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REPORT OF SECRETARY OF DEFENSE

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TO THE CONGRESS

ON THE

FY 1975 DEFENSE BUDGET AND FY 1975-1979 DEFENSE PROGRAM

FEBRUARY 26, 1974

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II. STRATEGIC FORCES

Among the major capabilities in the defense arsenal of the United States, the strategic nuclear deterrent forces command the most attention. Yet compared with the general purpose forces, their costs are relatively small. And, with brief exceptions, their costs as a percent of the total defense budget have actually declined during the past decade.

As is shown in Appendix Table 1, the obligational authority made available for the strategic forces in FY 1964 amounted to $8.5 billion -- 16.8 percent of the total defense budget. After more than a decade of substantial pay raises and a good deal of inflation, the obligational authority we are proposing for the strategic forces in FY 1975 comes to $7.6 billion -- 8.2 percent of the total defense budget, or less than half the share devoted to those forces in FY 1964. Such relatively modest figures are hardly compatible with the view that this Administration has been less than restrained in its conduct of the strategic nuclear competition. By any measure, our current effort is much more moderate than it was a decade or more ago.

A. THE BASIS FOR THE STRATEGIC NUCLEAR FORCES

To underline the trends in these relatively modest costs is not to minimize the importance of the strategic nuclear deterrent forces. At the same time that the United States has necessarily become more engaged in world affairs than ever before in its

history, it has become increasingly vulnerable to direct nuclear attack and to the possibility of unprecedented destruction. Nuclear weapons now cast their shadow over all of us, and even complete political isolation would no longer relieve us of their threat. The United States is too powerful to be ignored and no longer far enough away (measured by ICBM trajectories) to be out of hostile reach. It is understandable, therefore, why strategic nuclear forces should receive so much attention. Without a firm foundation of nuclear deterrent forces the rest of our power would not count for much in the modern world.

I cannot stress this last point too strongly. All wars since 1945 have been non-nuclear wars shadowed by the nuclear presence. The threat to use nuclear weapons has remained, for the most part, in the background, but belligerents and neutrals alike have known that, like the big stick in the closet, it was there. Perhaps we may hope that in the future, as in the past, the nuclear forces will act as a brake upon violence, and that wars will remain conventional or not begin at all. Perhaps we may even hope that the strategic nuclear forces, by contributing to a worldwide balance of power and international stability, will carry us well beyond detente to a more enduring peace and to a general reduction of armaments.

Not only are the strategic forces vitally important; they are controversial as well. Most of the major defense debates during

the past thirty years have centered on them, and alarms have rung over such matters as the B-36, the bomber "gap", the missile "gap", MIRVs, and ABM deployments. Much of the debate has centered on specific weapons systems. But issues have also arisen about the size and composition of the offensive and defensive forces, the nature of alternative target systems, and the desirability and feasibility of enhancing deterrence and limiting escalation by having the option to avoid destroying enemy cities.

Of equal concern has been the growth to maturity of Soviet strategic offensive forces. Only a decade ago these forces numbered in the hundreds; now we count them in the thousands, and they have a substantially greater throw-weight. As a consequence, the issue that faces us no longer is (if it ever was) how to avoid initiatives that might continue or accelerate the strategic competition, but how -- in a situation of essential equivalence -- to interpret and respond to a wide range of potential Soviet initiatives.

If we are to have informed and productive debate on these matters, it is important that the Congress and the public understand the evolutionary character of strategic force planning and doctrine. Accordingly, it is essential to review the factors that now shape our strategic nuclear forces, the assumptions we make about these factors in designing our posture, and the directions we propose to take in our Five-Year Defense Program. In undertaking this review, I will place particular emphasis on why we are maintaining

such comparatively large and diversified offensive forces, why we are modifying our strategic doctrine, and why we are proposing the pursuit of a number of research and development projects as prudent hedges for the future.

1. The Problem of Objectives

I believe it is well understood that the size and composition of our strategic nuclear forces must depend to some degree on the magnitude of the overall deterrent burden that we place upon them. It is also a matter of increasingly widespread appreciation that these forces cannot bear the entire burden by themselves, however fundamental their importance may be. Other capabilities, nuclear and non-nuclear, must be maintained in strength to cover the entire spectrum of deterrence. What still requires emphasis, however, is the diversity of roles that the strategic nuclear forces continue to play. Our ability to achieve major national security objectives continues to be hostage to the operational doctrine, size, and composition of these forces.

Deterrence has been and remains the fundamental objective of our strategic nuclear forces. But what precisely do we want these forces to deter? Clearly, we expect them to forestall direct attacks on the United States; at the same time, however, we accept the equally heavy responsibility to deter nuclear attacks on our allies. To some extent we also depend on the strategic forces to exercise

a deterrent effect against massive non-nuclear assaults, although we now place the main emphasis on U.S. and allied theater forces for that purpose. We also view our strategic forces as inhibiting coercion of the U.S. by nuclear powers, and, in conjunction with other U.S. and allied forces, helping to inhibit coercion of our allies by such powers.

While deterrence is our fundamental objective, we cannot completely preclude the possibility that deterrence might fail. The objectives we would want our strategic forces to achieve in those circumstances remain an issue to which I shall return. What is generally accepted, as a minimum, is that we ourselves must not contribute to any failures of deterrence by making the strategic forces a tempting target for attack, or prone to accidents, unauthorized acts, or false alarms.

I should also stress that it is only in the process of examining why and how deterrence might fail that we can judge the adequacy of our plans and programs for deterrence. And once that analysis begins, it quickly becomes evident that there are many ways, other than a massive surprise attack, in which an enemy might be tempted to use, or threaten to use, his strategic forces to gain a major advantage or concession. It follows that our own strategic forces and doctrine must take a wide range of possibilities into account if they are successfully to perform their deterrent functions.

Nuclear proliferation represents another important factor. It is a complex process driven by many actions and considerations. But one element affecting its extent and velocity undoubtedly is the degree to which other countries believe that the U.S. strategic deterrent continues -- or fails -- to protect them. Accordingly, in support of our non-proliferation policy, we must take account of the concerns of other countries in our doctrine and force planning.

There is also an important relationship between the political behavior of many leaders of other nations and what they perceive the strategic nuclear balance to be. By no means do all of them engage in the dynamic calculations about the interaction of Soviet and U.S. forces that have so affected our own judgments in the past. However, many do react to the static measures of relative force size, number of warheads, equivalent megatonnage, and so forth. Hence, to the degree that we wish to influence the perceptions of others, we must take appropriate steps (by their lights) in the design of the strategic forces.

Finally, an important connection exists between U.S. arms control efforts and the size and composition of the strategic nuclear forces. Arms control agreements are, of course, designed deliberately to constrain the freedom of the parties in the planning of their offensive and defensive capabilities.

Strategic programs, in turn, affect the prospects for arms control. And specific weapons systems are the coin of this particular realm. Not only are such systems the mediums of exchange; they are also the basis for expanding or contracting the forces. As a consequence, arms control objectives must have a major impact on our planning.

2. USSR and PRC Strategic Objectives

Despite the importance of these objectives, it is probably the present and prospective strategic nuclear forces of other nations that constitute the single most powerful influence on the design of our own capabilities. Most of our strategic objectives, in fact, are a function of these potential threats.

The most important nuclear capability facing the United States is that of the USSR. As we engage in our own planning, we need to understand better than we now do why this capability is evolving at such a rapid rate and what the Soviets hope to gain by such large expenditures and such ambitious programs. Only with an improved understanding can we decide judiciously what impact this capability should have on our own choice of strategic programs.

Primarily at issue are the answers to two major questions. To what extent have the Soviets simply responded to and tried to counter U.S. initiatives? And to what extent have they sought (and do they continue to seek) something more ambitious than a capability for second-strike massive retaliation against the United States?

Much has been written on both counts, at least in the United States. But the Soviets have not proved especially communicative about their programs and motives, and the evidence of what they are up to is, to say the least, fragmentary and conflicting. As so often is the case, we are faced with uncertainty. Admittedly, my counterparts in the Soviet Ministry of Defense could substantially reduce this uncertainty by disclosing current and even past information about their decisions to the same extent that the United States does. But in the absence of such candor, we have no choice but to interpret the available evidence as best we can.

What does this evidence suggest?

First, the Soviets have proceeded with development of many strategic programs ahead of rather than in reaction to what the United States has done. It is worth recalling, in this connection, that they took the initiative in the deployment of MRBMs and IRBMs, ICBMs, ABMs, and FOBSs. At the present time, as you know, they have four new ICBMs [and two SLBMs] that are actively being flight tested.

Second, the Soviets -- through their medium-range (or peripheral attack) capabilities -- may have initially intended to threaten Western Europe as their only response to the intercontinental U.S. threat to the USSR in the early days of the strategic competition. But they have maintained and expanded that threat long after having acquired the capability to launch a

direct attack on the United States. Indeed, the size of their medium-range force bears no evident relationship to the capability of its counterparts in Western Europe or even to any urban target system there.

Third, it is noteworthy that the Soviets are apparently not content with the SALT I agreements, which temporarily froze certain Soviet quantitative advantages (in ICBMs and SLBMs) in compensation for certain U.S. advantages. They have decided, as far as we can judge, to strive for at least comparable qualitative capabilities as well. [They have done so, I should add, even though both sides at Moscow in 1972 fully endorsed the proposition that neither would seek strategic advantage.]

To sum up, what we now have to face in our force planning is that the Soviets have:

-- acquired better than numerical parity with the United States in terms of strategic nuclear launchers (counting bombers as well as missiles);

-- continued their extensive threat to Western Europe even after having acquired a massive direct threat to the United States;

-- begun to exploit the larger throw-weight of their ICBMs so as to permit the eventual deployment of as many as 7,000 potentially high-accuracy MIRVs with [redacted] yields;

-- started production of the Backfire bomber which could well evolve into an intercontinental threat.

It is premature to assess confidently what objectives the Soviets have set for themselves with these active, expensive programs. However, it is certainly conceivable that they foresee both political and military advantage, not only in the growing numerical weight of their forces, but also in their potential to bring major portions of our own strategic arsenal into jeopardy.

The United States, for its part, cannot afford to stand idly by in the face of these developments. As I shall discuss later, we are recommending a number of quite specific research programs to hedge against any sustained drive to achieve what the Soviet Union may regard, however mistakenly, as meaningful, exploitable, superiority. Preferably by agreement or if necessary by unilateral action, we believe that we must maintain an essential equivalence with them. We are prepared to balance our strategic forces down if SALT succeeds, or to balance them up if we must match Soviet momentum.

The Soviet strategic capability no longer is the only one that we must take into account in our force planning. A second important force from the standpoint of the United States is that of the Peoples' Republic of China (PRC). During the past decade, the Chinese have moved steadily from a program of development and testing to a deployed nuclear capability. We now estimate that

they already have on line a modest number of MRBMs, IRBMs, and nuclear-capable medium and light bombers.

Previous forecasts about the evolution of this capability have not proved particularly reliable, and I cannot guarantee any higher confidence in the current projections. Nevertheless, we estimate that the PRC could achieve an ICBM initial operating capability as early as 1976 and an SLBM initial operating capability at a somewhat later date.

We do not yet have much insight into the strategic and political objectives that the PRC is seeking to achieve with these deployments. But certain interesting features about them are already evident.

-- The Chinese are clearly sensitive to the importance of second-strike nuclear capabilities and are making a considerable effort to minimize the vulnerability of their strategic offensive forces.

-- The range and location of their systems are such that they can already cover important targets in the eastern USSR. But they are also located so as to be able to attack other countries on their periphery.

-- With the deployment of the ICBM that they have under development (and later an SLBM), they will have the capability to attack targets throughout the USSR and in the United States as well.

Our relations with the PRC have, of course, improved very dramatically during the last four years. Moreover, the present Chinese leadership may well be striving for exclusively second-strike countercity forces. Nonetheless, we must in prudence take these forces into account in our planning.

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Any assessment of the nuclear threats facing the United States must keep certain other prospects in mind as well. In the not very distant future, five nations (U.S., USSR, PRC, UK, and France) will have deployed SLBM forces at sea. It will clearly be desirable in these circumstances to have some idea about the identity and general location of these different forces, together with highly reliable communications and tight control over our own land-based and sea-based nuclear capabilities.

It is even more essential that we focus on the issues that could arise if and when several additional nations acquire nuclear weapons, not necessarily for the purpose of attacking the United States, but for possible use or pressure against one another. Such a development could have a considerable impact on our own policies, plans, and programs. Indeed, this prospect alone should make it evident that no single target system and no stereotyped scenario of mutual city-destruction will suffice as the basis for our strategic planning.

3. Deterrence and Assured Destruction

I frankly doubt that our thinking about deterrence and its requirements has kept pace with the evolution of these threats. Much of what passes as current theory wears a somewhat dated air -- with its origins in the strategic bombing campaigns of World War II and the nuclear weapons technology of an earlier era when warheads were bigger and dirtier, delivery systems considerably less accurate, and forces much more vulnerable to surprise attack.

The theory postulates that deterrence of a hostile act by another party results from a threat of retaliation. This retaliatory threat, explicit or implicit, must be of sufficient magnitude to make the goal of the hostile act appear unattainable, or excessively costly, or both. Moreover, in order to work, the retaliatory threat must be credible: that is, believable to the party being threatened. And it must be supported by visible, employable military capabilities.

The theory also recognizes that the effectiveness of a deterrent depends on a good deal more than peacetime declaratory statements about retaliation and the existence of a capability to do great damage. In addition, the deterrent must appear credible under conditions of crisis, stress, and even desperation or irrationality on the part of an opponent. And since, under a variety of conditions, the deterrent forces themselves could become

the target of an attack, they must be capable of riding out such an attack in sufficient quantity and power to deliver the threatened retaliation in a second strike.

The principle that nuclear deterrence (or any form of deterrence, for that matter) must be based on a high-confidence capability for second-strike retaliation -- even in the aftermath of a well-executed surprise attack -- is now well established. A number of other issues remain outstanding, however. A massive, bolt-out-of-the-blue attack on our strategic forces may well be the worst possible case that could occur, and therefore extremely useful as part of the force sizing process. But it may not be the only, or even the most likely, contingency against which we should design our deterrent. Furthermore, depending upon the contingency, there has been a long-standing debate about the appropriate set of targets for a second strike which, in turn, can have implications both for the types of war plans we adopt and the composition of our forces.

This is not the place to explore the full history and details of that long-standing strategic debate. However, there is one point to note about its results. Although several targeting options, including military only and military plus urban/industrial variations, have been a part of U.S. strategic doctrine for quite some time, the concept that has dominated our rhetoric for most of the era since World War II has been massive retaliation against cities, or what is called assured destruction. As I hardly need

emphasize, there is a certain terrifying elegance in the simplicity of the concept. For all that it postulates, in effect, is that deterrence will be adequately (indeed amply) served if, at all times, we possess the second-strike capability to destroy some percentage of the population and industry of a potential enemy. To be able to assure that destruction, even under the most unfavorable circumstances -- so the argument goes -- is to assure deterrence, since no possible gain could compensate an aggressor for this kind and magnitude of loss.

The concept of assured destruction has many attractive features from the standpoint of sizing the strategic offensive forces. Because nuclear weapons produce such awesome effects, they are ideally suited to the destruction of large, soft targets such as cities. Furthermore, since cities contain such easily measurable contents as people and industry, it is possible to establish convenient quantitative criteria and levels of desired effectiveness with which to measure the potential performance of the strategic offensive forces. And once these specific objectives are set, it becomes a relatively straightforward matter -- given an authoritative estimate about the nature and weight of the enemy's surprise attack -- to work back to the forces required for second-strike assured destruction.

The basic simplicity of the assured destruction calculation does not mean that the force planner is at a loss for issues.

On the contrary, important questions continue to arise about the assumptions from which the calculations proceed. Where, for the sake of deterrence, should we set the level of destruction that we want to assure? Is it enough to guarantee the ruin of several major cities and their contents, or should we -- to assure deterrence -- move much further and upward on the curve of destruction? Since our planning must necessarily focus on the forces we will have five or even ten years hence, what should we assume about the threat -- that is, the nature and weight of the enemy attack that our forces must be prepared to absorb? How pessimistic should we be about the performance of these forces in surviving the attack, penetrating enemy defenses (if they exist), and destroying their designated targets? How conservative should we be in buying insurance against possible failures in performance?

Generally speaking, national policy makers for more than a decade have chosen to answer these questions in a conservative fashion. Against the USSR, for example, we tended in the 1960s to talk in terms of levels of assured destruction at between a fifth and a third of the population and between half and three-quarters of the industrial capacity. We did so for two reasons:

-- beyond these levels very rapidly diminishing increments of damage would be achieved for each additional dollar invested;

-- it was thought that amounts of damage substantially below those levels might not suffice to deter irrational or desperate leaders.

We tended to look at a wide range of threats and possible attacks on our strategic forces, and we tried to make these forces effective even after their having been attacked by high but realistically constrained threats. That is to say, we did not assume unlimited budgets or an untrammelled technology on the part of prospective opponents, but we were prudent about what they might accomplish within reasonable budgetary and technological constraints. Our choice of assumptions about these factors was governed not by a desire to exaggerate our own requirements but by the judgment that, with so much at stake, we should not make national survival a hostage to optimistic estimates of our opponents' capabilities.

In order to ensure the necessary survival and retaliatory effectiveness of our strategic offense, we have maintained a TRIAD of forces, each of which presents a different problem for an attacker, each of which causes a specialized and costly problem for his defense, and all of which together currently give us high confidence that the force as a whole can achieve the desired deterrent objective.

That, however, is only part of the explanation for the present force structure. We have arrived at the current size and

mix of our strategic offensive forces not only because we want the ultimate threat of massive destruction to be really assured, but also because for more than a decade we have thought it advisable to test the force against the "higher-than-expected" threat. Given the built-in surplus of warheads generated by this force-sizing calculation, we could allocate additional weapons to non-urban targets and thereby acquire a limited set of options, including the option to attack some hard targets.

President Nixon has strongly insisted on continuing this prudent policy of maintaining sufficiency. As a result, I can say with confidence that in 1974, even after a more brilliantly executed and devastating attack than we believe our potential adversaries could deliver, the United States would retain the capability to kill more than 30 percent of the Soviet population and destroy more than 75 percent of Soviet industry. At the same time we could hold in reserve a major capability against the PRC.

Such reassurances may bring solace to those who enjoy the simple but arcane calculations of assured destruction. But they are of no great comfort to policymakers who must face the actual decisions about the design and possible use of the strategic nuclear forces. Not only must those in power consider the morality of threatening

such terrible retribution on the Soviet people for some ill-defined transgression by their leaders; in the most practical terms, they must also question the prudence and plausibility of such a response when the enemy is able, even after some sort of first strike, to maintain the capability of destroying our cities. The wisdom and credibility of relying simply on the preplanned strikes of assured destruction are even more in doubt when allies rather than the United States itself face the threat of a nuclear war.

4. The Need for Options

President Nixon underlined the drawbacks to sole reliance on assured destruction in 1970 when he asked:

> "Should a President, in the event of a nuclear attack, be left with the single option of ordering the mass destruction of enemy civilians, in the face of the certainty that it would be followed by the mass slaughter of Americans? Should the concept of assured destruction be narrowly defined and should it be the only measure of our ability to deter the variety of threats we may face?"

The questions are not new. They have arisen many times during the nuclear era, and a number of efforts have been made to answer them. We actually added several response options to our contingency plans in 1961 and undertook the retargeting necessary for them. However, they all involved large numbers of weapons. In addition, we publicly adopted to some degree the philosophies of counterforce and damage-limiting. Although differences existed between those two concepts as then formulated, particularly in their diverging assumptions about cities as likely targets of attack, both had a number of features in common.

-- Each required the maintenance of a capability to destroy urban-industrial targets, but as a reserve to deter attacks on U.S. and allied cities rather than as the main instrument of retaliation.

-- Both recognized that contingencies other than a massive surprise attack on the United States might arise and should be deterred; both argued that the ability and willingness to attack military targets were prerequisites to deterrence.

-- Each stressed that a major objective, in the event that deterrence should fail, would be to avoid to the extent possible causing collateral damage in the USSR, and to limit damage to the societies of the United States and its allies.

-- Neither contained a clear-cut vision of how a nuclear war might end, or what role the strategic forces would play in their termination.

-- Both were considered by critics to be open-ended in their requirement for forces, very threatening to the retaliatory capabilities of the USSR, and therefore dangerously stimulating to the arms race and the chances of pre-emptive war.

-- The military tasks that each involved, whether offensive counterforce or defensive damage-limiting, became

increasingly costly, complex, and difficult as Soviet strategic forces grew in size, diversity, and survivability.

Of the two concepts, damage-limiting was the more demanding and costly because it required both active and passive defenses as well as a counterforce capability to attack hard targets and other strategic delivery systems. Added to this was the assumption (at least for planning purposes) that an enemy would divide his initial attack between our cities and our retaliatory forces, or switch his fire to our cities at some later stage in the attack. Whatever the realism of that assumption, it placed an enormous burden on our active and passive defenses -- and particularly on anti-ballistic missile (ABM) systems -- for the limitation of damage.

With the ratification of the ABM treaty in 1972, and the limitation it imposes on both the United States and the Soviet Union to construct no more than two widely separated ABM sites (with no more than 100 interceptors at each), an essential building-block in the entire damage-limiting concept has now been removed. As I shall discuss later, the treaty has also brought into question the utility of large, dedicated anti-bomber defenses, since without a defense against missiles, it is clear that an active defense against bombers has little value in protecting our cities. The salient point, however, is that the ABM treaty has

effectively removed the concept of defensive damage limitation (at least as it was defined in the 1960s) from contention as a major strategic option.

Does all of this mean that we have no choice but to rely solely on the threat of destroying cities? Does it even matter if we do? What is wrong, in the final analysis, with staking everything on this massive deterrent and pressing ahead with a further limitation of these devastating arsenals?

No one who has thought much about these questions disagrees with the need, as a minimum, to maintain a conservatively designed reserve for the ultimate threat of large-scale destruction. Even more, if we could all be guaranteed that this threat would prove fully credible (to friend and foe alike) across the relevant range of contingencies -- and that deterrence would never be severely tested or fail -- we might also agree that nothing more in the way of options would ever be needed. The difficulty is that no such guarantee can be given. There are several reasons why any assurance on this score is impossible.

Since we ourselves find it difficult to believe that we would actually implement the threat of assured destruction in response to a limited attack on military targets that caused relatively few civilian casualties, there can be no certainty that, in a crisis, prospective opponents would be deterred from

testing our resolve. Allied concern about the credibility of this particular threat has been evident for more than a decade. In any event, the actuality of such a response would be utter folly except where our own or allied cities were attacked.

Today, such a massive retaliation against cities, in response to anything less than an all-out attack on the U.S. and its cities, appears less and less credible. Yet as pointed out above, deterrence can fail in many ways. What we need is a series of measured responses to aggression which bear some relation to the provocation, have prospects of terminating hostilities before general nuclear war breaks out, and leave some possibility for restoring deterrence. It has been this problem of not having sufficient options between massive response and doing nothing, as the Soviets built up their strategic forces, that has prompted the President's concerns and those of our Allies.

Threats against allied forces, to the extent that they could be deterred by the prospect of nuclear retaliation, demand both more limited responses than destroying cities and advanced planning tailored to such lesser responses. Nuclear threats to our strategic forces, whether limited or large-scale, might well call for an option to respond in kind against the attacker's military forces. In other words, to be credible, and hence effective over the range of possible contingencies, deterrence must rest on many options and on a spectrum of capabilities (within the constraints of SALT) to support these options. Certainly such complex matters

as response options cannot be left hanging until a crisis. They must be thought through beforehand. Moreover, appropriate sensors to assist in determining the nature of the attack, and adequately responsive command-control arrangements, must also be available. And a venturesome opponent must know that we have all of these capabilities.

Flexibility of response is also essential because, despite our best efforts, we cannot guarantee that deterrence will never fail; nor can we forecast the situations that would cause it to fail. Accidents and unauthorized acts could occur, especially if nuclear proliferation should increase. Conventional conflicts could escalate into nuclear exchanges; indeed, some observers believe that this is precisely what would happen should a major war break out in Europe. Ill-informed or cornered and desperate leaders might challenge us to a nuclear test of wills. We cannot even totally preclude the massive surprise attack on our forces which we use to test the design of our second-strike forces, although I regard the probability of such an attack as close to zero under existing conditions. To the extent that we have selective response options -- smaller and more precisely focused than in the past -- we should be able to deter such challenges. But if deterrence fails, we may be able to bring all but the largest nuclear conflicts to a rapid conclusion before cities are struck. Damage may thus be limited and further escalation avoided.

I should point out in this connection that the critics of options cannot have the argument both ways. If the nuclear balance is no longer delicate and if substantial force asymmetries are quite tolerable, then the kinds of changes I have been discussing here will neither perturb the balance nor stimulate an arms race. If, on the other hand, asymmetries do matter (despite the existence of some highly survivable forces), then the critics themselves should consider seriously what responses we should make to the major programs that the Soviets currently have underway to exploit their advantages in numbers of missiles and payload. Whichever argument the critics prefer, they should recognize that:

-- inertia is hardly an appropriate policy for the United States in these vital areas;

-- we have had some large-scale pre-planned options other than attacking cities for many years, despite the rhetoric of assured destruction;

-- adding more selective, relatively small-scale options is not necessarily synonymous with adding forces, even though we may wish to change their mix and improve our command, control, and communications.

However strong in principle the case for selective options, several questions about it remain. What kinds of options are feasible? To what extent would their collateral effects be distinguishable from those of attacks deliberately aimed at cities? And what are their implications for the future size

and composition of our strategic forces and hence for our arms control objectives in this realm?

Many of the factors bearing on these questions will become more evident later in this statement. It is worth stressing at this point, however, that targets for nuclear weapons may include not only cities and silos, but also airfields, many other types of military installations, and a variety of other important assets that are not necessarily collocated with urban populations. We already have a long list of such possible targets; now we are grouping them into operational plans which would be more responsive to the range of challenges that might face us. To the extent necessary, we are retargeting our forces accordingly.

Which among these options we might choose in a crisis would depend on the nature of an enemy's attack and on his objectives. Many types of targets can be pre-programmed as options -- cities, other targets of value, military installations of many different kinds, soft strategic targets, hard strategic targets. A number of so-called counterforce targets, such as airfields, are quite soft and can be destroyed without pinpoint accuracy. The fact that we are able to knock out these targets -- counterforce though it may be -- does not appear to be the subject of much concern.

In some circumstances, however, a set of hard targets might be the most appropriate objective for our retaliation, and this I

realize is a subject fraught with great emotion. Even so, several points about it need to be made.

-- The destruction of a hardened target is not simply a function of accuracy; it results from the combined effects of accuracy, nuclear yield, and the number of warheads applied to the target.

-- Both the United States and the Soviet Union already have the necessary combinations of accuracy, yield, and numbers in their missile forces to provide them with some hard-target-kill capability, but it is not a particularly efficient capability.

-- Neither the United States nor the Soviet Union now has a disarming first strike capability, nor are they in any position to acquire such a capability in the foreseeable future, since each side has large numbers of strategic offensive systems that remain untargetable by the other side. Moreover, the ABM Treaty forecloses a defense against missiles. As I have already noted in public: "The Soviets, under the Interim Offensive Agreement, are allowed 62 submarines and 950 SLBM launchers. In addition, they have many other nuclear forces. Any reasonable calculation would demonstrate, I believe, that it is not possible for us even to begin to

eliminate the city-destruction potential embodied in their ICBMs, let alone their SLBM force."

The moral of all this is that we should not single out accuracy as some sort of unilateral or key culprit in the hard-target-kill controversy. To the extent that we want to minimize unintended civilian damage from attacks on even soft targets, as I believe we should, we will want to emphasize high accuracy, low yields, and airburst weapons.

To enhance deterrence, we may also want a more efficient hard-target-kill capability than we now possess: both to threaten specialized sets of targets (possibly of concern to allies) with a greater economy of force, and to make it clear to a potential enemy that he cannot proceed with impunity to jeopardize our own system of hard targets.

Thus, the real issue is how much hard-target-kill capability we need, rather than the development of new combinations of accuracy and yield per se. Resolution of the quantitative issue, as I will discuss later, depends directly on the further evolution of the Soviet strategic offensive forces and on progress in the current phase of the Strategic Arms Limitation Talks.

In the meantime, I would be remiss if I did not recommend further research and development on both better accuracy and improved yield-to-weight ratios in our warheads. Both are essential whether we decide primarily on high accuracy and low

yields or whether we move toward an improved accuracy-yield combination for a more efficient hard-target-kill capability than we now deploy in our missiles and bombers. Whichever way we go, we have more need than the Soviets for increased accuracy because of our constrained payloads and low-yield MIRVs which have resulted from our lower missile throw-weights.

With a reserve capability for threatening urban-industrial targets, with offensive systems capable of increased flexibility and discrimination in targeting, and with concomitant improvements in sensors, surveillance, and command-control, we could implement response options that cause far less civilian damage than would now be the case. For those who consider such changes potentially destabilizing because of their fear that the options might be used, let me emphasize that without substantially more of an effort in other directions than we have any intention of proposing, there is simply no possibility of reducing civilian damage from a large-scale nuclear exchange sufficiently to make it a tempting prospect for any sane leader. But that is not what we are talking about here. At the present time, we are acquiring selective and discriminating options that are intended to deter another power from exercising any form of nuclear pressure. Simultaneously, as I shall discuss later, we and our allies are improving our general purpose forces precisely so as to raise the threshold against the use of any nuclear forces.

5. Separability of Targeting Doctrine and Sizing of Forces

The evolution in targeting doctrine is quite separable from, and need not affect the sizing of the strategic forces. It is quite feasible to have the foregoing options within the limits set by the ABM Treaty and the Interim Agreement on offensive forces. What is more, none of the options we are adopting and none of the programs we are proposing for research and development need preclude further mutually agreed constraints on or reductions in strategic offensive systems through SALT. If the Soviets are prepared to reduce these arsenals in an equitable fashion, we are prepared to accommodate them. In fact, I can say that we would join in such an effort with enthusiasm and alacrity.

To stress changes in targeting doctrine and new options does not mean radical departures from past practice. Nor does it imply any possibility of acquiring a first strike disarming capability. As I have repeatedly stated, both the United States and the Soviet Union now have and will continue to have large, invulnerable second-strike forces. If both powers continue to behave intelligently and perceptively, the likelihood that they would unleash the strategic forces is so low that it approaches zero. We are determined, nonetheless, to have credible responses at hand for any nuclear contingency that might arise and to maintain the clear ability to prevent any potential enemy from achieving objectives against us that he might consider meaningful. The availability

of carefully tailored, pre-planned options will contribute to that end. They do not invite nuclear war; they discourage it.

I repeat, we are eager to begin a reduction of the strategic forces by mutual agreement and on terms of parity. That is our first preference. We would be quite content if both the United States and the Soviet Union avoided the acquisition of major counterforce capabilities. But we are troubled by Soviet weapons momentum, and we simply cannot ignore the prospect of a growing disparity between the two major nuclear powers. We do not propose to let an opponent threaten a major component of our forces without our being able to pose a comparable threat. We do not propose to let an enemy put us in a position where we are left with no more than a capability to hold his cities hostage after the first phase of a nuclear conflict. And certainly we do not propose to see an enemy threaten one or more of our allies with his nuclear capabilities in the expectation that we would lack the flexibility and resolve to strike back at his assets (and those of any countries supporting the threat) in such a way as to make his effort both high in cost and ultimately unsuccessful.

How we proceed on these counts will depend on the USSR. But I do not believe that we can any longer delay putting our potential countermeasures into research and development. The Soviets must be under no illusion about our determination to proceed with whatever responses their actions may require.

And if we undertake the programs that I shall discuss later, the prospects for misunderstanding should be low. More sensible arrangements for both parties may then be feasible.

6. Strategic Balance and International Stability

Until the late 1960s, U.S. superiority in launchers, warheads, and equivalent megatonnage was so great that we could ignore or disparage the importance of such "static" measures in comparing our forces with those of the USSR. Now, however, our numerical superiority has disappeared in almost every category except that of warheads, and it could dwindle very rapidly there as well.

Whether the Soviets believe that with the shift in these indicators they have achieved any meaningful, exploitable, advantage is not clear. However, they have not been reticent in stressing to a variety of audiences their superiority over the United States in numbers of ICBMs and other strategic capabilities. Their words, at least, have suggested that they see these asymmetries as giving them diplomatic if not military leverage.

As far as we can judge, moreover, the Soviets now seem determined to exploit the asymmetries in ICBMs, SLBMs, and payload we conceded to them at Moscow. Apparently, they plan to deploy large numbers of heavy and possibly very accurate MIRVs. As I have already indicated, this kind of deployment could in time come to threaten both our bombers and our ICBMs. Admittedly,

we would still retain immense residual power in our deployed SLBM force, and the Soviets would surely know it. But to many interested observers, the actual and potential asymmetries (as measured by these "static" criteria) would look even more pronounced in favor of the USSR.

In such circumstances we cannot exclude the possibility that future Soviet leaders might be misled into believing that such apparently favorable asymmetries could, at the very least, be exploited for diplomatic advantage. Pressure, confrontation, and crisis could easily follow from a miscalculation of this nature.

It is all well and good to assert that the Soviet leaders, faced by an adamant and unified America, would come to their senses in time to avoid fatal mistakes in such a situation and would recognize the illusory nature of their advantages. But a crisis might already be too late for such an awakening. It is worth a price in research and development hedges to prevent such illusions from arising in the first place.

None of this should be taken to mean that exact symmetry must exist between the two offensive forces. The United States is willing to tolerate the existence of asymmetries provided that, in an era of alleged parity, they do not all favor one party. But we are not prepared to accept a situation in which all the visible asymmetries point in one direction. And we know from experience

that the Soviets are not prepared to do so either. The potential for misunderstanding, miscalculation, and diplomatic error is too great to risk. A more equitable and stable arrangement would be one in which both sides maintain survivable second-strike reserves, in which there is symmetry in the ability of each side to threaten the other and in which there is a perceived equality between the offensive forces of both sides.

Accordingly, not only must our strategic force structure contain a reserve for threatening urban-industrial targets, the ability to execute a number of options, and the command-control necessary to evaluate attacks and order the appropriate responses; it must also exhibit sufficient and dynamic countervailing power so that no potential opponent or combination of opponents can labor under any illusion about the feasibility of gaining diplomatic or military advantage over the United States. Allied observers must be equally persuaded as well. In this sense, the sizing of our strategic arsenal, as distinct from our targeting doctrine, will depend on the outcome of SALT. In default of a satisfactory replacement for the Interim Agreement on strategic offensive forces, we will have to incorporate "static" measures and balancing criteria into the planning of our strategic offensive forces.

7. Principal Features of the Proposed Posture

This review of the factors that necessarily shape the planning and programming of the strategic nuclear forces should also indicate the principal features that we propose to maintain and improve in our strategic posture. They are:

-- a capability sufficiently large, diversified, and survivable so that it will provide us at all times with high confidence of riding out even a massive surprise attack and of penetrating enemy defenses, and with the ability to withhold an assured destruction reserve for an extended period of time.

-- sufficient warning to ensure the survival of our heavy bombers together with the bomb alarm systems and command-control capabilities required by our National Command Authorities to direct the employment of the strategic forces in a controlled, selective, and restrained fashion.

-- the forces to execute a wide range of options in response to potential actions by an enemy, including a capability for precise attacks on both soft and hard targets, while at the same time minimizing unintended collateral damage.

-- the avoidance of any combination of forces that could be taken as an effort to acquire the ability to execute a first-strike disarming attack against the USSR.

-- an offensive capability of such size and composition that all will perceive it as in overall balance with the strategic forces of any potential opponent.

-- offensive and defensive capabilities and programs that conform with the provisions of current arms control agreements and at the same time facilitate the conclusion of more permanent treaties to control and, if possible, reduce the main nuclear arsenals.

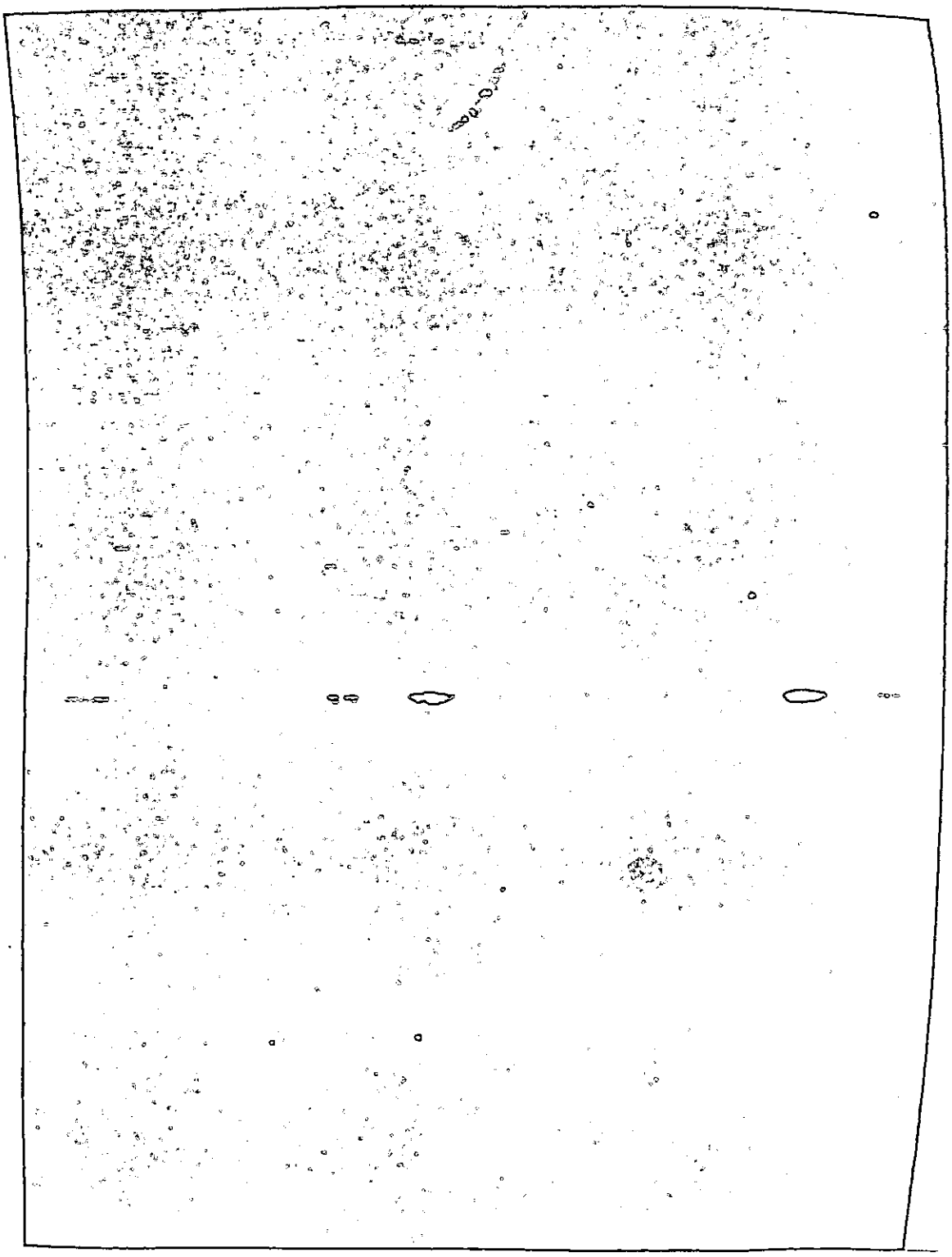
I will now discuss specific aspects of USSR and PRC strategic activities, together with the programs that we propose for the achievement of our force and employment objectives.

B. SIGNIFICANT DEVELOPMENTS IN THE STRATEGIC THREAT

1. The Soviet Union

The most important [redacted] development in the strategic threat during the past year is the Soviet Union's demonstration of a MIRV technology. While this development had been anticipated for many years, the scope of the Soviet program as it has now emerged is far more comprehensive than estimated even a year ago. It is now apparent that all four of the new Soviet ICBMs -- the SS-X-18, a large liquid-fueled missile in the SS-9 class; the SS-X-17 and the SS-X-19, two medium liquid-fueled missiles with [redacted] times the throw-weight of the SS-11; and the SS-X-16, a light solid-fueled missile in the SS-13 class -- employ a post boost vehicle (PBV), commonly known in our country as a bus-type dispensing system. The SS-X-16 thus far has been flight tested with only one RV, but the other three ICBMs have now all been tested with unmistakably MIRVed payloads.

The breadth and depth of this Soviet ICBM program is further manifested by the wide variety of techniques and technology employed in the new systems. All four of these systems have digital computers aboard the post boost vehicles [redacted] This latter concept is more consistent with past Soviet practice --



Although the SS-X-16 has thus far been tested with only one RV, a MIRV version cannot be precluded at this time. Indeed, if a MIRVed version is not developed, the only benefit to be derived from the use of a PBV in the SS-X-16 would be a possible improvement in CEP. [redacted] It now appears that a land-mobile version of the SS-X-16 is also under development. Consequently, this missile may be deployed in both a fixed and land-mobile mode. As you know, the Interim Agreement itself does not restrict the development of land-mobile systems by either side, but the U.S. Government has unilaterally declared that it would consider the deployment of such missiles inconsistent with the objectives of the Agreement.

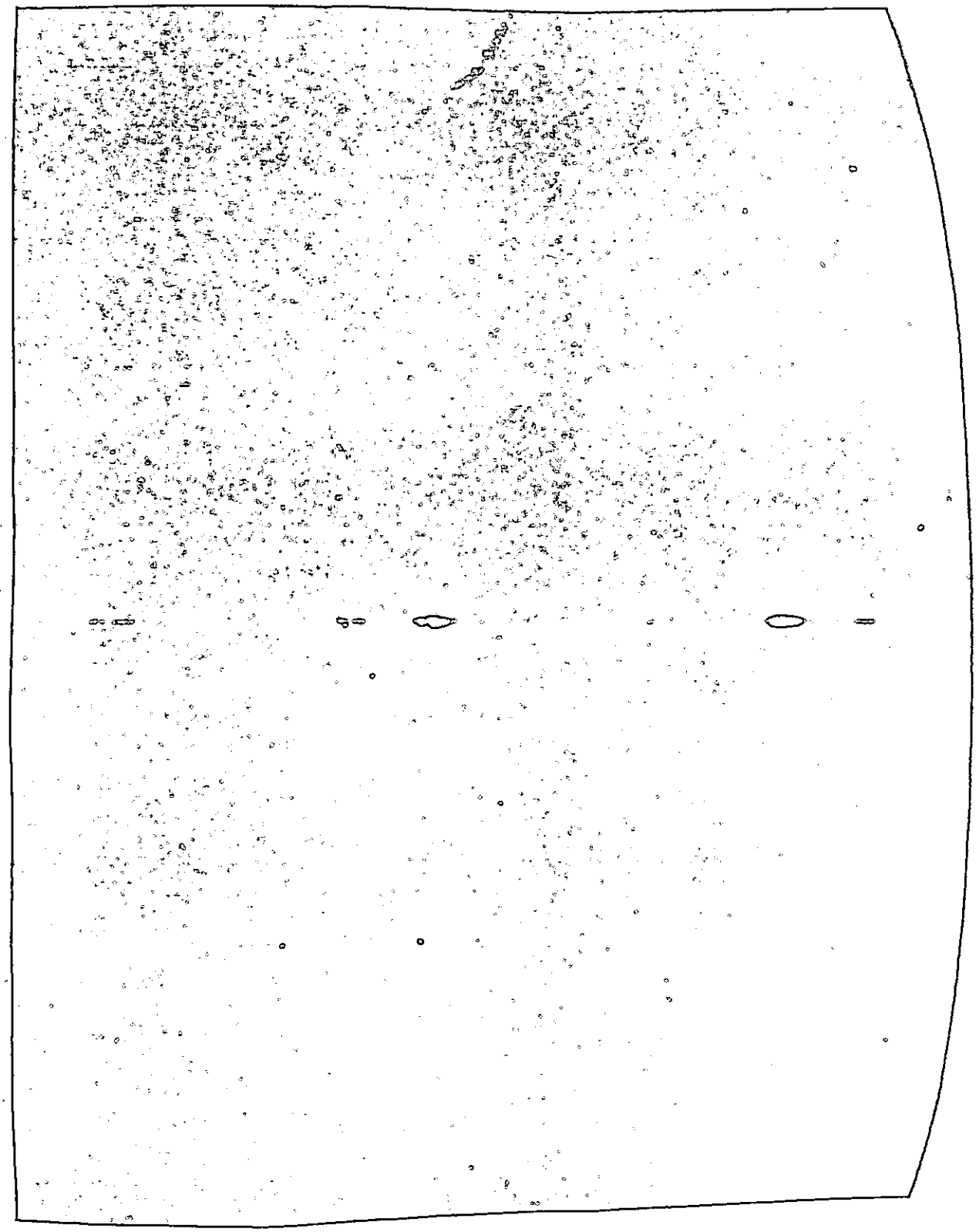
The SS-X-17 and SS-X-19 are apparently competitive developments of a potential replacement for the SS-11. Of the two, the SS-X-17 is technologically the more advanced -- [redacted] The SS-X-17 has been tested with both a single large RV and with four MIRVs. The single RV version could probably carry a [redacted] warhead, and with [redacted] it would be a very effective hard target weapon. The MIRVed version could probably carry a [redacted]

[redacted] warhead in each RV, [redacted] it would be essentially a soft target weapon. The SS-X-19, in contrast, has been tested only with a MIRVed payload of six RVs [redacted]

Nevertheless, the SS-X-17 and SS-X-19 MIRVs are clearly designed for greater accuracy, e.g., they have reentry vehicle configurations shaped for high speed atmospheric reentry. Consequently, with further refinements in the PBV guidance systems (and, hence, better CEPs) they may in time acquire a hard target capability. Both of these ICBMs can be deployed in the new [redacted] silos. With some modifications to the silos, particularly in the case of the SS-X-19 which is longer than the SS-11 and the SS-X-17, they could also be deployed in the current SS-11 silos.

The SS-X-18, like the SS-X-17, has been tested with both a single large RV [redacted] and with five MIRVs [redacted] even the MIRVed version would have a very respectable hard target kill capability.

The SS-X-18 is clearly destined to be deployed in the new silos [redacted]



In summary, the new Soviet ICBM program represents a truly massive effort -- four new missiles, four new bus-type dispensing

systems [redacted] new MIRVed payloads, probably [redacted] new warheads [redacted] guidance modes, [redacted] new-type silos, [redacted] new-type launch control center, and [redacted] new ICBM launch technique. This very impressive program appears to have three main objectives -- expanded target coverage (particularly countermilitary) with MIRVs, improved pre-launch survivability with the new very hard silo designs, and the attainment of a significant hard target kill capability. [redacted]

In addition, it is more than likely that the MIRVed follow-on to the SS-11, whether it be the SS-X-17 or SS-X-19, will also achieve a respectable hard target kill capability during the early part of the next decade. [redacted]

[redacted]

The most notable development in the Soviet SLBM program during the past year is the flight test of a new version of the SS-N-6 with two or three RVs. These are MRVs rather than MIRVs, i.e., they are not individually targetable. Hence, the SS-N-6 MOD 2 is similar to our POLARIS A-3. The MOD 2 has an estimated range of 1600 nm, compared with 1300 nm for the MOD 1.

There is as yet no evidence of a MRV or MIRV version of the longer range SS-N-8, which is being deployed in the new D-class submarine. But given the new Soviet ICBMs and the SS-N-6 MOD 2, one or the other will probably appear in the next year or so. Nor is there any evidence of depressed trajectory testing of the SS-N-6 or SS-N-8, and the submarine operating areas are still more than a thousand miles off our shores.

We believe that virtually all SSBN production has now shifted to the D-class which carries 12 launchers each. (There is some evidence, however, that a modified D-class submarine with more than 12 tubes may now be under construction.) A total of 33 Y-class submarines (with 16 launchers each) has been completed and 18 or 19 D-class had been launched or were being assembled by the end of 1973, for a total of at least 744 launchers. Thus, it appears that the Soviet Union intends to go beyond the

"baseline" SAL ceiling of "740 ballistic missile launchers on nuclear-powered submarines".

The Interim Agreement, as you know, gives the Soviet Union the option to replace its old SS-7s and 8s (209 launchers) with "modern" SLBM launchers (SS-N-6s and 8s or better) up to a total of 950 launchers and 62 modern nuclear-powered submarines (Y and D-class or better). A few soft SS-7 sites have been partially dismantled and a number of others appear inactive, but none has as yet been made completely inoperable. Under the Interim Agreement, however, the phase out of the old systems is not required until the submarine with the 741st launcher enters sea trials -- which we now estimate will occur in mid-1975. At the current rate of production, 6-8 per year, the Soviet Union could have 62 operational "modern ballistic missile submarines" by mid-1977.

The major ongoing development in the Soviet strategic bomber force is, of course, the BACKFIRE. About 20 of these aircraft have now been produced and the first few are apparently being used for crew training. Thus, we can expect the first squadron of BACKFIREs to become operational sometime this year.

The question of range and primary mission of the BACKFIRE has yet to be fully resolved. It now appears, however, that the B-model which we believe is the production model, will have a greater range than estimated for the earlier A model. This factor, coupled with its known refueling capability, would

seem to indicate that the BACKFIRE could be used as an intercontinental as well as a peripheral bomber, the role for which it appears best suited. Even so, the deployment of this new bomber would not substantially alter the U.S. air defense problem. As long as we cannot defend our cities against ballistic missile attack, there is little to be gained by trying to defend them against bomber attack. I will have more to say about this matter when I discuss our revised air defense program.

With regard to Soviet strategic defensive programs, there is still no evidence that the construction of an ABM defense for an ICBM area has been started. (The ABM Treaty allows both sides a total of 200 ABM launchers, 100 for the defense of the national capital area and 100 for the defense of an ICBM area.) In fact, there have as yet been no additions to the 64 ABM launchers in place around Moscow before the ABM Treaty was signed. [redacted] The Soviet Union, however, has not lost interest in ABM defense. Flight testing of the new ABMs discussed here last year is continuing. [redacted]

Modernization of Soviet air defenses is continuing. The number of active SA-2 sites is declining, but additional SA-3

low altitude and SA-5 high altitude SAMs are being deployed. Similarly, new and more capable interceptors are entering the forces, but at a slower rate than older interceptors are being phased out. Although the Soviet air defense system is the most formidable in the world and is still being improved, it is not likely to offer an insurmountable obstacle to our bomber force in the foreseeable future. Should the Soviet Union develop and deploy an AWACS - FOXBAT "look-down, shoot-down" air defense system, as described in this report in past years, we would of course have to counter it with new penetration devices and techniques such as the cruise missile, bomber defense missiles, and improved ECM.

In this connection, we must be careful not to draw a false analogy from the Hanoi and Suez Canal air defense experiences. In both those cases the air defenses were heavily concentrated in a very limited area; moreover, only conventional weapons were employed by the attacking aircraft. In the case of the Soviet Union, the number of places which have to be defended is very large and, consequently, the air defenses are spread over a vast area. Our bombers, in striking back at the Soviet Union, would be penetrating at very low altitudes to avoid the high and medium altitude SAMs, and would be using SRAMs to attack the low altitude SAM batteries. Moreover, our bombers would be employing nuclear weapons, only

one of which need penetrate to destroy the target and probably much of its air defenses.

2. The People's Republic of China

The PRC land-based ballistic missile program is progressing slowly but steadily. [redacted]

Most important from the U.S. point of view is the continuing development of the PRC ICBM which was flight tested [redacted] in 1973, [redacted] we remain convinced that the PRC will pursue that program to a successful conclusion and achieve an ICBM capability before the end of this decade. [redacted] Even a small force of operational ICBMs in hard silos -- 20 to 30 -- would give the

PRC considerable strategic leverage; it would be able to augment its threat to the principal Soviet cities west of the Urals, and for the first time [redacted] the major cities in the United States.

Production of the BEAGLE light bomber in the PRC is continuing at a very modest rate, [redacted] Neither the BEAGLE nor the BADGER has sufficient range to reach the continental United States, but both can threaten our forces and allies in Asia and the Western Pacific, as well as the eastern part of the Soviet Union.

The PRC is also gradually strengthening its air defenses with the deployment of additional MIG-19 interceptors and SA-2 type SAMs. Moreover, a new all-weather, long-range interceptor is now being flight tested and may soon be placed in production. Nevertheless, the PRC air defenses, because of their qualitative limitations, are not likely to present much of an obstacle to either the United States or the Soviet Union in the event of war, at least during the balance of this decade.

C. U.S. STRATEGIC FORCES AND PROGRAMS

Shown on Table 2 in the Appendix to this Report are the U.S. strategic forces programmed through FY 1979. Although the Interim Agreement on strategic offensive forces expires in October 1977, we are continuing to plan our forces within the bounds of that agreement and the ABM Treaty; and, for intelligence estimating purposes, we are assuming the Soviet Union will do the same. Admiral Moorer will provide a detailed comparison of U.S.-USSR strategic forces through mid-1979 in his Military Posture presentation. For convenience, a summary comparison through mid-1975 is shown on the following page.

1. Strategic Offensive Forces and Programs

As indicated in Appendix Table 2, we plan to continue in our strategic forces over the foreseeable future an appropriate mix of bombers, ICBMs and SLBMs -- the so-called TRIAD. Our purpose in doing so is not to provide an independent assured destruction capability in each element of the strategic forces, as some people have presumed. Rather, it is to achieve a sufficient degree of diversification in our forces to hedge against both foreseeable and unforeseeable risks, and to enable us to continue to make available to the President a reasonable range of strategic options as USSR and PRC capabilities evolve.

U.S. AND U.S.S.R. STRATEGIC FORCE LEVELS

	Mid-1973		Mid-1974	
	U.S.	U.S.S.R.	U.S.	U.S.S.R.
Offensive				
ICBM Launchers 1/	1054	[redacted]	1054	[redacted]
SLBM Launchers 2/	656	[redacted]	656	[redacted]
Intercontinental Bombers 3/	496	140	496	140
Force Loadings				
Weapons	6784	[redacted]	7940	[redacted]
Defensive				
Air Defense	[redacted]			
Interceptors	559	2800	532	[redacted]
SAM Launchers	481	[redacted]	261	[redacted]
ABM Defense				
Launchers	-	64	-	64

1/ Excludes launchers at test sites.
2/ Excludes launchers on diesel-powered submarines.
3/ Excludes bombers configured as tankers and reconnaissance aircraft.
[redacted]
5/ Excludes radars and launchers at test sites.
6/ These numbers represent Total Active Inventory (TAI)

I am sure the members of this Committee are well aware that each of the three major elements of our strategic forces has its own particular strengths and weaknesses with regard to pre-launch survivability and the ability to penetrate the enemy defenses. By maintaining an appropriate mix of the three, however, we can maximize their collective strengths and minimize the effects of their individual weaknesses, thus ensuring that the force as a whole is not inherently vulnerable to any one type of attack or any one type of defense.

Force diversification is also essential to hedge against the unforeseeable risks, such as technological breakthroughs by the other side and unanticipated weaknesses in one or more of our own systems. Last year we encountered an example of the latter, i.e., some unexpected failures in the operational tests of the POSEIDON missile. I will discuss the nature of this problem and the measures being taken to correct it a little later. At this point, I simply want to note that this unanticipated failure, while worrisome, is by no means critical. Aside from the fact that the POSEIDON force even now can carry out most of its intended missions, we have a variety of other systems which can fill the gap until the necessary corrective actions are completed. In short, this is precisely the kind of situation the TRIAD was intended to hedge against.

In addition to hedging against risks, a well diversified force is needed to support the President's request for "other strategic options." As I indicated earlier, these other options imply a much wider range of capabilities than that required for assured destruction only. For example, capabilities are required to destroy military as well as urban, defended as well as undefended, and time urgent as well as non-time urgent targets. Moreover, the forces should include some weapons which are highly reliable, some which are highly accurate, and some which are highly controllable from launch to target. Here, again, each member of the TRIAD has some unique capabilities to offer.

On balance, therefore, I believe the continued support of well diversified U.S. strategic offensive forces clearly remains essential to our national security. Given the increasing size and variety of Soviet strategic capabilities, U.S. force diversification will be much more important in the future than it has been in the past.

MINUTEMAN

The principal impact of the new emphasis on "other strategic options", as far as the FY 1975 Budget is concerned, is on the MINUTEMAN program, particularly MINUTEMAN III. This missile, with its three RVs, [redacted] rapid retargeting capabilities, and relatively secure and reliable

communications links to the National Command Authorities, is clearly a most versatile and cost-effective weapon.

Even without any additional R&D funding, we believe that the CEP of the MINUTEMAN III will gradually improve

Beyond that point, further improvements in the countermilitary capabilities of our ICBM force would require the deployment of

more than the currently planned 550 MINUTEMAN III missiles, larger yield warheads, an improved or new guidance system for MINUTEMAN III, terminally guided maneuvering RVs (MaRVs) or the development and deployment of an entirely new ICBM. In view of the on-going SAL talks, we propose in the FY 1975 Budget to take only those first few steps which are necessary to keep open these options; no decisions have been made to deploy any of these improved systems.

First, we propose to keep the MINUTEMAN III production line going at the lowest feasible rate -- five missiles per month. The FY 1974 Budget request included $394 million for the procurement of the last 136 MINUTEMAN III missiles, plus $23 million for long lead-time items to protect the option to deploy more than 550 MINUTEMAN III if that should prove desirable. The Congress approved the procurement of 115 missiles in FY 1974, deferring 21 to FY 1975. To that 21, we now propose to add 40 more for operational test assets, making a total buy of 61 missiles in FY 1975. The $758 million shown for the MINUTEMAN program in FY 1975 on the table beginning on the following page includes $285 million for the procurement of the 61 missiles and initial spares, and $15 million for long leadtime items to keep open the option for a FY 1976 buy. No decision has as yet been made to deploy more than 550 MINUTEMAN IIIs; we simply want to keep that option open.

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

(Dollars in Millions)

Strategic Offense	FY 1973 Actual Funding	FY 1974 Planned Funding 2/	FY 1975 Proposed Funding
Continued Procurement of MINUTEMAN III Missiles, MINUTEMAN Silo Upgrading and Other Related Programs	816	730	758
Preparations for MINUTEMAN II Operational Base Launch (OBL) Tests	-	-	16
Advanced ICBM Technology	8	4	37
Conversion of SSBNs to POSEIDON Configuration, Continued Procurement of POSEIDON Missiles and Associated Effort	698	313	192
Development, Procurement and Military Construction -- TRIDENT Submarines and Missiles	794	1,435 (25)	2,043
Initiation of Design for a new SSBN	-	-	16
Development of Advanced Ballistic Reentry Systems and Technology (ABRES)	93	90	120
B-52D Modifications	46	38	73
Continued Development of New Strategic Bomber, B-1	445	449	499
Procurement of Short Range Attack Missile (SRAM)	203	133	2
Development of the Bomber Launched and Submarine Launched Versions of the Strategic Cruise Missile	53	14	125
Initial Development of Advanced Tanker/Cargo Aircraft	-	-	20

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

(Dollars in Millions)

	FY 1973 Actual Funding	FY 1974 Planned Funding	FY 1975 Proposed Funding
Strategic Defense			
Continued Development of the Over-the-Horizon (OTH) Back-Scatter Radar	3	3	12
Continued Deployment of SAFEGUARD	599	341	61
Continued Development of Site Defense	80	110	160
Development of Advanced Ballistic Missile Defense Technology	93	62	91
[redacted]			
Development and Acquisition of the SLBM Phased Array Radar Warning System	-	-	50
Command and Control			
Development and Procurement of Advanced Airborne Command Post (AABNCP)	117	50	90
Development of SANGUINE ELF System	9	13	13
Civil Defense			
Continued Support of the Civil Defense Program	82	82	86

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

2/ Figures in parentheses are the amounts included in the FY 1974 Supplemental.

Second, we have requested the Atomic Energy Commission (AEC) to keep open at the lowest feasible rate the MK 12 warhead production line. [redacted]

Third, we propose to develop the option for some additional refinements in the existing MINUTEMAN guidance system, mostly in the software program, which should reduce the CEP [redacted] Development of these refinements will cost about $100 million, of which the first $32 million is included in the FY 1975 amount shown for MINUTEMAN.

Fourth, we propose to proceed with engineering development of a new higher yield warhead for the MINUTEMAN III [redacted] The new warhead plus the more advanced (i.e., miniaturized) arming and fusing mechanism would be incorporated in a new center section which could be retrofitted into the existing MINUTEMAN III MK 12 RV without any changes in its weight, balance or other flight characteristics. The flight test data base accumulated for the MK 12 RV, therefore, would be directly applicable to the new MK 12A RV, and flight tests of the latter could be limited to the verification of the new arming and fusing components. The R&D and

tooling costs (DOD only) for the MK 12A are estimated at about $125 million, the first increment of which -- $25 million — is included in the FY 1975 amount shown for MINUTEMAN. [redacted]

Fifth, we plan to initiate advanced development of a terminally guided MaRV [redacted] for possible retrofit into both ICBMs and SLBMs. This MaRV could give the MINUTEMAN III a very high [redacted] if such a capability should be needed in the future. The $20 million required to start this program is included in the FY 1975 amount shown for Advanced Ballistic Reentry System (ABRES).

Sixth, we plan to flight test a MINUTEMAN III with [redacted] smaller RVs, [redacted] This payload, if successfully demonstrated, would give us the option to expand the target coverage of the MINUTEMAN force without any increase in the number of missiles deployed. About $8 million will be needed to start the test program in FY 1974 and $19 million to complete the test program in FY 1975. The FY 1974 sum is included in ABRES and the FY 1975 amount in the MINUTEMAN lines shown on the table.

The $758 million requested for the MINUTEMAN program in FY 1975 also includes funds for the continuation of the aforementioned

Silo Upgrading effort, and for the installation of the Command Data Buffer System at all MINUTEMAN III bases. The ability provided by the latter to retarget the MINUTEMAN III missiles rapidly from the launch control centers will greatly enhance the flexible employment possible with the force. Installation of the new system in the first MINUTEMAN III squadron was completed last year and all 50 missiles in the squadron were successfully programmed from the launch control center. Deployment of the 550 MINUTEMAN III missiles will be completed by end FY 1975 but silo upgrading and installation of the Command Data Buffer System in the first two wings, which were deployed before these programs were started, will not be completed until FY 1978. Upgrading of the MINUTEMAN II silos will be completed in FY 1980.

MINUTEMAN II Operational Base Launch Tests

In order to demonstrate the ability of our operationally deployed MINUTEMAN missiles to perform their assigned missions, we now propose to undertake a new Operational Base Launch (OBL) program involving full range flight testing out into the Pacific of eight MINUTEMAN II missiles in as close to an operational configuration and ground environment as possible. Four missiles would be launched from Malmstrom Air Force Base during the winter of 1974-75 and four more from that or some other northern base during the winter of 1975-76. The first two missiles to be launched from Malmstrom would be carefully checked out prior to launch,

the other six would be launched in their normal alert posture without special tests.

These would be the first full range flight tests of MINUTEMAN missiles from operational silos. The partial operational base launch tests conducted in 1965, 1966 and 1968, with mixed results, were not actual flight tests. In those tests, the missiles were loaded with just enough fuel for a seven second burn, enough to reach an altitude of about one mile, out to a range of about one mile. The first seven-second test of a MINUTEMAN I from Ellsworth AFB in 1964 was successful. The other three attempts from Grand Forks AFB in late 1966 were not; in each instance the missile failed to launch because of a variety of mechanical difficulties associated with that particular test missile and silo.

All three major versions of MINUTEMAN have, of course, been repeatedly flight tested from Vandenberg Air Force Base out into the Pacific. But to some extent these were specially configured test missiles launched from specially configured test silos under carefully controlled conditions. While the missiles to be launched in the new OBL program would carry dummy warheads, they would be typical operational missiles in all other respects. Operational flight tests of this sort, i.e., from operational silos, are conducted routinely by the Soviet Union; they have conducted about 100 firings of this sort.

Development and test of the special equipment needed for safety and for directing and monitoring the launches has already been funded in prior year budgets. Funds to initiate preparations for the eight MINUTEMAN II OBL tests would be provided through reprogramming in FY 1974; an additional $16 million is included in the FY 1975 Budget to continue that effort.

Advanced ICBM Technology

To ensure a realistic option to modernize our ICBM forces in the 1980s, we are requesting about $37 million in FY 1975 for advanced technology leading to the development of an entirely new ICBM. We are considering the technologies for both a new, large payload [redacted] fixed-base missile [redacted] launched from the existing MINUTEMAN silos, and a new mobile missile, either ground or air launched. As noted earlier, the Interim Agreement itself does not prohibit the development or the deployment of mobile ICBMs. The United States, however, has unilaterally stated that in its view the deployment of operational mobile ICBMs would be inconsistent with the objectives of the Agreement. The Soviet Union has made no response to that statement and, as I noted earlier, we have some evidence that the development of a land-mobile version of the SS-X-16 is underway. Consequently, we cannot preclude the possibility that a mobile version of the SS-X-16 will eventually

be deployed. In that case, we may find it necessary to deploy a mobile ICBM of our own.

In any event, we intend to pursue this new development at a very deliberate pace, pending the outcome of the current SALT negotiations. The initial effort in this new advanced ICBM technology program will be devoted to basing technology leading to the selection of the preferred basing mode, to guidance requirements which are unique to mobile missiles, both air-launched and ground-launched, and to rocket motor technology to increase the amount of throw-weight per pound of propellant. A new guidance system would be incorporated in the new missile [redacted] This system, plus appropriately sized MIRVs would give the new ICBM a very good [redacted] against hard targets.

POSEIDON

The $192 million requested in FY 1975 for the POSEIDON program includes $129 million to complete the funding (except for FY 1976 and subsequent year outfitting and post-delivery costs) of the last three of the 31 SSBN conversions and the last one of the four submarine tender conversions planned, $48 million for the support of POSEIDON missiles, and $15 million for the Poseidon Modification Program.

The original FY 1974 Budget included funds for the last five SSBN conversions, but delays in the completion of certain SSBN overhauls made it necessary to defer the last three conversions

to FY 1975. The Congressional committees were notified of this delay in September 1973 and the amounts appropriated for FY 1974 already reflect the related funding adjustments. Of the 28 conversions funded through FY 1974, 20 have been completed and are currently deployed, two are in predeployment status, and six are undergoing conversion. As currently scheduled, the last three conversions will all have been started by April 1975. This stretchout will reduce the number of POSEIDON-equipped submarines on the line, as compared with last year's estimates, by one at end FY 1975 and two by end FY 1976. The last conversion is scheduled for completion in April, 1977.

The POSEIDON Modification Program is the outgrowth of the deficiencies encountered last year in the POSEIDON Operational Test (OT) program. As has already been reported to the Congress, [redacted] In view of this disparity in test results, the Unified Commander suspended the POSEIDON OT program in March 1973.

A thorough review of all the available POSEIDON test data leads to the conclusion that except for a weakness in the RV

nose tip, which we believe has been corrected and in any event affects only a small percentage of the force, most of the failures encountered were attributable to random deficiencies in small piece parts such as transistors, electrical connections, fuses, etc., and in the preparation of operational missiles for flight tests. In contrast to the DASO missiles, which come directly from the Navy's missile facility at Charleston, S.C., four OT missiles are selected at random from the complement of 16 carried by a submarine returning from patrol. The selected missiles are then modified by removing the entire payload section and replacing it with a test payload of dummy RVs and instrumentation, and by installing a destruct device -- all while the missile is still in the launch tube of the submarine.

The deficiencies encountered in the POSEIDON OT tests are typical of those experienced in other new weapons systems, and subsequently corrected. None of them is related to the basic design of the POSEIDON missile, which we have every reason to believe is entirely sound.

The POSEIDON Modification Program is designed to correct deficiencies in the POSEIDON missile itself, in the special test hardware, and in procedures. The total cost of the program is currently estimated at $126 million, about $23 million to incorporate the necessary changes in missiles still in production

and the balance to modify missiles already delivered to the Navy. About $38 million would be devoted to the more comprehensive testing of small piece parts, $24 million to replace detonating fuses with those of a new design, $18 million to improve gimbal assemblies, $10 million to modify firing units, $2 million to replace flexible hoses with those of a new design, etc. Improved missiles will be installed in the 21st through 31st converted submarines; the first 20 POSEIDON submarines, already deployed, will be retrofitted with the improved missiles over a period of about three years. The entire modification program is expected to be completed by 1977.

TRIDENT

While failures encountered in the POSEIDON operational tests have no direct relation to the TRIDENT missile program, they do remind us once again of the monetary risks involved in moving rapidly into large-scale production of any new major weapon system. Operational testing, of course, cannot commence until the system has actually been operationally deployed. But by holding initial production to a reasonably low rate, we can reduce the costs of correcting those inevitable deficiencies which are not discovered until the system is operationally tested. This is particularly true in the case of such technically advanced and costly weapon systems as the TRIDENT submarine.

Accordingly, after starting the first TRIDENT submarine in FY 1974, we now propose to build the nine remaining TRIDENT submarines discussed here last year at a rate of two a year

(instead of three a year) beginning in FY 1975. In addition, we currently plan to procure sufficient TRIDENT I missiles to backfit ten POSEIDON submarines. As you know, the TRIDENT I missile is being designed to fit in the existing POSEIDON submarines as well as in the new TRIDENT submarines. By retrofitting the TRIDENT I missile in some of the POSEIDON submarines, we can improve the overall capability and survivability of the existing SSBN force and at the same time maintain a more economical rate of production for the TRIDENT I.

The IOC of the TRIDENT I missile remains as previously planned, i.e., the fourth quarter of 1978 (the second quarter of FY 1979), which coincides with the IOC of the first TRIDENT submarine. We plan to undertake an advanced development program which will define our capability to improve and measure the accuracy of our SLBMs and which, if implemented by retrofit, could lead to improved accuracy in the future. In addition, the MK 500 MaRV is now under advanced development for the purpose of demonstrating its compatibility with the TRIDENT I missile. This maneuvering RV, however, is not terminally guided since its maneuvering capability is intended to help it evade an ABM interceptor, rather than to increase its accuracy. Indeed, the MK 500 is expected to be less accurate than its ballistic counterpart.

The TRIDENT I IOC date should allow ample time for an orderly missile development and DASO test program. As noted earlier, the OT program cannot be started until the system has been operationally deployed. However, we do plan to conduct OT launches earlier in the TRIDENT program than we did with POSEIDON. Backfitting of the TRIDENT I missiles into POSEIDON submarines is planned to begin in the third quarter of FY 1979 and by FY 1982 we could have ten converted submarines and seven new submarines operationally deployed with a total of 328 TRIDENT I missiles.

This revised program will require a total of $2,043 million in FY 1975 -- $107 million for continued component development of the submarine, $927 million to complete the funding of the second and third TRIDENT submarines, $240 million for advanced procurement for two TRIDENT submarines per year in FY 1976 and FY 1977, $662 million for the continued development and minor procurement related to the TRIDENT I missile, and $107 million in Military Construction funds to continue work on the TRIDENT Refit Facility at Bangor, Washington. In addition, about $25 million is included in the FY 1974 Supplemental to protect the option for the procurement of two TRIDENT submarines in FY 1975.

Although the Interim Agreement on strategic offensive forces, expiring in 1977, would require us to phase out an equivalent

number of existing strategic missile launchers as each new TRIDENT submarine enters sea trials, that decision need not be made now. Accordingly, we have tentatively projected strategic missile launcher levels at the end of FY 1978 and 1979, which are slightly above the Interim Agreement levels, recognizing that if the Interim Agreement is extended without change beyond its present expiration date of October 1977 appropriate reductions would have to be made in the POLARIS A-3 and/or TITAN II launchers.

New SSBN Option

Some $16 million is included in the FY 1975 Budget to initiate design for a new and less costly SSBN than the TRIDENT. This is another application of the high/low mix approach. With a TRIDENT force in being, it is not likely that all of the sea-based force need have the capability provided by the larger and more costly ship.

The current POSEIDON submarines refitted with the new TRIDENT I missile could, of course, fulfill this low end of the spectrum requirement. But because of aging, POSEIDON submarines will have to be replaced at least by the late 1980s and early 1990s. Consequently, more SSBNs, beyond the ten TRIDENT submarines, would eventually have to be built. The design of a smaller, less costly SSBN would give us the option later in this decade to replace the current POLARIS/POSEIDON fleet with

a mixed force of high performance and high cost or lower performance and lower cost SSBNs.

The new SSBN would be somewhat larger than the 640-class (the last class of POLARIS/POSEIDON submarines) and would be powered by a NARWHAL-type [redacted] reactor. [redacted] In looking toward a smaller and lower cost SSBN, wherein platform numbers rather than large numbers of tubes per submarine are featured, this new design would have about 16 missile tubes using the TRIDENT I missile. Funds requested cover commencement of a conceptual and feasibility design effort, which will identify cost and characteristics trade-offs.

ABRES

Included in the FY 1975 Budget is $120 million for the Advanced Ballistic Re-entry Systems Program (ABRES). This program has been the source of much of the advanced re-entry technology incorporated in our strategic missile programs, and to a considerable degree it is responsible for our technological lead in this area. Moreover, ABRES has made a major contribution to our understanding of ABM defense because of its work on a wide variety of ballistic missile penetration aids. Now that the Soviet Union is catching up with us in reentry technology, we must renew our efforts to stay ahead in this critical aspect of the strategic balance.

The ABRES program is managed by the Air Force, but the work being done also supports Navy and Army projects. In view of its tri-service nature, we have decided to give the Director of Defense Research and Engineering a greater role in the overall direction of the ABRES program. Henceforth, DDR&E will establish the general scope and priorities of the ABRES program and formally review the program twice a year. Following these reviews, DDR&E will provide the Air Force with general and specific guidance, as necessary. The existing ABRES organization structure, which has members of each service as line deputies to the ABRES Program Manager, will be retained to assure that close coordination among the three services is preserved.

B-52 Forces

The bomber forces projected through FY 1979 in Appendix Table 2 are essentially the same as those presented here last year, with two exceptions. First, all of the active B-52D's and F's will be retained through FY 1975. Second, beyond FY 1975 our planned B-52 force of 5 D and 17 G/H squadrons will increase by one G/H squadron (17 to 18). This increase reflects the reorganization necessary to form a composite Combat Crew Training Squadron (CCTS). The UE of each B-52 squadron will be reduced from 15 to 14 to provide aircraft for the CCTS.

Last year the Air Force had planned to start in March 1973 the structural modification of 80 B-52Ds to ensure that the programmed

service life can be safely achieved. The program was later deferred, pending approval by the interested Congressional committees. Meanwhile the condition of the B-52D aircraft was found to be worse than originally anticipated. Accordingly, the Air Force has performed a "fracture toughness" program to test the structures of 94 B-52Ds in order to select the best aircraft for proof test, modification, and retention. Including the cost of this special test program, which entails the procurement of proof test jigs, the total cost for the test of 94 aircraft and the modification of 80 aircraft is now estimated at about $240 million.

Last year the cost of modifying 80 aircraft was estimated at $197 million. The Congress has approved the use of $61 million in FY 1973 and prior year funds for initial engineering, plant layout and tooling. Another $38 million was provided for FY 1974, and $73 million in procurement funds is requested for FY 1975. The program is now scheduled to be completed by the first quarter of FY 1977.

In my judgment, the B-52D modification program deserves the full support of the Congress, notwithstanding its substantial cost -- about $3 million per aircraft. Recently completed U.S. air operations in Southeast Asia clearly demonstrated the effectiveness of the B-52 in the conventional bombing role. Without the B-52D force, this capability could be provided only at the expense of our strategic capabilities which are already finely balanced in relation to the challenge posed by the Soviet strategic forces.

B-1 Bomber

Indeed, if we are to continue to maintain an effective strategic bomber force through the 1980s and beyond, as I am convinced we should, we will eventually have to modernize that force. The principal improvements needed are (1) faster airfield escape and greater protection against the effects of nuclear detonations in order to avoid destruction by SLBMs which might be launched on depressed trajectories from Soviet SSBNs operating close to our shores, and (2) a capability to fly at very low altitude at high subsonic speed in order to penetrate improved Soviet air defenses. Although we have no evidence as yet that the Soviet Union is developing depressed trajectory SLBMs, or plans to operate its SSBNs close to our shores, or will undertake major new air defense programs at home, all of these capabilities will clearly be within its technical competency and economic capacity.

Accordingly, in planning for the 1980s and beyond, we should provide ourselves the option to replace the existing bomber force with a more capable aircraft. The B-1 is being developed for this purpose. It will have a distinctly shorter escape time and much better resistance to nuclear effects than the B-52, and by virtue of its lower flight altitude, greater speed and smaller radar cross-section, it should have a much better capability to penetrate improved Soviet air defenses. Moreover, because of its wider range of altitude and airspeed options, the B-1 will provide

greater flexibility in employment than the B-52, thereby enhancing our ability to execute a wide range of attack options in response to potential enemy action.

The B-1 engineering development program, however, has encountered a number of difficulties and delays, necessitating several major adjustments in the program. The latest of these adjustments was reported to the Congress last summer. First flight was rescheduled from April to mid-year 1974. More time was allowed for the fabrication and assembly of Air Vehicles #2 and #3. The planned production decision date was rescheduled from July 1975 to May 1976.

Last August, shortly after assuming his responsibilities as Secretary of the Air Force, Secretary McLucas appointed a special committee, headed by Dr. Raymond Bisplinghoff, the Deputy Director of the National Science Foundation, to undertake an independent review of the B-1 program. The principal finding of this group of technical and management experts was that there are no major technical problems which preclude the successful development and production of the B-1 aircraft. The Committee noted, however, that the existing program plan would make completion of the development effort and successful transition to the production phase unlikely within projected cost and time schedules. The Committee also expressed the belief that three aircraft would not be sufficient to complete development of a complex program such as the B-1 and

allow the final development aircraft to reflect accurately the initial production aircraft.

With regard to schedule and cost, the Committee's best judgment was that a two to three month delay would be incurred in the projected first flight of Air Vehicle #1 and a six to twelve month delay in completion of the total development program. The Committee also estimated that at least $300 million more would be required to complete the development program as it was rephased in July 1973.

The Committee's major recommendation was that the B-1 program should be restructured to provide for completion of the development effort on a more realistic basis and to provide for a less disruptive transition into the production phase.

Finally, Dr. Bisplinghoff and his associates also furnished Secretary McLucas with their estimates of potential B-1 performance parameters -- ranging from Possible, to Most Probable, to Reasonably Adverse. These potential performance deviations result primarily from an increase in the gross take-off weight of the B-1 aircraft, from about 360,000 lbs to the presently projected 395,000 lbs. The Air Force has conducted a thorough analysis of the utility of the B-1 aircraft within the full range of potential performance deviations provided by the Committee. The Secretary of the Air Force, the Chief of Staff, and the Commander in Chief of the Strategic Air Command have concluded that even under the most adverse estimates

of performance the B-1 would be operationally effective against the full target spectrum. Moreover, even with the increased weight there are still 100 airfields in the U.S. which would support continuous B-1 operations and an additional 220 airfields which would be suitable for use in emergency dispersal operations. Thus, although some weight reduction should result as a byproduct of engineering changes for purposes of producibility and cost avoidance, there is no requirement for significant changes to the B-1 program solely to regain performance.

A basic problem highlighted by the Committee was the severe program discontinuity which results from the gap of 24 months between first flight and the production decision. The contractor would not be able to retain critical skills and know-how during such an extended gap in effort. Moreover, any plan which was dependent on the recovery of these critically needed personnel after a production decision is made would expose the program to additional technical risks and costs.

Accordingly, in order to facilitate the B-1 flight test program and to provide a more realistic basis for transition to production, we propose to begin work on Air Vehicle #4 in FY 1975 and, possibly, Air Vehicle #5 in FY 1976. These aircraft would provide needed flight test data 12 to 18 months earlier than would otherwise be possible, and they could also be used to introduce engineering refinements to the basic design.

Although the fourth and possibly the fifth aircraft would be funded with RDT&E funds, they would ultimately be assigned to the SAC inventory. Moreover, the additional aircraft would be built on existing development tooling, modified only as required by aircraft design improvements. Thus, there would be no additional program cost, assuming a subsequent production decision. Nor would these additional aircraft prejudge the production decision. In consonance with our fly-before-buy policy, the B-1 is expected to undergo about two years of flight testing and achieved the essential critical milestones before a production decision is made. Under the currently proposed program plan, this decision could be made in November 1976. The FY 1975 Budget includes $499 million for the B-1 program.

Bomber-Launched Missiles

The acquisition of the SRAM (Short Range Attack Missile) will be essentially completed with FY 1974 funding and the planned complement of operational (UE) missiles, 1140, will be on hand by the end of FY 1976. Because of its relatively poor accuracy and aerodynamic drag on the B-52 G/H, a decision has been made to phase out Hound Dog by FY 1976. The number of Quails will be reduced from about 400 at end FY 1974 to about 200 by end FY 1976.

Last year the Congress was informed of the Defense Department's decision to cancel the SCAD engineering development program and to incorporate further work in that area in a joint Air Force-Navy cruise missile technology program. The Air Force was to concentrate

on the development of a small turbofan engine suitable for both an air-launched and submarine-launched cruise missile, and the related high energy fuel. The Navy was to pursue the development of the guidance technology which was to be common to both missile systems.

Planning of this joint technology effort has progressed to the point where we can now present a more definitive program for FY 1975 and beyond. As currently planned, the Air Force would commence engineering development of an Air Launched Cruise Missile (ALCM) in FY 1975, making maximum use of the terminated SCAD engineering program for air vehicle design and small turbofan engine development. The new missile would have about the same overall dimensions as the SCAD so that it could be loaded interchangeably with the SRAM missile, one for one, both internally on the rotary racks of the B-52 or the B-1 and externally on the wing pylons of the B-52. It would weigh about 2,000 pounds [redacted] It would be equipped with a terrain avoidance system which would permit it to fly just a few hundred feet above the surface of the earth.

In contrast to SCAD, the ALCM would not carry a decoy electronics package, which was the most costly and highest risk element in the SCAD program. Instead, the bomber-ALCM system would rely on sheer numbers of air vehicles to penetrate the air

defenses, much as the POSEIDON relies on sheer numbers of reentry vehicles to penetrate ABM defenses. The bombers could launch their ALCMs from outside the Soviet air defense perimeter and thereby avoid the air defenses. Or, alternatively, the bombers could use their ALCMs to saturate the Soviet air defenses and thereby enhance their ability to penetrate with fewer losses.

The ALCM could be made available for initial deployment in FY 1979, but it would be premature to make a production decision at this time. In the meantime, we have authorized retention of about 200 Quail unarmed decoys through FY 1979.

The Navy SLCM, using the common technology base, would be developed in both strategic and tactical variants, and would be sized to take maximum advantage of the standard torpedo tubes. The strategic version would carry a nuclear warhead of about [redacted] 1500 nm. Like the ALCM, the SLCM would have very good accuracy and penetrate at low altitudes.

While the strategic variant would be primarily a submarine-launched missile, the tactical variant would be designed to be launched from surface ships as well as submarines since it would be primarily a conventionally-armed anti-ship missile. The tactical variant would [redacted] ranges in excess of 300 nm. Both variants of the SLCM could probably be made available for deployment by 1980.

A total of $125 million has been included in the FY 1975 budget request for the combined cruise missile program -- $80 million for the Air Force ALCM and $45 million for the Navy SLCM.

Advanced Tanker/Cargo Aircraft

It is clear that if we continue to support a large strategic bomber force for any extensive period of time into the future, a new refueling tanker will eventually be required. The cost of acquiring a sufficiently large number of such tankers would undoubtedly be quite high. It may be possible, however, to satisfy that tanker requirement in conjunction with some other important requirement, such as augmentation of our current airlift capability. Accordingly, we have included $20 million in the FY 1975 Budget for studies and investigations of alternative approaches to this tanker requirement. The effort will be divided in two parts:

(1) Competitive studies to determine the most effective way to convert a currently available wide-bodied civilian transport aircraft into an efficient military cargo/tanker aircraft.

(2) An initial investigation of the trade-offs between a modified (from a currently available aircraft) and a newly designed strategic tanker/cargo aircraft, with particular emphasis on fast escape and hardness.

2. Strategic Defensive Forces

I believe it is clear from what I have already said that without effective ABM defenses, air defenses are of very limited value against potential aggressors armed with strategic missiles. This interdependency of anti-ballistic missile and anti-bomber defenses has been well understood for many years. But as long as there was some chance that we might deploy at least a thin nationwide ABM defense, it made sense to keep open the option to deploy a complementary air defense. Now that the ABM Treaty limiting both sides to only 100 operational ABM launchers at each of two sites has been signed, the deployment of even a thin nationwide ABM defense has been foreclosed. Indeed, we have deferred all work on the second ABM site for the defense of the National Command Authorities (i.e., the national capital area). Given the very tight defense budget constraints under which we now have to operate, we cannot in good conscience postpone any longer the basic adjustments in our air defense program made necessary by the changing worldwide situation.

You may recall that former Secretary of Defense McNamara in his last posture statement in 1968 set forth six possible purposes that our air defense system might serve in the 1970s:

1. Peacetime surveillance to prohibit free access over North America from the air.

2. Nth country defense to prevent damage from an attack by such countries as Cuba, the PRC, etc.

3. Discourage the Soviet Union from developing and introducing new bomber threats which would be costly to neutralize.

4. Limit damage to our urban/industrial complex from a Soviet bomber attack in the event deterrence fails.

5. Preclude bomber attack on our withheld strategic missile forces.

6. Provide a complete mobile "air defense package", portions of which could be deployed to any part of the world for use in periods of local crisis.

The fourth purpose -- limit damage to our urban/industrial complex -- is now possible only to the extent that we are successful in limiting the scope of any conflict that did occur. Since we cannot defend our cities against strategic missiles, there is nothing to be gained by trying to defend them against a relatively small force of Soviet bombers. I am sure the Soviet leaders understand that an attack on our cities, whether by bombers or missiles, would inevitably result in the destruction of their cities. Even if the USSR uses all of its ballistic missiles against our strategic offensive forces and reserves its bombers for use against our cities, repeated analyses have convincingly demonstrated that under all foreseeable circumstances we would have sufficient surviving

forces to retaliate decisively against Soviet cities. It is this assured capability to retaliate decisively against Soviet cities even after absorbing the full weight of a Soviet nuclear attack that offers the best hope of deterring attack and thus protecting our cities, not our ability to defend them against bomber attack.

The fifth purpose -- preclude bomber attack on withheld ICBMs, or bombers, for that matter -- might still have some advantage today. That advantage, however, would be seriously eroded if the USSR deploys its new MIRVed ICBMs up to the limits allowed by the Interim Agreement. If it did so, the USSR would have enough ICBM RVs to launch a series of follow-on attacks against our withheld ICBMs. It would also have enough SLBMs for follow-on attacks against bomber bases or against SLBMs in port. Thus, to protect our withheld ICBMs, SLBMs in-port, and bomber bases, we would need a balanced defense against both missiles and bombers. Such a defense is foreclosed by the ABM Treaty.

With regard to the third purpose — discourage the USSR from introducing new bomber threats -- I believe we should continue to pursue a broadly based R&D program in the strategic air defense area. That program, however, should be focused on basic research and the advancement of technology, rather than on engineering development of new weapon systems. We already have a number of new and expensive air defense weapon systems developed or under development for general purpose forces applications -- e.g., F-15,

F-14 (PHOENIX), AWACS, SAM-D. But we must take care not to fall behind the Soviet Union in basic knowledge and understanding of the air defense problem. We need this knowledge and understanding, in any event, for our bomber programs. And, we should in prudence hedge against the possibility that a technological breakthrough or some other change in the strategic situation might make the deployment of new systems for continental air defense both feasible and desirable.

The first and last purposes -- peacetime surveillance and control and mobile air defense forces -- and to some extent the second purpose, Nth country defense -- are still feasible and necessary. We must, as a very minimum, ensure the sovereignty of our air space; it would also be very helpful to have available a mobile air defense capability which could be deployed promptly overseas.

Forces provided for the first purpose would also provide a reasonable level of defense against the unlikely contingency of an Nth country air attack on the United States, most conspiciously Cuba. We have no reason to believe that Cuba has nuclear weapons or is likely to acquire any in the foreseeable future. Furthermore, Cuba's air force is very limited in payload and range; it could reach only the southeastern part of the United States. Finally, the consequences to Cuba of a surprise air attack on the United States would be so grave that the chances of its occurrence must be rated at near zero. With regard to the PRC, we have no evidence whatsoever that that nation is seeking an intercontinental bomber capability.

The first purpose requires only a thin area-type defense plus a high quality surveillance capability. Accordingly, we now propose to phase out all of the strategic NIKE-HERCULES batteries (which are all located around nine urban areas) and eventually reduce the interceptor force to 12 squadrons -- six active and six Air National Guard (ANG). As shown on Appendix Table 2, the NIKE-HERCULES batteries and their Fire Coordination Centers will be phased out by the end of FY 1975. Also in FY 1975, the active interceptor force will be reduced to six F-106 squadrons, and two F-106 squadrons will be added to the Air National Guard, for a total of six F-106 ANG squadrons. Seven ANG F-102 squadrons will be phased out in FY 1975. Current planning for FY 1976 includes phase-out of the remaining F-102s and evaluation of the continued utility of the F-101. Pending a review of the retention of F-101s, these six interceptor squadrons will be retained until the end of FY 1976.

In addition to these strategic air defense forces, we will have one active Air Force air defense squadron (F-4s) and three active Army NIKE-HERCULES batteries in Alaska, and one ANG air defense squadron (F-102s converting to F-4s in FY 1976) in Hawaii. (Canada has three CF-101 air defense squadrons operational.) We will also continue in place the active Army general purpose forces NIKE-HERCULES and HAWK batteries now operational in Florida.

In addition, there will always be other general purpose air defense forces available in the U.S. — fighters and SAMs, and eventually some tactical AWACS — which could be used to augment the strategic air defenses in a crisis. And, of course, we will continue to have the option to deploy a new interceptor (e.g., F-15 or F-14) and a new SAM system (e.g., SAM-D) for CONUS defense, since those programs are being pursued in any event for the general purpose forces.

A CONUS air defense system structured primarily for peacetime surveillance would not require an AWACS force, the principal purpose of which is to provide a survivable means of control of air defense aircraft in a nuclear war environment. However, as I noted earlier, a mobile air defense force which could be deployed quickly as a "package" would still be extremely useful in support of our general purpose ground and air forces overseas. We propose, therefore, to retain the AWACS (now designated E-3A) program for that purpose, and I will discuss it later in context with the general purpose air forces.

As you know, the Defense Department has been working for a number of years with the Federal Aviation Administration to consolidate the military and civilian radar and control centers in CONUS into a common, jointly operated system designed to serve both military and civilian needs. This work is still going on. As shown in Appendix Table 2, nine joint-use surveillance radars

are now in operation. In FY 1978, joint-use radars will replace all military surveillance radars in CONUS. These U.S. radars, and possibly some of the Canadian radars near the border, will feed into 13 USAF/FAA Joint Control Centers; the first four will be operational by end FY 1977 and all 13 by end FY 1979. The six existing Regional Control Centers (SAGE) will be phased out in FY 1978. A new command and control plan tailored to the revised air defense structure and missions is now under development by the Air Force.

As the new joint system becomes operational, one of the two CONUS manual Control Centers and the last CONUS BUIC III Control Center (in Florida) will be phased out. All of the remaining airborne radars will be phased out by end FY 1977. Although no changes are planned through FY 1979 in the surveillance radars and control systems in Alaska and Hawaii, the Air Force is currently investigating the feasibility of employing CONUS BUIC assets for the semi-automation of the Alaskan air defense systems.

OTH-B

For deployment in the 1980s, we propose to continue work on the development of the Over-the-Horizon Backscatter (OTH-B) radar, for which $12 million is included in the FY 1975 Budget. This radar promises to extend the early warning capability against bombers [redacted] Three such radars — one each

on the East and West coasts, and one covering the southern approach -- would give good coverage on all except the northern approach to the U.S. For the northern approach, we will have to retain the 31 DEW line radars until such time as we can perfect an OTH radar, or some other system, which can operate successfully in the presence of the intense electrical disturbances which characterize the northern auroral zone.

SAFEGUARD

As my predecessor, Elliot Richardson, reported to you last year, we plan to complete deployment of the one remaining SAFEGUARD site at Grand Forks for defense of MINUTEMAN. Work at all other sites has been terminated. The $61 million included in the FY 1975 Budget for development of SAFEGUARD is principally for completion of the check out and installation of the software; funding for procurement, military construction and system flight testing was essentially completed with the FY 1974 Budget.

The Grand Forks site with 30 Spartan and 70 Sprint launchers, one Missile Site Radar (MSR) and one Perimeter Acquisition Radar (PAR) is scheduled to be completed in FY 1975. The equipment readiness date is still estimated to be October 1974, and an initial operational capability is expected to be achieved by June 1975. We then plan to operate the site on a full-time basis for about one year (i.e., FY 1976) in order to shake it down and gain operational experience. Thereafter, the site will

be maintained on a less than full time basis in such a manner that it could be brought back into full-time operation within about three months of notice.

This procedure would substantially reduce annual operating costs while still preserving the option to place the site in full operation if a radical change in the international situation should make a higher level of operational readiness desirable. As I noted earlier, a Soviet nuclear attack on the U.S. would most likely be preceded by a period of intense crisis, thus providing some time to increase the readiness of the SAFEGUARD site. The Army is now working out the details of this revised SAFEGUARD operating plan and will report on its status later in these hearings.

The SAFEGUARD system test program at Kwajalein Atoll in the Pacific is proceeding very satisfactorily. In the first SAFEGUARD system test series (1970-71) 12 out of 16 tests were successful, 2 were partially successful and 2 were unsuccessful. In the second series, which will now be concluded in July 1974, 33 tests were conducted through December 1973 -- 30 were successful and three were unsuccessful. Seven tests remain to be completed, but some of these may be omitted if the current test objectives can be met with fewer tests.

SITE DEFENSE

Included in the FY 1975 Budget is $160 million to continue work on the SITE DEFENSE Program, the objective of which

is to demonstrate a development prototype ABM system specifically designed for the defense of MINUTEMAN. I believe this program is a prudent and necessary hedge. It would give us the option to defend our MINUTEMAN force against a Soviet ballistic missile attack should that become necessary, or in the event that an acceptable permanent agreement on the limitation of strategic offensive arms cannot be achieved. It would also give us the option to deploy a more advanced ABM system for the defense of the National Command Authorities, if that should be found desirable some time in the future.

The SITE DEFENSE Program will be conducted on a very austere basis. It must be borne in mind, however, that SITE DEFENSE must be developed with "system" applications in mind, if the demonstration of the development prototype is to be of any real value. Development of the hardware, e.g., the improvements to the SPRINT missile, the new small (relative to the MSR) radar, and the data processors is well within the state of the art. What needs to be demonstrated is the capability of the system as a whole, including in particular the software.

Advanced BMD Technology

We also plan to continue the Advanced Ballistic Missile Defense Technology effort at about the same level as in recent years, and $91 million is included in the FY 1975 Budget for that purpose.

The rationale for continued research and development in BMD, as well as reentry systems (ABRES) technology, is founded on two specific SALT related objectives. One is to provide the Soviet leaders with strong incentives to negotiate additional strategic arms limitation agreements. The other is to motivate them to keep the treaties and agreements already made.

Nations make treaties, and nations keep treaties, only when they regard such actions to be in their best interests. If the Soviet leaders believe that they could gain an advantage over us in the absence of an agreement, they would have no incentive to reach agreement. But if we confront them with the prospect that even with strenuous efforts on their part they would not be able to shift the strategic balance in their favor, they would have an incentive to reach agreement on maintaining the balance, if for no other reason than to save money. Similarly, if we fail to advance our ABM technology while the Soviet Union continues to pursue its on-going ABM development programs, which are clearly permitted by the Treaty, the Soviet Union might achieve a position where, by abrogating the Treaty, it could shift the strategic balance drastically in its favor before we could react.

Consequently, we must continue to pursue ABM technology programs of sufficient breadth and depth to ensure that we can:

-- Keep our qualitative lead in ABM technology over the Soviet Union

-- Understand and assess Soviet ABM activities which our intelligence sources reveal to us

-- Achieve the knowledge and skill needed to deploy an effective ABM system if that should become necessary.

[redacted] Satellite and SLBM Radar Warning Systems

For surveillance and early warning of ballistic missile attack, we now depend on a variety of systems. The most important of these is the [redacted] satellite warning system. We now maintain on station one satellite over the Eastern hemisphere and two over the Western hemisphere.

The Eastern hemisphere satellite would provide the first warning of a Soviet (or PRC) ICBM launch. This warning would be verified first by the forward scatter Over-the-Horizon (OTH) system and then by the Ballistic Missile Early Warning System (BMEWS). [redacted]

[redacted] other intelligence -- will provide highly credible warning of ICBM attack [redacted]

The Western hemisphere satellites provide the first warning of SLBM launches against the U.S. Complementary warning coverage is now supposed to be provided by the 474N SLBM "dish" warning radars. Unfortunately, these 474N radars -- four on the East Coast, three on the West Coast, and one on the Gulf Coast -- can be overflown by Soviet SLBMs, particularly the new longer range SS-N-8 [redacted] Moreover, there are a number of limitations in the current satellite coverage -- it does not fully encompass all of the areas from which the SS-N-8 could be launched, it is susceptible to temporary solar induced outages which may cause some loss of coverage in those areas not covered by both Western Hemisphere satellites, and it is not entirely free of false alarms. [redacted] To provide full coverage of the expanded SLBM threat area, and ensure prompt verification of the DSP data, we must have a more effective and reliable complementary warning system than the 474N radars.

Accordingly, we again propose to replace those radars (including the standby SLBM warning radar at Moorestown, N.J.) with two new SLBM Phased Array Warning Radars -- one on the East Coast and one on the West Coast. These much more reliable and capable phased array radars, together with the Western Hemisphere satellites, would provide highly credible warning of a Soviet SLBM launch against the U.S. First warning of such an attack would come from the satellites, and within a very short interval, which increases with the distance the launching submarine is from our coast, verification of the attack would come from the SLBM phased array radars.

The phased array radars would not only verify the signals received from the satellites but would also fill in any gaps which may occur in the satellite coverage as a result of solar reflections. The additional confidence which we would gain in the reliability of the warning would, in my judgment, be worth the acquisition cost of the two radars -- now estimated at approximately $100 million.

The first phased array radar would replace the three East Coast dish radars (and the standby radar) in FY 1978. The second phased array radar would replace the remaining dish radars in FY 1979.

The FY 1975 Budget includes [redacted] million for the acquisition of a [redacted] further improvements to the [redacted] satellite system and $50 million to begin acquisition of the SLBM phased array radars.

3. Command and Control

Continuity of command and control of the strategic forces by the National Command Authorities — before, during and after a nuclear attack on the United States -- is a basic tenet of our national security policy. This means that we must not only ensure, to the best of our ability, the survival of the NCA and their principal advisors, but also the minimum essential communications links with the subordinate commands and the operating forces.

The command and control of U.S. military forces worldwide is normally conducted through the Worldwide Military Command and Control System (WWMCCS). The national level elements of this system include the National Military Command Center (NMCC) at the Pentagon, the Alternate National Military Command Center (ANMCC) [redacted] and the National Emergency Airborne Command Post (NEACP) based at Andrews AFB, Maryland. The President, no matter where he may be -- in the White House, Camp David, San Clemente, Key Biscayne, or airborne in the Presidential aircraft — is always kept in continuous communication with the NMCC, and

through it, with the alternate national military command centers, the subordinate commands and the military forces.

These national military command centers are linked to the subordinate commands and the military forces worldwide by a wide variety of communication modes — land lines, underwater cables, VLF, LF, HF, UHF radio, satellite relay systems, etc. During the next few years we propose to increase significantly our efforts to improve the security and survivability of these WWMCCS supporting communications networks, particularly that portion designated as the Minimum Essential Emergency Communications Network (MEECN). MEECN is the basic system for communicating executive orders to our forces in wartime. Consequently, special attention must be given to its survivability under nuclear attack.

With regard to the strategic offensive forces, connections between the national level command centers and the Strategic Air Command and its forces are provided through a deliberately redundant system of communications and command posts. SAC, in addition to its principal command post at Omaha, Nebraska, also maintains two alternate ground command posts and one airborne command post. The SAC airborne command post [redacted] is in continuous communication with the SAC command post at Omaha. On receipt of warning of a nuclear attack on the United

States, the SAC airborne command post would be linked to the SAC forces and the national military command centers, including the NEACP, by the Post Attack Command and Control System (PACCS). One of the PACCS components, the Mid-AUXCP, can assume the CINCSAC function in the event that the primary SAC ABNCP is inoperable.

[redacted]

The national military command centers are linked to the sea-based strategic missile forces, either through the appropriate subordinate commands or directly, by means of a deliberately redundant system of Navy radio transmitters and by the TACAMO relay aircraft. To maximize the survivability of communications from the NCA, these Navy transmitters (including TACAMO) can also be reached via those communications links involved in directing SAC forces. [redacted] Messages could also be relayed to the ballistic submarines via ships at sea, communication satellites, LORAN, etc. [redacted]

This system of command and control of the strategic offensive forces, however, is not now as survivable as the forces themselves.

That is why the Defense Department has proposed, in addition to the improvements in the existing communications network, the continued development and deployment of the Air Force Satellite Communications System (AFSATCOM), the Advanced Airborne Command Post (AABNCP) aircraft, and the SANGUINE extremely low frequency (ELF) radio relay site. These three programs offer the best prospects, at this time, for a substantial advance in the survivability and effectiveness of our national command and control system under nuclear attack.

AFSATCOM and SURVSATCOM

The AFSATCOM system, when fully deployed [redacted] will consist of a combination of special communications transponders and channels carried on board [redacted] "host" satellites placed in orbit for other missions (e.g., Navy FLTSATCOM satellites) plus numerous ground and air terminals. This deliberately redundant satellite system will not only provide greater assurance that essential NCA instructions reach our forces, it will also enable the forces to report back the data needed by the NCA to maintain sure control and to execute a variety of nuclear options. We are also developing the technology needed to improve further the survivability of strategic communications satellites. This technology will lead to a new Survivable Satellite Communications (SURVSATCOM) system which should be available by the time it is appropriate to replace the AFSATCOM system sometime in the 1980s. Funding for AFSATCOM

is included in other programs. Funding of SURVSATCOM as a separate program element is expected to begin in FY 1976.

AABNCP (E-4)

The AABNCP program, as currently planned, would be pursued in several stages geared to our growing understanding of the command and control problem in a nuclear war environment, and to the further development of applicable technology. It should be borne in mind in this connection that the aircraft itself (the Boeing 747, now designated the E-4) presents no particular technological problem. It is the equipment which goes into the aircraft that is our principal concern in this program. We would expect the aircraft to have a useful life of about 20 to 25 years. During that period, we would probably re-equip the aircraft, in whole or in part, as new technology becomes available and as changes in national policy dictate new missions to be accomplished by the strategic forces.

Accordingly, the longer range equipping program has been divided into "blocks". Block I is the currently approved configuration of the AABNCP. The airborne computer, which was associated with the original configuration of the AABNCP aircraft, has now been deferred from Block I to Block II.

I believe this deferral is a sensible move; the problems involved in an airborne automatic data processing (ADP) system have not yet been sufficiently resolved. The airborne ADP system must

be compatible with the ground-based WWMCCS ADP system, since selected portions of the ground data base must be readily transferable to the airborne ADP. We are currently investing substantial funds in the modernization and standardization of this ground-based ADP system. Unfortunately, the ground ADP equipment cannot be used directly in the AABNCP aircraft because that equipment has not been designed for aircraft operations. Also further research must be done on shielding airborne computers against nuclear effects, particularly when the aircraft is airborne.

Finally, we have yet to formulate precisely which portions of the WWMCCS ground data base are actually required in the AABNCP. This would depend largely on how one would conceive the NCA function aboard the NEACP aircraft and the SAC commander's function aboard the SAC airborne command post. If the NCA is to be in a position to exercise a choice among a wide range of nuclear attack response options, including some which may not have been preplanned, the data required aboard the aircraft would be quite extensive. In the case of the NEACP, it would probably include status of forces and damage assessment information for both sides (U.S. and the attacker), status of allied and other national forces, and so forth. The SAC airborne command post might require even more detailed data, e.g., location and status of spare engines, reload weapons, fuel supplies, missile spare parts, maintenance capabilities, etc.

But even without the airborne ADP, the E-4 with the new Block I C^3 equipment (including antennas and terminals for satellite communication) and the greater available space, longer endurance, shorter takeoff, and other features, will greatly enhance our command and control capabilities under nuclear attack, as compared with the existing EC-135s. The new and more powerful communications equipment will help to overcome interferences caused by a nuclear environment or jamming, as well as provide an interface with both the AFSATCOM satellite system and the Defense Satellite Communications System (DSCS). Moreover, the E-4 will have a computer terminal through which it can connect directly into the WWMCCS ground-based ADP system. It can thus acquire the latest data as long as the ground-based system continues to function. Thereafter, it would have to operate in a manual mode, using whatever data is already aboard plus updating by direct communications with the subordinate commands. The additional space would accommodate the larger staffs required for manual operations.

In order to provide an interim NEACP capability with the new aircraft, pending the development of the Block I C^3 equipment, the first three operational aircraft will be equipped with the existing C^3 package to be transferred from three EC-135s. The first two operational aircraft, designated E-4A and the one R&D aircraft, designated E-4B, were funded in the FY 1973 Budget. A third operational E-4A aircraft was funded in the FY 1974 Budget. The

three operational E-4A aircraft constitute Phase 1A of the Block I program.

Phase 1B provides for the development of the Block I advanced C^3 package and for the acquisition of three operational E-4Bs, complete with the new C^3 package, for the NEACP function. The $90 million requested for FY 1975 includes $58.8 million to continue the development of the Block I C^3 package, $22.3 million for the construction of new facilities for the E-4A aircraft and alert crews, and $9 million for the initial increment of the Block II program. The Block II funds would be used to initiate the definition of the airborne ADP system and such further improvements in the communications capabilities of the E-4B as may be found technically feasible, desirable and cost effective. Procurement of the three operational E-4Bs, with the Block I advanced C^3 package, would be funded in FY 1976 and would complete Phase I B.

Phase 1C of the Block I program involves the retrofit of the first three E-4A aircraft with the Block I advanced C^3 package.

The total cost of the Block I program is now estimated at about $550 million. The cost and timing of the Block II program cannot now be estimated since it has yet to be fully defined.

SANGUINE ELF

The SLBM force, when at sea, is still the element of our strategic offensive forces least vulnerable to sudden nuclear

attack. [redacted] communication links from the NCA to the individual ballistic missile submarines are less suvivable than the submarines themselves. [redacted] Hence, we must make every feasible effort to ensure reliable communications with the SLBM force under all foreseeable circumstances.

The SANGUINE ELF system, in the present state of our knowledge, still holds the best promise of providing such a survivable communications link with our ballistic missile submarines. The SANGUINE transmitters would increase the number of aimpoints the Soviets would have to attack if they were to attempt to disconnect communications to our submarines and have a reasonable assurance of doing so. The SANGUINE signals would decrease susceptibility of our communications to atmospheric disturbances and enemy jamming. SANGUINE would also improve the survivability of the submarines themselves by removing them and their antennas from the near-surface environment. Moreover, notwithstanding popular

fears to the contrary, the SANGUINE system would pose no known environmental, ecological, or biological dangers to the area in which it is installed.

The need for a more survivable communications link to our ballistic missile submarines is clear, and the technical feasibility of the SANGUINE system has been reasonably well demonstrated during the four years of work at the Wisconsin test site. In view of the fact that we have no better alternative on hand, I strongly urge this Committee to support the SANGUINE program. We need not decide on the location of the operational site at this time, but we should press forward with the development of the system and prototype testing at the existing Government test sites. Concurrently, we should conduct a comparative analysis of all potential sites with a view to making a final recommendation before the operational system is ready for deployment. A total of $13.2 million has been included in the FY 1975 Budget for the continuation of the SANGUINE program on this basis.

~~4. Civil Defense~~

The shift in our strategic deterrence policy which I discussed at the beginning of this section does not diminish the need for a vigorous Civil Defense Program. A Soviet counterforce attack which deliberately avoids our cities -- for example, a large scale attack on MINUTEMAN -- would still produce a large amount of nuclear fallout which could drift over our cities. It would be highly