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REPORT OF SECRETARY OF DEFENSE

DONALD H. RUMSFELD

TO THE CONGRESS

ON THE

FY 1977 BUDGET AND ITS IMPLICATIONS FOR THE
FY 1978 AUTHORIZATION REQUEST AND THE
FY 1977 - 1981 DEFENSE PROGRAMS

JANUARY 27, 1976

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

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

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

b. Strategic Nuclear Forces

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

c. The General Purpose Forces

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

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

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

II. STRATEGIC NUCLEAR FORCES

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

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

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

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

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

CHART IIA-1

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

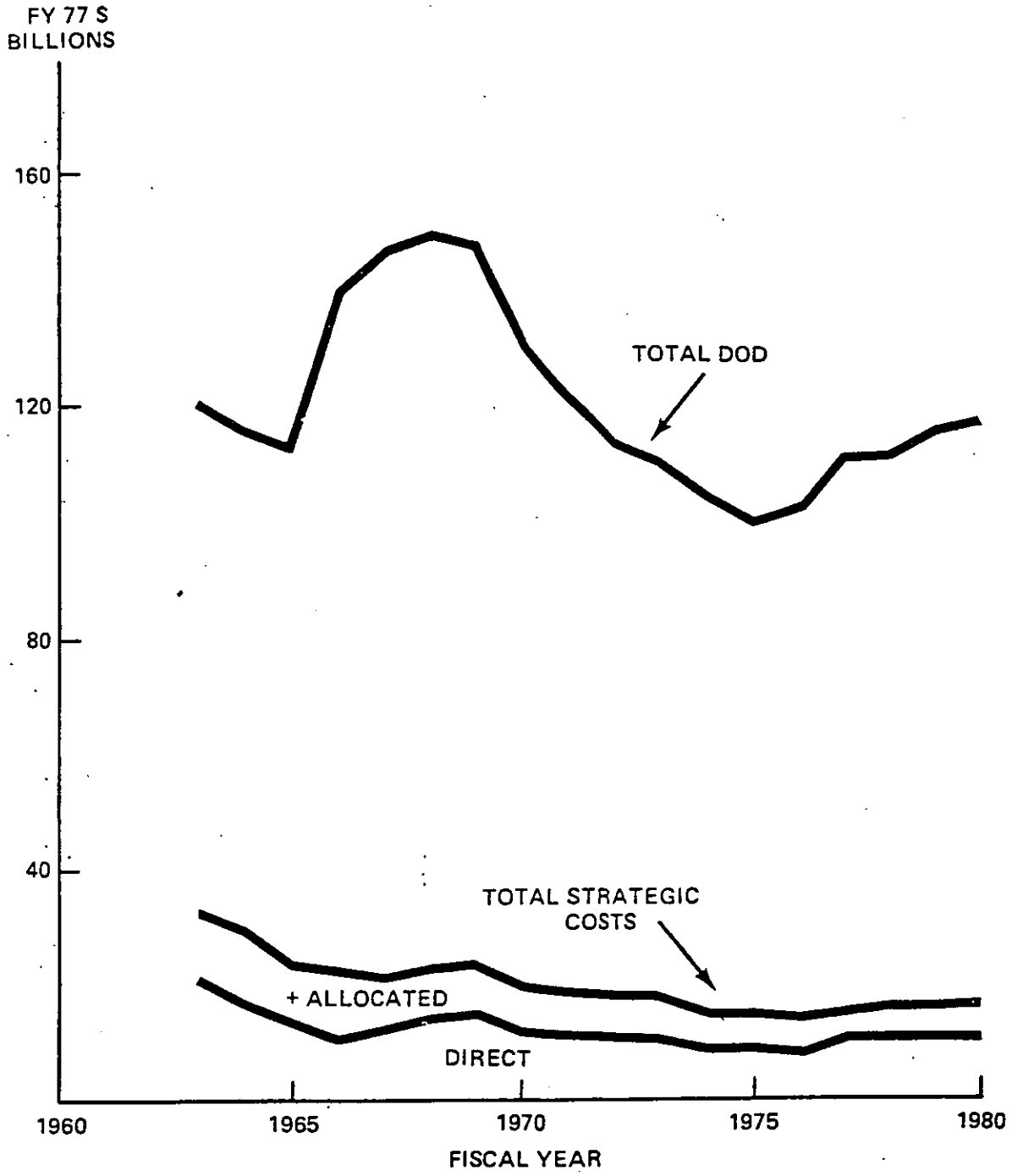
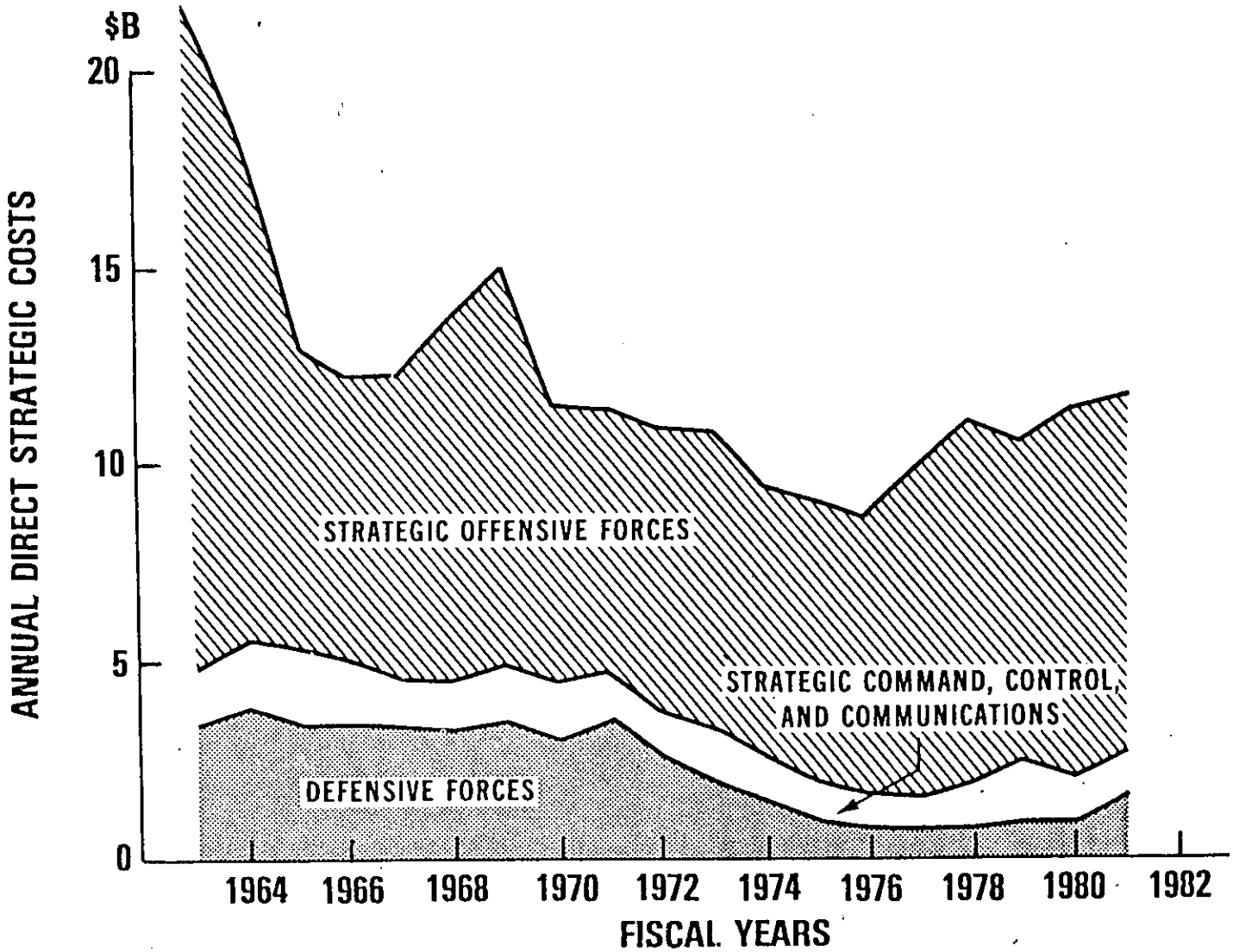


CHART IIA-2

STRATEGIC FORCES BUDGET TRENDS

– CONSTANT FY 77 $ –



A. BASIS FOR THE STRATEGIC NUCLEAR FORCES

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

1. The Problem of Objectives

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

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

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

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

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

TABLE IIA-1

U.S. AND USSR STRATEGIC FORCE LEVELS

	Mid-1975		Mid-1976	
	U.S.	USSR	U.S.	USSR
Offensive				
ICBM Launchers				
Operational 1/2/	1054	[redacted]	1054	[redacted]
Others	0	0	0	0
SLBM Launchers				
Operational 1/3/	656	[redacted]	656	845
Others	0	0	0	0
Intercontinental Bombers 4/				
Operational 5/	497	[redacted]	421	180
Others 6/	112	[redacted]	184 7/	177
Force Loadings 8/				
Weapons	[redacted]			
Defensive 9/				
Air Defense				
Surveillance Radars	59	[redacted]	61	[redacted]
Interceptors 10/	412	2600	315	2600
SAM Launchers 11/	-	[redacted]	-	[redacted]
ABM Defense				
Launchers	36	64	100	64

1/ Includes on-line missile launchers as well as those in the final stages of construction, in overhaul, repair, conversion and modernization.

2/ Does not include test and training launchers, but, for the USSR, does include 18 launchers at test ranges which are probably part of the operational force.

3/ Includes launchers on all nuclear-powered submarines and, for the Soviets, 10 operational launchers for modern SLBMs on two G-Class diesel submarines.

4/ The following intercontinental bombers are placed in this category: for the U.S.: B-52s, FB-111, and B-1; for the USSR: Bear, Bison, Backfire.

5/ Includes deployed, strike-configured, aircraft only.

6/ For the U.S., includes bombers for RDT&E and in reserve, mothballs and storage. For the USSR, includes all variants (tankers, ASW, trainers, reconnaissance, etc.) wherever located and Backfire estimated to have been produced, but not yet operationally deployed.

7/ Represents the maximum number of aircraft assuming no cannibalization.

8/ Total force loadings reflect only those independently-targetable weapons associated with on-line ICBMs/SLBMs and UE aircraft. Weapons reserved for restrike and weapons on inactive status are not included.

9/ Excludes radars and launchers at test sites or outside CONUS.

10/ These numbers represent Total Active Inventory (TAI)

11/ These 9,600 launchers accommodate about 12,000 SAM interceptors. Some of the launchers have multiple rails.

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

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

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

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

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

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

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

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

2. The Conditions of Effectiveness

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

a. Deterrence

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

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

b. Assured Retaliation

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

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

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

c. Options

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

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

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

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

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

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

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

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

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

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

d. Equivalence

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

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

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

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

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

The Soviets are now modernizing their large ICBM force [redacted] The replacement of the SS-9 and SS-11 with the heavier SS-17, SS-18, and SS-19, combined with improved accuracies and high-yield MIRVs, means that our ICBM silos will grow increasingly vulnerable during the coming decade. At the same time, the Soviets continue to expand and modernize their sea-based missile force, produce the Backfire bomber, harden their command and control facilities, install

redundant communications systems, expand their reconnaissance capability, install improved air defenses, and continue their research and development on new and more modern ABM systems.

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

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

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

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

3. Future Plans

One of the major issues we face in planning future strategic nuclear forces is the extent to which we should proceed with a hard target

capability. Before we can resolve that issue, there are two preliminary questions that need to be answered. First, should we supplement the Minuteman with a comparably flexible but more survivable system? Second, should we oblige the Soviets to come to grips with the same problems that we face?

[redacted]

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

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

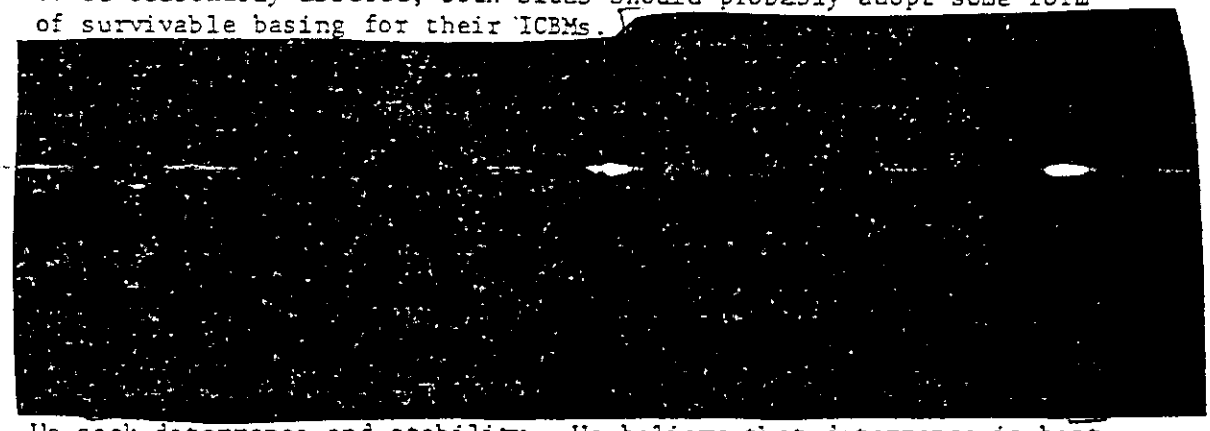
This principle points to the conclusion that we should be prepared to supplement Minuteman, or replace it in part, with a comparable but more survivable system. One option for doing so would be to continue with the production of the Trident submarine beyond the 10-boat program that we have projected. This is an option that we should keep under study,

although it remains to be seen whether we can achieve the accuracy and control provided by the Minuteman in the SLBM force. Furthermore, we must be cautious about the number of assets we commit to one type of basing, however survivable it may presently seem to be.

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

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

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



We seek deterrence and stability. We believe that deterrence is best achieved by maintaining a well-designed, second-strike force which has the capability for assured retaliation and the flexibility to cover a wide variety of military, economic, and other targets with a minimum of collateral damage and a maximum of choice and control. The increasing sophistication of Soviet offensive forces and the dangers of nuclear proliferation call for no less. Uncertainty about the assessments that others will make as to the relative strategic power of the United States and the USSR requires that U.S. offensive forces be seen as roughly equivalent to those of our principal rival. We must also make certain that we do not fall behind the Soviets in the technologies essential to

strategic force effectiveness. Hasty rejection of technological advances, especially where diminishing returns to scale have not yet set in, is just as unwise as a premature decision to deploy new weapons systems. We must be wise enough to do research and exploratory development on new technologies, yet strong enough to refuse production if the resulting systems are inefficient.

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

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

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

4. Programs

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

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

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

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

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

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

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

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

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

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

B. SIGNIFICANT DEVELOPMENTS IN FOREIGN STRATEGIC CAPABILITIES

1. The Soviet Union

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

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

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

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

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

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

a. ICBMs

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

[redacted]

[redacted]

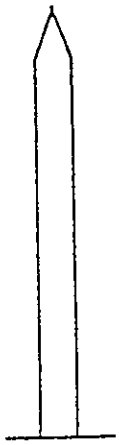
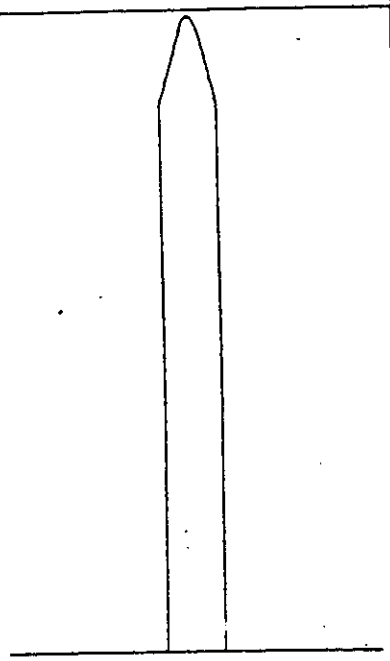
As shown on the following chart, the Soviets employ two different launch techniques -- hot launch and cold launch. Thus far, hot launch has been the normal procedure; our Minuteman force and the Soviet SS-9/SS-11 force use this technique, in which the silo is damaged during launch, requiring refurbishment. Perhaps for this reason, the SS-18 and SS-17 have both been configured for cold launching. With cold launch, where the missile is "popped out" of its silo by a gas generator before the main booster motors are fired, the silo is not heavily damaged and is capable of being reloaded [redacted] This technique also allows the firing of a larger throw-weight missile from a fixed size silo than does a hot launch.

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

The SS-18 program, in which both MIRVed and non-MIRVed payloads have been tested, has received a large amount of public and diplomatic attention this past year because of the verification issue in SALT. As a result of the verification problem and because we believe that

CHART IIB-1

SELECTED CHARACTERISTICS OF THE NEW SOVIET ICBMs

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

deployment of the non-MIRVed Mod 1 and Mod 3 will be substantially less than the MIRVed Mod 2, our position in the SALT II negotiations has had to be that all deployed missiles which have been tested with MIRVs are presumed to be deployed with MIRVs.

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

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

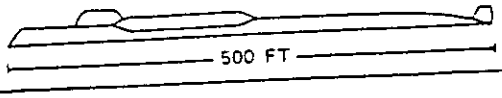
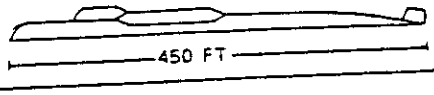
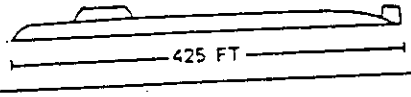
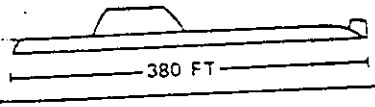
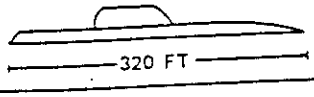
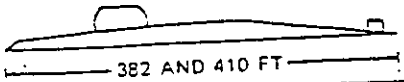
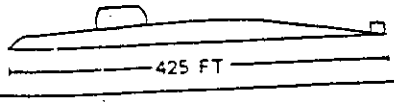
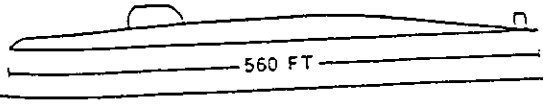
b. SLBMs

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

The Soviets are continuing a vigorous submarine construction program and have launched four units of a longer version of their 12-tube D-class SSBN. This longer version is about 500 feet long, compared with the 450-foot original D-class, and has 16 missile tubes of the same diameter as the 12-tube version. There is no evidence that any missile

CHART IIB-2

BALLISTIC MISSILE SUBMARINES

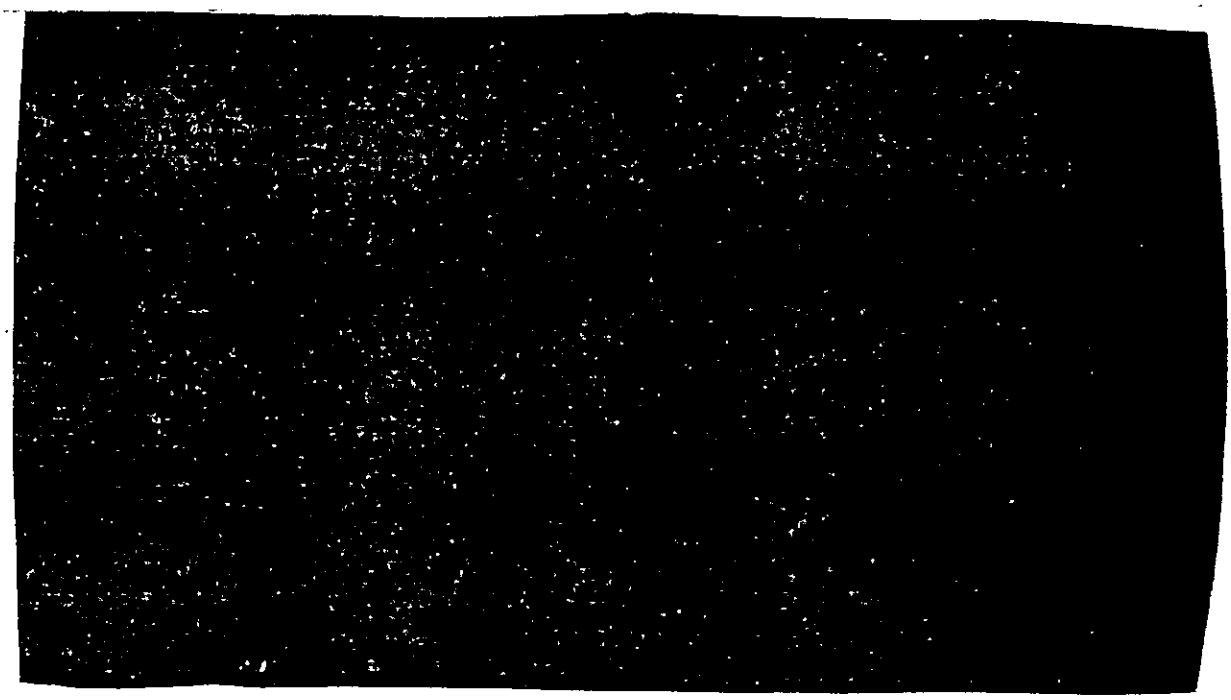
USSR	YEAR OPERATIONAL	PROPULSION	MISSILE
D CLASS 	1976	NUCLEAR	16 SS-N-8 (4200 NM)
D CLASS 	1973	NUCLEAR	12 SS-N-8 (4200 NM)
Y CLASS 	1968	NUCLEAR	16 SS-N-6 (1300-1600 NM)
H CLASS 	1960	NUCLEAR	3 SS-N-5 (700 NM)
G CLASS 	1960	DIESEL	3 SS-N-4/5 (350-700 NM)
S POLARIS 	1960	NUCLEAR	16 A-3 (2500 NM)
POSEIDON 	1971	NUCLEAR	16 C-3 [redacted]
TRIDENT 	1979	NUCLEAR	24 C-4 [redacted]

other than the 4,200 nm single-RV SS-N-8 will be carried in the near term by these new D-class versions. The Soviets are apparently building an even longer version of the D-class and in addition may be working on a still larger submarine.

There are also uncertainties associated with the Y-class SSBN program. This past year the Soviets modified one of these boats from its original 16-tube configuration to one with 12 tubes which are evidently longer, although of the same diameter as the original tubes. This modification is presumably intended to allow for a missile of the same diameter as, but probably longer and heavier than, the SS-N-6, which is the standard Y-class SLBM. The modified hull may be a test platform for a new SLBM the Soviets first tested in May 1975. We cannot, however, rule out the possibility that the Soviets may deploy the SS-NX-13 shorter-range, [redacted] on some of the Yankee boats, which may be the reason for this and any subsequent modifications from 16 to 12 tubes.

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

In recent months, there have been test launches of a small and a large new SLBM which may be intended as the eventual replacements for the SS-N-6 and SS-N-8. It is too early to determine characteristics of the small missiles with any confidence, but the large missile has been MIRVed.



[redacted]

c. Long-Range Bombers

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

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

d. Cruise Missiles

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

The Soviets have deployed a fleet of [redacted] SSGN nuclear-powered and [redacted] SSG diesel-powered submarines designed specifically to launch the longer range cruise missiles. These submarines, together with a small number of guided-missile cruisers, are currently supported by an inventory of [redacted] SS-N-3s and a variety of other shorter-range missiles. If the Soviets were to divert their sea-based cruise missiles from the

antishipping missions to which we believe they are currently assigned, and extend their range, they could attack large portions of the U.S. population and industry [redacted]

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

e. ABM

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

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

f. Air Defense

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

[redacted]

[redacted]

There are indications that the Soviet Union is developing a new, higher performance SAM for low-altitude defense against our bombers. Given a normal R&D cycle, the new system could be available for operational deployment by about 1980.

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

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

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

g. Antisubmarine Warfare

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

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

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

h. Civil Defense

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

2. The People's Republic of China

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

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

3. Nuclear Proliferation

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

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

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

4. Implications for the U.S.

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

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

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

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

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

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

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

C. U.S. STRATEGIC FORCES AND PROGRAMS

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

U.S. strategic forces programmed through FY 1981 are shown in Table 2 of the Appendix. A review of the strategic posture for consistency with national policy and objectives leads to the conclusions that:

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

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

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

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

1. Strategic Offensive Forces and Programs

To accomplish the objective of a strong deterrent posture the U.S. maintains a well-diversified mix of strategic offensive forces consisting of land-based ICBMs, sea-based SLBMs and manned bombers and their supporting command, control, and communications (C^3) systems. This diversified force, commonly referred to as the Triad, provides:

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

-- a hedge against widespread failures of any element or its command, control, and communications (C^3) system owing to unanticipated nuclear weapons effects;

TABLE IIC-1

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

(Dollars in Millions)

	FY 1975 Actual Funding	FY 1976 Planned Funding	Trans. Period Planned Funding 2/	FY 1977 Prop'd Funding	FY 1978 Prop'd for Authorization
Strategic Offense					
Minuteman and Improvements (Silo Upgrade, Command Data Buffer, MK12A Warhead, NS-20 Guidance Refinements)	728	804	105	472	317
Advanced ICBM Technology, including MX	37	36	13	84	184
Development of Advanced Ballistic Reentry Systems and Technology (ABRES)	110	91	24	106	117
Conversion of SSBNs to Poseidon configuration, Modification of Poseidon Missiles	179	84	18	51	29
Acquisition of Trident Military Submarines [and Missiles and MK500 RV] (Trident II not included in total)	2029	1925	606	2933	3383
Development of Trident II Missile	-	-	-	3	21
SSBN Subsystem Technology Development	-	-	-	2	5
Acquisition of New Strategic Bomber, B-1	445	661	152	1532	1868
Development of the Air Launched and Submarine Launched Version of the Strategic Cruise Missile	96	144	50	262	362

TABLE IIC-1

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

(Dollars in Millions)

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

TABLE IIC-1

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

(Dollars in Millions)

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

1/ Includes costs of RDT&E, procurement of the system and intial spares, and directly related military construction.
2/ July 1 to September 30, 1976.

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

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

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

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

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

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

a. ICBMs

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

Minuteman

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

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

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

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

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

Accordingly, the amounts shown in Table IIC-1, the Acquisition Costs Table, for the Minuteman program do not include any missile procurement funds. Nor do they include any closedown funds, since these were included in the FY 1976/7T approved budget. However, depending on the outcome of SALT II negotiations and our continuing assessment of Soviet ICBM programs, it may be necessary to make further short-term improvements in the U.S. ICBM posture by requesting supplemental funding to continue Minuteman III production.

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

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

Improved Minuteman

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

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

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

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

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

Advanced ICBM Technology and the MX

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

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

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

Advanced Ballistic Reentry Systems

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

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

b. SLBMs

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

Poseidon

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

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

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

Trident (Excluding Trident II Missile)

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

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

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

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

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

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

Trident II Missile

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

SSBN Subsystem Technology

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

c. Bombers

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

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

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

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

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

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

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

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

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

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

B-1 Bomber

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

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

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

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

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

Cruise Missiles

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

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

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

2. Strategic Defensive Forces and Programs

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

-- perform surveillance and peacetime control of U.S. airspace;

-- provide warning and assessment of a bomber, missile or space attack;

-- defend threatened areas overseas, including air and sea LOCs, in time of crisis;

-- be in a position to deploy an ABM or space defense, if needed;

-- reinforce the credibility of the flexible response strategy, enhance survival of the U.S. population, and assist in national recovery in the aftermath of a nuclear war.

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

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

a. Air Defense

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

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

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

Last year the EC-121 airborne radar force was proposed for phase-out by the end of FY 1977, simultaneously with the planned introduction of AWACS. After a review of these plans, it became apparent that a gap would exist in coverage of the North Atlantic region if the EC-121s were phased-out and removed from Iceland before the AWACS were operational. Accordingly, the plan now is to retain ten EC-121 aircraft through FY 1978. This assures three EC-121 aircraft on station in Iceland until AWACS becomes available. The annual cost of retaining these EC-121s is about $12 million.

Follow-On Interceptor

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

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

b. Air Defense Surveillance and Warning Systems

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

Joint Surveillance System (JSS)

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

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

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

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

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

c. Ballistic Missile Defense (BMD)

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

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

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

Safeguard

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

Systems Technology

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

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

Advanced Technology

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

d. Ballistic Missile Attack Warning Systems

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

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

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

[redacted]

Ballistic Missile Early Warning System

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

SLBM Warning Radars

The contract is soon to be awarded for the two new SLBM (Pave Paws) phased-array radars, and the program is progressing on schedule. These

two radars, which will eventually replace the six 474N obsolescent radars now in operation, will [redacted] provide reliable warning of any SLBM attacks. The $14 million requested in FY 1977 will allow continued deployment of this system.

e. Defense in Space

As space technology matures, space-based systems will play an even more important role in support of U.S. and Soviet military operations. In the future, dependence on these systems may increase to the point where their loss could materially influence the outcome of a conflict. Consequently, it is important to know of any threat to U.S. space activities and remain alert to Soviet space activities which threaten our overall military posture. Defense is continuing R&D efforts to develop technologies for detecting, tracking and identifying objects out to geo-stationary orbit and for enhancing the survivability of satellite systems, at the same time abiding by the provisions of the various space treaties to which the U.S. is a signatory. The $43 million requested for this program in FY 1977 includes funds for RDT&E and initiation of procurement of a ground-based electro-optical system which will vastly improve our high altitude space surveillance capability.

f. Civil Defense

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

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

Under this concept, reductions will be made in "matching funds" assistance to State and local agencies, staff personnel in State and