop'd for Authorization |
|---|---|---|---|---|---|
| Wideband Transmission Improvement | | | | | |
| The DCS is made up of various switching and transmission systems. The quality and reliability of the DCS is monitored and maintained through a manual technical control facility. With the demand for higher quality circuits and better reliability of these circuits to support the various military commanders, we require computer assisted technical control facilities to meet these greater demands. The Automatic Technical Control (ATEC) Program will provide automated assistance in testing, monitoring, fault isolation, analyzing and reporting this information in real time to technical controllers. | Development: $ Millions | 7.6 | 9.4 | 16.3 | 16.4 |
| | Procurement: $ Millions | 8.6 | 7.1 | 7.8 | - |

4. Other Initiatives

a. European Telephone System

Our telephone switches in Europe are obsolete, require continuous costly maintenance, and often break down. To replace these switches, a memorandum of understanding was signed with the German government in November 1978 to buy 112 switches for U.S. Army use for a price not to exceed 186,000,000 DM. By purchasing the new digital switches in Germany, interoperation with the German telephone system will be enhanced and equipment operation and maintenance will be simplified.

b. Defense Metropolitan Area Telephone System (DMATS)

DMATS will integrate individual DoD telephone systems within a metropolitan area into a consolidated system under single management. The objective is to provide improved and more economical service. In most cases, it requires the consolidation of both administrative and operator functions and the introduction of modern electronic switching. To date 21 areas have been identified for possible DMATS integration. The first will be installed in Boston, Massachusetts in early 1981, followed by San Diego, California and Norfolk, Virginia in 1982. Savings on the order of $500,000 to $1 million per year are anticipated in each case. In addition, improved telephone operations and system management will be achieved through modern electronic switching equipment.

F. Communications Security (COMSEC)

The goal of the DoD Communications Security (COMSEC) program is to protect all information of significant intelligence value carried on U.S. Government telecommunications systems. Our program includes all resources devoted to cryptographic equipments and COMSEC measures necessary to assure the privacy of national command system communications. COMSEC program objectives include increased reliability and life expectancy of cryptographic hardware, expanded interoperability, increased resistance to exploitation and the integration of appropriate COMSEC measures into the early development stages of new communications systems. Procurement funding includes a significant quantity of cryptographic equipment for use in protecting critical tactical voice circuits.

Communications security must be achieved in the face of an increasing volume of communications requiring protection and in light of rapid advances in electronic technology which make systems increasingly vulnerable to exploitation.

G. Information Systems

Defense information systems, which consist of data processing, data communications, reporting systems, and the people who operate and manage them, have become increasingly necessary for peacetime readiness as well as wartime operations. They are important across the full spectrum of military activity: intelligence, command and control, logistics, engineering, administration, and personnel. The need for rapid, accurate exchange of information among military organizations has made data processing and communications systems increasingly interdependent and has heightened the importance of our ongoing efforts to achieve interoperability among a number of diverse programs. This is being accomplished by modernizing information systems and standardizing equipments and procedures.

1. WWMCCS Automated Data Processing (ADP)

The adequacy of the automated data processing (ADP) computers in the Worldwide Military Command and Control System (WWMCCS) has received considerable attention from the Congress in the past year. These concerns centered upon the age of the computers, their security, and their utility in support of

operational commanders. These computers support a wide range of command and control tasks. At present, these systems are adequate only in their support of peacetime day-to-day operations (for which they were principally designed). Accordingly, we are planning to upgrade our WWMCCS ADP capabilities in order to provide the necessary data processing support during a crisis or conflict.

2. Automated Message Handling Systems

During the past decade, the Department of Defense has made significant strides in improving message communications vital to the command and control as well as intelligence processes. This progress has been due, in part, to the increased substitution of automation for manual message handling tasks in our communications centers, yielding faster speed of service and manpower savings. The next step is the application of automation to assist action officers with the preparation, file and retrieval of message traffic. This automation is needed particularly to cope with the volume of traffic that must be reviewed and acted on during periods of crisis.

Standard user-oriented systems are being developed for the WWMCCS command centers. The National Military Command Center's Information and Display System became operational in November 1979, and is providing effective automated message handling support to command center personnel. A compact version of this system is being configured for deployment at six WWMCCS sites beginning in FY 1982.

3. Computer Security

The DoD Computer Security Initiative has resulted in interactions with the computer industry to encourage the development of ADP systems with sufficient internal safeguards to permit simultaneous access by users with different security clearances. Technical evaluation procedures suitable for use throughout the DoD and perhaps the rest of the Federal government are being developed. Applications of DoD developed ADP systems will be demonstrated during 1980.

# CHAPTER 10

# RESEARCH, DEVELOPMENT AND ACQUISITION

## I. SUMMARY OF DEFENSE RESEARCH, DEVELOPMENT AND ACQUISITION

The FY 1981 Department of Defense Budget requests $57.0 billion for research, development and acquisition (RD&A) activities to support our military posture. Included are $16.5 billion for research, development, test and evaluaion (RDT&E) and $40.5 billion for the procurement of weapon systems and other military equipment and supplies. The size of this request reflects our continuing concern over the growing quantitative disparity between deployed U.S. and Soviet weapons. It also reflects concern over significant advances in the quality of Soviet technology and fielded weapons.

The formulation of the RD&A program was governed by four major objectives:

-- Justification of Programs on the Basis of Mission Needs

-- Strengthening the Technology Base

-- Better Use of Our Industrial Base

-- Increased Cooperation With Our Allies

In keeping with the principle of presenting and evaluating our efforts on the basis of the missions they support, specific RD&A programs for our strategic, theater nuclear, land, sea, and air forces are described in the chapters on those forces. This chapter summarizes the basic objectives of RD&A for strategic and tactical application, provides highlights of RD&A programs which contribute to Defense-wide capabilities (except $C^3I$ which is addressed in the preceding chapter), and describes key management initiatives for improving the way we spend our RD&A dollars.

Tables 10-1 and 10-2 reflect the resources allocated for RDT&E and procurement of weapon systems and other equipment, divided by major mission category.

## II. STRATEGIC AND TACTICAL RD&A OBJECTIVES

Funding for strategic programs is devoted to improved offensive, defensive, and $C^3I$ capabilities. Our strategic offensive programs will reduce the vulnerability of our ICBM force by proceeding with the MX, maintain the second-strike capability of our SLBM force by continued procurement of TRIDENT missiles and submarines and further research and development on more advanced SLBMs, and enhance the effectiveness of our bombers by developing a cruise missile force. Strategic defense programs will continue technological advances in defensive systems to reduce the possibility of technological surprise; provide defensive options to protect strategic forces, satellite systems, and command and control systems; and provide a surveillance and warning network to detect and characterize hostile actions by aircraft, missiles and spacecraft. Strategic $C^3$ programs will result in more survivable $C^3$, ensuring that we can communicate with our forces in a trans-attack and post-attack environment as well as providing the flexibility to cope with future threats.

TABLE 10-1

RDT&E Funding ($Millions)

| | FY 1980 | FY 1981 |
|---|---|---|
| Strategic Warfare 1/ | 2,200 | 3,373 |
| Tactical Warfare 2/ | 5,225 | 5,758 |
| Defense-Wide $C^3I$ | 1,163 | 1,628 |
| Other Defense-Wide Mission Support of Management | 2,030 | 2,448 |
| Science & Technology Program | 2,899 | 3,336 |
| Total | 13,517 | 16,543 |

TABLE 10-2

Procurement Funding ($Millions)

| | FY 1980 | FY 1981 |
|---|---|---|
| Strategic Forces | 4,781 | 5,236 |
| General Purpose Forces | 24,328 | 27,398 |
| Intelligence and Communications | 3,273 | 3,785 |
| Airlift and Sealift | 409 | 627 |
| Guard and Reserve Forces | 1,226 | 1,395 |
| Central Supply and Maintenance | 982 | 1,190 |
| Training, Medical, and Other Personnel Activities | 489 | 492 |
| Administration and Associated Activities | 48 | 91 |
| Support of Other Nations | 255 | 331 |
| Total | 35,792 | 40,546 |

Among the main objectives of our tactical programs is to contribute to the maintenance of the military balance in Central Europe in both conventional and tactical nuclear capabilities. Accordingly, we are improving the theater nuclear forces in the areas of $C^3$, operational intelligence and target information, and modernized armaments with greater effectiveness, and improved security and safety features. Our land warfare programs are designed primarily to strengthen NATO with particular emphasis on rationalization, standardization, and interoperability. The principal focus is on armored vehicles, precision-guided munitions (including anti-tank weapons), target acquisition, attack

1/ Includes Strategic $C^3I$ funding
2/ Includes Tactical $C^3I$ funding

helicopters, air defense, and logistics. In air warfare, our main objective is to develop better defenses for high value assets (including naval forces); and improve our capabilities for air-to-air combat, battlefield interdiction (including enemy second echelon forces), close air support, and suppression of enemy defenses. We also seek to improve our ability to operate in day/night, all-weather conditions. Naval warfare programs will improve our ability to protect shipping, support allies and overseas forces, and permit effective use of maritime striking forces. Particular emphasis is placed on improving our defenses against the air and submarine threats to our naval forces.

Our Defense-wide $C^3I$ programs are aimed at greater performance, survivability, security and interoperability of systems (particularly in the NATO environment) and an improved capability to counter opposing $C^3$ capabilities.

## III. THE SCIENCE AND TECHNOLOGY PROGRAM

### A. Policies

The Science and Technology (S&T) Program is the key to maintaining our technological lead. In FY 1981 we plan to continue real growth in the S&T program in order to exploit fully our innovative potential and to provide technological options needed to select new systems at lower costs.

The S&T Program consists of Research, Exploratory Development and Advanced Technology Development. In FY 1981, we will increase, in real terms, the S&T Program by 10 percent in Research and five percent in the Exploratory Development Programs. I consider it essential that we increase funding for the S&T program in FY 1981 and beyond if we are to overcome the effects of reduced funding during the 1965-1975 period.

The main objective of the S&T program, of course, is to increase capabilities in weapons, mobility, command and control, and other important military functions. Research under the S&T program is conducted by the combined efforts of the Services, the Defense Agencies, industry, and universities. We will continue to rely heavily on industry and the universities to achieve a broad base for technological innovations. But of great importance is the support of a strong technology infrastructure in materials, electronics, and other basic technologies which are the building blocks of technology advances. Illustrations of the type of work accomplished in the S&T Program are outlined below:

### B. Program Description

Energy RDT&E Program. The overall objective of the DoD Energy Program is to reduce the dependence of DoD activities on foreign oil imports through the future use of domestic synthetic fuels, improved energy conservation methods, and the use of other fuel and energy sources.

The Department is developing new engines capable of using a broad range of fuels. We are accelerating the evaluation of several liquid hydrocarbon fuels derived from low-quality petroleum crudes, oil shale, and coal for use in military turbine engines.

Precision Guided Munitions (PGM) Technology. This year we will emphasize research aimed at achieving an all-weather PGM capability. The program will concentrate on sensor frequencies that can penetrate rain, haze, battlefield aerosols, and dust and that make munitions more effective at night. This effort will continue to capitalize upon rapid advances in microelectronics and signal processing.

Advanced Composite Materials. These materials show exceptional promise for improving of the capabilities of our aircraft, missiles, and spacecraft, because of their outstanding structural and thermal efficiency. Nearly all these composites are made from raw materials available in the United States in large quantities, unlike some of the metals they will replace. Further, their properties and fabrication methods permit simpler designs and lower manufacturing costs. We plan to continue full scale testing in operational aircraft of carbon fiber reinforced plastic materials, the application of carbon fiber/carbon matrix materials to improve strategic missile reentry bodies and rocket nozzles, and advanced technology work on fiber reinforced metals.

Very High Speed Integrated Circuits (VHSIC). The VHSIC Program is a five-year, major technology effort with a total funding of approximately $200 million. The program is structured to accelerate the introduction of advanced integrated circuit (IC) technology into military systems while addressing the associated problems of supply, interoperability, and software.

New Software Initiative. In FY 1981 we will begin a major new initiative in computer software technology--a field which develops the techniques for writing the instructions which govern the data processing and decision-making capabilities of computer systems. Current DoD software expenditures have been estimated to exceed $3 billion annually and will grow as our use of computers increases. Consequently, the objective of this initiative is to achieve qualitative improvements in production software, and reduce software costs.

Directed Energy Technology. The principal efforts in this area involve the High Energy Laser and the Particle Beam Technology Programs. In FY 1981 we will continue to concentrate our efforts on identifying the scientific and engineering uncertainties associated with this technology, determining means for their resolution, and determining the feasibility and utility of directed energy weapons.

Chemical Warfare Defense. Although progress on substantive issues has been slow, bilateral negotiations are continuing with the Soviets toward an effective, verifiable agreement banning chemical warfare. While procurement of defensive equipment of the type already in the inventory is progressing, deficiencies in the current force posture and the threat to U.S. and allied forces indicate that continuing attention be placed on the acquisition of antidotes, improved personal protective equipment, as well as warning and detection, decontamination, medical treatment, and training systems. Cooperative international programs as well as industrial and academic programs are underway to these ends.

People-Related Research and Development. The individual is DoD's most valuable resource. Even the most advanced weapons systems require personnel to operate them. We will maintain a strong program to improve our ability to select and train our manpower, to enhance the individual's physical and mental readiness for combat tasks, and to prevent and treat diseases and injuries that degrade combat performance. We also plan to increase emphasis on training, particularly efforts that forecast and control the effects our weapon systems have on training requirements. Specifically, we will seek earlier and more comprehensive tradeoffs among personnel capabilities, system characteristics, and readiness. Simulators and training devices will receive continued emphasis as a means of reducing fuel consumption while providing our forces with more cost/effective training.

## C. Defense Advanced Research Projects Agency (DARPA)

### 1. Objectives

DARPA's role is two-fold: (1) to explore the "leading edge" of technology to prevent technological surprise and (2) to exploit new developments by demonstrating technology pay-off and presenting system options to the Services.

The DARPA program, balanced in its support of technology exploration and demonstration, consists of ten major efforts.

### 2. Technology Opportunities Programs

a. Space Defense: High efficiency infrared chemical lasers, large space optics, pointing and tracking techniques to demonstrate the feasibility of laser systems for space-related applications.

b. Space Surveillance: Sensor technologies for target detection from space to increase our capability for warning and assessment of strategic attacks and for support of theater combat operations.

c. Cruise Missile Technologies: Engine improvements for greater range and payload, enhanced homing and guidance technologies to improve accuracy, and an improved understanding of detection and tracking phenomena to maintain the ability of cruise missiles to penetrate sophisticated air defenses.

d. Anti-Submarine Warfare: Technologies to detect and track the relatively weak acoustic signals we expect to be associated with future Soviet submarines and explore the possibility of nonacoustic submarine signatures.

e. Land Combat: Target acquisition and weapon delivery technologies, providing options to offset the Soviet armored vehicle assault capability, including advanced fire-and-forget missiles and low cost, longer range artillery rounds.

f. Air Vehicles and Weapons: Innovative concepts such as the X-Wing and the Forward Swept-Wing technologies, which could offer dramatic improvements in aircraft performance.

g. Command, Control, and Communications: Technologies for survivable computer communications, secure message and information systems, improved crisis management and command systems, and evaluation of these emerging technologies in a quasi-operational testbed.

h. Unconventional Technologies: Development of (1) the charged particle beam concept to demonstrate the feasibility of propagating a high energy beam through the atmosphere; (2) the Assault Breaker program, an integrated anti-armor target acquisition and engagement concept for NATO; and (3) the blue-green laser and associated optics to permit communications with submerged submarines.

i. Nuclear Test Verification Technology: Development of methods and data analysis techniques for remotely determining the characteristics of nuclear tests and for verifying other nations' compliance with agreements limiting nuclear testing.

j. Technology Initiatives and Seed Efforts: This category includes programs such as innovative computer science, new communications technology, quantitative nondestructive material evaluation techniques aimed at lowering the cost of new systems, and additional materials and miniature computer design development.

D. Defense Nuclear Agency

The effects of nuclear weapons on military systems are of vital concern to national security. The Defense Nuclear Agency is the DoD's principal source of nuclear effects knowledge. It conducts a comprehensive research program to assess the survivability of our military systems in a nuclear environment, to predict the lethality standards for confident destruction of enemy assets, and to develop technological capabilities that will enhance theater nuclear force effectiveness. The DNA development and test program spans the entire range of DoD interest in nuclear weapons effects. FY 1981 highlights include:

-- The development of advanced radiation simulators to enhance our testing flexibility and lessen our dependence on underground nuclear tests.

-- Assessment of the effects of nuclear weapon detonations, particularly those occuring at high altitudes on the survivability and endurance of military communications, command, control, and intelligence functions.

-- Continued support of MX in the areas of nuclear weapons effect environments, hardness data, and weapons effects simulation testing techniques. Specific emphasis will be on investigating environmental effects on the structure of land-based shelters and shelter components.

-- Development of underground test facilities to support tests of the MX booster and advanced re-entry vehicle components, as well as analysis of various test results.

-- Above-ground high explosive testing to simulate the airblast from a 1 kt nuclear detonation and thermal radiation testing of a variety of system components.

-- High explosive test programs aimed at improving our assessments of the vulnerability to nuclear weapons of Soviet missile silos and other Soviet targets.

-- Continued research and development to enhance theater nuclear force effectiveness by establishing modernization criteria, developing nuclear weapons doctrine, and developing procedures, methodologies, and techniques to optimize application of nuclear weapons.

Other DNA programs include:

-- Attainment of an overseas nuclear emergency search team capability. This program includes the development and procurement of specialized detection equipment.

-- Development of improved nuclear weapons physical security through the use of sophisticated safeguards.

-- Development of the technology and hardware to provide a follow-on emergency disablement capability to disable multiple nuclear weapons short of violent destruction.

-- Development of improvements in our nuclear accident response capability, including integration of the capabilities and responsibilities of the Department of Energy and the Federal Emergency Management Agency.

-- Maintenance of an atmospheric "readiness to test" capability as a precaution against the abrogation of the Limited Test Ban Treaty.

## IV. DEFENSE-WIDE MISSION SUPPORT

This major mission category includes those efforts which provide support to multiple defense missions and cannot be allocated directly to any other major mission area. Included are such activities as space launch and orbital support, global military environmental support, studies and analyses, and general management support. Three of these areas are described in the following sections.

### A. Supporting Space Developments

Our primary objectives are to develop a flexible, effective space launch capability that can support space system deployment with enhanced survivability at reduced cost and to provide an advanced technology base for future space system opportunities.

The manned, reusable Space Shuttle being developed under management of the National Aeronautics and Space Administration (NASA) will support all aspects of our national space program, including national defense requirements. Compared with using expendable launch vehicles, use of the Shuttle will result in reduced operating costs, and increased capabilities and operational flexibility for recovery of payloads as well as in-orbit satellite servicing and repair.

We are depending heavily on the Space Shuttle as the basic launch capability of the future. Problems in Space Shuttle development in turn raise problems in planning how to achieve more flexible, effective space operations and to phase out expendable launch vehicles. Additional effort is needed to design the manned shuttle as a laboratory in space for DoD experiments, to define man's future military role in space, and to improve shuttle survivability. To exploit fully the capabilities of the shuttle we are developing an Inertial Upper Stage for use with the shuttle at Kennedy Space Center when the shuttle becomes operational in late 1981; providing shuttle launch and landing facilities at Vandenberg Air Force Base; preparing to transition space systems to shuttle launch beginning in 1983; taking steps to assure that classified payloads will be protected on the shuttle; and procuring a minimum number of backup boosters to protect against possible delays in shuttle availability.

B. Global Military Environmental Support

Military personnel and equipment operate in the real world influenced by diverse meteorological, oceanographic, terrestrial, and astrophysical conditions. Weather is a critical factor to be considered in the performance of weapon systems. In the concept and development phases, we need to design around adverse weather effects or develop techniques to mitigate the effects of unfavorable weather. Our technology base program stresses these weather factors. We are conducting tests of real weapon systems in real weather and live battlefield simulations.

In addition, reliable, accurate weather information is required for the employment of forces by the battlefield commander. Our program includes funds for the development of a tactical battlefield weather information system for receipt and dissemination of weather data in the combat environment. We are also developing the capability to convert shipboard-sensed weather parameters directly into weapons effectiveness information for naval commanders. Upper air sounding equipment, providing critical wind information for accurate artillery fire, will be replacing less effective equipment, considerably upgrading our field artillery capabilities. Each of these actions is designed to provide the operational military commander with weather information necessary to factor environmental effects into tactical decisions.

The Department of Defense also makes major contributions to the Office of the Federal Coordinator for Meteorology, and office created to ensure that the Federal weather programs do not duplicate each other. This mechanism ensures that technologies developed by one Federal agency may be shared by all. For example, DoD is participating in the Weather Radar Joint Program Office with the Departments of Transportation and Commerce. This joint effort will develop,

procure, and operate doppler weather radars for the National Weather Service, the military weather services, and the FAA. The joint venture will insure a compatible nationwide system for severe storm and weather surveillance.

### C. Test and Evaluation

The primary objective of our test and evaluation program is to support the acquisition of reliable and effective weapon systems for our operating forces. To accomplish this objective, we will continue to emphasize the development of comprehensive test and evaluation master plans as an integral part of the acquisition program for each major weapon system.

We will continue our efforts to improve and modernize the capabilities of DoD Test Ranges and Facilities to keep pace with the sophisticated requirements of new weapons systems. The policies covering the management and operation of the major DoD ranges and test facilities have been revised to ensure the efficient use of existing facilities as well as to discourage the development of unnecessarily duplicative test facilities.

We are also continuing to improve our joint test and evaluation (JT&E) programs. Data from these tests are used to evaluate system suitability for the intended mission, for force structure planning, for definition of needs, and for weapons improvements. Some of the shortcomings of the JT&E process should be eliminated as we are now giving the Services a greater role in the nomination of new systems designs. In addition, foreign weapons evaluation programs, previously conducted by the Services, have been consolidated under the direct cognizance of the Director, Defense Test and Evaluation.

## V. SYSTEM ACQUISITION MANAGEMENT INITIATIVES

We are taking a number of actions aimed at increasing the degree of cooperation with our allies and improving the efficiency of the systems acquisition process. Some of these initiatives are discussed below, while others are listed in Chapter 13 (Management).

### A. Cooperative Programs

The growing Soviet threat requires that the United States and its allies improve the efficiency with which defense funds are transformed into military capability. Increased international cooperation is a means to this end. Initiatives in this area include the following cooperative programs proposed to our NATO allies: co-production with NATO countries, the Family of Weapons concept and bilateral MOUs which are the basis for cooperative research, development, and acquisition. Each of these programs are addressed in Chapter 7. In addition, we maintain on a continuing basis cooperative Science and Technology programs through the NATO Defense Research group and the Technical Cooperation Program.

### B. Technology Transfer

An effective technology transfer policy is essential not only to support cooperative developments, but also to protect our lead in technology

relative to potential adversaries. Such policy must be applied uniformly across the full spectrum of export case decisions and in the multiple government-to-government channels with our allies. Further, any restrictions on technology transfer must be applied selectively so as to minimize interference with the normal conduct of commercial trade.

The implementation of that policy often requires difficult trade-offs. As an example, the transfer of critical technologies to our NATO allies must consider increased NATO effectiveness as well as the risks of compromise and threat to our competitive position. Tapping the increasing technological resources of our allies is an important element of our policy and is achieved through a multitude of supportive R&D programs.

Owing to the importance of these activities, we have consolidated the responsibility for technology transfer under a newly appointed Deputy Under Secretary for Research and Engineering (International Programs and Technology). The consolidation was accomplished through an internal reallocation of personnel previously assigned to three separate organizations.

C. Increased Competition

Within the DoD, we have long recognized the value of competition as the most efficient method of obtaining required materiel and services. However, over the last several years we have experienced a gradual downward trend in the percentage of defense dollars obligated through competitive contracting. From FY 1973 to FY 1978 this percentage decreased from 34.4 percent to 25.7 percent. We are concerned about this trend. Nevertheless, recently completed studies indicate that many factors tend to undercut our efforts to reverse it. For example, prior to the oil embargo of 1973, market conditions were such that the aggregate offers for quantities of fuel and lubricants for which industry sources actively competed exceeded our annual defense needs. Since the embargo, the supply of petroleum products has declined to the point where we have had to resort to non-competitive methods to obtain adequate or timely supply of many required items. When coupled with the dramatic increase in the cost of petroleum that has occurred over this same period, we find that these products alone account for over two-fifths of the percentage reduction in competitive awards. While there is little we can do to change the current situation regarding petroleum products, we have a number of initiatives underway in other areas through which we hope to make more extensive use of competition. In the category of major system acquisitions, our implementation of OMB Circular A-109 places emphasis on developing acquisition strategies at the beginning of new programs that will maximize competition from the development of alternative system design concepts through the production stage. Several current programs are following this approach including the Army's Combat Net Radio (SINCGARS) and General Support Rocket System (GSRS), the Navy's Advanced Light-Weight Torpedo (ALWT) and the joint Navy/Air Force Airborne Self-Protection Jammer (ASPJ), and the Air Force's Advanced Medium-Range Air-to-Air Missile (AMRAAM) and Wide Area Anti-Armor Munition (WAAM) programs.

(U) We are revising the Defense Acquisition Regulations (DAR) to provide additional guidance on contracting methods and procedures that can be utilized to encourage competition for major systems. We are also reemphasizing our major system component breakout and high-dollar spare parts breakout programs as methods of increasing competition at the subcontract level.

D. Affordability

Another important initiative in our effort to improve the management of major system acquisitions is the introduction of affordability as a regular consideration in the Mission Element Need Statement/Defense System Acquisition Review Council (MENS/DSARC) process.

In reviewing proposed MENS, we have begun asking the proponent Service to state the general magnitude of resources that it is prepared to commit to satisfy the identified need. This information is also useful to industry in developing conceptual alternatives.

While recognizing that the Planning, Programming and Budgeting System (PPBS) process is the best forum for overall determination of program affordability, I believe certain aspects of this issue must be addressed at the DSARC in order to make program decisions consistent with funding projections provided during the PPBS process. For example, at DSARC Milestone I, affordability will be a factor in selecting one or more alternative concepts for the demonstration and validation phase. We will not proceed with full scale development and production (DSARC Milestones II and III) of a system unless I am assured that sufficient resources are or can be programmed to execute the program in a successful manner.

The affordability policy is intended to strengthen the linkage between the PPBS and the DSARC and to provide more stable funding to critically important programs. We also hope that it will help to alleviate costly program stretch-outs and false starts.

E. Cost Reduction

The Department is maintaining its emphasis on reducing cost through implementation of a number of policy initiatives: providing contractors with capital investment protection against contract termination where appropriate and increasing the productivity of our industrial base by support of manufacturing technology advances and contractor independent research and development. The Defense Standardization and Specification Program has provided cost reducing benefits through adoption of non-government standards, tailoring of military specifications and standards, standardization of NATO materials and parts, use of commercial products and increased identification and use of standard parts. We are considering implementation of several recommendations for reducing unit cost made by the Defense Science Board. These include enhancing program stability through long-term funding commitments, increasing use of competition and greater attention to product improvements in lieu of developing new systems.

CHAPTER 11

LOGISTICS

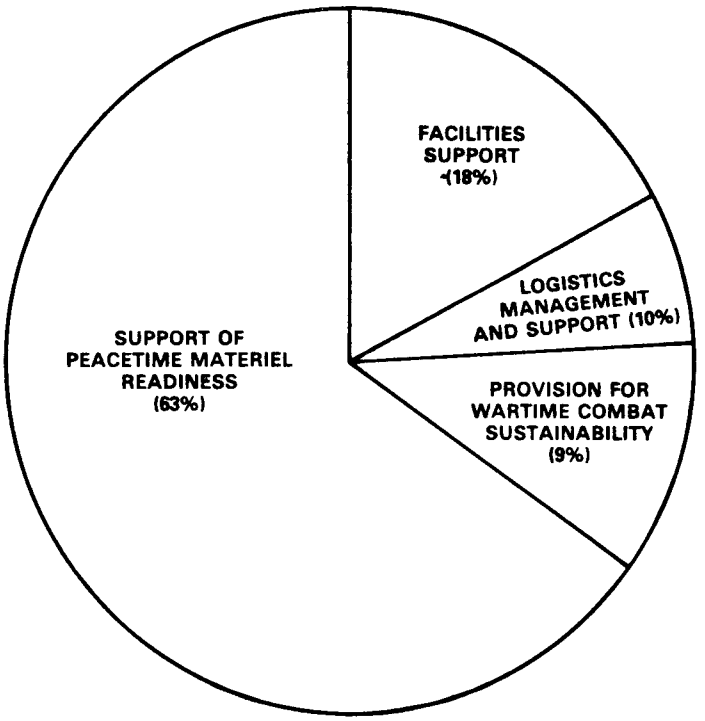
## I. OVERVIEW OF DEFENSE LOGISTICS

Our logistics planning and programming should ensure that the combat readiness and sustainability of our forces are consistent with the comprehensive national defense strategy; ensure that our military population is adequately fed, clothed, and housed; provide essential upkeep of DoD's capital investments and assets; and provide essential levels of management and support services.

For the purposes of discussion, the components of logistics are classified under the following four general headings: (1) peacetime materiel readiness; (2) combat sustainability; (3) logistics management and support; and (4) facilities support. About $59 billion of the FY 1981 budget request of $158.7 billion will pay for this set of functions, activities, services, and procurements called "logistics." Logistics funds are spread across almost every budget appropriation and include resources to support the four general areas enumerated above. Chart 11-1 displays the estimated distribution of logistics funding among these areas.

Chart 11-1

**DISTRIBUTION OF FY 1981 LOGISTICS AND FACILITIES SUPPORT FUNDING**



## II. Peacetime Materiel Readiness

Our weapons systems and equipment are "ready" when they are safe, operable, and able to perform (within a specified warning time) the functions or missions for which they have been designed or modified. All the logistics functions--maintenance, modification, supply, transportation, distribution, and facilities support--contribute to peacetime materiel readiness. A proper balance among these functions is essential to achieving a "ready" force in a cost/effective manner.

Public Law 95-79 (the FY 1978 Defense Authorization Act) requires DoD to project yearly the effect of requested appropriations on materiel readiness. As in the two previous years, we will submit a detailed "Materiel Readiness Report" to the Congress in February to support the budget request. In response to this request and as part of our continuing self-evaluation, DoD has been attempting to define and model the link between resource applications and materiel readiness, and some important progress has been made in this area.

### A. Ship Materiel Readiness

The materiel condition of ships has been slowly improving since 1974 owing to improved management procedures and increased funding.

The Navy is developing and implementing new surface ship maintenance strategies to increase the efficiency and effectiveness of preventive and corrective maintenance actions. In general, they will increase the time interval between overhauls, thereby increasing fleet availability time. In many cases, these new strategies will assign more work to the Intermediate Maintenance Activities (IMAs). Since existing facilities at the IMAs were inadequate to support the new requirements, the Navy requested funds for their expansion. Although the Congress denied the FY 1979 request for funds to upgrade the IMAs at Pearl Harbor, Hawaii, and Mayport, Florida, we continue to believe that this upgrade is necessary. Consequently, the FY 1980 budget contained funds for upgrading the Mayport facility. Funds are being requested in the FY 1981 budget to upgrade the IMAs at Charleston and Norfolk.

We will continue to minimize the backlog of deferred ship overhauls in the next several years, while maintaining a balance among the overhaul budget, the shipyard work force, and the operating schedules of the ships involved. At the end of FY 1978, we reached the point where further reduction of the backlog would depend on operating considerations and not just on adequate financial resources. Although the Navy plans to eliminate the backlog ultimately, overhauling precisely on schedule may not always be possible because of fleet commitments.

### B. Aircraft Materiel Readiness

Operationally Ready (OR) and Mission Capable (MC) rates have traditionally been used as measures of aircraft materiel readiness. Because these rates have deficiencies as readiness measures, we are pursuing the use of more appropriate criteria. In February, 1980, we will enact changes in the Force Status Reporting (FORSTAT) system that will allow us to project materiel

readiness based on mission reaction times and wartime maintenance workloads. We are also considering the use of sortie-generation rates over time as a measure of readiness. However, until the FORSTAT changes and the sortie-generation work are completed, we will continue to use OR/MC rates as our primary aircraft readiness indices.

Historically, the causes of degraded aircraft materiel readiness have included depot repair backlogs of spare components, airframes, and engines. In addition, the increasing complexity of successive generations of aircraft has exacerbated the problem. The level of the backlogs, while not a direct measure of materiel readiness, can strongly influence mission capable rates (usually after some lag time). Funding is requested in FY 1981 to reduce the Navy component repair backlog significantly and make a moderate reduction in the backlog of Navy airframes and engines. This reduction in component backlogs should lead to increased MC rates in FY 1982. The total Air Force depot repair backlog is expected to decrease slightly during FY 1981.

The average age of Navy/Marine Corps and Air Force aircraft will grow to more than 10 and 13 years, respectively, in FY 1980, and will continue to increase until our modernization programs come to fruition.

The Army's newly-implemented On Condition Maintenance program discontinues the practice of overhauling a fixed percentage of aircraft each year and instead schedules overhauls based on need (taking the "worst first"). Since 1974, the Army has reduced the aircraft share of the depot overhaul program from approximately 45 percent to less than 27 percent, thereby effecting a substantial savings and improving overall readiness. The Army plans to extend or eliminate mandatory time between overhaul criteria on selected aircraft components.

We are attempting to increase the accuracy of our aircraft readiness reporting and predicting systems. The Subsystem Capability and Impact Reporting Maintenance Data System implemented by the Navy and Marine Corps in FY 1979 corrects a deficiency in the previous reporting system that masked some component failures.

The FY 1981 budget submission for the Air Force is partly based on an analytical readiness model. The Aircraft Availability Model computes the percentage of aircraft not waiting for a part based on specified funding levels for component procurement and for depot component repair. We believe that use of this model has led to more logically-based funding requests in these areas than has been the case in the past. We are considering modifying the Aircraft Availability Model for Army and Navy aircraft.

The Air Force is experiencing significant reliability and durability problems with the F-100 engines used in F-15 and F-16 aircraft. In addition, new engine production deliveries have been delayed by prime contractor capacity constraints and long sub-contractor leadtimes and these delays have been exacerbated by strikes which lasted from April-to-September of 1979 at two sub-contractor plants. These production problems coupled with high failure rates of the already-produced engines are projected to result in airframes with no

engines early in FY 1980. We are actively pursuing several reliability and durability "fixes". We will delay F-15 squadron activation dates and are considering flying hour reductions for the F-15 and F-16 until the fixes can be effected.

Past Defense Reports have emphasized unreliable and hard-to-support equipment designs as a major, and often the principal, contributor to less-than-desirable weapon system performance in the field. An important means of improving the peacetime materiel readiness of our existing forces is by means of reliability and maintainability (R&M) modifications to weapon systems and equipment. All Services are pursuing R&M modification programs for correcting unsatisfactory aircraft designs.

C. Land Force Equipment Readiness

Excessive depot maintenance backlogs for land forces weapon systems reduce the amount of equipment available for distribution, thereby constraining force structure equipage and degrading peacetime readiness. Funds are being requested in the FY 1981 budget to eliminate the combat-vehicle backlog by the end of FY 1981, and reduce the ammunition renovation backlog. This program will improve materiel readiness and will help alleviate some of the Army's equipment distribution shortfalls.

The Army's rate of rebuilding unserviceable components has been unsatisfactorily low compared with overall DoD-wide experience. Funds are being requested in the FY 1981 budget for the Reparable Secondary Item Recovery Improvement Program (RSIRIP) to improve unserviceable return rates. The RSIRIP objective is to improve the rate of return to 75 percent.

The Army is making significant progress in using optimization models to determine the level of initial spares required to meet availability objectives for specified weapon systems.

D. Transportation Support

1. Traffic Management, Land Transportation and Ocean Terminal Operations

The Military Traffic Management Command (MTMC), our single manager in this area, has initiated several improvements in peacetime and wartime transportation. Lease of unused facilities at MTMC's ocean terminals generates revenue and provides for return of these facilities in good condition during emergencies. Scheduled construction for FY 1981 will increase ammunition outloading capability at ocean terminals. We are upgrading the Defense Freight Railway Interchange Fleet for safe transport of ammunition, XM-1 tanks and other specialized materiel. The Railroads for National Defense and Ports for National Defense are priority programs designed to ensure support capability during an emergency.

### 2. Airlift Operations

The Military Airlift Command (MAC), as single manager for airlift, maintains its wartime response capability through peacetime training, JCS exercises and Joint Airborne/Air Transportability Training (JA/ATT). A major portion of MAC's peacetime training is obtained from the day-to-day use of its worldwide airlift system in providing required airlift services to the DoD components. The essential peacetime flying-hour program is supported by appropriations for the Services' second destination transportation and personnel travel, and through funds provided for JA/ATT and JCS exercises. Reductions in these funds result in reduced flying hours for training and ultimately in reduced system readiness.

Our ongoing realignment of MAC military air passenger terminals and increased reliance on commercial terminals and services should reduce costs. An Air Force study is seeking the optimal mix of commercial and military air passenger terminals.

### 3. Sealift Operations

In FY 1981 peacetime sealift operations will continue to grow in scope and size. Changes in volume from FY 1979 to FY 1980 reflect a 108,000 ton decrease in dry cargo and a 782,000 long ton increase in petroleum. The Military Sealift Command (MSC) is scheduled to receive two additional ships for the Naval Fleet Auxiliary Force during FY 1981. Cost and manpower savings realized from earlier transfers of regular Navy noncombatant ships to MSC for operation by civilian mariners have demonstrated the advantages of this program. The MSC has initiated several cargo billing system changes to encourage the use of cargo containers.

## E. Materiel Distribution System

The recently completed DoD Materiel Distribution System Study verified excess storage capacity in the wholesale distribution system. We are planning to reduce the number of major wholesale distribution depots from 34 to 28 highly efficient automated facilities.

The Services are continuing to install advanced materiel-handling systems in their depots to reduce labor costs, speed up filling of requisitions, and make more efficient use of storage space. In addition, DLA is leading a joint-service effort to develop a standard, automated DoD warehousing and shipping system. Such a system will enable us to develop a flexible responsive and cost/effective stockage policy.

# III. COMBAT SUSTAINABILITY

Combat sustainability--the "staying power" of our combat forces--depends on the continuing availability of weapons, equipment, spare parts, munitions, and other supplies to replace those consumed or attrited during combat. Procurement of war reserve stocks (WRS) and enhancement of our industrial preparedness are perhaps the two most important peacetime programs contributing to wartime sustainability.

Because our immediate ability to engage in combat has been degraded by the peacetime materiel readiness problems described in Section II of this chapter, we are, as a first step, placing more emphasis on initial combat capability than on long-term combat staying power.

## A. War Reserve Stocks

War reserve requirements are based on hypothetical conflict scenarios, and associated combat unit deployment schedules reflecting the numbers and types of U.S. units in-theater, and an assumed intensity of combat that establishes consumption and loss rates. Thus, war reserve requirements vary with changes in strategy, tactics, and force structure. As modern, more effective munitions and equipment enter the inventory, war reserve requirements change. Our new requirements include additional support for a Rapid Deployment Force in a non-NATO contingency.

We are requesting some limited procurement funding in FY 1981 for a Special Contingency Stockpile of weapons and equipment that would allow us to respond to urgent security assistance demands without drawing upon our stocks held for other purposes.

### 1. Weapons and Equipment

The Army needs more modern weapons and equipment to satisfy its requirements. The buildup of European war reserve stocks (WRS) has been given the third highest priority, just after the priorities for forward-deployed units and POMCUS for active Army units.

### 2. Munitions and Secondary Items

We are transitioning our war reserve munitions stocks from the older types of ordnance to the newer, more effective (and costly) air and ground munitions, precision-guided munitions, air-launched missiles, and improved conventional ground munitions. Until we complete this transition, our stocks of the more modern munitions will be below the levels we desire. Significant increases in storage capacity in Europe for prepositioned war reserve munitions depend upon NATO Infrastructure funding.

Secondary items include weapon system spare components, repair parts, personnel support items and a myriad of low-cost consumable items. Examples range from aircraft radar components to combat rations. Though secondary items account for a relatively small part of the dollar value of our total war reserve requirements, secondary item shortages can severely degrade our combat capability, and can be as important as shortfalls in major equipment and munitions.

We will improve our modern war reserve munitions and secondary items posture over the next several years.

B. The Industrial Base

The U.S. industrial base would be hard-pressed to respond with the volume of war materiel necessary to assure uninterrupted support in a NATO conventional conflict after the inventories of war reserve materiel were exhausted. I expect the ongoing DoD Surge Analysis and the Sustainability Study to provide recommendations for enhancing our industrial preparedness.

## IV. LOGISTICS MANAGEMENT AND SUPPORT

I am continuing to centralize the Defense logistics functions in the hands of single service managers wherever practicable. The initiatives we have underway include: making the Army the single manager of our conventional ammunition inventory, and consolidating management of individual non-consumable stock-numbered items that have multi-Service application. In addition, a final decision on the transfer of consumable items from the Services to the Defense Logistics Agency (DLA) will be made in the near future. I have placed greater emphasis on the Defense Retail Interservice Support Program to reduce duplication of logistics efforts in geographical areas where there are large concentrations of military activities.

Throughout DoD, I am encouraging the standardization of logistics functions, including the implementation of a standard methodology for the computation of secondary item war reserve requirements.

In some cases, we can increase the efficiency and effectiveness of our defense expenditures by relying on the private sector to meet our needs. The Commercial Item Support Program eliminates duplicate DoD distribution of commercial items where economically feasible and where readiness will not be adversely affected. About 1.6 million DLA-managed items have been reviewed so far, and about 16,000 have been dropped from DoD stockage.

## V. FACILITIES SUPPORT

Facilities support refers to capital plant investment, maintenance of existing facilities and the Energy Conservation Investment Program (ECIP), military installation compliance with environmental and OSHA standards, and NATO Infrastructure facilities funds.

### A. Military Construction Program

#### 1. Facilities Deficiencies

Adequate facilities are required to meet current and future mission needs, replace and modernize obsolete and deteriorated facilities, support international programs (such as NATO), and support national programs such as pollution abatement, energy conservation, and safety and health. We are developing future military construction programs that will reduce the overall facilities deficiency within a reasonable period of time.

2. European Construction and NATO Infrastructure

The FY 1981 military construction request includes $750 million in support of U.S. forces in Europe. This request includes only the projects urgently required to strengthen NATO's defense of Europe. The projects are phased to support requirements identified in the Long-Term Defense Program and other NATO initiatives, and deferral would cause considerable disruption to alliance plans. The budget request includes a $300 million contribution to the NATO Infrastructure Program. This request is considerably larger than the FY 1980 request for two reasons: (1) the U.S. actively sought, and NATO approved, increased spending for 1980-1984, causing our annual contribution and that of the other NATO members to increase; and (2) NATO has demonstrated a desire and willingness to reduce the construction backlog considerably.

3. Construction Program Performance

DoD has improved construction program performance by increasing the percentage of the program executed in the fiscal year for which funds have been appropriated. In FY 1981 we intend to award contracts totalling 90 percent of the available program funds by the end of the fiscal year. Continued emphasis on early design initiation and contract awards will enable us to provide the required facilities in a timely and cost/effective manner.

4. Housing Programs

Our FY 1981 Military Construction Program request includes a total of $2.0 billion for housing support of our military personnel and their dependents. We require this amount not only for new facilities, utilities, services, and routine maintenance, but to continue to reduce the backlog of major maintenance and repairs.

B. Base Realignment

The cost of maintaining our base structure in the U.S. exceeds $11 billion annually. The structure is still too large for our current and projected peacetime needs.

In the last 10 years, we have implemented base realignments and closures that have avoided $5.6 billion in total costs. The savings have been used to increase the combat effectiveness and readiness of our military forces. Since January, 1977 we have implemented base realignment decisions that will eliminate about 18,500 military and civilian positions and result in estimated annual savings of $234 million.

In March 1979, the Services and DLA announced a new series of base realignment decisions and proposals that could eliminate another 22,000 military and civilian positions from the base structure and reduce annual expenditures by another $435 million. Many of these announced decisions and new proposals are highly controversial. Congress held six separate hearings in 1979 on announced base realignment actions. As a result, language was included in several Defense bills seeking to delay, require restudy of, or prohibit base realignments aimed

at reducing unnecessary expenditures. The increasing trend toward legislating constraints on base realignments is disturbing. The domestic base structure must continue to be streamlined and tightened. I ask the Congress to assist us in this endeavor, so that we may use the resources provided for Defense to meet true military needs.

C. Energy Conservation Investment Program (ECIP)

Executive Order 12003 requires us, by 1985, to lower energy consumption in existing facilities to 80 percent of our 1975 levels. We continue to program ECIP funding for a 12 percent reduction, and we expect the other eight percent to accrue from operations and maintenance-funded projects, operational efficiencies, and new maintenance techniques. The ECIP investment is self-amortizing, and the payback time for projects begun during FY 1976-1980 should average less than six years. We select only projects that promise the highest possible energy savings per dollar invested. The ECIP effort will also permit our compliance with Section 547 of Public Law 95-619.

# CHAPTER 12

# PEOPLE

## I. INTRODUCTION

The overriding Defense manpower objective is to increase the combat effectiveness of the Armed Forces. In that effort the most important factor, often taken for granted in discussions of sophisticated equipment, is attracting and retaining capable, motivated people--the soldiers, sailors, airmen, marines, and civilian employees who comprise our total force.

Complex interrelationships between peacetime workload and projected wartime demands govern the Defense manpower requirement. Procedures used by the Services and Defense Agencies to determine manpower requirements and the relationship between those requirements and the security of the nation are summarized in the annual Defense Manpower Requirements Report.

## II. DOD MANPOWER STRENGTH AND COSTS

### A. Trends

As Table 12-1 shows, Defense manpower strengths have fluctuated considerably over the past 15 years. Prior to the Vietnam buildup, the Department of Defense employed about 3.9 million people, almost 2.7 million active-duty military and almost 1.2 million civilian employees. Strength reached 4.9 million at the peak of the war and declined sharply in the early 1970's to below pre-war levels.

The President's FY 1980 Budget reversed the downward trend in active duty military and civilian strengths and the President's FY 1981 budget includes slight increases over those requested for FY 1980.

Reserve paid-drill strength increased over 19,000 during FY 1979. This is the first year since FY 1974 that total Selected Reserve strength experienced a net gain. None of the Reserve Components declined in strength. Most of the overall strength increase was due to improved retention; however, the Naval Reserve and both Army components experienced significant improvement in non-prior service recruiting. The utilization of full-time professional recruiters assisted in this achievement, particularly for the Army Reserve, whose recruiters are now managed by the active Army recruiting command. These and other actions taken to improve both recruiting and retention are expected to produce an increase in Army Reserve Components strength in FY 1980 and FY 1981.

Table 12-1 summarizes the trend in strengths and costs for selected years. The Defense Manpower Requirements Report discusses influences on these trends, and helps determine the implications of data presented here.

Table 12-1

Defense Manpower Strengths and Costs 1/

| | FY 1964 | FY 1974 | FY 1978 | FY 1979 | FY 1980 | FY 1981 |
|---|---|---|---|---|---|---|
| End Strengths (000) | | | | | | |
| Active Military | 2,687 | 2,161 | 2,061 | 2,025 | 2,045 | 2,059 |
| Civilian | | | | | | |
| Direct Hire | 1,035 | 1,014 | 915 | 916 | 913 | 911 |
| Indirect Hire | 140 | 95 | 76 | 75 | 79 | 79 |
| TOTAL Civilian | 1,175 | 1,109 | 991 | 991 | 991 | 990 |
| Selected Reserve 2/ | 953 | 925 | 788 | 807 | 832 | 868 |
| Retired | 435 | 1,012 | 1,243 | 1,286 | 1,328 | 1,370 |
| Manpower Costs (Outlays $ Billions) In Current Dollars | | | | | | |
| Manpower Outlays Military Personnel Appropriations | 12.3 | 22.1 | 25.1 | 26.3 | 28.2 | 30.3 |
| Defense Family Housing Appropriations 3/ | .5 | .7 | 1.1 | 1.2 | 1.3 | 1.3 |
| Military Retired Pay Appropriations 4/ | 1.2 | 5.1 | 9.2 | 10.3 | 11.9 | 13.7 |
| Reserve/Guard Personnel Appropriations | .7 | 1.6 | 2.0 | 2.1 | 2.4 | 2.7 |
| Civilian Costs 5/ | 7.5 | 14.1 | 18.9 | 19.8 | 21.4 | 22.7 |
| Personnel Support Costs 6/ | 1.7 | 3.0 | 4.2 | 4.8 | 5.6 | 6.4 |
| TOTAL Manpower Costs | 23.9 | 46.7 | 60.5 | 64.5 | 70.8 | 77.1 |

NOTE: Detail may not add to totals, due to rounding.

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1/ Data exclude civil functions.

2/ Includes about 63,700 national guard and reserve technicians through FY 1979 with 60,000 in FY 1980 and 57,300 in FY 1981 who are also counted as civilian employees.

3/ Excludes civilian pay portion of this appropriation which is included under civilian costs.

4/ For those already retired. Future retirement costs for the current force are not currently reflected in the budget.

5/ The cost of civilians is budgeted under the functional appropriation, e.g., operations and maintenance, family housing, RDT&E. Numbers include indirect hire civilians who are often excluded from manpower costs and strength data. Indirect hire costs are $1.4 billion in FY 1981. Civil Defense pay is excluded in all years.

6/ Preliminary data for FY 1980 and FY 1981. Excludes the direct costs of military and civilian personnel since these are accounted for separately. Includes costs of individual training, medical support, recruiting and examining, overseas dependent education, half of base operating support, and a miscellaneous category.

### B. Current Manning Overview

On January 2, 1980, the United States armed forces completed their seventh full year as a volunteer force. During that seven-year period, 3.5 million young men and women voluntarily entered the active or reserve forces as either officers or enlisted personnel. More than half of these new volunteers have stayed on in an active or reserve unit and comprise over two-thirds of the active military and one-third of Selected Reserve strength. These volunteers enabled us to keep both our active and Selected Reserve forces to within 1 1/4 percent of the FY 1979 planned strength level. There are visible signs, however, that the Armed Services will face serious manning difficulties in the coming years. The FY 1979 end strengths are compared with Service plans in Table 12-2.

## III. MANNING THE PEACETIME FORCE

### A. Recruiting

FY 1979 was a difficult recruiting year. For the first time, each Service failed to meet its accession goal. The Army attained 90 percent of its total enlisted accession objective; the Navy, 94 percent; the Marine Corps

Table 12-2

FY 1979 Active Force and Selected Reserve Military End Strength
(End Strengths in 000s)

| Active Force | Actual FY 1979 | FY 1979 Column of the FY 1980 Pres. Budget | Percent |
|---|---|---|---|
| Army | 758.4 | 773.8 | 98 |
| Navy | 521.7 | 523.6 | 100 |
| Marine Corps | 185.2 | 190.0 1/ | 98 |
| Air Force | 559.2 | 562.6 | 99 |
| DoD | 2,024.4 | 2,050.0 | 99 |
| **Selected Reserve** | | | |
| Army National Guard 2/ | 345.5 | 345.5 2/ | 100 |
| Army Reserve 2/ | 190.0 | 191.7 2/ | 99 |
| Naval Reserve | 88.3 | 87.0 | 101 |
| Marine Corps Reserve | 33.3 | 33.5 | 99 |
| Air National Guard | 93.4 | 92.9 | 100 |
| Air Force Reserve | 56.7 | 56.3 | 101 |
| TOTAL | 807.1 | 806.9 | 100 |
| TOTAL, Active Force and Selected Reserve | 2,831.5 | 2,856.9 | 99 |

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1/ Projected in FY 1980 President's Budget. The Marine Corps subsequently reduced its objective to 185,500. Marine Corps actual strength was 100 percent of the revised plan.

2/ These authorizations reflect the limits of expected recruiting/retention potential rather than manning goals. The Army Guard and Reserve are approximately 75 percent of the war-required strength.

98 percent and Air Force, 98 percent. The quality of our recruits, in terms of their ability to learn military skills and perform successfully as members of military units, has been roughly comparable, since 1973, to what we experienced in the pre-Vietnam draft period. The overall DoD number and percent of high school graduate recruits was lower in FY 1979 than in FY 1978, but still above the level for any other year since the advent of the All Volunteer Force (AVF). The decline was most evident in the Army where the percentage of non-prior service accessions with a high school diploma fell from 74 percent in FY 1978 to 64 percent in FY 1979. However, this is still higher than any other year since FY 1971. Table 12-3 shows the proportion of high school diploma graduates for selected years.

Table 12-3

High School Diploma Graduates as a Proportion of DoD Non-Prior Service Accessions

| FY 1974 | FY 1975 | FY 1976 | FY 1977 | FY 1978 | FY 1979 |
|---|---|---|---|---|---|
| 61 | 66 | 69 | 69 | 77 | 73 |

The proportion of the enlisted active duty force with a high school education or equivalent remains at nearly the level of the last two years--88 percent, and represents a significant increase over the 73 percent proportion in 1964 (the last year before the Vietnam war) and over the 81 percent proportion existing in December of 1972 when the draft ended. There is some concern, however, that the FY 1979 recruiting results may reflect the beginning of a declining trend.

The Services emphasize recruitment of high school diploma graduates because we find that such graduates adapt more successfully to the demands and discipline of the military environment. Applicants' potential for learning general and specialized military occupations is measured by the DoD enlistment qualification examination known as the Armed Services Vocational Aptitude Battery (ASVAB). While the applicant's general trainability measure determines basic enlistment eligibility, the applicant's aptitude area score determines eligibility for a specific occupational assignment. Every recruit must meet the aptitude area minimum score required for the training he will receive. In order to provide historical comparability among measures of mental quality, the ASVAB general trainability measure is expressed in terms compatible with those of the formerly used Armed Forces Qualification Test--until recently the sole enlistment eligibility criterion.

DoD prefers enlistees in the higher mental categories because training time and costs are lower and because they are more likely to qualify for more

skill areas. In addition, those in the lowest mental categories have historically accounted for a disproportionate share of disciplinary problems. Since establishment of the AVF, the proportions of well-above-average and well-below-average enlistees have declined, increasing the proportion of those in the category of average mental ability. The trend is shown in Table 12-4 below:

Table 12-4

Mental Category of Non-Prior Service Enlisted Accessions

| Mental Category | Population Percentile | DoD 1964 | DoD 1972 | DoD 1979 | Army 1964 | Army 1972 | Army 1979 | Navy 1964 | Navy 1972 | Navy 1979 | Marine Corps 1964 | Marine Corps 1972 | Marine Corps 1979 | Air Force 1964 | Air Force 1972 | Air Force 1979 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I • II | 65-100 | 38 | 35 | 29 | 34 | 34 | 20 | 42 | 37 | 35 | 38 | 25 | 24 | 51 | 43 | 40 |
| III | 31-64 | 47 | 48 | 66 | 45 | 48 | 70 | 48 | 43 | 62 | 53 | 55 | 72 | 46 | 49 | 60 |
| IV | 10-30 | 15 | 17 | 5 | 21 | 18 | 9 | 11 | 20 | 4 | 9 | 20 | 4 | 4 | 8 | 0 |

Percentage totals may not add due to rounding.

In general, then, the active forces are obtaining enlistees with mental ability sufficient to meet force requirements. Although current selection and classificaton procedures assure that all recruits fulfill service prerequisites for general training, the continued decline in Category I and II accessions is of some concern. We are testing on a large scale, the ability of shorter enlistment terms combined with increased education incentives to attract high quality recruits. We are also increasing recruiting and advertising resources and providing better support for our recruiters in order to ensure that we recruit adequate numbers of quality personnel.

B. Attrition

In 1977, I directed that efforts be made to decrease first-term attrition (defined as the number of individuals who are lost to the military during their first three years of service prior to completing their initial enlistment). The first-term attrition rate for enlisted men had grown markedly since FY 1971. As shown in Table 12-5 we have been successful in reversing this trend.

Table 12-5

(U) Attrition Percentage of Active Duty Male Enlistees 1/

| Service | Actual FY 71 | Actual FY 72 | Actual FY 73 | Actual FY 74 | Actual FY 75 | Estimated FY 76 | Estimated FY 77 | Estimated FY 78 |
|---|---|---|---|---|---|---|---|---|
| Army | 26 | 28 | 31 | 38 | 37 | 37 | 34 | 30 |
| Navy | 28 | 32 | 34 | 38 | 35 | 34 | 33 | 31 |
| USMC | 31 | 24 | 32 | 37 | 38 | 36 | 33 | 31 |
| USAF | 21 | 26 | 30 | 31 | 29 | 27 | 26 | 27 |
| DoD | 26 | 28 | 32 | 37 | 35 | 35 | 32 | 30 |

Attrition is obviously a problem warranting close attention. The high attrition rates experienced in the past are evidence that the full potential of recruits was not being achieved. Nevertheless, the measures taken to improve performance in this troublesome area must not degrade our forces or reduce their fighting capability. In fact, it is undesirable to retain nonproductive or counterproductive personnel in order to reduce attrition. The Services are attempting to lower attrition by increasing the management attention devoted to this problem and by screening those who enter the force to exclude high risk personnel. The Office of the Secretary of Defense, together with the Military Departments, is monitoring the progress being made in attaining the attrition goals.

C. Retention

Sustaining the All-Volunteer Force depends on our ability to retain high quality soldiers, sailors, airmen and marines. Reenlistments must occur at levels which provide a force of experienced career military personnel--people critical to the operation and maintenance of an increasingly complex military force. Service members who joined the AVF in the early years are remaining beyond their initial obligation at a satisfactory rate. Table 12-6 reflects the number of service members remaining beyond their initial enlistment in recent years. An even greater increase in first-term retention is the keystone of our strategy to reduce the need for new recruits.

Table 12-6

Entry Cohort of the Career Force 1/
(All Services)

| Fiscal Year | Population |
|---|---|
| 1968 | 66,462 |
| 1969 | 55,600 |
| 1970 | 68,079 |
| 1971 | 70,335 |
| 1972 | 83,478 |
| 1973 | 85,042 |
| 1974 | 69,378 |
| 1975 | 87,884 |
| 1976 | 93,818 |
| 1977 | 94,264 |
| 1978 | 94,517 |
| 1979 | 94,465 |

1/ Personnel with over 4 years of service.

On the other hand, the reenlistment of career service members is a matter of continuing concern. The downward trend in career reenlistments is particularly serious in the Navy but it is also evident in the other Services. Table 12-7 shows the trend in the retention of our most experienced service members. We are focusing our efforts and resources on these individuals in order to insure that we continue to maintain the level of experience and professionalism required to maintain the readiness of our armed forces.

Table 12-7

DEPARTMENT OF DEFENSE
HISTORICAL CAREER REENLISTMENT RATES BY SERVICE

| Fiscal Year | ARMY | NAVY | USMC | USAF | DoD |
|---|---|---|---|---|---|
| 1971 | 64.6 | 90.0 | 81.8 | 90.9 | 78.2 |
| 1972 | 45.5 | 91.0 | 82.6 | 94.4 | 73.8 |
| 1973 | 63.0 | 91.7 | 81.7 | 92.7 | 82.6 |
| 1974 | 74.5 | 80.3 | 79.6 | 89.8 | 81.4 |
| 1975 | 75.4 | 80.5 | 73.1 | 89.6 | 81.5 |
| 1976 | 70.8 | 74.8 | 77.6 | 81.9 | 76.3 |
| 1977 | 69.5 | 68.1 | 71.6 | 86.2 | 74.8 |
| 1978 | 68.6 | 63.5 | 69.1 | 82.2 | 71.5 |
| 1979 | 66.4 | 62.2 | 51.9 | 81.5 | 68.2 |

The Army, Navy and Air Force continue to have difficulty recruiting and retaining physicians. I anticipate that this problem will diminish with the passage of legislation addressing physicians' pay, elimination of the disparity between the scholarship programs of DoD and HEW, and other provisions which relate to payment of bonuses. We continue to examine cost/effective legislative and administrative remedies for this problem.

The Air Force, Navy and Marine Corps continue to experience a decrease in pilot retention. These Services are currently reviewing the monetary incentives structure, assignment policies, career patterns, requirements, and flight training rates in search of cost/effective options to overcome this problem.

The Air Force is also experiencing stiff competition from the civil sector for engineers; this competition adversely effects both recruiting and retention. The Air Force has directed its ROTC scholarships, Airmen Education and Commissioning Program, and Graduate Education programs towards meeting this critical shortage. It has also developed an undergraduate degree program to provide non-engineering officers with a BS in electrical engineering, a cross-flow program to relieve research and development engineers of administrative, management, and acquisition responsibilities, and an engineering student

summer orientation program to expose and recruit college engineering students to the Air Force. The Air Force has again placed increased recruiting and advertising resources in its budget explicitly to combat this problem. All of these initiatives are directed at increasing the recruiting and retention of engineers.

D. Recruiting Prospects

If FY 1979 has been a difficult recruiting year, the recruiting task for FY 1980 represents an even more serious challenge. The overall recruiting requirement is about 20 percent greater in FY 1980 than the FY 1979 accomplishment. Furthermore, the number of 17 to 21 year old males peaked in FY 1978 and will continue to decline through 1990. With the projected reduction of 20 percent in the 18 year old population we expect the number of males completing high school each year also to decline during the next decade. This will result in more intense competition for high school graduates among colleges, vocational schools, private employers and the military. Reduced attrition, increased retention and greater use of women in the military will help us meet the challenge; however, we also must take steps to reverse the decline in the propensity of youth (including a reasonable share of higher quality men and women) to enlist in the military if we are to be successful.

This decline is driven by a variety of causes. Youth unemployment, until recently, has been declining. What the military has to offer has become relatively less attractive. The post-Service educational benefits available are not as valuable today and must compete with other Federal educational assistance programs. Military pay has failed to keep pace with wages for civilian employment alternatives. The image of military service has been influenced by unfavorable publicity. Such things as overseas military living conditions, negative feedback from dissatisfied servicemen and women, recruiter malpractice investigations, and military drug use have all adversely affected our image.

To meet the immediate recruiting challenge and prepare for the 1980s, we are taking a series of initiatives. We have previously requested increases in recruiting and advertising resources in FY 1980 above the levels originally in the President's 1980 Budget. These increases continue in the FY 1981 Budget. We are providing better support for our recruiters, the vast majority of whom are doing a magnificent job, under difficult competitive circumstances, while exhibiting the highest degree of professional integrity. We are increasing the government's contribution to educational benefits available after completion of an individual's first enlistment. As will be discussed later, the OSD special study on adequacy of military pay identified significant pay deficiencies. A number of initiatives are being considered to address these deficiencies. We are evaluating different types and levels of education benefits beyond what we presently have available. We are attempting to improve the quality and image of military life in order to attract and retain enough high quality people to meet the essential needs of a technologically advanced force. The objective of all of these efforts is to enhance our competitiveness in terms of what we offer the prospective enlistee so as to maintain our share of the high quality enlistment market.

While screening techniques are useful devices for controlling attrition and insuring that only qualified people are sent to training, certain of our selection criteria and standards may be restricting unnecessarily the number of otherwise eligible and suitable recruits we might obtain. For example, the Navy has recently dropped a policy that required 75 percent of the accessions in each racial category to be eligible for technical school. The Navy is instead instituting a training program which, if successful, will increase the number of high-school graduates eligible to join the Navy and increase the number of recruits who successfully complete technical training programs.

By revising recruiting criteria without compromising force quality and by increasing compensation and incentives, we believe that we can meet the personnel requirements of our active force. The declining number of available youth will, however, make this task more difficult during the 1980's. Increasing difficulty will be reflected in higher costs. These costs will ultimately be determined by the extent of our success in revising accession requirements, the extent of increased non-military competition for new high school diploma graduates, and the commitment of the American people to pay the costs required to retain and support a volunteer military force. That commitment can be favorably influenced by the willingness of top-level national leadership to speak out in favor of military service as an important element of our national well-being.

## IV. WARTIME RESPONSIVENESS

Of major concern to defense management is the capability of the Reserve Components and the Selective Service System to provide the necessary additional forces required during wartime. Current and projected threat estimates indicate that personnel for both rapid buildup and substantial replacement would be needed for a war of any duration in Europe. The NIFTY NUGGET exercise, given its assumptions, suggested that we need to improve our ability to induct and train personnel on an accelerated wartime schedule.

### A. Selected Reserve

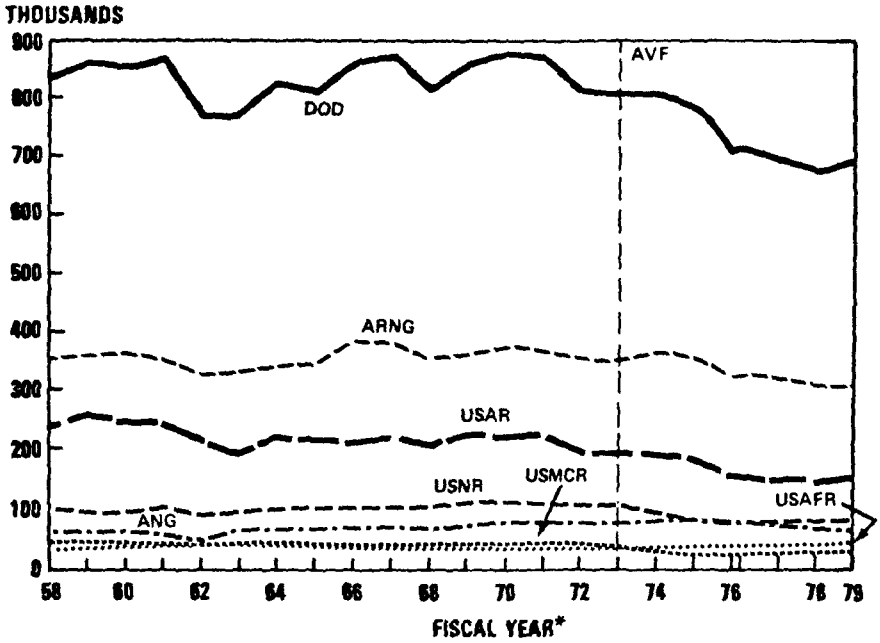
Under the Total Force policy we rely upon the Selected Reserve to provide immediate augmentation of our strategic airlift, combat and combat support forces.

#### 1. Manning Issues and Manpower Management Initiatives

Maintaining personnel levels in the reserve force continues to be one of the most difficult aspects of total force readiness. Since the draft ended, the Selected Reserve has had to replace unusually large losses of draft-induced enlistees from earlier years. Now however, this period is at an end. Our shortages have been largely concentrated in the Army Guard and Reserve, but recruiting for the Army Reserve Components improved in FY 1979 and further improvement is expected in FY 1980 and FY 1981. However, we will still be short of our peacetime manning goal. (Chart 12-1 shows trends in Selected Reserve Enlisted Strength.)

Chart 12-1

## SELECTED RESERVE ENLISTED END STRENGTHS




*INCLUDES TRANSITION QUARTER BETWEEN FY 1976 & 1977

We have implemented a variety of programs to raise the strength of the Selected Reserves to desired peacetime levels:

-- Enlistment and reenlistment bonuses and educational assistance incentives for all DoD Selected Reserve Components, though aimed primarily at the Army;

-- The consolidation of responsibility for recruiting functions for the Army Reserve with that of the Active force under the U.S. Army Recruiting Command (USAREC);

-- Optional enlistment terms in the Selected Reserve of three, four, or five years, with the balance to a total of six years, in the Individual Ready Reserve;

-- Optional initial training programs, such as:

--- Split-training where initial active duty may be taken in two increments, the first being basic military training of approximately eight weeks, and the second being military occupational specialty training of at least 20 days;

--- A test of a military careers (VOTEC) program where high school seniors, taking a vocational course which can be transferred to qualification in a military occupational skill, are only required to attend eight weeks of basic military training;

--- A test of a civilian acquired skill program (CASP) where enlistees with a civilian skill which can be transferred to military occupational skill qualification will only be required to attend eight weeks of basic military training.

Though it is too soon to be certain, it appears that these programs have reversed the downward strength trend.

2. Other Initiatives to Improve Responsiveness

Since later-deploying Army units will have more time to achieve an acceptable state of readiness before deployment, we plan to continue to emphasize the responsiveness of those Reserve Component units required early during a contingency. Initiatives here include:

-- Making available more self-paced instruction kits, qualification tests, and "how-to-do-it" manuals;

-- Establishing a program to preassign units to the wartime corps or communications zone headquarters they will be assigned to if they are mobilized.

B. Pretrained Individual Manpower

1. Manning Issues

One of our most serious concerns today is insuring that enough individuals with prior military training are available to meet filler and replacement requirements during the early days of a war. This demand can be met only from the manpower pool consisting of members of the Individual Ready Reserve (IRR), Standby Reserve, and retired military personnel.

The supply of manpower in the IRR declined from its high point of over a million and a half in 1972 to a low of 356,000 in 1978. Strength has since recovered by about 40,000 in FY 1979 through Defense and Congressional initiatives. However, it has not yet recovered sufficiently to meet the manpower demands for our most demanding scenario. This is true particularly for the Army. The major factor in this decline was the planned reduction in the size of the active force which decreased the number of individuals who left active duty and entered the IRR. Other factors contributing to this decline include an increase in the minimum active duty enlistment from two to three years, extensive use of the delayed entry program, increasing enlistments of prior service personnel into the Selected Reserve, and higher active duty and Selected Reserve attrition.

2. Manning Improvement Initiatives

Numerous initiatives have been instituted to increase the strength of the IRR and will continue into FY 1981. These include:

-- Reenlistment programs for the IRR;

-- Improving IRR and Standby Reserve management, location procedures and mobilization notification procedures;

-- Preassignment of Army IRR members to mobilization stations;

-- Time spent in the Delayed Entry Program can no longer be counted toward fulfillment of the six-year military service obligation.

Programs being tested or being considered include:

-- Identifying and preassigning retired personnel for specified mobilization positions.

-- A direct enlistment into the Army IRR;

-- Reenlistment incentives for the IRR;

-- Lengthening the current six-year military service obligation;

-- Legislation to eliminate the requirement that the Selective Service screen Standby Reservists before the DoD can mobilize them;

-- Cross-training of personnel in support occupations for combat operations.

3. Other Mobilization Management Issues

The Department's planning must satisfy all wartime manning requirements while maintaining training levels that enable all units to meet readiness standards at the time of scheduled deployments. Initiatives promising significant improvement include:

-- Authorizing peacetime manning at wartime strength levels in early-deploying Reserve Component units;

-- Increasing stocks of modern equipment issued to early-deploying Reserve Component units, including POMCUS for selected units;

-- Identifying unqualified individuals, by occupation and skill level, and giving them necessary training;

-- Affiliating more Reserve Component units with active force units, and

-- Increasing Reserve Component undergraduate flight training rates in keeping with total force mobilization requirements.

While I continue to be concerned about the capability of the Selective Service System to meet our mobilization schedules, I am encouraged with recent improvements in the planning process. While the Department of Defense should not in any way be involved in the process by which the Selective Service adjudicates claims for deferments and exemptions, it is appropriate that in a national emergency, DoD and the Selective Service System work jointly to achieve the required flow of mobilization manpower.

In this regard, the Director of Selective Service and I have established a joint Department of Defense/Selective Service System senior-level Mobilization Manpower Steering Group to develop specific plans for required support. This group is co-chaired by the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics and the Director of the Selective Service System. Each Military Department is represented by its Assistant Secretary for Manpower and Deputy Chief of Staff for Personnel. Among other things, this joint Steering Group will develop plans for the necessary computer support of mobilization manpower requirements, the potential use of Recruiting command facilities and personnel in support of the emergency operation of the Selective Service System, and the immediate and long range operational relationships between the Defense Military Enlistment Processing Command and the Selective Service.

## V. HEALTH RESOURCES

### A. Peacetime

Our peacetime goal is a Military Health Services System which satisfies military medical support requirements and provides quality care to all beneficiaries. This care should be an explicit, integral component of military compensation policy. The resources required to achieve this goal are allocated to the direct care system and to the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS).

### B. Wartime Medical Posture

The Department of Defense is completing a major study of wartime medical requirements and how to meet them. Some of the results of that study shape the medical care portion of the FY 1981 budget while others are undergoing

further review. One program included in the FY 1981 budget establishes a Civilian-Military Contingency Hospital System (CMCHS) to facilitate greater reliance on civilian hospital facilities in caring for the casualties of a major war. Such a program increases our ability to provide essential medical care without additional construction of peacetime medical facilities or use of non-medical facilities. Greater reliance on the civil sector may also reduce the need for reserve doctors.

### C. Consolidation of Veterinary Corps

Major changes are proposed in veterinary services. Beginning in FY 1980, the Air Force Veterinary Corps will be disestablished; the Army will act as executive agent for all DoD veterinary functions. The changes will be phased in over the next few years in order to minimize personnel turbulence and provide for a smooth transition of responsibilities. In addition, there will be a phased reduction of the force.

## VI. PERSONNEL MANAGEMENT

### A. Legislative Implementation

#### 1. Civil Service Reform Implementation

The Civil Service Reform Act is a major means of increasing the efficiency and effectiveness of Defense operations. We intend to make full use of the tools provided to managers by the Act. This will require extensive orientation and training that will ultimately involve every DoD supervisor and civilian employee.

Implementation has begun in several areas. For example, Senior Executive Service (SES) Performance Appraisal Systems are in operation throughout DoD, and merit pay programs are being designed to accord with them. Defense merit pay programs will be in place by June, 1980, in order to make the first merit pay adjustments by October, 1981.

### B. Legislative Proposals

#### 1. Military Compensation Reform

We have submitted to Congress legislation to reform the military compensation system based on our review of the April 1978 Report of the President's Commission on Military Compensation. The major thrust of the legislation is in the retirement area.

A key feature of the proposed retirement reform, drawn from the Commission's plan, provides a new career incentive by giving active duty personnel the option of drawing special cash payments after 10 years of service. These payments would be charged against their future pension rights. Under the new system, members who complete 20 years of service would still be entitled to

immediate annuities, with benefits at that time significantly lower than those of the present system, but rising to nearly present levels at age 60. Personnel who separate with 10 to 20 years of service would be entitled to deferred pensions beginning at age 60. Annuities would be calculated on high-two-years average basic pay, rather than final basic pay and would be offset by benefits available under the social security system which are attributable to military service.

A transition period is planned to protect the interests of members of the current active duty force. We expect that overall retention under this plan will be at least as good as under the current system. More personnel are likely to stay past the first term of service in order to complete 10 to 15 years; fewer would complete 20 years of service.

In addition to retirement reform, we are requesting authority to recommend annual pay raises that vary by pay grade and longevity step.

While reform of the military retirement system is necessary, I am, at the same time, concerned about impact on retention and the decline in the standard of living of military personnel resulting from an inflation rate that has outstripped increases in pay. For this reason, I ordered the Defense Department to conduct a study assessing the adequacy of military pay. This study will provide a focal point for our future consideration of military compensation changes.

2. Financing Military Retirement Costs on an Accrual Basis

I again urge consideration of the proposed legislation to change the way the budget accounts for military retired pay. The budget now reflects only the annuity outlays for military personnel who have already retired. Under the proposed legislation, the budget would reflect the future retirement benefits accrued by military personnel on active or reserve duty. This change is designed primarily to improve personnel management by focusing attention on retirement costs that can be controlled. Because the proposal involves complex changes in many parts of the budget that are contingent upon enactment of the legislation, the changes have not been reflected in the FY 1981 budget schedules.

3. Civilian Pay Reform

I support legislation proposed by the Office of Personnel Management (OPM) to reform the major compensation systems governing Federal civilian employees. The Department strongly supports the basic principle of comparability, which holds that Federal employees should receive pay comparable to the pay received for similar types of work in the private sector. However, the current law results in some instances where Federal pay is above comparability levels; and completely ignores benefits in comparability calculations. The proposed legislation would improve the comparability system by:

-- Broadening the principle of comparability to include both pay and benefits--total compensation comparability;

-- Including State and local governments in the non-Federal universe to which we try to be comparable;

-- Placing most of the white-collar work force on a locality pay system;

-- Changing premium pay provisions to bring them more in line with the Fair Labor Standards Act and private sector practices; and

-- Establishing flexibilities in the White-Collar Pay System to allow the Executive Branch to recruit and direct the internal management of a quality work force.

4. Defense Officer Personnel Management Act (DOPMA)

In 1974, the Department proposed the most comprehensive legislation since 1947 to revise the laws governing the management of active-duty officers. The Defense Officer Personnel Management Act (DOPMA) will eliminate many of the inconsistencies in existing law that create inequities in the way officers are managed by the different Services and in the way male and female officers are managed in all the Services. It will also enable us to conduct the long-range planning essential to making our officers' careers competitive with civilian opportunities.

The DOPMA legislation has been repeatedly submitted to the Congress. The Administration supported a proposal that was passed by the House of Representatives in both the 94th and 95th Congresses. In the 96th Congress the Senate passed a much more restrictive bill and the House did not complete action on DOPMA. Consequently "eleventh-hour" legislation was required during FY 1978, FY 1979 and FY 1980 to continue temporary grade relief for the Air Force and to avoid some undesired personnel problems for the Navy.

Management of the officer corps becomes increasingly more difficult as we work under legislation passed long ago under very different conditions and with no means of controlling unwarranted differences in treatment of officers among the Services. For several years our officers have anticipated changes in the management system that are of vital importance to them and their careers. Further delay is likely to impair the efficiency, readiness, and morale of the officer corps. The Department urges the Congress to give high priority consideration to this important legislation.

5. Extension of Active Force Enlistment and Reenlistment Bonus Authority

The reenlistment and enlistment bonus incentives are the only elements of military compensation flexible enough to permit us to compete for critical skills in the labor market. However, the provisions of special pay for reenlistment and enlistment bonuses provided by P.L. 95-485 will terminate on September 30, 1980, unless Congress acts to extend this date or to make the bonus authorities permanent.

Our need for bonus payment authority exists for an indefinite period beyond September 30. I supported the Congress' granting of periodic extensions only as a way of assuring that such incentives would be available pending the Armed Services' Committees' review of the need for permanent bonus payment. I now consider it essential that this authority be made permanent, and will submit such a legislative proposal to the Congress at an early date.

6. General/Flag Officer Strength

During the past year I asked Congress again for repeal or reduction of the previously mandated cut in generals and admirals from 1,119 to 1,073 by the end of FY 1980. No relief has thus far been given. At a time when the President, the Congress, and the American people seem to agree on the need for improving the Nation's defense, and appropriate resources are being allocated for this purpose, it is all the more important that we have sufficient generals and admirals to properly employ and control these assets. We have simply reached that point beyond which further reductions will result in direct and discernible injury to our vital defense programs. Moverover, the future quality of defense personnel will certainly be impaired as our best colonels and Navy captains see promotion opportunities dwindling and therefore opt for early retirement. I urge you to reconsider this matter and ensure we are provided with adequate numbers of senior uniformed leaders and managers.

C. Equal Opportunity

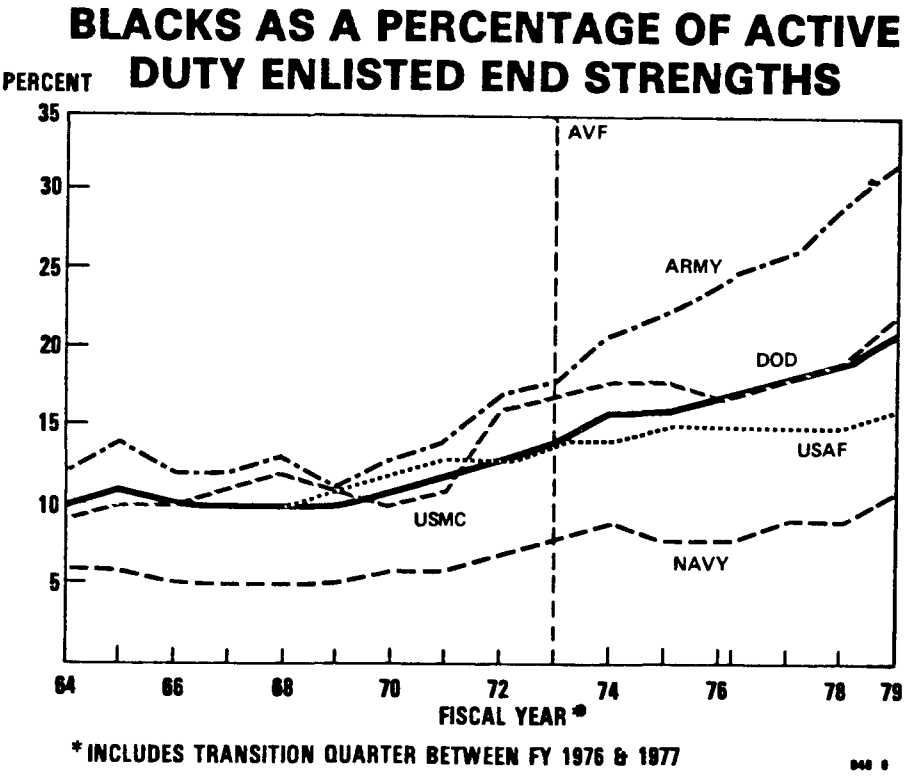
1. Minority Representation

In FY 1979, 29.6 percent of the enlisted force were minority personnel (21.2 percent black, 4.3 percent Hispanic, and 4.1 percent other). The Army (41 percent) has historically had the highest minority content and the Navy (20 percent) the lowest. Chart 12-2 shows the percentage of blacks in the active duty enlisted force by Service. The increase since 1972 is a product of both the increasing accession rates for blacks and the higher-than-average reenlistment rates among black enlisted personnel.

The proportion of enlisted blacks in the Selected Reserve has increased dramatically from one percent in FY 1969 to 18 percent in FY 1979. From FY 1971 to FY 1979, the Army Reserve increased its proportion of black personnel from two percent to 27 percent. The most recent figures available (1979) show that the lowest proportion of black enlisted reserves are found in the Naval Reserve and Air National Guard with eight and seven percent, respectively.

In FY 1979, seven percent of the active duty officer force were minority personnel (4.3 percent black, 1.5 percent Hispanic, and 1.3 percent other).

Chart 12-2




The percentage of all active duty officers who are black has more than doubled since FY 1964 when it was 1.7 percent. The Army is up from a low of less than three percent in FY 1970 to seven percent in FY 1979. While in percentage terms the number of black officers is less than representative of the total black youth population, black officer accessions are roughly proportional to the college educated black youth population. Overall black officer strengths are becoming more representative under the AVF.

The percentage of black officers in the Selected Reserve has increased by over 60 percent since FY 1973, however it still represents only 3.2 percent of Selected Reserve officers.

2. Women in the Military

At the end of FY 1979, nearly 150,000 women were members of the active force, an increase of some 16,700 women from end FY 1978 strengths. Current programs plan for continued growth toward the FY 1985 objective of 254,000 women on active duty.

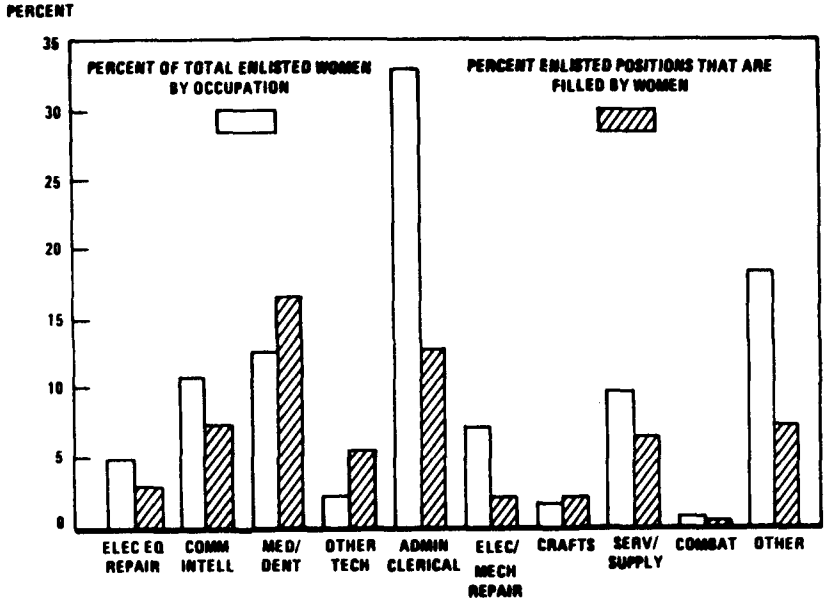
Research and market analysis continue to indicate that women are willing to enlist in numbers that will support the FY 1985 goal and that expanded use of women is possible. We need to improve recruitment of women with the aptitudes to meet mechanical and technical requirements of the Services,

expand the assigment of women in nontraditionally female skill areas, and increase the career retention (reenlistments after the first enlistment) of our enlisted women.

Although some changes in distribution have occurred, most women continue to serve in the administrative and medical skills (Chart 12-3). Expansion of women into nontraditional fields is progressing slowly but satisfactorily, at a pace intended to minimize training difficulties and problems in the field.

Chart 12-3

Distribution of Enlisted Women by DoD Occupation Group




Our promotion statistics show that female officers, in the aggregate, are experiencing selection rates comparable to male officers and enlisted women, as a whole, progress with their male contemporaries at the same or an accelerated rate.

The Department of Defense again requests changes to the provisions of the U.S. Code prohibiting women from serving on Navy combat ships and flying Navy or Air Force aircraft on combat missions. Section 808 of the FY 1979 Department of Defense Appropriation Authorization Act (P.L. 95-485) permits Navy women to be assigned to non-combat vessels on a permanent basis and to temporary duty aboard combat vessels not expected to be assigned combat duties. Further legislative change in this area, allowing the respective Service Secretaries to establish utilization policies for women, will ensure better use of all personnel resources and enhance the career opportunities of military women.

# CHAPTER 13

# MANAGEMENT

## I. INTRODUCTION

Since the Department's last annual report, we have continued to emphasize improving operational effectiveness and management organization. The implementation of management innovations, which were initiated in 1977, has been completed. These initiatives have been further augmented and modified as a result of several organizational studies completed during the intervening two year period, including the Departmental Headquarters Study, the National Military Command Structure Study, the Defense Resource Management Study, and the Evaluation Report of Exercise NIFTY NUGGET. Program performance to date indicates that the organization that has evolved is sound, and that the improvements introduced since 1977 have materially contributed to Department efficiency and effectiveness.

Specific DoD management efforts this year have focused on: (1) improving the policy and planning process; (2) the Defense Resources Board (DRB); (3) support function integration; (4) acquisition management; (5) organizational realignments; (6) energy conservation; and (7) cost reduction actions.

## II. IMPROVING THE POLICY AND PLANNING PROCESS

The functions of the Under Secretary of Defense for Policy (USD(P)) continue to evolve consistent with the precept that the office would serve as the focal point for the formulation and integration of Departmental policies and plans with overall national security objectives. Good progress has been made in issuing meaningful defense policy guidance, and in initiating refinements to long-range, contingency, and mobilization planning.

Mobilization and deployment planning, our ability to manage a transition to war, was severely tested in exercise NIFTY NUGGET conducted in late 1978. That exercise was the first attempt since World War II to test both civilian and military agency mobilization and deployment plans and procedures. Significant findings included: (1) our mobilization plans were out-dated, inconsistent and, in some cases, missing, (2) deployment plans were not flexible enough to be readily modified without introducing airlift inefficiencies, and some units required more cargo airlift than had been allocated to them, (3) interagency planning and coordination was found to be poor, and (4) resource shortfalls became highly visible and of concern during the exercise. These deficiencies have led to substantial organizational and management changes.

-- We established a DoD Mobilization and Deployment Steering Group, chaired by the Under Secretary of Defense for Policy, to provide high-level direction and coordination throughout Defense and to foster military-civilian cooperation. The

Joint Chiefs of Staff and the Services have, in turn, created policy-setting and coordination mechanisms responsive to the Steering Group. We have further strengthened the Steering Group by establishing a Directorate for Mobilization and Deployment planning within the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics).

-- We are now preparing a Defense Mobilization Plan that assigns responsibilities, identifies tasks and provides guidance for my staff, the Military Departments, and Defense Agencies. That planning activity will help coordinate and decentralize the mobilization process.

-- To improve deployment planning, we created within existing manpower authorizations a Joint Deployment Agency (JDA) that reports to the Joint Chiefs of Staff. This agency is revising deployment planning so that it is more flexible. It is also more accurately calculating air and sealift requirements for unit movement.

-- To improve coordination between DoD and other Federal Agencies, we are participating in an interagency group established by the President under the National Security Council. This group has representatives from 17 Federal Departments and Agencies. The efforts of the interagency group are paying off in the identification and resolution of mobilization jurisdictional issues. The interagency group will develop mobilization planning guidance for all agencies and the means for periodic assessment of capabilities. In addition, the formation of the Federal Emergency Management Agency in mid-1979 has already had a positive effect on mobilization planning and coordination at the interagency level.

DoD will continue to pursue mobilization and deployment improvements. Scheduling our next exercise for FY 1981 has already proved to be an excellent stimulus for the completion of remedial actions.

## III. DEFENSE RESOURCES BOARD (DRB)

To improve the efficiency and effectiveness of the Planning, Programming and Budgeting System, we have established a Defense Resources Board (DRB), under the Chairmanship of the Deputy Secretary of Defense, to integrate better the Department's programming and budgeting activities.

Permanent membership on the DRB includes the Deputy Secretary of Defense, the Under Secretary of Defense (Research and Engineering), the Assistant Secretary of Defense (Program Analysis and Evaluation), the Assistant Secretary

of Defense (Comptroller), the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics), and ex officio, the Chairman of the Joint Chiefs of Staff.

The DRB is chartered to direct and supervise the OSD review of the Service Program Objectives Memoranda (POMs) and budget submissions. The DRB examines major issues raised in those reviews, and presents its recommendations to the Secretary of Defense. Among its responsibilities are:

-- Consulting with the Services to resolve as many issues as possible on a mutually satisfactory basis without Secretary of Defense intervention.

-- Assuring that the fiscal guidance provided to the Services is adhered to during the POM review.

-- Assuring that decisions, once made in the course of the annual program and budget review, are not reviewed in the absence of new information.

## IV. SUPPORT FUNCTION INTEGRATION

In 1977, the management responsibility for manpower, personnel, energy, real property and logistics functions was consolidated under a single Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics), [ASD(MRA&L)]. Based on the record of performance since then, the operation of the ASD(MRA&L) has been fully responsive to the requirements of integrated support management and the managerial needs of the Secretary of Defense.

The present organization clarifies responsibilities in the support area by clearly assigning authority for virtually all support functions to a single individual, the ASD(MRA&L). Further, the current organizational arrangement recognizes that the various components of support--manpower, basing, maintenance facilities, logistics structures, and training--are inextricably intertwined. It facilitates the planning and coordination for these support functions and, in so doing, has reduced fragmentation, and duplication of effort.

## V. ACQUISITION MANAGEMENT

By coupling the manpower and logistics functions, the emphasis on support in the weapons system acquisition process has been intensified. Manpower, Reserve Affairs, and Logistics has published guidance to the Services on the analysis of manpower and logistics requirements. In parallel, recent DSARC decisions have placed major emphasis on the reliability and maintainability of weapons systems, and on their relationship to manpower and logistics.

We have taken a number of additional steps toward improving the acquisition process, including:

-- Establishment of Long-Range Research and Investment Resource Planning under the Under Secretary of Defense for Research and Engineering. Resource planning will be done in the context of major missions, by task forces consisting of representatives from OSD, OJCS, the Services and the Defense agencies. The mission task forces will evaluate long-range policies, objectives, and fiscal constraints in developing the framework for designing future defense capabilities. This framework will then be used to develop the acquisition strategies that will be reflected in future defense budgets.

-- In the DSARC process, program documentation has been streamlined to focus on the identification and assessment of major issues that arise at the key milestone decisions. For example, a more stringent review of acquisition strategy and system affordability is now performed at each milestone.

-- Industry participation during the acquisition cycle, the OMB Circular A-109 requirement that needs and program objectives be expressed in mission terms, rather than in terms of particular technological or equipment solutions, has led us to place additional emphasis on obtaining the widest possible industry participation during the system concept phase of the acquisition cycle. We are taking the necessary steps to sustain competition throughout the development phase and into production. Some of the techniques being used to achieve this objective include co-development, direct licensing, leader-follower agreements and multi-year contracting.

## VI. ORGANIZATIONAL REALIGNMENTS

### A. Consolidation of Functions Relating to National Security Policy

In December 1978 several OSD offices previously assigned to ASD (Comptroller) were transferred to USD (Policy). These offices--the Directorate for Information Security, the Directorate for Security Plans and Programs, and the Defense Investigative Programs Office--constitute the primary OSD offices charged with the development of policy on security, as well as the management of DoD counterintelligence and investigative programs.

In November 1979, all functions and staffs previously assigned to the DoD SALT Task Force, the Deputy Assistant Secretary of Defense for International Security Affairs (Policy Plans and NSC Affairs), and the Force Planning/Requirements Directorate and Nuclear Requirements Directorate of the Deputy Under Secretary of Defense for Policy Review were consolidated under a newly-established Deputy Under Secretary of Defense for Policy Planning. Additionally, the Office of the Advisor for NATO Affairs was realigned to report

directly to the Under Secretary of Defense for Policy. These organizational transfers will provide more centralized control of related functions and strengthen the ability of the Department to integrate policy and planning functions with overall national security objectives.

B. Command, Control, Communications and Intelligence

At the request of the Under Secretary of Defense (R&E), a Defense Science Board Task Force was established to review the process by which DoD specifies, plans and acquires command and control systems. The Task Force's report to the Secretary of Defense in August 1978 found that there was an important need for fundamental change and improvement in U.S. command and control capability.

One of the most important recommendations was that the Under Secretary of Defense (R&E) and the Chairman of the Joint Chiefs of Staff work together in establishing mechanisms for increasing the participation of field commanders in planning and implementing the evolutionary process of command and control system acquisition.

After careful review of several alternatives by representatives of the Office of the Secretary of Defense, OJCS, the Services, the Unified and Specified Commands, and the relevant Defense agencies, three organizational changes have been made.

-- Creation of a Command, Control and Communications ($C^3$) Systems Directorate within the OJCS. The new organization will provide full-time support to the Commanders-in-Chief (CINCs) of the Unified and Specified Commands, and an interface for involvement of the CINCs in DoD's Planning, Programming, and Budgeting System (PPBS).

-- Integration of the World-Wide Military Command and Control System (WWMCCS) Engineering Organization into the Defense Communications Agency. This arrangement provides for a stronger operational influence on planning and programming of $C^3$ systems that require a cross-Service perspective, but allows for each individual service to prioritize command and control programs in the PPBS.

-- Reorganization of the Office of the Assistant Secretary of Defense (Command, Control, Communications and Intelligence), OASD($C^3$I). Each of the four offices within OASD($C^3$I) will be headed by a Deputy Assistant Secretary of Defense (DASD). One of these offices, that of the DASD for Intelligence, contains the newly established Tactical Intelligence Systems Directorate, which will ensure coordinated participation of OSD, OJCS, the Military Departments, and Unified and Specified Commands in planning for intelligence support to operational commanders, and assure that technology in support of tactical intelligence is efficiently developed and appropriately applied.

The Deputy Under Secretary of Defense for Policy Review will continue to be responsible for preparing and coordinating Defense $C^3I$ policy matters and for reviewing and confirming $C^3I$ requirements.

C. Defense Audiovisual Activities

We have taken a number of steps to improve the management of DoD-wide audiovisual activities.

-- At the policy level, audiovisual policy development and guidance, resource management, and program evaluation will continue to be assigned to the Assistant Secretary of Defense (PA).

-- At the operational level, the Defense Audiovisual Agency (DAVA) has been established as a separate Defense agency under the authority, direction and control of the ASD(PA). The DAVA will assume DoD-wide responsibility for those audiovisual operations that can be performed most efficiently on a centralized basis. The Military Departments will retain responsibility for those specialized audiovisual activities which are integral to the performance of operational missions.

-- The Defense Audiovisual Steering Committee (DAVSC) consisting of representatives of the ASD(PA), the Military Departments and DAVA is being established to ensure that the needs of the Military Departments are adequately reflected in DoD audiovisual policies and DAVA operations. Resources for the establishment of the DAVA are being provided from existing Military Department resources.

D. Economic Adjustment Activities

To implement Presidential guidance (Executive Order 12049) which mandated improvements in the Economic Adjustment Program, we have established the Office of Economic Adjustment (OEA) as an Office of the Secretary of Defense field activity under the authority, direction and control of the Assistant Secretary of Defense (MRA&L). Under this realignment, the Director, OEA, is responsible for planning, directing, coordinating and managing economic adjustment programs to alleviate serious social and economic impacts resulting from major DoD realignments or other actions.

The ASD(MRA&L) will maintain responsibility for recommending policies for the administation of the Economic Adjustment Program to the Secretary of Defense, and will provide policy guidance and operational direction to the Director, OEA.

VII. ENERGY MANAGEMENT

The Department of Defense energy management program is designed to reach the national energy goals and objectives that the Congress and the President have mandated, as well as to achieve greater energy self-sufficiency, reduce energy costs, and ensure the operational readiness of our forces.

The DoD energy management actions for 1980 are categorized in four energy management priority groups:

1. Energy Management Priority Group I. (Energy Supply Assurance)

Actions contained in this priority group are related to energy supply and procurement. They are designed to lessen DoD's vulnerability to energy supply disruptions. Specific actions will provide:

-- Completion of policy and regulatory initiatives to provide prompt priority allocation to DoD of energy supplies during periods of supply disruption,

-- Revised policies and procedures to increase energy supply flexibility, such as simplified contracting procedures, innovative acquisition strategies, and fewer stockage constraints,

-- A DoD petroleum products stockage policy and a program to eliminate storage capacity deficiences.

2. Energy Management Priority Group II. (Energy Conservation) Program emphasis in 1980 will:

-- Provide DoD energy management comprehensive visibility over the entire DoD energy conservation program,

-- Reduce overall energy use through efficiency improvements without compromising flexibility, readiness, or performance, and

-- Provide major improvements in the DoD energy data base by developing measures of energy efficiency for measurement of progress towards Presidential and DoD energy conservation goals, and the correlation of expenditures for energy conservation efforts with energy conservation performance.

Energy conservation incentives will also be implemented to motivate DoD personnel to improve energy conservation. Incentive programs will be designed to recognize and reward, through monetary and non-monetary means, excellence in energy conservation.

3. Energy Management Priority Group III. (Mobility Fuels Technology)

DoD must continue to pursue the long-term technological challenge of fuel transition from petroleum to other liquid fuels from oil shale, coal, and tar sands. The major thrusts of the DoD synfuels program are directed toward the application and, when necessary, the development of specific technologies that will enable DoD to:

-- Encourage, in cooperation with DoE, the development of a commercial domestic synthetic fuels industry, capable of producing mobility fuels for military use,

-- Use domestically produced synthetic fuels and alternate conventional fuels in military mobile systems,

-- Achieve an adequate degree of energy self-sufficiency for military installations through reduced dependence on petroleum fuels, and

-- Develop a family of military engine systems that are capable of burning a broad range of both synthetic and conventional fuels.

4. Energy Management Priority Group IV. (Energy Technology Demonstration Initiatives)

DoD will implement the joint DoD-DoE energy initiatives in 1980 which were begun in 1979. Demonstration of a wide variety of energy conversion technologies will help reduce DoD's reliance on scarce fuel sources and will demonstrate to the nation their application and practicality. The demonstration activities at the three DoD "showcase" installations will be given high priority. Actions will be taken to identify funding responsibilities for these initiatives and the lead service management responsibilities for energy technology established in 1978 will be strengthened.

The Defense energy management program is a major element of the overall program to reduce the federal government's energy consumption. DoD's leadership in this effort has been clearly demonstrated since the program's inception. For FY 1979, the DoD energy consumption was six percent below FY 1975, the baseline year used to measure federal energy consumption.

## VIII. COST REDUCTION ACTIONS

Since inefficiencies in the Department of Defense directly reduce the amount of our real military capability, we have put considerable emphasis on management measures designed to maximize savings and enable us to receive a high return for each dollar spent. Current initiatives include:

-- Materiel Distribution System Realignment - Reductions and realignments of the wholesale supply depot system have been approved to reduce the number of depot systems from 34 to 28. When fully implemented, the following manpower and dollar savings are anticipated:

  -- Army - 492 personnel spaces reduced; $9.8 million annual savings.

  -- Navy - 763 personnel spaces reduced; $13.2 million annual savings.

-- Defense Logistics Agency (DLA) - 167 personnel spaces reduced; $3.32 million annual savings.

-- Supply Support Management - DoD Instruction 4120.19, "Department of Defense Parts Control System," sets a procedure for the selection and use of existing standard parts during system or equipment design. Its objective is to avoid proliferation of parts and to achieve cost savings by promoting the use of parts of proven performance. It is anticipated that during FY 1980 some 90,000 reviews will be completed and some 15,000 parts will be recommended for replacement by existing standard parts. Cumulative cost savings through the avoidance of new items in the inventory should approximate $46 million in FY 1980. (See also Chapter 11, Logistics)

-- Acquisition of Commercial Products - During FY 1980, an intensified effort will be made to purchase more commercial products to satisfy DoD needs. Based on estimated commercial purchases of $4.6 billion, FY 1980 cost avoidances are expected to approximate $120 million.

-- Contracting Out - DoD has been a government leader in reducing costs and manpower through economical contracting out of commercial and industrial functions. We are currently contracting for services that would otherwise require over 135,000 federal civilian and military employees. By the end of FY 1980, we plan to convert another 14,000 military jobs into more economical contract operations; annual savings of approximately $30 million are anticipated when these conversions are fully implemented.

-- Wage Board Pay Reform - When enacted, ultimate savings from the proposed wage board reform are estimated at $600 million per year. The seven percent pay cap on blue collar wage increases that has been approved and will be effective during FY 1980, should result in budgetary savings of approximately $120 million, compared with the probable result of previous blue collar pay setting procedures.

We anticipate that, by the end of FY 1980 these and similar cost reduction actions will result in estimated savings of $700 million.

# CHAPTER 14

# THE DEFENSE BUDGET

## I. SUMMARY

The aggregate funding required to support the Defense program is presented below.

TABLE 14-1

Department of Defense - Military Functions
($ Billions)

| Current Dollars | FY 1979 | FY 1980 | FY 1981 |
|---|---|---|---|
| Total Obligational Authority (TOA) | 124.8 | 139.3 | 158.7 |
| Budget Authority (BA) | 125.0 | 138.6 | 158.2 |
| Outlays | 115.0 | 127.4 | 142.7 |
| **Constant FY 1981 Dollars** | | | |
| Total Obligational Authority (TOA) | 146.4 | 150.7 | 158.7 |
| Budget Authority (BA) | 146.7 | 149.9 | 158.2 |
| Outlays | 135.5 | 138.1 | 142.7 |

Budget authority (BA) represents the legal authority to incur obligations, that is, authority to hire personnel or enter into contracts involving expenditures of funds from the Treasury within a specified period of time. Budget authority, in most cases, is provided by appropriation, but there are some exceptions. For military functions, the exceptions are technical and relatively minor; budget authority is virtually identical to the amount appropriated.

Total obligational authority (TOA) represents the value of the direct Defense program for each fiscal year regardless of the method of financing (which could include balances available from prior years or resources available from sale of items from inventory); BA on the other hand represents the value of annual new authority to incur obligations.

Outlays represent expenditures or net checks issued. About three-quarters of FY 1981 outlays will result from FY 1981 budget authority; the remainder will come from budget authority provided in FY 1980 and earlier years.

## II. DEFENSE BUDGET TRENDS: FY 1964 TO FY 1981

Chart 14-1

TOA and Outlays in Current Dollars
($ Billions)

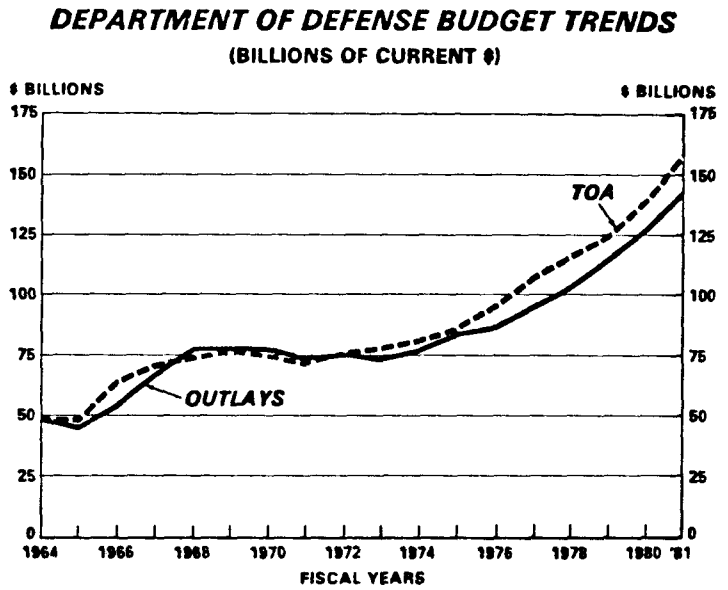



Chart 14-2

TOA and Outlays in Constant FY 1981 Dollars
($ Billions)

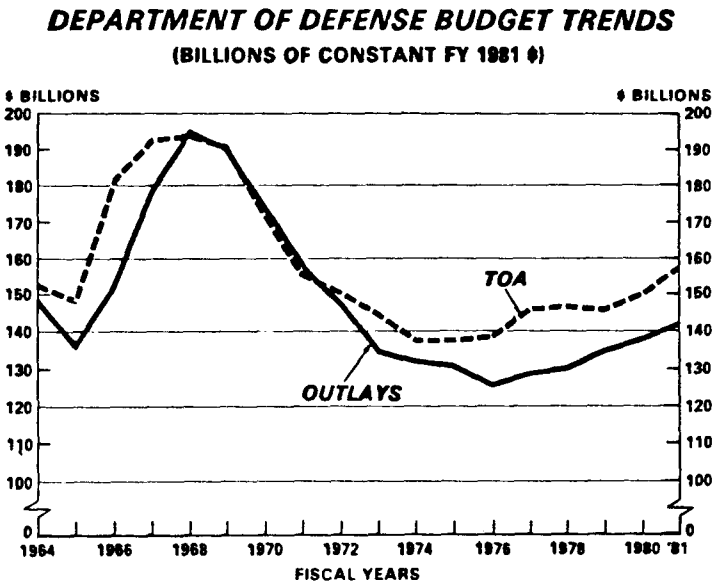


Table 14-2

Supporting Data for Charts 14-1 and 14-2
(Dollars in Billions)

| | Outlays | | TOA | |
|---|---|---|---|---|
| | Current Dollars | Constant Dollars | Current Dollars | Constant Dollars |
| 1964 | 49.5 | 149.5 | 49.5 | 153.6 |
| 1965 | 45.9 | 136.6 | 49.6 | 149.0 |
| 1966 | 54.1 | 152.3 | 64.5 | 182.7 |
| 1967 | 67.4 | 179.7 | 71.6 | 194.0 |
| 1968 | 77.3 | 195.9 | 75.0 | 194.1 |
| 1969 | 77.8 | 190.0 | 77.8 | 191.7 |
| 1970 | 77.1 | 174.7 | 75.5 | 173.5 |
| 1971 | 74.5 | 158.5 | 72.8 | 156.6 |
| 1972 | 75.1 | 148.3 | 76.5 | 151.9 |
| 1973 | 73.2 | 135.5 | 78.9 | 145.5 |
| 1974 | 77.6 | 132.4 | 81.7 | 138.7 |
| 1975 | 84.9 | 131.2 | 86.2 | 133.8 |
| 1976 | 87.9 | 127.0 | 95.8 | 139.5 |
| 1977 | 95.6 | 129.5 | 108.0 | 146.6 |
| 1978 | 103.0 | 130.4 | 116.5 | 147.0 |
| 1979 | 115.0 | 135.5 | 124.8 | 146.4 |
| 1980 | 127.4 | 138.1 | 139.3 | 150.7 |
| 1981 | 142.7 | 142.7 | 158.7 | 158.7 |

## III. PRICE LEVEL ASSUMPTIONS

Outyear projections require assumptions as to purchase price inflation and pay increases such as those shown in the following table. These assumptions are based on guidance furnished by the Office of Management and Budget.

Table 14-3

Price and Pay Raise Percentage Increases FY 1979-1985

| | FY 79-FY 80 | FY 80-FY 81 | FY 81-FY 82 | FY 82-FY 83 | FY 83-FY 84 | FY 84-FY 85 |
|---|---|---|---|---|---|---|
| Military Pay | 7.00 | 7.40 | 8.00 | 8.00 | 7.50 | 7.00 |
| Other Military Personnel Expenses | 7.72 | 7.58 | 7.18 | 6.65 | 6.10 | 5.51 |
| TOTAL, Military Personnel | 7.08 | 7.42 | 8.00 | 7.82 | 7.32 | 6.97 |
| Civil Service | 7.00 | 6.20 | 8.00 | 8.00 | 7.50 | 7.00 |
| Wage Board | 6.40 | 6.52 | 6.68 | 7.00 | 6.70 | 6.80 |
| Foreign National Direct Hire | 12.00 | 10.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| Foreign National Indirect Hire | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| TOTAL, Civilian Payroll | 6.81 | 6.35 | 7.46 | 7.57 | 7.18 | 6.90 |
| Military Retired Pay | 13.25 | 11.28 | 13.28 | 7.76 | 6.98 | 6.47 |
| Pay Composite | 8.09 | 7.96 | 8.88 | 7.76 | 7.23 | 6.84 |
| Industry Purchases: | | | | | | |
| Outlays | 9.30 | 8.90 | 8.30 | 7.60 | 6.90 | 6.20 |
| TOA | 8.94 | 8.28 | 7.66 | 6.97 | 6.51 | 6.29 |
| Composite Total: | | | | | | |
| Outlays | 8.63 | 8.42 | 8.59 | 7.66 | 7.04 | 6.48 |
| TOA | 8.52 | 8.13 | 8.18 | 7.27 | 6.79 | 6.50 |

## IV. OUTYEAR PROJECTIONS

The Defense budget projections in Table 14-4 are based on the purchase price inflation and pay raise assumptions outlined in Section III.

Table 14-4

DoD Military Functions
($ Billions)

| | TOA | Outlays |
|---|---|---|
| FY 1980 | 139.3 | 127.4 |
| FY 1981 | 158.7 | 142.7 |
| FY 1982 | 180.0 | 161.6 |
| FY 1983 | 201.5 | 181.7 |
| FY 1984 | 224.2 | 202.8 |
| FY 1985 | 248.9 | 224.8 |

## V. DEFENSE REAL GROWTH

By real growth we mean the change (positive or negative) after the effects of inflation are removed. Adjustments for inflation are made using indices constructed from actual or projected cost increases such as those in Table 14-3. Chart 14-3 presents the year-to-year real growth percentages for the period FY 1964 to FY 1985.

Table 14-5

Defense Real Growth Percentages

| | TOA | Outlays | | TOA | Outlays |
|---|---|---|---|---|---|
| 1964 | -3.6 | - .3 | 1975 | -3.5 | - .9 |
| 1965 | -3.0 | -8.7 | 1976 | 4.3 | -3.2 |
| 1966 | 22.6 | 11.5 | 1977 | 5.0 | 1.9 |
| 1967 | 6.2 | 18.0 | 1978 | .3 | .7 |
| 1968 | .1 | 9.0 | 1979 | - .4 | 3.9 |
| 1969 | -1.3 | -3.0 | 1980 | 2.9 | 2.0 |
| 1970 | -9.5 | -8.0 | 1981 | 5.4 | 3.3 |
| 1971 | -9.7 | -9.3 | 1982 | 4.8 | 4.3 |
| 1972 | -3.0 | -6.4 | 1983 | 4.4 | 4.4 |
| 1973 | -4.2 | -8.6 | 1984 | 4.2 | 4.3 |
| 1974 | -4.7 | -2.2 | 1985 | 4.2 | 4.1 |

## VI. ANALYSIS BY PROGRAM AREA

The following tables provide a financial summary of the 10 major force programs.

Table 14-6

DoD Budget Summary by Major Force Program
(TOA in Billions of Current Dollars)

| Program | Total Obligational Authority FY 1979 | FY 1980 | FY 1981 |
|---|---|---|---|
| Strategic Forces | 8.4 | 10.9 | 12.0 |
| General Purpose Forces | 47.4 | 51.9 | 58.0 |
| Intelligence & Communications | 8.1 | 9.1 | 10.7 |
| Airlift & Sealift | 1.7 | 2.0 | 2.3 |
| Guard and Reserve Forces | 7.0 | 7.3 | 8.3 |
| Research & Development | 10.8 | 11.8 | 14.0 |
| Central Supply and Maintenance | 12.8 | 14.5 | 16.7 |
| Training, Medical, Other General Personnel Activities | 25.7 | 28.7 | 32.7 |
| Administration and Associated Activities | 2.3 | 2.6 | 3.0 |
| Support of Other Nations [Excluding Military Assistance Programs (MAP)] | .5 | .6 | 1.0 |
| TOTAL | 124.8 | 139.3 | 158.7 |

Table 14-7

DoD Budget Summary by Major Force Program
(TOA in Billions of Constant FY 1981 Dollars)

| Program | Total Obligational Authority FY 1979 | FY 1980 | FY 1981 |
|---|---|---|---|
| Strategic Forces | 9.8 | 11.7 | 12.0 |
| General Purpose Forces | 55.2 | 56.0 | 58.0 |
| Intelligence & Communications | 9.4 | 9.9 | 10.7 |
| Airlift & Sealift | 2.0 | 2.2 | 2.3 |
| Guard and Reserve Forces | 8.1 | 7.9 | 8.3 |
| Research & Development | 12.6 | 12.7 | 14.0 |
| Central Supply and Maintenance | 15.0 | 15.6 | 16.7 |
| Training, Medical, Other General Personnel Activities | 30.9 | 31.4 | 32.7 |
| Administration and Associated Activities | 2.7 | 2.8 | 3.0 |
| Support of Other Nations (Excludes MAP) | .5 | .6 | 1.0 |
| TOTAL | 146.4 | 150.7 | 158.7 |

Table 14-8

DoD Budget Summary by Appropriation Category
(TOA in Billions of Current Dollars)

| Appropriation Title | Total Obligational Authority FY 1979 | FY 1980 | FY 1981 |
|---|---|---|---|
| Military Personnel | 28.6 | 30.8 | 33.4 |
| Retired Pay | 10.3 | 12.0 | 13.7 |
| Operation & Maintenance | 37.9 | 43.4 | 49.2 |
| Procurement | 31.4 | 35.8 | 40.5 |
| RDT&E | 12.4 | 13.5 | 16.5 |
| Military Construction | 2.5 | 2.3 | 3.3 |
| Family Housing | 1.6 | 1.5 | 2.0 |
| Revolving & Management Funds | .1 | - | .1 |
| Special Foreign Currency | -- | -- | -- |
| TOTAL | 124.8 | 139.3 | 158.7 |

Table 14-9

DoD Budget Summary by Appropriation Category
(TOA in Billions of Constant FY 1981 Dollars)

| Appropriation Title | Total Obligational Authority FY 1979 | FY 1980 | FY 1981 |
|---|---|---|---|
| Military Personnel | 33.1 | 33.2 | 33.4 |
| Retired Pay | 13.0 | 13.3 | 13.7 |
| Operation & Maintenance | 44.3 | 46.8 | 49.2 |
| Procurement | 36.6 | 38.6 | 40.5 |
| RDT&E | 14.5 | 14.6 | 16.5 |
| Military Construction | 2.9 | 2.5 | 3.3 |
| Family Housing | 1.8 | 1.6 | 2.0 |
| Revolving & Management Funds | .1 | - | .1 |
| Special Foreign Currency | -- | -- | -- |
| TOTAL | 146.4 | 150.7 | 158.7 |

(NOTE: Totals may not add due to rounding.)

## VII. UNEXPENDED AND UNOBLIGATED BALANCES

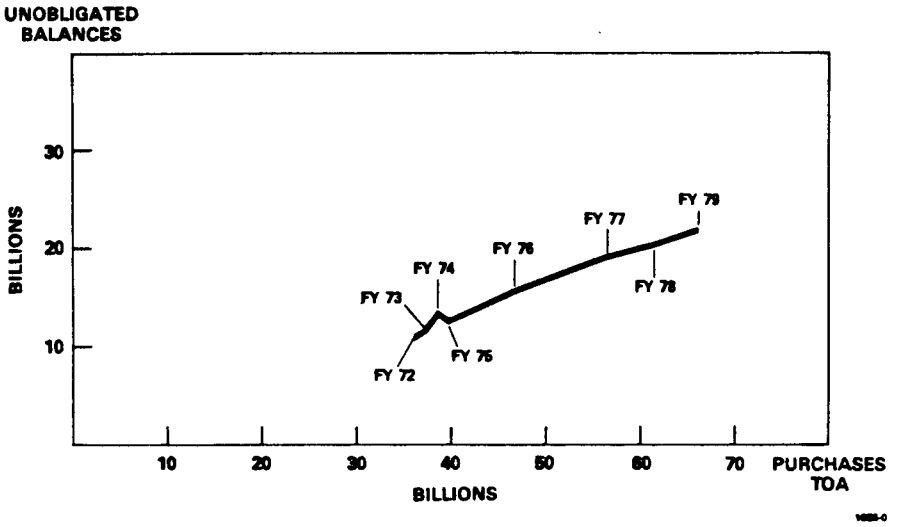
Unexpended balances occur naturally in fiscal accounting systems. Program execution occurs over time with obligations occurring when the contracts or orders are signed and the expenditures occurring upon performance or delivery. The level of obligated but unexpended balances results from the time lag between order placement and delivery.

Unobligated balances, on the other hand, exist because of the time lag between Congressional appropriation and order placement (obligation). The appropriation process provides obligational authority of a one year life for operations, two years for research and development, three years for procurement (five years for ship procurement), and five years for construction. The appropriation life is established to provide an orderly and flexible program and financial management process which obligates the government no sooner than necessary. The full funding concept, followed by the Congress for over 20 years, requires the appropriation of funds covering the full cost of a weapons system in the year the Congress approves funding for the weapon. The unobligated balance in procurement accounts, resulting from the fact that procurement funds are obligated over several years, is preferable to an unneeded inventory of goods and weapons systems. In that respect unobligated balances are indicative of cost/effective management. The process works, and works well, but it inevitably results in a level of unobligated balances.

Chart 14-4 is a plot of unobligated balances against procurement TOA for fiscal years 1972 to 1979. As the chart shows, the level of unobligated balances has increased proportionally to procurement funding TOA; thus there has not been an unwarranted or excessive buildup of unobligated balances.

Chart 14-3

Unobligated Balances




## VIII. DEFENSE AND THE AGGREGATE ECONOMY

Chart 14-4

Department of Defense Budget

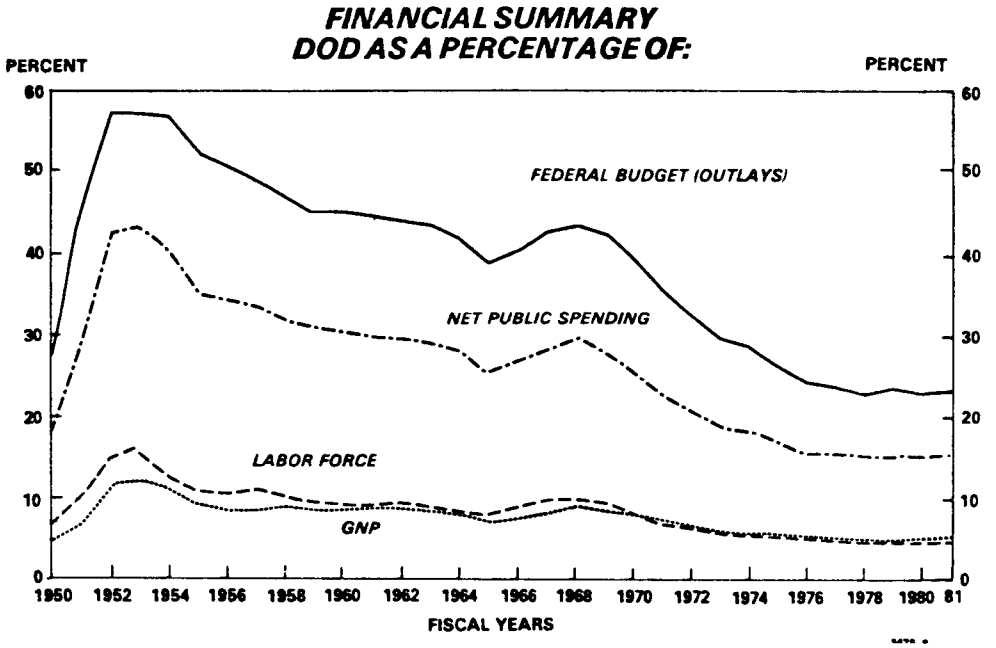


Table 14-10

Defense Shares of Economic and Budgetary Aggregates

| | DoD as a Percentage of: | | | National Defense as a Percent of Public Employment | | Defense Percentage of National Labor Force | | National Income Accounts Percent of Total Purchases | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Federal Budget | GNP | Net Public Spending | Federal | Fed., State and Local | Direct Hire (DoD) | Including Industry | Nat'l Defense | Total Federal | State and Local |
| FY 64 | 41.7 | 8.0 | 27.8 | 72.1 | 30.7 | 5.1 | 8.2 | 8.1 | 10.6 | 10.1 |
| FY 65 | 38.7 | 7.0 | 25.2 | 71.4 | 29.3 | 5.0 | 7.9 | 7.3 | 9.8 | 10.3 |
| FY 66 | 40.2 | 7.5 | 26.4 | 73.1 | 30.6 | 5.5 | 8.9 | 7.5 | 10.1 | 10.4 |
| FY 67 | 42.6 | 8.7 | 28.5 | 74.2 | 31.5 | 5.9 | 9.9 | 8.6 | 11.0 | 11.0 |
| FY 68 | 43.2 | 9.3 | 29.4 | 74.1 | 31.3 | 6.0 | 9.9 | 9.0 | 11.4 | 11.4 |
| FY 69 | 42.1 | 8.6 | 27.7 | 73.2 | 30.1 | 5.7 | 9.2 | 8.4 | 10.8 | 11.7 |
| FY 70 | 39.2 | 8.0 | 25.4 | 70.8 | 27.1 | 5.1 | 8.0 | 7.8 | 10.1 | 12.1 |
| FY 71 | 35.2 | 7.3 | 22.3 | 68.4 | 24.5 | 4.5 | 6.9 | 7.1 | 9.3 | 12.8 |
| FY 72 | 32.4 | 6.8 | 20.6 | 66.0 | 21.9 | 4.0 | 6.3 | 6.5 | 9.1 | 12.9 |
| FY 73 | 29.6 | 5.9 | 18.9 | 65.1 | 20.7 | 3.7 | 5.8 | 5.9 | 8.2 | 12.9 |
| FY 74 | 28.8 | 5.7 | 18.2 | 63.8 | 19.7 | 3.5 | 5.5 | 5.5 | 7.7 | 13.1 |
| FY 75 | 26.0 | 5.8 | 16.7 | 62.9 | 18.7 | 3.4 | 5.3 | 5.5 | 8.1 | 14.0 |
| FY 76 | 24.0 | 5.4 | 15.6 | 62.6 | 18.0 | 3.2 | 5.1 | 5.3 | 7.8 | 13.8 |
| FY 77 | 23.7 | 5.2 | 15.7 | 62.6 | 17.6 | 3.1 | 4.9 | 5.0 | 7.6 | 13.2 |
| FY 78 | 22.9 | 5.0 | 15.1 | 61.9 | 17.3 | 3.0 | 4.7 | 4.8 | 7.4 | 13.3 |
| FY 79 | 23.3 | 5.0 | 15.5 | 61.8 | 17.0 | 2.9 | 4.7 | 4.6 | 7.3 | 12.8 |
| FY 80 | 22.7 | 5.1 | 15.3 | 61.8 | 16.8 | 2.8 | 4.7 | 4.6 | 7.1 | 12.9 |

# APPENDICES

APPENDIX A
TABLE 1
Department of Defense
Financial Summary
(In Millions of Dollars)

| | FY 1964 | FY 1968 | FY 1972 | FY 1976 | FY 1979 | FY 1980 | FY 1981 |
|---|---|---|---|---|---|---|---|
| Summary by Budget Title | | | | | | | |
| Military Personnel | 12,983 | 19,961 | 23,147 | 25,430 | 28,650 | 30,825 | 33,371 |
| Retired Pay | 1,211 | 2,093 | 3,889 | 7,326 | 10,282 | 11,981 | 13,736 |
| Operation & Maintenance | 11,693 | 20,950 | 21,242 | 28,848 | 37,861 | 43,405 | 49,210 |
| Procurement | 15,028 | 22,528 | 18,526 | 21,130 | 31,368 | 35,792 | 40,546 |
| Research Development, Test & Evaluation | 7,053 | 7,263 | 7,584 | 9,520 | 12,383 | 13,517 | 16,543 |
| Special Foreign Currency Program | 977 | | 12 | 3 | 14 | 7 | 3 |
| Military Construction | | 1,557 | 1,262 | 2,147 | 2,523 | 2,295 | 3,258 |
| Family Housing & Homeowners Asst. Prog. | 602 | 612 | 839 | 1,259 | 1,576 | 1,521 | 2,005 |
| Revolving & Management Funds | | | | 135 | 101 | | 68 |
| Total - Direct Program (TOA) | 49,547 | 74,965 | 76,502 | 95,797 | 124,759 | 139,343 | 158,739 |
| Summary by Program | | | | | | | |
| Strategic Forces | 8,387 | 7,128 | 7,156 | 7,168 | 8,419 | 10,880 | 12,031 |
| General Purpose Forces | 16,417 | 30,537 | 25,567 | 32,984 | 47,392 | 51,948 | 58,009 |
| Intelligence & Communications | 4,380 | 5,542 | 5,451 | 6,672 | 8,057 | 9,117 | 10,668 |
| Airlift & Sealift | 1,040 | 1,747 | 1,114 | 1,262 | 1,743 | 2,008 | 2,288 |
| Guard & Reserve Forces | 1,768 | 2,177 | 3,255 | 5,368 | 6,961 | 7,322 | 8,331 |
| Research and Development | 4,834 | 4,270 | 5,756 | 8,655 | 10,813 | 11,772 | 14,025 |
| Central Supply & Maintenance | 4,638 | 8,385 | 8,663 | 9,720 | 12,830 | 14,476 | 16,731 |
| Training, Medical, Other Gen. Pers. Activ. | 6,921 | 12,151 | 15,198 | 21,537 | 25,736 | 28,700 | 32,704 |
| Administration and Assoc. Activities | 1,079 | 1,239 | 1,688 | 2,166 | 2,347 | 2,569 | 2,975 |
| Support of other Nations | 81 | 1,789 | 2,652 | 264 | 461 | 550 | 977 |
| Total - Direct Program (TOA) | 49,547 | 74,965 | 76,502 | 95,797 | 124,759 | 139,343 | 158,739 |
| Summary by Component | | | | | | | |
| Department of the Army | 12,275 | 24,962 | 22,094 | 23,759 | 31,441 | 34,325 | 39,803 |
| Department of the Navy | 14,450 | 20,781 | 24,041 | 31,456 | 41,777 | 46,086 | 50,318 |
| Department of the Air Force | 19,958 | 24,974 | 23,834 | 28,432 | 34,914 | 39,928 | 46,327 |
| Defense Agencies/OSD/JCS | 1,007 | 1,498 | 1,745 | 3,487 | 4,633 | 5,257 | 6,097 |
| Defense-Wide | 1,857 | 2,749 | 4,788 | 8,662 | 11,994 | 13,746 | 16,193 |
| Total - Direct Program (TOA) | 49,547 | 74,965 | 76,502 | 95,797 | 124,759 | 139,343 | 158,739 |
| Financing Adjustments | 80 | 1,377 | -1,496 | -289 | 245 | -708 | -584 |
| Budget Authority (BA) | 49,627 | 76,342 | 75,006 | 95,508 | 125,004 | 138,635 | 158,155 |
| Outlays | 49,470 | 77,265 | 75,076 | 87,891 | 115,013 | 127,400 | 142,700 |

Note: In the FY 1981 column, amounts for military and civilian pay increases, military retired pay and proposed legislation are distributed. Details may not add to the totals due to rounding.

TABLE 2

## DEPARTMENT OF DEFENSE BUDGET

# *DEFENSE BUDGET TOTALS*

## ($ IN BILLIONS)

| CURRENT DOLLARS | FY 1979 ACTUAL | FY 1980 ESTIMATE | FY 1981 ESTIMATE | INCREASE FY 1980-81 |
|---|---|---|---|---|
| TOTAL OBLIGATIONAL AUTHORITY (TOA) | 124.8 | 139.3 | 158.7 | 19.4 |
| BUDGET AUTHORITY (BA) | 125.0 | 138.6 | 158.2 | 19.5 |
| OUTLAYS | 115.0 | 127.4 | 142.7 | 15.3 |
| **CONSTANT FY 1981 DOLLARS** | | | | |
| TOTAL OBLIGATIONAL AUTHORITY (TOA) | 146.4 | 150.7 | 158.7 | 8.1 |
| BUDGET AUTHORITY (BA) | 146.7 | 149.9 | 158.2 | 8.3 |
| OUTLAYS | 135.5 | 138.1 | 142.7 | 4.6 |

TABLE 3

**DEPARTMENT OF DEFENSE BUDGET**

# *FINANCIAL SUMMARY BY APPROPRIATION CATEGORY*

**(BILLIONS OF $)**

| APPROPRIATION TITLE | CURRENT DOLLARS TOTAL OBLIGATIONAL AUTHORITY FY 1979 | FY 1980 | FY 1981 | CHANGE FY 1980-81 |
|---|---|---|---|---|
| MILITARY PERSONNEL | 28.6 | 30.8 | 33.4 | + 2.5 |
| RETIRED PAY | 10.3 | 12.0 | 13.7 | + 1.8 |
| OPERATION AND MAINTENANCE | 37.9 | 43.4 | 49.2 | + 5.8 |
| PROCUREMENT | 31.4 | 35.8 | 40.5 | + 4.8 |
| RDT&E | 12.4 | 13.5 | 16.5 | + 3.0 |
| MILITARY CONSTRUCTION | 2.5 | 2.3 | 3.3 | + 1.0 |
| FAMILY HOUSING | 1.6 | 1.5 | 2.0 | + 0.5 |
| REVOLVING AND MANAGEMENT FUNDS | 0.1 | — | 0.1 | + 0.1 |
| TOTAL MILITARY FUNCTIONS | 124.8 | 139.3 | 158.7 | +19.4 |

TABLE 4

## DEPARTMENT OF DEFENSE BUDGET

# *FINANCIAL SUMMARY BY APPROPRIATION CATEGORY — CONSTANT PRICES*

## (BILLIONS OF $)

| | CONSTANT FY 1981 DOLLARS TOTAL OBLIGATIONAL AUTHORITY | | | |
|---|---|---|---|---|
| APPROPRIATION TITLE | FY 1979 | FY 1980 | FY 1981 | CHANGE FY 1980-81 |
| MILITARY PERSONNEL | 33.1 | 33.2 | 33.4 | +0.2 |
| RETIRED PAY | 13.0 | 13.3 | 13.7 | +0.4 |
| OPERATION AND MAINTENANCE | 44.3 | 46.8 | 49.2 | +2.4 |
| PROCUREMENT | 36.6 | 38.6 | 40.5 | +1.9 |
| RDT&E | 14.5 | 14.6 | 16.5 | +1.9 |
| MILITARY CONSTRUCTION | 2.9 | 2.5 | 3.3 | +0.8 |
| FAMILY HOUSING | 1.8 | 1.6 | 2.0 | +0.4 |
| REVOLVING AND MANAGEMENT FUNDS | 0.1 | — | 0.1 | +0.1 |
| TOTAL MILITARY FUNCTIONS | 146.4 | 150.7 | 158.7 | +8.1 |

TABLE 5

**DEPARTMENT OF DEFENSE BUDGET**

# *FINANCIAL SUMMARY BY MAJOR PROGRAM*

**(BILLIONS OF $)**

| MILITARY PROGRAM | CURRENT DOLLARS TOTAL OBLIGATIONAL AUTHORITY FY 1979 | FY 1980 | FY 1981 | CHANGE FY 1980-81 |
|---|---|---|---|---|
| STRATEGIC FORCES | 8.4 | 10.9 | 12.0 | +1.2 |
| GENERAL PURPOSE FORCES | 47.4 | 51.9 | 58.0 | +6.1 |
| INTELLIGENCE AND COMMUNICATIONS | 8.1 | 9.1 | 10.7 | +1.6 |
| AIRLIFT AND SEALIFT | 1.7 | 2.0 | 2.3 | +0.3 |
| GUARD AND RESERVE FORCES | 7.0 | 7.3 | 8.3 | +1.0 |
| RESEARCH AND DEVELOPMENT | 10.8 | 11.8 | 14.0 | +2.3 |
| CENTRAL SUPPLY AND MAINTENANCE | 12.8 | 14.5 | 16.7 | +2.3 |
| TRAINING, MEDICAL, OTHER GEN. PERS. ACTIV. | 25.7 | 28.7 | 32.7 | +4.0 |
| ADMINISTRATIVE AND ASSOC. ACTIVITIES | 2.3 | 2.6 | 3.0 | +0.4 |
| SUPPORT OF OTHER NATIONS | 0.5 | 0.6 | 1.0 | +0.4 |
| TOTAL MILITARY FUNCTIONS | 124.8 | 139.3 | 158.7 | +19.4 |

TABLE 6

**DEPARTMENT OF DEFENSE BUDGET**

# *FINANCIAL SUMMARY BY MAJOR PROGRAM — CONSTANT PRICES*

**(BILLIONS OF $)**

| MILITARY PROGRAM | CONSTANT FY 1981 DOLLARS TOTAL OBLIGATIONAL AUTHORITY FY 1979 | FY 1980 | FY 1981 | CHANGE FY 1980-81 |
|---|---|---|---|---|
| STRATEGIC FORCES | 9.8 | 11.7 | 12.0 | +0.3 |
| GENERAL PURPOSE FORCES | 55.2 | 56.0 | 58.0 | +2.0 |
| INTELLIGENCE AND COMMUNICATIONS | 9.4 | 9.9 | 10.7 | +0.8 |
| AIRLIFT AND SEALIFT | 2.0 | 2.2 | 2.3 | +0.1 |
| GUARD AND RESERVE FORCES | 8.1 | 7.9 | 8.3 | +0.4 |
| RESEARCH AND DEVELOPMENT | 12.6 | 12.7 | 14.0 | +1.3 |
| CENTRAL SUPPLY AND MAINTENANCE | 15.0 | 15.6 | 16.7 | +1.1 |
| TRAINING, MEDICAL, OTHER GEN. PERS. ACTIV. | 30.9 | 31.4 | 32.7 | +1.4 |
| ADMINISTRATIVE AND ASSOC. ACTIVITIES | 2.7 | 2.8 | 3.0 | +0.2 |
| SUPPORT OF OTHER NATIONS | 0.5 | 0.6 | 1.0 | +0.4 |
| TOTAL MILITARY FUNCTIONS | 146.4 | 150.7 | 158.7 | +8.1 |

TABLE 7

## DEPARTMENT OF DEFENSE BUDGET

# *DEFENSE EMPLOYMENT OUTLOOK*

## (END-YEAR-IN-THOUSANDS)

| | FY 64 | FY 68 | FY 79 | FY 80 | FY 81 | CHANGE FY 80-81 |
|---|---|---|---|---|---|---|
| CIVILIANS | | | | | | |
| ARMY | 453 | 542 | 359 | 359 | 359 | 0 |
| NAVY/MARINE CORPS | 346 | 433 | 310 | 308 | 310 | + 2 |
| AIR FORCE | 338 | 357 | 245 | 244 | 241 | — 3 |
| DEFENSE AGENCIES | 37 | 74 | 77 | 78 | 79 | 0 |
| TOTAL CIVILIANS | 1,174 | 1,405 | 991 | 991 | 990 | — 1 |
| MILITARY (ACTIVE) | | | | | | |
| ARMY | 972 | 1,570 | 758 | 774 | 776 | + 2 |
| NAVY | 667 | 765 | 522 | 528 | 534 | + 6 |
| MARINE CORPS | 190 | 307 | 185 | 185 | 185 | 0 |
| AIR FORCE | 856 | 905 | 559 | 558 | 565 | + 7 |
| TOTAL MILITARY | 2,685 | 3,547 | 2,024 | 2,045 | 2,059 | + 14 |
| TOTAL MILITARY AND CIVILIANS | 3,859 | 4,952 | 3,015 | 3,036 | 3,049 | + 13 |
| DEFENSE RELATED INDUSTRY | 2,280 | 3,174 | 1,921 | 2,022 | 2,189 | +167 |
| TOTAL DEFENSE MANPOWER | 6,139 | 8,126 | 4,936 | 5,058 | 5,238 | +180 |

TABLE 8

# DEPARTMENT OF DEFENSE BUDGET

## *SUMMARY OF SELECTED RESERVE STRENGTHS*

## (END-YEAR-IN-THOUSANDS)

| | FY 64 | FY 68 | FY 79 | FY 80 | FY 81 | CHANGE FY 80-81 |
|---|---|---|---|---|---|---|
| RESERVE PERSONNEL, ARMY | 269 | 244 | 190 | 200 | 211 | +10 |
| RESERVE PERSONNEL, NAVY | 123 | 124 | 88 | 87 | 87 | — |
| RESERVE PERSONNEL, MARINE CORPS | 46 | 47 | 33 | 34 | 34 | — |
| RESERVE PERSONNEL, AIR FORCE | 61 | 43 | 57 | 58 | 59 | +1 |
| NATIONAL GUARD PERSONNEL, ARMY | 382 | 389 | 346 | 359 | 381 | +23 |
| NATIONAL GUARD PERSONNEL, A.F. | 73 | 75 | 93 | 94 | 96 | +2 |
| TOTAL | 953 | 922 | 807 | 832 | 868 | +36 |

TABLE 9

DEPARTMENT OF DEFENSE

# STRATEGIC FORCES HIGHLIGHTS

| | FY 64 | FY 68 | FY 79 | FY 80 | FY 81 |
|---|---|---|---|---|---|
| **STRATEGIC OFFENSIVE:** | | | | | |
| LAND BASED ICBM'S: | | | | | |
| TITAN | 108 | 54 | 54 | 54 | 54 |
| MINUTEMAN I | 600 | 570 | - | - | - |
| MINUTEMAN II | - | 394 | 450 | 450 | 450 |
| MINUTEMAN III | - | - | 550 | 550 | 550 |
| BOMBER SQUADRONS: | | | | | |
| B-47, B-58 | 36 | - | - | - | - |
| B-52C-F/D | 25 | 17 | 5 | 5 | 5 |
| B-52G/H | 17 | 17 | 16 | 16 | 16 |
| FB-111 | - | - | 4 | 4 | 4 |
| FLEET BALLISTIC SUBMARINES: | | | | | |
| POLARIS | 21 | 41 | 10 | 5 | - |
| POSEIDON | | | 31 | 31 | 31 |
| TRIDENT | | | | 1 | 2 |
| **STRATEGIC DEFENSIVE:** | | | | | |
| FIGHTER INTERCEPTOR SQDNS: | | | | | |
| ACTIVE: | | | | | |
| F-101, F-102, F-104 | 27 | 15 | - | - | - |
| F-106 | 13 | 11 | 7 | 7 | 7 |
| AIR NATIONAL GUARD: | | | | | |
| F-4 | - | - | 2 | 2 | 3 |
| F-86, F-89, F-100 | 19 | 2 | - | - | - |
| F-101 | - | - | 3 | 3 | 2 |
| F-102 | 10 | 20 | - | - | - |
| F-106 | - | - | 5 | 5 | 5 |
| AIR DEFENSE BATTERIES: | | | | | |
| NIKE-HERCULES | 147 | 123 | - | - | - |

TABLE 10

**DEPARTMENT OF DEFENSE**

# *GENERAL PURPOSE FORCES HIGHLIGHTS*

| | FY 64 | FY 68 | FY 79 | FY 80 | FY 81 |
|---|---|---|---|---|---|
| LAND FORCES: | | | | | |
| ARMY DIVISIONS: | | | | | |
| ACTIVE | 16 | 19 | 16 | 16 | 16 |
| RESERVE | 23 | 8 | 8 | 8 | 8 |
| MARINE CORPS DIVISIONS: | | | | | |
| ACTIVE | 3 | 4 | 3 | 3 | 3 |
| RESERVE | 1 | 1 | 1 | 1 | 1 |
| TACTICAL AIR FORCES: | | | | | |
| AIR FORCE WINGS: | | | | | |
| ACTIVE | 21 | 25 | 26 | 26 | 26 |
| RESERVE | 7 | 8 | 11 | 11 | 12 |
| MARINE CORPS WINGS: | | | | | |
| ACTIVE | 3 | 3 | 3 | 3 | 3 |
| RESERVE | 1 | 1 | 1 | 1 | 1 |
| NAVY ATTACK WINGS: | | | | | |
| ACTIVE | 15 | 15 | 12 | 12 | 12 |
| RESERVE | 2 | 2 | 2 | 2 | 2 |
| NAVAL FORCES: | | | | | |
| ACTIVE FLEET | 803 | 875 | 388 | 395 | 418 |
| CARRIERS | 24 | 23 | 13 | 13 | 12 |
| OTHER SHIPS (ACTIVE & NRF) | 82 | 49 | 10 | 7 | 7 |
| RESERVE SHIPS | 62 | 54 | 53 | 53 | 42 |
| FLEET AUXILIARY FORCE SHIPS | - | 1 | 19 | 22 | 22 |

TABLE 11

**DEPARTMENT OF DEFENSE**

# *AIRLIFT AND SEALIFT FORCE HIGHLIGHTS*

| | FY 64 | FY 68 | FY 79 | FY 80 | FY 81 |
|---|---|---|---|---|---|
| STRATEGIC AIRLIFT: | | | | | |
| C-5 AIRCRAFT | - | - | 77 | 76 | 76 |
| C-141 AIRCRAFT | 6 | 266 | 280 | 280 | 280 |
| CRAF CONVERSIONS | - | - | - | 6 | 7 |
| TACTICAL AIRLIFT: | | | | | |
| AIR FORCE ACTIVE: | | | | | |
| C-130 AIRCRAFT | 506 | 502 | 271 | 276 | 276 |
| OTHER AIRCRAFT | 684 | 352 | - | - | - |
| AIR FORCE RESERVE & NATIONAL GUARD: | | | | | |
| C-130 AIRCRAFT | - | 8 | 281 | 290 | 308 |
| C-123 AIRCRAFT | 53 | - | 70 | 70 | 53 |
| C-7A AIRCRAFT | - | - | 54 | 54 | 18 |
| OTHER | 802 | 638 | - | - | - |
| ACTIVE NAVY & MARINE CORPS TACTICAL SUPPORT AIRCRAFT | 120 | 116 | 54 | 61 | 60 |
| NAVY & MARINE CORPS RESERVE TACTICAL SUPPORT AIRCRAFT | 72 | 72 | 42 | 36 | 23 |
| SEALIFT: | | | | | |
| SHIPS, ACTIVE | | | | | |
| TANKER | 25 | 26 | 7 | 7 | 7 |
| CARGO & STORES SHIPS | 38 | 41 | 6 | 5 | 5 |
| OTHER | 38 | 63 | - | - | - |
| CONTROLLED FLEET CHARTERS | | | | | |
| TANKER | - | - | 14 | 14 | 14 |
| CARGO | - | - | 21 | 24 | 24 |
| NATIONAL DEFENSE RESERVE FLEET | 255 | 490 | 144 | 159 | 161 |

TABLE 12

## FY 1981 DEPARTMENT OF DEFENSE BUDGET

# *FY 1980 SUPPLEMENTALS*

## ($ THOUSANDS)

| PURPOSE | AMOUNT |
|---|---|
| PAY INCREASES | (2,830,439) |
| CIVILIAN PAY INCREASES, OCTOBER 1, 1979 | 710,000 |
| MILITARY PAY INCREASES, OCTOBER 1, 1979 | 1,765,339 |
| WAGE BOARD PAY INCREASES | 355,100 |
| OTHER ADJUSTMENTS | (609,859) |
| INCREASED SUBSISTENCE COSTS | 80,659 |
| RETIRED PAY COST OF LIVING INCREASES | 508,985 |
| IMPACT OF OCTOBER 1, 1979 MILITARY PAY INCREASES ON RETIRED PAY | 20,215 |
| OPERATIONS READINESS | 797,400 |
| TOTAL | 4,237,698 |

TABLE 13

**FY 1981 DEPARTMENT OF DEFENSE BUDGET**

# *SCHEDULING OF BUDGET REQUESTS*

**(TOA, $ Millions)**

| | DOD APPROPRIATIONS ACT | MIL CON/FAMILY HOUSING | GRAND TOTAL |
|---|---|---|---|
| JANUARY 1980 APPROPRIATION (TOA) REQUEST | 151,379 | 5,247 | 156,626 |
| CONTINGENCY FOR LATER SUBMISSION | | | |
| OCTOBER 1, 1980 CIVILIAN AND MILITARY PAY RAISES | 2,841 | 11 | 2,852 |
| FY 1981 WAGE BOARD INCREASES | 283 | 4 | 287 |
| PROPOSED LEGISLATION : | | | |
| RETIRED PAY | 14 | | 14 |
| OTHER | 229 | | 229 |
| LESS : POTENTIAL OFFSETS | -1,264 | -6 | -1,270 |
| SUBTOTAL | 2,104 | 9 | 2,113 |
| TOTAL FY 1981 BUDGET ESTIMATE | 153,483 | 5,255 | 158,739 |

TABLE 14

## DEPARTMENT OF DEFENSE BUDGET

# *FINANCIAL SUMMARY*

| | FY 50 | FY 53 | FY 64 | FY 68 | FY 79 | FY 80 | FY 81 |
|---|---|---|---|---|---|---|---|
| DEPARTMENT OF DEFENSE AS PERCENTAGE: | | | | | | | |
| FEDERAL BUDGET (OUTLAYS) | 27.4% | 57.0% | 41.7% | 43.2% | 23.3% | 22.7% | 23.2% |
| GROSS NATIONAL PRODUCT | 4.4% | 12.1% | 8.0% | 9.3% | 5.0% | 5.1% | 5.2% |
| LABOR FORCE | 6.2% | 14.7% | 8.2% | 9.9% | 4.8% | 4.7% | 4.8% |
| NET PUBLIC SPENDING | 18.5% | 42.9% | 27.8% | 29.4% | 15.5% | 15.3% | 15.6% |

TABLE 15

# LONG-RANGE FORECASTS AND PAY/PRICE ASSUMPTIONS

| | FY 1980 | FY 1981 | FY 1982 | FY 1983 | FY 1984 | FY 1985 |
|---|---|---|---|---|---|---|
| TOA ($BILLIONS) : | | | | | | |
| MILITARY RETIRED PAY | 12.0 | 13.7 | 15.3 | 17.0 | 18.6 | 20.2 |
| OTHER MILITARY FUNCTIONS | 127.3 | 145.0 | 164.7 | 184.5 | 205.6 | 228.7 |
| TOTAL, CURRENT PRICES | 139.3 | 158.7 | 180.0 | 201.5 | 224.2 | 248.9 |
| TOTAL, CONSTANT (FY1981) PRICES | 150.7 | 158.7 | 166.4 | 173.7 | 181.0 | 188.6 |
| PERCENT CHANGE | 2.9% | 5.4% | 4.8% | 4.4% | 4.2% | 4.2% |
| OUTLAYS ($ BILLIONS) : | | | | | | |
| MILITARY RETIRED PAY | 11.9 | 13.7 | 15.3 | 17.0 | 18.6 | 20.2 |
| OTHER MILITARY FUNCTIONS | 115.5 | 129.0 | 146.3 | 164.7 | 184.2 | 204.6 |
| TOTAL, CURRENT PRICES | 127.4 | 142.7 | 161.6 | 181.7 | 202.8 | 224.8 |
| TOTAL, CONSTANT (FY 1981) PRICES | 138.1 | 142.7 | 148.8 | 155.4 | 162.1 | 168.7 |
| PERCENT CHANGE | 2.0% | 3.3% | 4.3% | 4.4% | 4.3% | 4.1% |
| COMPOSITE PAY/PRICE ASSUMPTIONS OUTLAYS (FY 1981 = 100) | 92.2 | 100.0 | 108.6 | 116.9 | 125.1 | 133.2 |

TABLE 16

## DEPARTMENT OF DEFENSE

# *FINANCIAL SUMMARY BY COMPONENT*

## (TOTAL OBLIGATIONAL AUTHORITY, $ IN BILLIONS)

| CURRENT DOLLARS | FY 1979 | FY 1980 | FY 1981 | Change FY 1980 - 81 |
|---|---|---|---|---|
| ARMY | 31.4 | 34.3 | 39.8 | +5.5 |
| NAVY | 41.8 | 46.1 | 50.3 | +4.2 |
| AIR FORCE | 34.9 | 39.9 | 46.3 | +6.4 |
| DEFENSE AGENCIES/OSD | 4.6 | 5.3 | 6.1 | +0.8 |
| DEFENSE-WIDE | 12.0 | 13.7 | 16.2 | +2.4 |
| TOTAL | 124.8 | 139.3 | 158.7 | +19.4 |
| **CONSTANT (FY 1981) DOLLARS** | | | | |
| ARMY | 36.5 | 37.0 | 39.8 | +2.8 |
| NAVY | 48.7 | 49.7 | 50.3 | +0.6 |
| AIR FORCE | 40.8 | 43.1 | 46.3 | +3.2 |
| DEFENSE AGENCIES/OSD | 5.4 | 5.7 | 6.1 | +0.4 |
| DEFENSE-WIDE | 15.0 | 15.2 | 16.2 | +0.9 |
| TOTAL | 146.4 | 150.7 | 158.7 | +8.1 |

TABLE 17

# FY 1981 DEPARTMENT OF DEFENSE BUDGET

## *CHRONOLOGY OF THE FY 1980 BUDGET ESTIMATES*

**($ Millions)**

| | TOA | | | |
|---|---|---|---|---|
| | TRANSMITTED TO CONGRESS | CONTIN-GENCIES | TOTAL | OUTLAYS |
| FY 1980 BUDGET (JANUARY 1979) | 133,264 | 2,236 | 135,500 | 122,700 |
| BUDGET AMENDMENTS | 2,806 | - | 2,806 | 2,304 |
| CONGRESSIONAL ACTION | - 964 | - | - 964 | -1,205 1/ |
| STATUS AFTER CONGRESSIONAL ACTION | 135,106 | 2,236 | 137,342 | 123,799 |
| SUPPLEMENTALS: | | | | |
| PAY INCREASES | +2,830 | -2,160 | + 670 | + 649 |
| SUBSISTENCE INCREASES | + 81 | - | + 81 | + 81 |
| RETIRED PAY INCREASES | + 529 | - 15 | + 514 | + 514 |
| OPERATIONS READINESS | + 797 | - | + 797 | + 797 |
| ALL OTHER CHANGES | - | - 61 | - 61 | 1,560 |
| TOTAL CHANGES SINCE CONGRESSIONAL ACTION | +4,237 | -2,236 | +2,001 | +3,601 |
| CURRENT FY 1980 ESTIMATE | 139,343 | - | 139,343 | 127,400 |

1/ Outlay reductions in initial year are larger than total TOA reductions since reductions to annual (fast spending) accounts were only partially offset by increases to multi-year (slower spending) accounts.

FY 1981 DEPARTMENT OF DEFENSE BUDGET

TOTAL OBLIGATIONAL AUTHORITY, BUDGET AUTHORITY AND OUTLAYS

TABLE 18

(MILLIONS OF DOLLARS)

| FUNCTIONAL CLASSIFICATION | DIRECT BUDGET PLAN (TOA) | | | BUDGET AUTHORITY (BA) | | | OUTLAYS | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY 1979 | FY 1980 | FY 1981 | FY 1979 | FY 1980 | FY 1981 | FY 1979 | FY 1980 | FY 1981 |
| MILITARY PERSONNEL | | | | | | | | | |
| ACTIVE FORCES | 26,520 | 28,382 | 29,298 | 26,564 | 28,382 | 29,298 | 26,300 | 28,217 | 29,057 |
| RESERVE FORCES | 2,130 | 2,444 | 2,739 | 2,139 | 2,444 | 2,739 | 2,107 | 2,357 | 2,648 |
| TOTAL - MILITARY PERSONNEL | 28,650 | 30,825 | 32,037 | 28,703 | 30,825 | 32,037 | 28,407 | 30,574 | 31,705 |
| RETIRED MILITARY PERSONNEL | 10,282 | 11,981 | 13,700 | 10,283 | 11,981 | 13,700 | 10,279 | 11,941 | 13,677 |
| OPERATION AND MAINTENANCE | 37,861 | 43,405 | 48,563 | 38,023 | 43,405 | 48,563 | 36,424 | 40,852 | 46,376 |
| PROCUREMENT | 31,368 | 35,792 | 40,524 | 31,428 | 35,686 | 40,524 | 25,404 | 27,648 | 30,497 |
| RESEARCH, DEVELOPMENT, TEST & EVAL | 12,383 | 13,517 | 16,486 | 12,437 | 13,517 | 16,486 | 11,152 | 12,933 | 14,843 |
| MILITARY CONSTRUCTION | 2,523 | 2,295 | 3,251 | 2,319 | 2,295 | 3,251 | 2,080 | 2,147 | 2,053 |
| FAMILY HOUSING & HOMEOWNERS ASSIST PROG | 1,576 | 1,521 | 1,996 | 1,563 | 1,500 | 1,972 | 1,468 | 1,571 | 1,686 |
| SPECIAL FOREIGN CURRENCY PROGRAM | 14 | 7 | 3 | 14 | 7 | 3 | 3 | 9 | 7 |
| REVOLVING AND MANAGEMENT FUNDS | 101 | - | 68 | 726 | - | 68 | 286 | 278 | 320 |
| OFFSETTING RECEIPTS | - | - | - | -492 | -582 | -561 | -492 | -582 | -561 |
| INTERFUND TRANSACTIONS | - | - | - | - | - | - | - | - | - |
| DEFENSE-WIDE CONTINGENCIES | - | - | 2,113 | - | - | 2,113 | - | - | 2,085 |
| TRUST FUNDS | - | - | - | 11 | 11 | 11 | 14 | 39 | 21 |
| INTRAGOVERNMENTAL TRANSACTIONS | - | - | - | -11 | -10 | -10 | -11 | -10 | -10 |
| TOTAL - DEPARTMENT OF DEFENSE | 124,759 | 139,343 | 158,739 | 125,004 | 138,635 | 158,155 | 115,013 | 127,400 | 142,700 |
| SUMMARY BY COMPONENT | | | | | | | | | |
| DEPARTMENT OF THE ARMY | 31,441 | 34,325 | 39,092 | 31,341 | 34,125 | 38,902 | 28,770 | 31,437 | 34,865 |
| DEPARTMENT OF THE NAVY | 41,777 | 46,086 | 49,683 | 42,103 | 45,971 | 49,579 | 37,813 | 41,702 | 44,526 |
| DEPARTMENT OF THE AIR FORCE | 34,914 | 39,928 | 45,732 | 34,943 | 39,672 | 45,582 | 32,277 | 35,681 | 40,265 |
| DEFENSE AGENCIES/OSD | 4,633 | 5,257 | 5,971 | 4,616 | 5,142 | 5,856 | 4,306 | 4,933 | 5,318 |
| DEFENSE-WIDE | 11,994 | 13,746 | 16,148 | 12,001 | 13,724 | 16,124 | 11,847 | 13,648 | 15,641 |
| DEFENSE-WIDE CONTINGENCIES | - | - | 2,113 | - | - | 2,113 | - | - | 2,085 |
| TOTAL - DEPARTMENT OF DEFENSE | 124,759 | 139,343 | 158,739 | 125,004 | 138,635 | 158,155 | 115,013 | 127,400 | 142,700 |

# TABLE 19

FY 1981 DEPARTMENT OF DEFENSE BUDGET

DIRECT BUDGET PLAN (TOA), BUDGET AUTHORITY, AND OUTLAYS

(MILLIONS OF DOLLARS)

| FUNCTIONAL CLASSIFICATION | DEPT. OF DEFENSE - TOTAL | | | DEPT. OF THE ARMY | | | DEPT. OF THE NAVY | | | DEPT. OF THE AIR FORCE | | | DEF AGS/OSD/UNDIST | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FY 1979 | FY 1980 | FY 1981 | FY 1979 | FY 1980 | FY 1981 | FY 1979 | FY 1980 | FY 1981 | FY 1979 | FY 1980 | FY 1981 | FY 1979 | FY 1980 | FY 1981 |
| MILITARY PERSONNEL | | | | | | | | | | | | | | | |
| ACTIVE FORCES | 26,520 | 28,382 | 29,298 | 9,686 | 10,440 | 10,631 | 8,875 | 9,526 | 9,767 | 7,959 | 8,416 | 8,701 | - | - | - |
| RESERVE FORCES | 2,130 | 2,444 | 2,739 | 1,350 | 1,578 | 1,816 | 317 | 349 | 356 | 463 | 517 | 567 | - | - | - |
| TOTAL - MILITARY PERSONNEL | 28,650 | 30,826 | 32,037 | 11,036 | 12,018 | 12,647 | 9,192 | 9,875 | 10,123 | 8,421 | 8,933 | 9,267 | - | - | - |
| RETIRED MILITARY PERSONNEL | 10,282 | 11,981 | 13,700 | - | - | - | - | - | - | - | - | - | 10,282 | 11,981 | 13,700 |
| OPERATION AND MAINTENANCE | 37,661 | 43,405 | 48,563 | 10,752 | 12,057 | 13,454 | 13,039 | 15,078 | 17,040 | 10,805 | 12,458 | 13,853 | 3,266 | 3,811 | 4,215 |
| PROCUREMENT | | | | | | | | | | | | | | | |
| AIRCRAFT | 12,224 | 13,462 | 14,446 | 950 | 951 | 925 | 4,337 | 4,429 | 4,966 | 6,937 | 8,082 | 8,555 | - | - | - |
| MISSILES | 3,784 | 4,867 | 6,573 | 762 | 1,163 | 1,501 | 1,549 | 1,521 | 2,030 | 1,473 | 2,183 | 3,042 | - | - | - |
| SHIPS | 5,073 | 6,682 | 6,118 | - | - | - | 5,073 | 6,682 | 6,118 | - | - | - | - | - | - |
| COMBAT VEHICLES, WEAPONS & TORPEDOES | 1,977 | 2,325 | 3,079 | 1,524 | 1,825 | 2,629 | 453 | 500 | 450 | - | - | - | - | - | - |
| ORDNANCE, VEHICLES & RELATED EQUIPMENT | 2,200 | 1,974 | 2,602 | 1,194 | 965 | 1,423 | 566 | 521 | 716 | 440 | 488 | 463 | - | - | - |
| ELECTRONICS & COMMUNICATIONS | 2,749 | 2,772 | 3,300 | 1,025 | 976 | 1,347 | 1,199 | 1,207 | 1,245 | 525 | 569 | 708 | - | - | - |
| OTHER PROCUREMENT | 3,362 | 3,709 | 4,405 | 586 | 746 | 873 | 1,113 | 1,122 | 1,427 | 1,388 | 1,555 | 1,802 | 275 | 286 | 303 |
| TOTAL - PROCUREMENT | 31,368 | 35,792 | 40,524 | 6,041 | 6,626 | 8,699 | 14,290 | 15,982 | 16,952 | 10,763 | 12,898 | 14,570 | 275 | 286 | 303 |
| RESEARCH, DEVELOPMENT, TEST & EVAL | | | | | | | | | | | | | | | |
| TECHNOLOGY BASE | 2,010 | 2,260 | 2,724 | 433 | 459 | 558 | 567 | 816 | 773 | 492 | 552 | 634 | 518 | 632 | 759 |
| ADVANCED TECHNOLOGY BASE | 525 | 638 | 812 | 100 | 141 | 158 | 166 | 219 | 162 | 259 | 279 | 291 | - | - | - |
| STRATEGIC PROGRAMS | 2,143 | 2,200 | 3,373 | 228 | 242 | 266 | 484 | 369 | 383 | 1,423 | 1,582 | 2,716 | 9 | 7 | 8 |
| TACTICAL PROGRAMS | 5,093 | 5,225 | 5,758 | 1,401 | 1,490 | 1,593 | 2,691 | 2,778 | 2,774 | 1,001 | 957 | 1,391 | - | - | - |
| INTELLIGENCE & COMMUNICATIONS | 759 | 1,163 | 1,571 | 29 | 31 | 44 | 94 | 101 | 136 | 306 | 669 | 919 | 330 | 361 | 473 |
| PROGRAMWIDE MANAGEMENT AND SUPPORT | 1,854 | 2,030 | 2,447 | 449 | 482 | 612 | 483 | 482 | 608 | 678 | 987 | 1,135 | 64 | 79 | 91 |
| TOTAL - RESEARCH,DEVELOP.,TEST,EVAL | 12,383 | 13,517 | 16,486 | 2,639 | 2,845 | 3,233 | 4,464 | 4,566 | 4,836 | 4,359 | 5,026 | 7,085 | 920 | 1,080 | 1,332 |
| MILITARY CONSTRUCTION | 2,523 | 2,295 | 3,251 | 900 | 779 | 1,060 | 792 | 585 | 728 | 539 | 613 | 928 | 293 | 317 | 536 |
| FAMILY HOUSING & HOMEOWNERS ASSIST. PROG | 1,576 | 1,521 | 1,996 | - | - | - | - | - | - | - | - | - | 1,576 | 1,521 | 1,996 |
| SPECIAL FOREIGN CURRENCY PROGRAM | 14 | 7 | 3 | - | - | - | - | - | - | - | - | - | 14 | 7 | 3 |
| REVOLVING AND MANAGEMENT FUNDS | 101 | - | 68 | 74 | - | - | - | - | 4 | 27 | - | 28 | - | - | 35 |
| DEFENSE-WIDE CONTINGENCIES | - | - | 2,113 | - | - | - | - | - | - | - | - | - | - | - | 2,113 |
| TOA TOTAL - DEPARTMENT OF DEFENSE | 124,759 | 139,343 | 158,739 | 31,441 | 34,325 | 39,092 | 41,777 | 46,086 | 49,883 | 34,914 | 39,928 | 45,732 | 16,626 | 19,004 | 24,231 |
| FINANCING ADJUSTMENTS | 737 | -128 | -24 | 127 | - | - | 420 | - | - | 173 | -108 | - | 16 | -22 | -24 |
| TRUST FUNDS & OFFSETTING RECEIPTS | -492 | -581 | -560 | -227 | -200 | -190 | -95 | -116 | -106 | -145 | -150 | -150 | -25 | -115 | -116 |
| BUDGET AUTHORITY (BA) | 125,004 | 138,635 | 158,155 | 31,341 | 34,125 | 38,902 | 42,103 | 45,971 | 49,679 | 34,943 | 39,672 | 45,582 | 16,618 | 18,866 | 24,092 |
| OUTLAYS | 115,013 | 127,400 | 142,700 | 28,770 | 31,437 | 34,865 | 37,813 | 41,702 | 44,528 | 32,277 | 35,681 | 40,265 | 16,152 | 18,581 | 23,044 |

APPENDIX B

TABLE 1

Department of Defense

General and Flag Officer Strengths

| Actual | General and Flag Officer Strengths | General and Flag Officer Per 10,000 Total Military |
|---|---|---|
| 1960 | 1,260 | 5.1 |
| 1961 | 1,254 | 5.0 |
| 1962 | 1,303 | 4.6 |
| 1963 | 1,292 | 4.8 |
| 1964 | 1,294 | 4.8 |
| 1965 | 1,287 | 4.8 |
| 1966 | 1,320 | 4.3 |
| 1967 | 1,334 | 4.0 |
| 1968 | 1,352 | 3.8 |
| 1969 | 1,336 | 3.9 |
| 1970 | 1,339 | 4.4 |
| 1971 | 1,330 | 4.9 |
| 1972 | 1,324 | 5.7 |
| 1973 | 1,291 | 5.7 |
| 1974 | 1,249 | 5.8 |
| 1975 | 1,199 | 5.6 |
| 1976 | 1.184 | 5.7 |
| 19TQ | 1,174 | 5.7 |
| 1977 | 1,159 | 5.6 |
| 1978 | 1,119 | 5.4 |
| 1979 | 1,119 | 5.5 |
| Programmed 1/ | | |
| 1980 | 1,073 | 5.3 |
| 1981 | 1,073 | 5.2 |

1/ FY 1981 President's Budget

TABLE 2

Department of Defense

Officer and Enlisted Strength

| Actual | Officer Strength (000s) 1/ | Enlisted to Officer Ratio |
|---|---|---|
| 1960 | 317 | 6.8 |
| 1961 | 315 | 6.9 |
| 1962 | 343 | 7.2 |
| 1963 | 334 | 7.1 |
| 1964 | 337 | 7.0 |
| 1965 | 339 | 6.8 |
| 1966 | 349 | 7.9 |
| 1967 | 384 | 7.8 |
| 1968 | 416 | 7.5 |
| 1969 | 419 | 7.3 |
| 1970 | 402 | 6.3 |
| 1971 | 371 | 6.3 |
| 1972 | 336 | 5.9 |
| 1973 | 321 | 6.0 |
| 1974 | 302 | 6.2 |
| 1975 | 292 | 6.3 |
| 1976 | 281 | 6.4 |
| 19TQ | 279 | 6.5 |
| 1977 | 275 | 6.5 |
| 1978 | 273 | 6.5 |
| 1979 | 273 | 6.4 |
| Programmed 2/ | | |
| 1980 | 277 | 6.4 |
| 1981 | 280 | 6.4 |

1/ Includes all officers on extended active duty.
2/ FY 1981 President's Budget.

TABLE 3

Department of Defense

Manpower Levels
(End Year - In Thousands)

| Actual | Active Military 1/ | Civilian 2/ | Total |
|---|---|---|---|
| 1960 | 2,476 | 1,230 | 3,706* |
| 1961 | 2,494 | 1,215* | 3,709* |
| 1962 | 2,808 | 1,244 | 4,052 |
| 1963 | 2,700 | 1,226 | 3,926 |
| 1964 | 2,687 | 1,176 | 3,863 |
| 1965 | 2,655 | 1,155 | 3,810 |
| 1966 | 3,094 | 1,261 | 4,355 |
| 1967 | 3,377 | 1,398 | 4,775 |
| 1968 | 3,547 | 1,393 | 4,940 |
| 1969 | 3,460 | 1,391 | 4,851 |
| 1970 | 3,066 | 1,265 | 4,331 |
| 1971 | 2,714 | 1,190 | 3,904 |
| 1972 | 2,322 | 1,159 | 3,481 |
| 1973 | 2,252 | 1,100 | 3,352 |
| 1974 | 2,161 | 1,109 | 3,270 |
| 1975 | 2,127 | 1,078 | 3,205 |
| 1976 | 2,081 | 1,047 | 3,128 |
| 19TQ | 2,083 | 1,042 | 3,125 |
| 1977 | 2,074 | 1,022 | 3,096 |
| 1978 | 2,061 | 1,016 | 3,077 |
| 1979 | 2,025 | 991 | 3,016 |
| Programmed 3/ | | | |
| 1980 | 2,045 | 991 | 3,036 |
| 1981 | 2,059 | 990 | 3,049 |

1/ Excludes military personnel on active duty who are paid from Civil Works and Reserve Components appropriations.
2/ Direct and indirect hire. Excludes Civil Functions, special youth employment programs, and NSA employees.
3/ FY 1981 President's Budget.

* Estimated

TABLE 4

Active Duty Military Personnel, Reserve Component Military Personnel, and Civilian Personnel Strength 1/
(end of fiscal years in thousands)

| | 1964 | 1968 | 1972 | 1976 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|---|
| Active Duty Military | | | | | | | |
| Army | 972 | 1,570 | 811 | 779 | 758 | 774 | 776 |
| Navy | 667 | 765 | 588 | 525 | 522 | 528 | 534 |
| Marine Corps | 190 | 307 | 198 | 192 | 185 | 185 | 185 |
| Air Force | 856 | 905 | 726 | 585 | 559 | 558 | 564 |
| Total | 2,685 | 3,547 | 2,322 | 2,081 | 2,024 | 2,045 | 2,059 |
| Reserve Components (in paid status) | | | | | | | |
| Army National Guard | 382 | 389 | 388 | 362 | 346 | 359 | 381 |
| Army Reserve | 269 | 244 | 235 | 195 | 190 | 200 | 211 |
| Naval Reserve | 123 | 124 | 124 | 97 | 88 | 87 | 87 |
| Marine Corps Reserve | 46 | 47 | 41 | 30 | 33 | 34 | 34 |
| Air National Guard | 73 | 75 | 89 | 91 | 93 | 94 | 96 |
| Air Force Reserve | 61 | 43 | 47 | 48 | 57 | 58 | 59 |
| Total | 953 | 922 | 925 | 823 | 807 | 832 | 868 |
| Direct Hire Civilian | | | | | | | |
| Army 2/ | 360 | 462 | 367 | 329 | 359 | 359 | 359 |
| Navy | 332 | 419 | 342 | 311 | 310 | 308 | 310 |
| Air Force 2/ | 305 | 331 | 280 | 248 | 245 | 244 | 241 |
| Defense Agencies | 38 | 75 | 61 | 72 | 77 | 80 | 81 |
| Total 2/ | 1,035 | 1,287 | 1,050 | 960 | 991 | 991 | 990 |

1/ Total 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 1979. The FY 1964 and 1968 totals have been adjusted to include approximately 38,000 and 39,000 technicians respectively.

# APPENDIX C: ACRONYMS

| | |
|---|---|
| AAH: | Advanced Attack Helicopter |
| AAW: | Anti-Air Warfare |
| ABM: | Anti-Ballistic Missile |
| ACDA: | Arms Control and Disarmament Agency |
| ADP: | Automated Data Processing |
| ADM: | Atomic Demolition Munitions |
| AE: | Assault Echelon |
| AECB: | Arms Export Control Board |
| AFSATCOM: | Air Force Satellite Communications |
| AGM: | Air-to-Ground Missile |
| AID: | Agency for International Development |
| ALCM: | Air-Launched Cruise Missile |
| ALCS: | Airborne Launch Control System |
| ALOC: | Air Line of Communication |
| AMRAAM: | Advanced Medium-Range Air-to-Air Missile |
| AMST: | Advanced Medium STOL (Short Take-off and Landing) Transport |
| ARG: | Atlantic Fleet Amphibious Ready Group |
| ASAT: | Anti-Satellite |
| ASM: | Air-to-Surface Missile |
| ASROC: | Anti-Submarine Rocket |
| ASUW: | Anti-Surface Ship Warfare |
| ASW: | Anti-Submarine Warfare |
| AVF: | All-Volunteer Force |
| AWACS: | Airborne Warning and Control System |
| BA: | Budget Authority |
| BETA: | Battlefield Exploitation and Target Acquisition |
| BMD: | Ballistic Missile Defense |
| BMEWS: | Ballistic Missile Early Warning System |
| BUIC: | Back-up Intercept Control |
| $C^3$: | Command, Control, and Communications |
| $C^3I$: | Command, Control, Communications and Intelligence |
| CAT: | Conventional Arms Transfer |
| CCP: | Consolidated Cryptologic Program |
| CD: | Civil Defense |
| CEP: | Circular Error, Probable |
| CFV: | Cavalry Fighting Vehicle |
| CINCEUR: | Commander-in-Chief, European Command |
| CINCLANT: | Commander-in-Chief, Atlantic |
| CINCPAC: | Commander-in-Chief, Pacific Command |
| CINCSAC: | Commander-in-Chief, Strategic Air Command |
| CMC: | Cruise Missile Carrier (Aircraft) |
| COB: | Collocated Operating Bases |
| COD: | Carrier On-Board Delivery |
| COLA: | Cost-of-Living Allowance |
| COMSEC: | Communications Security |
| CONUS: | Continental United States |
| CRAF: | Civil Reserve Air Fleet |
| CV: | Aircraft Carrier |

| | |
|---|---|
| CVN: | Aircraft Carrier, Nuclear-powered |
| CVV: | Aircraft Carrier, Medium-sized |
| CW: | Chemical Warfare |
| DARPA: | Defense Advanced Research Projects Agency |
| DCS: | Defense Communications System |
| DDG: | Guided Missile Destroyer |
| DEW: | Distant Early Warning (Line) |
| DLA: | Defense Logistics Agency |
| DMZ: | Demilitarized Zone |
| DoD: | Department of Defense |
| DSARC: | Defense Systems Acquisition Review Council |
| DSB: | Defense Science Board |
| DSP: | Defense Support Program |
| DSCS: | Defense Satellite Communication System |
| ECIP: | Energy Conservation Investment Program |
| ECM: | Electronic Countermeasures |
| ER: | Enhanced Radiation |
| FAA: | Federal Aviation Administration |
| FEBA: | Forward Edge of the Battle Area |
| FEMA: | Federal Emergency Management Agency |
| FFG: | Guided Missile Frigate |
| FMS: | Foreign Military Sales |
| FRS: | Fleet Readiness Squadron |
| FYDP: | Five-Year Defense Program |
| GDIP: | General Defense Intelligence Program |
| GLCM: | Ground-Launched Cruise Missile |
| GMF: | Ground Mobile Forces |
| GNP: | Gross National Product |
| GSA: | General Services Administration |
| GSFG: | Group of Soviet Forces, Germany |
| HARM: | High Speed Anti-Radiation Missile |
| HF: | High Frequency |
| ICBM: | Intercontinental Ballistic Missile |
| IFF: | Identification, Friend or Foe |
| IFV: | Infantry Fighting Vehicle |
| IMET: | International Military Education and Training Program |
| IOC: | Initial Operational Capability |
| IONDS: | Integrated Operational Nuclear Detection System |
| IRBM: | Intermediate-Range Ballistic Missile |
| IRR: | Individual Ready Reserve |
| JCS: | Joint Chiefs of Staff |
| JINTACCS: | Joint Interoperability of Tactical Command and Control Systems |
| JSS: | Joint Surveillance System |
| JTIDS: | Joint Tactical Information Distribution System |
| LAMPS: | Light Airborne Multipurpose System |
| LCAC: | Landing Craft, Air Cushion |
| LHA: | Amphibious Assault Ship |
| LOC: | Line of Communication |
| LPD: | Landing Platform, Dock |
| LSD: | Landing Ship, Dock |
| LTDP: | Long-Term Defense Program |

| | |
|---|---|
| MAC: | Military Airlift Command |
| MAF: | Marine Amphibious Force |
| MAP: | Military Assistance Program or Multiple Aimpoint Basing |
| MAU: | Marine Amphibious Unit |
| MBFR: | Mutual and Balanced Force Reductions |
| MCM: | Mine Countermeasures |
| MIG: | Mikoyan Aircraft |
| MIRV: | Multiple Independently Targetable Reentry Vehicle |
| MOU: | Memorandum of Understanding |
| MRBM: | Medium-Range Ballistic Missile |
| MRV: | Multiple Reentry Vehicle |
| MSC: | Military Sealift Command |
| MSO: | Ocean-Going Minesweeper |
| MTMC: | Military Traffic Management Command |
| M-X: | Missile, Experimental |
| NATO: | North Atlantic Treaty Organization |
| NBC: | Nuclear, Biological, Chemical |
| NCA: | National Command Authorities |
| NEACP: | National Emergency Airborne Command Post |
| NFCS: | Nuclear Forces Communications Satellite |
| NFIP: | National Foreign Intelligence Program |
| NMCS: | National Military Command System |
| NORAD: | North American Air Defense Command |
| NPG: | Nuclear Planning Group |
| NSC: | National Security Council |
| O&M: | Operations and Maintenance |
| OASD: | Office of the Assistant Secretary of Defense |
| OCC: | Operational Control Center |
| OJCS: | Office of the Joint Chiefs of Staff |
| OSD: | Office of the Secretary of Defense |
| OTH: | Over-the-Horizon |
| PAA: | Primary Aircraft Authorized |
| PAL: | Permissive Action Link |
| PLSS: | Precision Location Strike System |
| PMR: | Primary Mission Readiness |
| POL: | Petroleum-Oil-Lubricants |
| PRC: | People's Republic of China |
| PAVE PAWS: | Phased-Array Radars |
| PARCS: | Perimeter Acquisition Radar Characterization System |
| PKO: | Peace-Keeping Operation |
| POMCUS: | Prepositioned Overseas Materiel Configured to Unit Sets |
| PPBS: | Planning, Programming and Budgeting System |
| PSI: | Pounds per Square Inch |
| R&D: | Research and Development |
| RAP: | Rocket-Assisted Projectile |
| RDF: | Rapid Deployment Force |
| RDT&E: | Research, Development, Test and Evaluation |
| RFM: | Reserve Forces Modernization |
| R/S/I: | Rationalization/Standardization/Interoperability |
| RV: | Reentry Vehicle |
| SAC: | Strategic Air Command |
| SACDIN: | SAC Digital Network |

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| SACEUR: | Supreme Allied Commander, Europe |
| SACLANT: | Supreme Allied Commander, Atlantic |
| SAGE: | Semi-Automatic Ground Environment |
| SALT: | Strategic Arms Limitation Talks |
| SHF: | Super High Frequency |
| SIGINT: | Signals Intelligence |
| SIOP: | Single Integrated Operational Plan |
| SLBM: | Submarine-Launched Ballistic Missile |
| SLCM: | Sea-Launched Cruise Missile |
| SLOC: | Sea Line of Communication |
| SNM: | Special Nuclear Material |
| SRAM: | Short-Range Attack Missile |
| SSBN: | Ballistic Missile Submarine, Nuclear-powered |
| SSN: | Submarine, Nuclear-powered |
| SURTASS: | Surveillance Towed Array Sensor System |
| TAA: | Total Aircraft Authorized |
| TAC: | Tactical Air Command |
| TACAMO: | Airborne Strategic Communications System |
| TACTAS: | Tactical Towed Array Sonar |
| TAI: | Total Active Inventory |
| T-AKX: | Commercial Roll-on/Roll-off Ship |
| TEL: | Transportor-Erector Launcher |
| TNF: | Theater Nuclear Forces |
| TOA: | Total Obligational Authority |
| USAFE: | United States Air Force Europe |
| USAREUR: | United States Army Europe |
| VSTOL: | Vertical/Short Take-off and Landing |
| WRS: | War Reserve Stocks |
| WWMCCS: | Worldwide Military Command and Control System |