SECRET

VOLUME II

OF THE

REPORT OF SECRETARY OF DEFENSE

JAMES R. SCHLESINGER

TO THE CONGRESS

ON THE

FY 1976 AND TRANSITION BUDGETS, FY 1977 AUTHORIZATION REQUEST
AND FY 1976-1980 DEFENSE PROGRAMS

FEBRUARY 5, 1975

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SCHEDULE, E.O. 11652, EXEMPTION CATEGORY 3,
DECLASSIFY ON 31 DECEMBER 1991

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were negligible. The issue will be a matter of increasing interest to us in the years ahead as the strategic mobility of Soviet forces improves.

Another aspect of any comprehensive assessment of the worldwide balance is the contribution of U.S. overseas deployments outside of Europe, for example in Korea. These forces help maintain local balances and form U.S. strongpoints in the worldwide balance.

To assess all of these balances with confidence is difficult. U.S. and Soviet forces are different in many ways. Organizational, doctrinal, and weapon asymmetries have developed as a result of differences in historical experience, weapons design philosophy, relative resource scarcities, geography, and other factors. In the case of the three key balances that will be reviewed, there are larger and larger asymmetries as one passes from strategic nuclear forces, to the conventional forces in NATO (in which the Center Region receives so much attention), to the air and naval forces. Simple comparisons based on counting numbers of weapons and men, even if qualified by the differing technological quality of the weapons, tell only part of the story.

6. The Strategic Nuclear Balance

Credible strategic nuclear deterrence depends on the satisfaction of four major requirements. First, we must maintain an essential equivalence with the Soviet Union in the basic factors that determine force effectiveness. Because of uncertainty about the future and the shape that the strategic competition could take, we cannot

allow major asymmetries to develop in throw-weight, accuracy, yield-to-weight ratios, reliability and other such factors that contribute to the effectiveness of strategic weapons and to the perceptions of the non-superpower nations. At the same time, our own forces should promote nuclear stability both by reducing incentives for a first use of nuclear weapons and by deterring and avoiding increased nuclear deployments by other powers.

The second requirement is for a highly survivable force that can be withheld at all times and targeted against the economic base of an opponent so as to deter coercive or desperation attacks on the economic and population targets of the United States and its allies.

The third requirement is for a force that, in response to Soviet actions, could implement a variety of limited preplanned options and react rapidly to retargeting orders so as to deter any range of further attacks that a potential enemy might contemplate. This force should have some ability to destroy hard targets, even though we would prefer to see both sides avoid major counterforce capabilities. We do not propose, however, to concede to the Soviets a unilateral advantage in this realm. Accordingly, our programs will depend on how far the Soviets go in developing a counterforce capability of their own. It should also have the accuracy to attack -- with low-yield weapons -- soft point targets without causing large-scale collateral damage. And it should be supported by a program of fallout shelters and population relocation to offer protection to our population primarily in the event that military targets become the object of attack.

The fourth requirement is for a range and magnitude of capabilities such that everyone -- friend, foe, and domestic audiences alike -- will perceive that we are the equal of our strongest competitors. We should not take the chance that in this most hazardous of areas, misperceptions could lead to miscalculation, confrontation, and crisis.

Our current and programmed capabilities continue to satisfy these four requirements of strategic balance and deterrence. The forces which fulfill these objectives are a triad of bombers, ICBMs and SLBMs. Each leg of the triad is not required to retain independently a capacity to inflict in a second strike unacceptable damage upon an attacker. Instead, the three legs of the triad are designed to be mutually supporting. Our sea-launched ballistic missile (SLBM) force provides us, for the foreseeable future, with a high-confidence capability to withhold weapons in reserve. However, some of the POLARIS submarines are nearing the end of their useful life, so we must now plan for their gradual replacement. In doing so, we should make certain that we are insured against major improvements in antisubmarine warfare (ASW) by improving the performance of both the successor submarines and the missiles that will replace the POLARIS A-3 and the POSEIDON C-3. The TRIDENT program provides that hedge and deserves continued support.

The ICBM force, the heart of which is the MINUTEMAN series, continues to give us the accuracy, flexibility, and control necessary to deal with and thereby deter a wide range of attacks on military

targets. It provides the most reliable source of limited response options so essential to nuclear deterrence under conditions of nuclear parity. The combination of silo-upgrading and a new understanding of the problems the Soviets would face in mounting a preemptive counterforce strike -- the so-called "fratricide" effects -- holds the promise of extending the period in which we can feel confident of the survivability of our ICBM force. This assumes that the Soviets exercise restraint in their own developments and deployments.

The Soviets have already begun what will be a very substantial, indeed unprecedented, deployment of large new ICBMs in the first quarter of this year. However, if the principles and spirit of Vladivostok prevail, our response can be quite restrained. We should continue improvements in our command and control systems to enhance the flexibility and responsiveness of our strategic systems. For credibility in limited options, we should make modest improvements in the accuracy of the MINUTEMAN III by taking advantage of the capability inherent in its current guidance system. And we should increase the range of yields available for our nuclear warheads, in part to compensate for the uncertainties that always surround the accuracies of all-inertial guidance systems when used under real-world conditions.

The most tried and tested of our strategic retaliatory forces -- the heavy bombers -- continue to interact with our ICBMs to heighten the survivability of both. At the same time, they provide us with a

hedge against failures in our other retaliatory capabilities and complicate the Soviet defense problem. For some years, we kept 50% of the force on a very high alert; subsequently we reduced it to 40%. Now, unless the Soviets prove remarkably aggressive in their offensive and defensive programs, we can reduce the alert rate still further -- to 30% -- and transfer some of the tanker force to the reserves.

The last B-52 was produced in 1962. It should be clear, therefore, that if the heavy bombers are to continue their contribution to deterrence, we must plan for their modernization and the replacement of at least some portion of the B-52 force. Accordingly, continued but measured development of the B-1 is essential as a basis for any future production decision. Such a decision does not need to be made for at least another year. A special contribution of the bomber is the massive complications it introduces into any attack plan directed at U.S. strategic forces. Survivable aircraft render unattainable any credible coordinated surprise strike against U.S.-based systems. In addition, bombers complicate Soviet force management decisions, resulting in substantial air defense expenditures. Air defense is the aspect of Soviet defense programming which this nation finds least disquieting.

Our modest but productive civil defense program also warrants continuation. I say this not because we plan to embark on any grandiose program of damage-limiting; the ABM treaty effectively precludes such an effort in any event. The value of the current program is that it contributes to deterrence in a crisis and offers the

prospect of saving American lives in the event that limited and coercive nuclear attacks should actually occur.

Finally, because no significant long-range bomber threat to the United States now exists, and because -- with the ABM treaty -- we have recognized the difficulty of implementing a full-scale damage-limiting posture, we can rely on a reduced CONUS anti-bomber defense capability. At the same time, as a hedge, we can draw on our tactical theater-defense training forces for CONUS defense in an emergency since, for the most part, they are based in the United States rather than overseas.

There are several aspects of this overall strategic posture, and the programs that go with it, that deserve attention:

-- While it contains some counterforce capability, neither that capability nor the improvements we are proposing for it should raise the specter in the minds of the Soviets that their ICBM force is in jeopardy.

-- In addition, this improved hard-target-kill capability will not threaten the growing Soviet SLBM force.

-- It follows that we do not have and cannot acquire a disarming first-strike capability against the Soviet Union. In fact, it is our decided preference that neither side attempt to acquire such a capability.

To sum up the existing situation, we have a good second-strike deterrent, but so does the Soviet Union. Although the two forces differ in a number of important respects, no one doubts that they are in approximate balance. There are, in short, no immediate

grounds for fears about bomber or missile gaps. To go further, however, we would welcome reductions in these forces provided that the Soviet Union were willing to reciprocate in an equitable fashion.

As we convert the principles and guidelines of Vladivostok into the specifics of a 10-year agreement, this basic situation should continue to prevail. However, there are two uncertainties against which we should continue to carry insurance. A major uncertainty is the manner in which the Soviets will attempt to exploit their throw-weight advantage. The throw-weight of the Soviet ICBMs will continue to exceed that of the U.S. MINUTEMAN force by a very substantial amount -- perhaps by as much as a factor of six (unless the United States also increases its ICBM throw-weight). This throw-weight, combined with several thousand high-yield MIRVs and rapidly improving accuracies, could come to jeopardize the survivability of our fixed, hardened ICBM force.

Such developments would not give the Soviet Union anything approximating a disarming first strike against the United States. One reason for this is that less than 25% of the U.S. strategic deterrent capability measured in terms of missile and bomber warheads resides in fixed ICBMs. But such a development could bring into question our ability to respond to attacks in a controlled, selective, and deliberate fashion. It could also give the Soviets a capability that we ourselves would lack, and it could bring into question the sense of equality that the principles of Vladivostok so explicitly endorse. Worst of all, it could arouse precisely the fears and

suspicions that our arms control efforts are designed to dispel. Thus it is important that we continue to pursue programs that will permit us various options for responding to the growing Soviet counterforce threat against our fixed ICBMs.

You will recall in this connection that last year's program of strategic "initiatives" was justified on three major grounds. First, great uncertainty then existed as to the nature of any follow-on to the Interim Offensive Agreement of 1972 that we might be able to achieve. Second, essential equivalence was established as a fundamental criterion in the design of our strategic forces. Third, how far we went with these "initiatives" should depend on the evolution and pace of the Soviet strategic programs.

There now are fewer uncertainties about a successor to the Interim Offensive Agreement. But the other reasons for pursuing these "initiatives" remain strong, as I shall indicate later.

With a continuation of these "initiatives", and with the other programs outlined herein, I am confident that we can maintain a balance with the Soviet Union and assure a highly credible second-strike strategic deterrent within the framework of existing and future SALT agreements. Without these programs, however, I can give no such assurance.

7. The Balance of Power in Central Europe

Last year I pointed out that we plan our general purpose forces on the assumption that, in conjunction with our allies, we should be able to deal simultaneously with one major attack and one lesser

II. STRATEGIC FORCES

The strategic nuclear forces are the foundation of our military strength. Given our primary objective of deterring attack on ourselves and our allies, it is essential that we remain on equal footing with the Soviet Union in regard to these forces. The Vladivostok understanding not only clearly establishes the principle of equality by setting equal numerical ceilings on the strategic offensive forces of the United States and the Soviet Union, but also provides a point of departure from which we can work toward equitable reductions in the two forces. That is the direction in which we propose to go, once the Vladivostok understanding has been negotiated into treaty form.

Despite its importance, the Vladivostok understanding still does not relieve us of the burden of unilateral planning. Within the ceilings set by the agreement, we must continue to determine what specific objectives we want our strategic forces to serve and what constitutes the most efficient and effective mix of forces for those purposes.

A. THE BASIS FOR THE STRATEGIC NUCLEAR FORCES

It should be clear that deterrence must depend on a capability to respond effectively against the enemy, even after absorbing a first strike. A prospective opponent must, therefore, be aware of that capability, i.e., the ability of our forces to survive his attack and penetrate to their targets. Beyond that, he must be

persuaded that in the face of a sufficient provocation, we will actually execute the retaliatory attacks. And we, in turn, must be fully prepared both physically and psychologically to launch those attacks; otherwise the effectiveness of the deterrent will be undermined.

While we tend to talk of deterrence as though it were in continuous operation, it is doubtful that the leaders of the great nuclear powers ask themselves on a daily basis whether they feel deterred. It is only in circumstances of confrontation and crisis that the credibility of the deterrent comes under test; at that point, what may have seemed like a plausible threat under normal conditions may appear grossly inadequate or inappropriate to the situation at hand. For better or for worse, the scientist in the lecture hall who announces that, in response to a Soviet attack on our nuclear forces, we should destroy a hundred Soviet cities and their populations, is unlikely to implement that threat should the situation arise. In addition, theorizing about these matters tends to be too abstract, and does not easily capture the agonizing nature and complex context of these fateful decisions, should they ever arise.

Since we have been fortunate enough never to have undergone such an experience in the thirty years of the nuclear age, the reaction of the policymaker in the face of such an attack cannot be foretold. But he and his advisers will have been exposed to a number of paper wars -- i.e., hypothetical cases in which deterrence has collapsed and our opponent has launched some kind of a nuclear attack. They

will know from these exercises that in many circumstances the most suicidal course for the United States -- and hence the least credible course -- would be to strike the population in the opponent's cities. Thus, they quickly come to understand the desirability of being able to retaliate in other ways than by a massive attack against cities.

While the exercises may be hypothetical, the problem is not. The Soviet Union, for example, now deploys a strategic nuclear capability that goes far beyond anything required by the theories of minimum or finite deterrence. Her peripheral attack forces are such as to be able to take under attack every significant target in Western Europe. Her central strategic systems are sufficiently large in number so that she could strike at a substantial number of military targets in the United States, and elsewhere in the world, and still withhold a very large force whose future use we would have to consider in responding.

In addition, the People's Republic of China is slowly but steadily developing a strategic attack force of her own. And, as a result of the Indian nuclear detonation, we are once more aware that the danger of nuclear proliferation is still with us.

Another problem is the difficulty faced by our European and Asian allies. Most of them have no nuclear capabilities; those who do are dwarfed by the immensity of the Soviet strategic and peripheral nuclear attack forces. They still must look to the United States, as they have for thirty years, for some assurance that they cannot be blackmailed into submission by nuclear threats.

The problem is complicated still further by the range of nuclear contingencies that could arise. For planning purposes we have been conditioned to assume as the only contingency a massive surprise attack which comes, usually without motive or warning, as a bolt-out-of-the-blue. The case undoubtedly has its uses, but I would speculate that other contingencies are much more likely. The United States and the Soviet Union have exercised great care in the deployment and control of their nuclear weapons. Other nations may not do as well, and the concern with accidents and unauthorized acts may be with us again. Despite the increasingly stringent measures that we are taking, we cannot totally preclude the seizure or theft of a nuclear weapon and the need for countermeasures. In short, we face a wide range of possible actions involving nuclear weapons, and no single response is appropriate to them all.

There is also the ever present possibility that a conventional conflict might escalate into a tactical or even strategic use of nuclear weapons. Indeed, one of the minor ironies of recent polemics against current defense spending is that the polemicists manage to argue more or less simultaneously that:

-- the nuclear threshold must be kept high;

-- nuclear options will lower the nuclear threshold;

-- long-war conventional capabilities (for antisubmarine warfare, as one example) are unnecessary because conventional conflicts either will be short or will somehow turn nuclear.

I will not attempt to untangle the peculiar logic of this particular position. But it should be evident that the problems on our agenda, both today and in the future, make some of the earlier views of nuclear deterrence totally obsolete. Clearly, our requirements in this realm are for strategic forces capable of providing more than the simple response of a limited or wholesale destruction of cities.

This is not to say that a highly survivable force which can be withheld for substantial periods of time, if need be, and targeted against an enemy's major economic and political assets is irrelevant. Most of us can agree on the need for such a force to serve, at a minimum, as a deterrent to attacks on the cities of the United States and its allies. But to treat such a reserve force as an all-purpose deterrent, as a sovereign remedy for the problems we face, would be the height of folly. To threaten to blow up all of an opponent's cities, short of an attack on our cities, is hardly an acceptable strategy, and in most circumstances the credibility of the threat would be close to zero, especially against a nation which could retaliate against our cities in kind. Granting the need for such a withheld force in order to deter coercive attacks against our cities, we must surely go on to something else if our deterrent is to be credible over a wide range of contingencies.

Last year I pointed out that in addition to such a force, we needed a capability for more limited response options and for rapid retargeting

so as to provide the President with the maximum feasible amount of flexibility in a nuclear emergency. In reviewing that requirement, it is worth emphasizing again that:

-- Neither the United States nor the Soviet Union is capable of a disarming first strike against the other; in fact neither side has a high-confidence capability of destroying a large fraction of the other's fixed, hard ICBM silos.

-- Neither side, for the foreseeable future, is likely to acquire a disarming first strike capability against the other, even if the fixed, hard ICBM forces become more vulnerable in the 1980s.

-- Because of the Anti-Ballistic Missile Treaty, neither side can deploy a combination of counterforce and damage-limiting capabilities that will have any serious prospect of success; barring carelessness, each side should be able to count on large surviving forces that it can use or withhold for substantial periods of time.

In these circumstances, one may ask, has nuclear strategy not reached a dead-end? As far as the massive attacks that preoccupied us in the 1960s are concerned, that may well be the case. Unfortunately, however, there remain a number of more limited contingencies that could arise and that we should be prepared to deter. I have already mentioned the danger of accidents and unauthorized acts. Our allies have good grounds for asking how we would respond to threats against them from intermediate and variable range nuclear systems. And we cannot rule

out the possibility that a desperate or reckless enemy might engage in a nuclear "shot-across-the-bow" by firing at one or more of our military installations.

There is, moreover, another contingency about which we must remain concerned. Since both we and the Soviet Union are investing so much of our capability for flexible and controlled responses in our ICBM forces, these forces could become tempting targets, assuming that one or both sides acquire much more substantial hard-target kill capabilities than they currently possess. If one side could remove the other's capability for flexible and controlled responses, he might find ways of exercising coercion and extracting concessions without triggering the final holocaust.

I mention these contingencies -- and no doubt there are others -- for several reasons. First, we have to assume that, despite the appearance of strategic nuclear stalemate, others continue to explore their strategic and tactical possibilities just as they do their technological opportunities. Second, while many of the contingencies may seem bizarre and of extraordinarily low probability, the consequences of their occurrence could prove catastrophic.

Accordingly, I believe that it is our duty to drive the probability of these contingencies even lower by developing and displaying the capability and the doctrine of flexible strategic response. No potential enemy should believe that we are so rigid, so lacking in capability, or so fearful of the consequences that we cannot respond

appropriately (according to our best interests) to any nuclear provocation on his part.

The Command Data Buffer System will help ensure this flexibility by substantially improving our capacity for rapid retargeting of the Minuteman force. As national policy, we shall continue to acquire and be prepared to implement a number of more limited response options. No opponent should think that he could fire at some of our Minuteman or SAC bases without being subjected to, at the very least, a response in kind. No opponent should believe that he could attack other U.S. targets of military or economic value without finding similar or other appropriate targets in his own homeland under attack. No opponent should believe that he could blackmail our allies without risking his very capability for blackmail. Above all, no opponent should entertain the thought that we will permit him to remove our capability for flexible strategic response.

As I pointed out last year, the flexibility that we are developing does not require any major change in the strategic capability that we now deploy. Some modifications in command, control, and communications are necessary and are underway. I believe that our very modest civil defense program should continue; it makes clear to a prospective opponent contemplating a limited strike that, since we can protect our citizens against fallout, we have a credible choice between an all-out response and no response at all.

In addition, I believe that our response options would be enhanced by increased accuracy and a greater flexibility in the

yields of the nuclear weapons available to us. In some circumstances, we might wish to retaliate against non-collocated, small soft targets, or facilities near large population centers; high accuracy and a low-yield, air-burst weapon would be the most appropriate combination for those targets. In other cases, we might wish to respond with attacks on a limited number of hard targets such as ICBMs, IRBMs, and MRBMs. The desired combination for these latter targets, especially as long as we have to depend on all-inertial guidance systems, is high accuracy and a higher-yield warhead than we now deploy.

Since any discussion of hard-target kill capability inevitably arouses controversy, I must stress that we are not now seeking to develop the capability to destroy the Soviet ICBM force. We have, as I pointed out last year, a limited hard-target kill capability in our missile forces at the present time, as do the Soviets. Our own capability against ICBMs [redacted] is modest [redacted] partly because our missiles lack the proper combination of warhead yield and accuracy, and partly because of the complications introduced by the phenomenon known as fratricide. I believe that we should improve our hard-target kill capability so as to have higher confidence of executing limited hard-target attacks. To destroy all of the very hard components of the Soviet ICBM force that are now being constructed or upgraded would require not only major qualitative improvements on our part, but also a large number of

high-yield and very accurate reentry vehicles. I am not proposing any such deployment programs here.

A number of other and more general concerns about our response options have arisen during the last year, and I believe that they deserve serious consideration. Accordingly, I will try to address the most salient issues.

One of the most serious allegations is that, with limited response options, we are promoting warfighting rather than deterrence. But such a charge stems, in fact, from an erroneous conception of deterrence. This Administration is no less interested in deterrence than its critics; we recognize that the United States has more to lose from a nuclear war than any other country. But we also believe that our conceptions of deterrence must adapt to the large and growing capabilities of our rivals. Our objective remains deterrence, but modern deterrence across the spectrum of the nuclear threat. And that requires us to be prepared with credible responses to a variety of contingencies. Considering all the risks associated with the use of nuclear weapons, this kind of preparation does not in any way imply an effort to substitute limited nuclear response options for other instruments of military power. It is intended to make nuclear war of any kind less, not more, likely. I cannot help but add, in this connection, that nobody suggests that contingency plans, increased accuracy, or the avoidance of attacks on cities makes either non-nuclear or tactical nuclear war more probable. Why, then, should they make strategic nuclear war more probable?

A somewhat related charge is that, however good our intentions, limited response options will result in a lowering of the nuclear threshold. The fact is, as I pointed out last year, that we have had nuclear options for more than twenty years without their having notably affected the probability of nuclear war. Indeed, to believe that the development of contingency plans (which, after all, is what the search for options is all about) will increase the probability of nuclear use is to underestimate seriously the gravity of the decision to go to war, especially nuclear war. What is more, to the extent that concern about the nuclear threshold is more than hypothetical, the most effective way of keeping the threshold high is to increase the effectiveness and readiness of our non-nuclear forces. History, I believe, will show that on those rare occasions when the use of nuclear weapons was seriously considered in the past thirty years, it was because of the impression that adequate conventional forces were not available to achieve the desired objectives.

Another allegation (not quite compatible with the first two) is that limited response options are illusory because any nuclear exchange would rapidly escalate and that its results, even if the war were confined to military targets, would be indistinguishable from attacks on cities. The implication of this argument is that limited response options are worthless and harmful and that we should bow at least to the rhetoric and the force requirements of minimum deterrence.

Certainly it would be foolhardy to preclude the possibility that a nuclear conflict could escalate to cover a wide range of targets, which is one more reason why limited response options are unlikely to lower the nuclear threshold. But I doubt that any responsible policymaker would deliberately want to ensure escalation, and forego the chance for an early end to a conflict, by refusing to consider and plan for responses other than immediate, large-scale attacks on cities. Surely, even if there is only a small probability that limited response options would deter an attack or bring a nuclear war to a rapid conclusion, without large-scale damage to cities, it is a probability which, for the sake of our citizens, we should not foreclose.

Furthermore, all of the evidence available to us suggests that very limited and quickly terminated nuclear exchanges could result in fatalities and casualties much lower than from some of the traditional conflicts we have experienced. And even if a nuclear exchange were to expand to all strategic nuclear targets in the United States, we would probably suffer at least 100 million fewer fatalities than if our cities were attacked. Approximately similar results would hold true for the Soviet Union as well.

None of this is to argue that a strategy of limited response options is a panacea, or that it solves all the problems that we face in this realm, any more than previous strategies of deterrence have done. However, I believe that the Soviet leaders understand quite clearly why we have adopted this strategy in an era of

approximate mutual deterrence, and I see no evidence that they regard as destabilizing these efforts to strengthen our own deterrent. Accordingly, I continue to consider the capability for limited response options as one of the essential requirements of deterrence under current conditions.

An equally essential requirement of deterrence is parity with the Soviet Union in strategic offensive forces, as perceived by friend and foe alike. Not only does Public Law 92-448 (the Jackson Amendment) require us to achieve equality with the USSR in central strategic systems but such equality is also important for symbolic purposes, in large part because the strategic offensive forces have come to be seen by many -- however, regrettably -- as important to the status and stature of a major power. Clearly the Soviet Union places a very high value on achieving parity, at the very least, with the United States.

What is perhaps even more important, the lack of equality can become a source of serious diplomatic and military miscalculation. Opponents may feel that they can exploit a favorable imbalance by means of political pressure, as Hitler did so skillfully in the 1930s, particularly with Neville Chamberlain at Berchtesgaden. Friends may believe that a willingness on our part to accept less than equality indicates a lack of resolve to uphold our end of the competition and a certain deficiency in staying power. Our own citizens may doubt our capacity to guard the nation's interests.

Fortunately, the question of perceptions may to a large extent have been resolved by the understanding at Vladivostok, which so firmly

establishes the principle of equality between the United States and the Soviet Union in central strategic systems. Assuming that the Soviet leaders exhibit restraint in their application of the agreement's principles, we are prepared to exercise restraint as well. However, until we obtain solid evidence of Soviet restraint, our plans call for deployment of approximately 2,400 strategic delivery vehicles and 1,320 MIRVed missiles. How we proceed on these accounts will depend essentially on the actions of the Soviet Union. They currently have the initiative, and it is up to them to decide how much additional effort the two sides should put into these programs. In making their decision, they should remember that the tortoise won because the hare did not try very hard very often. This hare may be different.

A further requirement of deterrence that I should stress again is what has been called essential equivalence. Let me elaborate on what I mean by that term. Despite the accomplishments of the Vladivostok understanding and the further agreements that might be reached in the future, we will continue to face many uncertainties about the long-term evolution of the strategic forces -- and about which technologies and which components of these forces will be considered most important. Under the circumstances, I believe that it would be a mistake to allow any major asymmetry to develop between the United States and the Soviet Union in the basic technological and other factors that shape force effectiveness.

We must continue to think flexibly about the strategic forces and their deterrent functions. We must be sure to keep pace with the Soviet Union in the design of new offensive and defensive systems, in such areas as accuracy and reliability, and, if necessary, in throw-weight and its management. We may need to maintain an offsetting advantage in some areas to compensate for Soviet advantages in others. For example, the United States should seek to stay ahead in accuracy to offset the large and apparently growing Soviet advantage in throw-weight. I should stress in this latter connection that the Soviet Union has made more rapid strides in accuracy than is generally appreciated and has shown an intense interest in various applications of terminal guidance.

Progress by both sides in this latter area of technology will take time. Meanwhile, we in the United States must accept the fact that while our test-range accuracies with all-inertial guidance systems have shown marked improvement over the years, there remain considerable uncertainties about the extent to which accuracies will degrade on operational trajectories, especially since the world is not a perfect sphere. The Soviets face comparable uncertainties, but can compensate to an important degree for degradations in accuracy by using the high yields that the large throw-weights of their missiles permit. We are in a less advantageous position in this regard because of the severe constraints on our own missile throw-weights. Accordingly, I believe that we should both increase the yield-to-weight ratio of our warheads and -- regardless of past

preferences -- be prepared to expand the throw-weight of our missiles, however we may decide to base them in the future.

Despite these concerns for the future, we continue to deploy a highly effective second-strike strategic force. As matters now stand, we are able to fulfill the four requirements of deterrence that I have articulated in the first section of this Report. We currently possess:

-- A powerful and survivable force capable of being withheld for a substantial period of time;

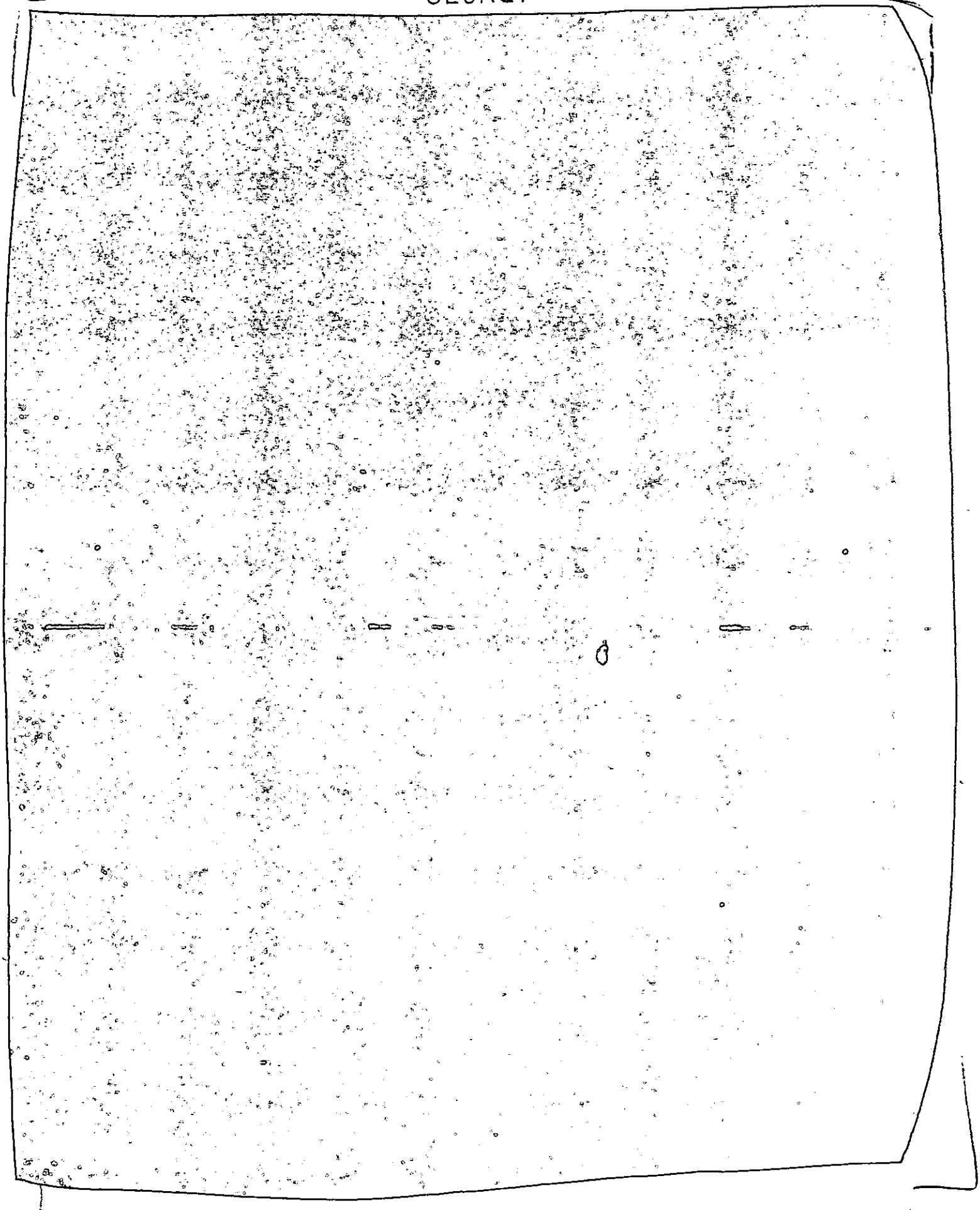
-- A capability for limited response options, including some precision damage-avoidance and hard-target kill capability and a modest ability to provide our citizens with protection from radioactive fallout;

— Perceived equality with the Soviet Union, even though our forces differ from hers in certain important respects;

-- Continuation of our program of strategic initiatives, to maintain essential long-term equivalence with the USSR and, to the extent necessary, with the PRC.

Since we do not seek a disarming first strike capability against the Soviet Union, there is no reason why she cannot have a capability comparable to ours, thus ensuring the mutual deterrence that is the foundation of equality, respect, and stability.

Despite these hopes and prospects, there remain two major problems on the horizon against which it is particularly important that we carry insurance. The first is that the new generation of Soviet



ICBMs, if fully deployed, would carry a throw-weight exceeding that of the MINUTEMAN force by a factor of as much as five or six. The second problem is that this throw-weight, combined with several thousand high-yield MIRVs and accuracies that are well within the reach of the Soviets by the early 1980s, could come to jeopardize the survival of our fixed-based ICBM silos.

While such a development would not give the Soviet Union anything approximating a disarming first strike capability, it would:

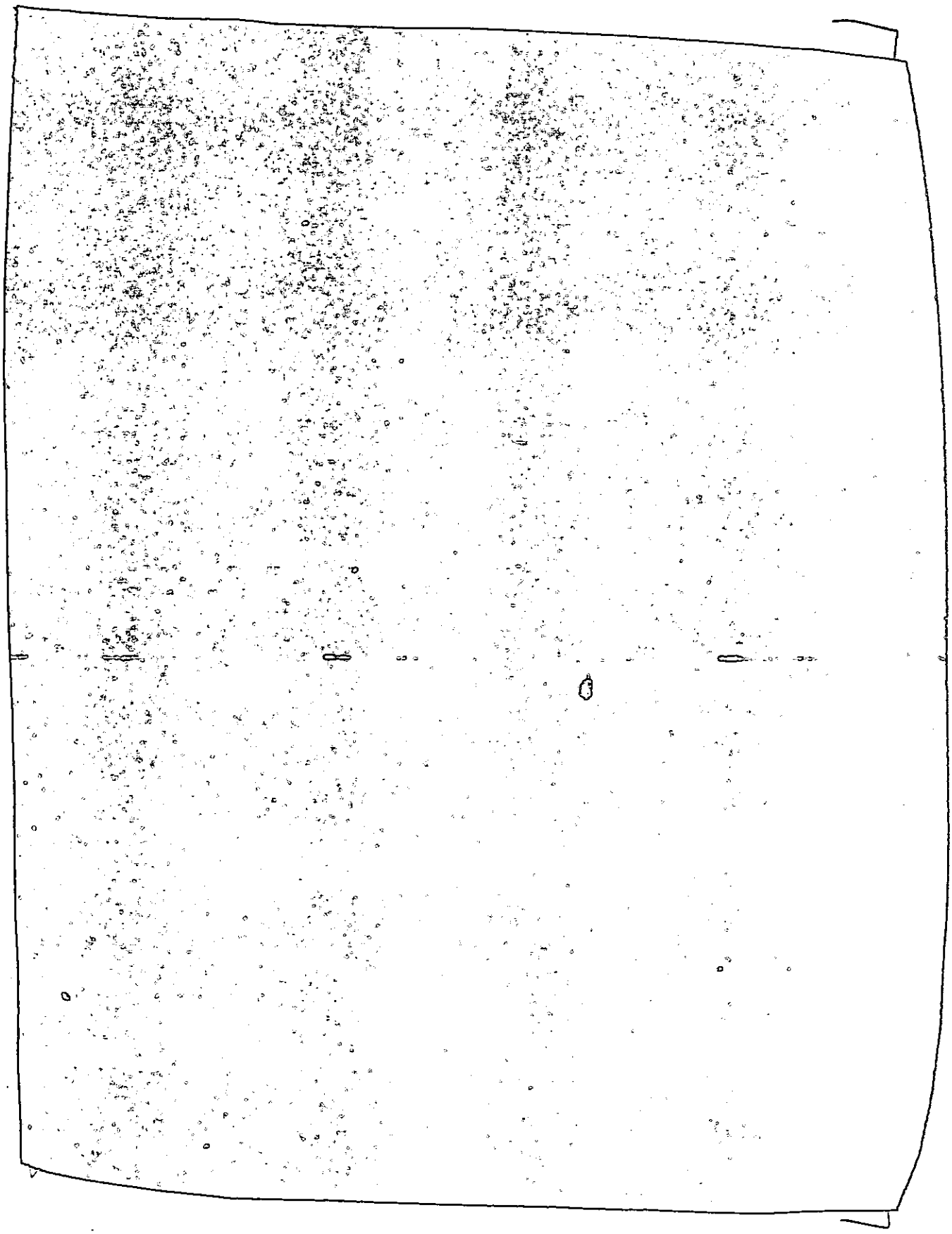
-- bring into question our ability to deter limited and selective attacks;

-- give the Soviets a capability for damage and disruption that we ourselves would lack;

-- cause precisely the fears and suspicions that our arms control efforts have been and are designed to dispel.

Here, in fact, is a case where unilateral planning, as I indicated earlier, might have to support and supplement our arms control programs.

We cannot expect, in all candor, that arms control agreements -- any more than domestic laws -- will solve all problems or close all loopholes. Those who hold such high expectations are doomed to disappointment. Where the possibility of loopholes exists, we should not insist on perfection as the price of agreement. Rather we should attempt to close the loopholes, by further negotiation if possible, by unilateral action if necessary.



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You will recall in this connection, when I submitted a program of strategic initiatives last year, that I did so on three grounds. First, great uncertainty then existed as to the nature of any successor to the Interim Offensive Agreement that we might achieve. Second, essential equivalence would constitute a fundamental criterion in the future design of our strategic offensive forces. And third, how far we would proceed within these initiatives should depend on the evolution and pace of the ongoing and maturing Soviet strategic programs.

As a result of the understanding at Vladivostok, there now are fewer uncertainties about the shape of a successor to the Interim Offensive Agreement. But the other reasons for continuing with our program of strategic initiatives remain strong.

Until the Soviets decide to make a more stable distribution of their strategic offensive resources, we must take account of the heavy emphasis that they are giving to their ICBM force. Accordingly, we should keep open the option to replace some or all of the force with a larger throw-weight, less vulnerable system. We should continue with our accuracy improvement programs, whether to acquire a more efficient hard-target kill capability or to improve our overall effectiveness against soft point targets. Pending ratification of a threshold nuclear test ban, we should also diversify our warhead prototypes -- particularly with the improvement of yield-to-weight ratios -- so that we can exercise options in the future on how we load our missiles and bombers. It does not follow,

for example, that more MIRVs are always better or that we might not want single-warhead replacements for the current POSEIDON missile and its successors. Finally, I believe that we must continue to explore the potentiality of long-range cruise missiles, evaluate the costs and performance of smaller ballistic missile submarines, and assess the practicality of developing an aircraft that can convert from a transport to a tanker.

With these initiatives, and the other programs that I shall discuss in detail later in this section, I am confident that we can maintain a highly credible, modern, second-strike strategic deterrent within the framework of the Vladivostok understanding and any future SALT agreements. Without them, I can give no such assurance.

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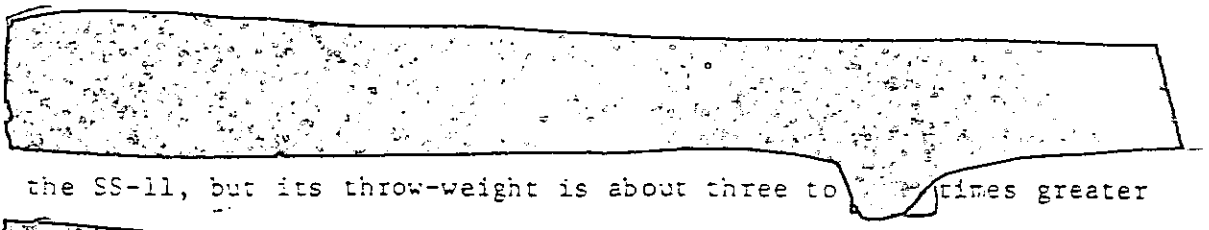
B. SIGNIFICANT DEVELOPMENTS IN FOREIGN STRATEGIC CAPABILITIES

The strategic forces of the Soviet Union constitute by far the major external strategic capability which the forces of the United States must be designed to counterbalance. The strategic forces of the People's Republic of China, while growing slowly in size, are still significant only in a regional context. Hence, the following discussion deals principally with the Soviet forces.

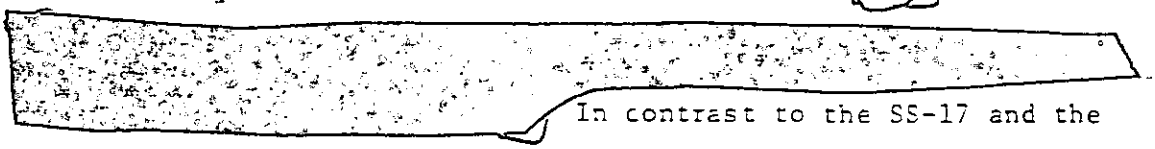
1. The Soviet Union

Last year I reported to the Congress that the Soviet Union was in the midst of an ICBM development program which was unprecedented in its breadth and depth. Four new ICBMs -- the "light" solid fuel SS-X-16, the "medium" liquid fuel SS-17, the "medium" liquid fuel SS-19 and the "heavy" liquid fuel SS-18 -- were being flight-tested simultaneously. But of far greater importance with regard to the strategic balance, all four of those missiles employed a post boost vehicle (PBV), i.e., a bus type dispensing system, and all except the SS-X-16 were being flight tested with MIRVs. Now, a year later, I must report to the Congress that this most impressive development program is nearing completion and that we have evidence that all four of these new ICBMs have started, or soon will start, operational deployment. What remains to be ascertained at this time is simply the extent, composition and pace of that deployment.

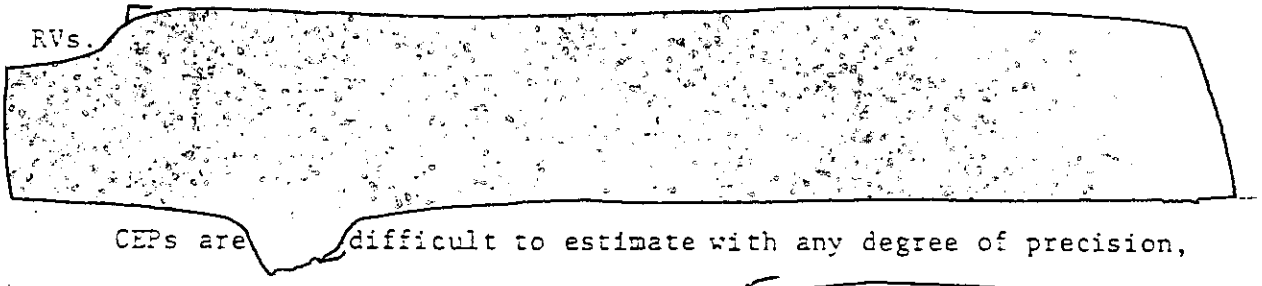
Of the four new ICBMs being flight tested, the SS-19 is clearly the most successful. [redacted]



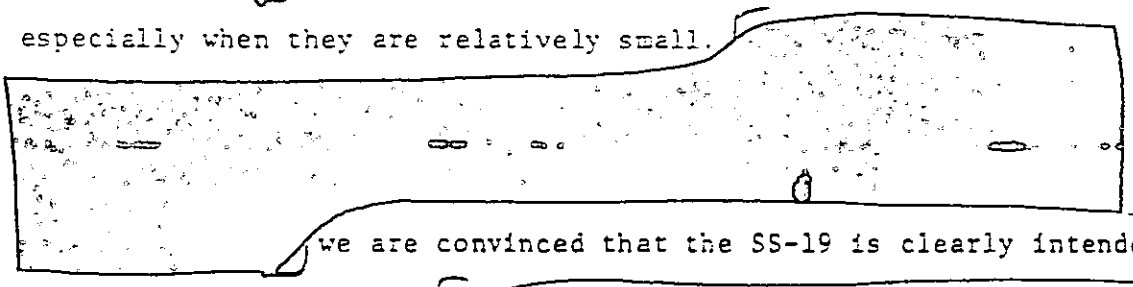
the SS-11, but its throw-weight is about three to times greater



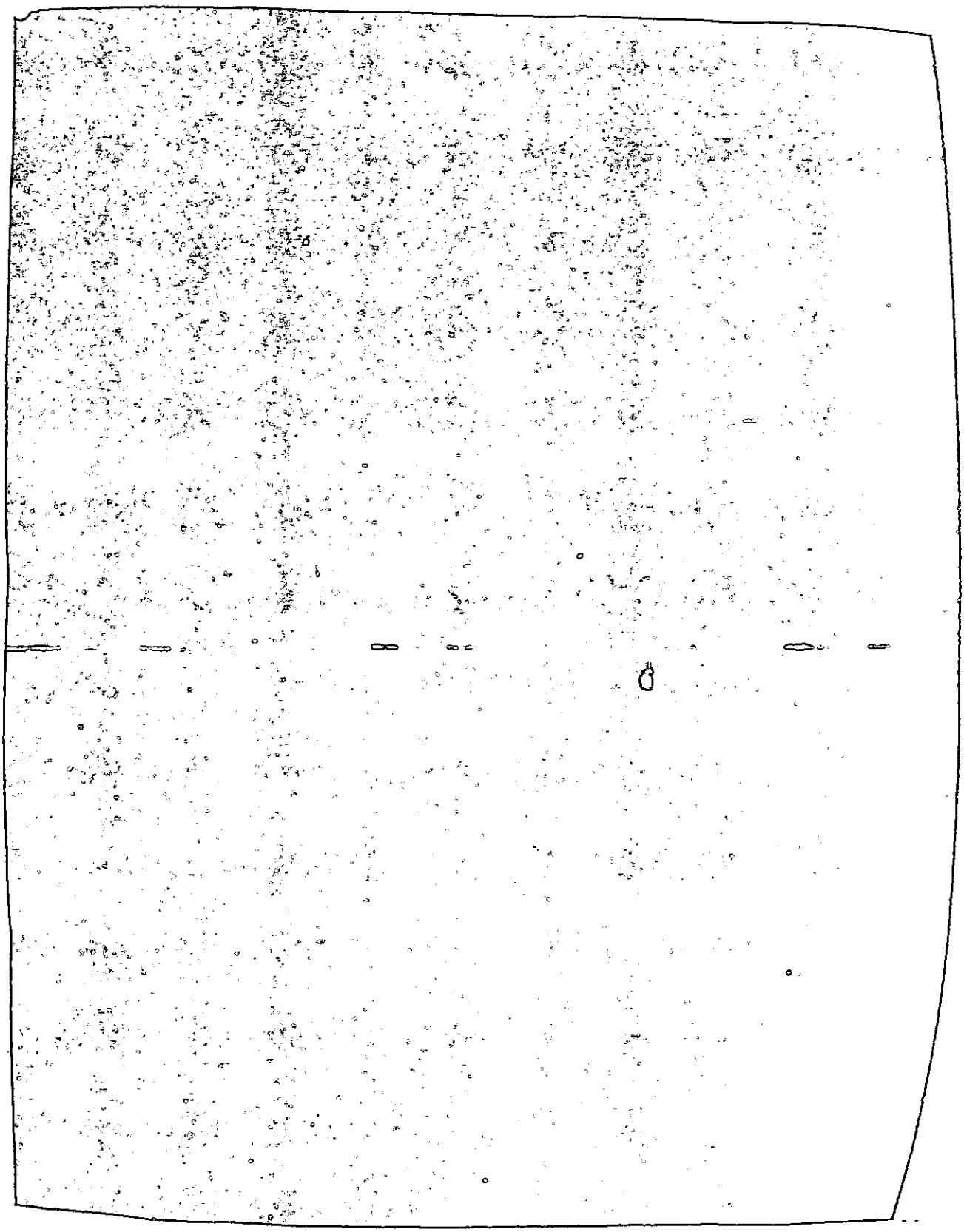
In contrast to the SS-17 and the SS-18, the SS-19 has been flight tested solely with MIRVed payloads and we are now virtually certain that it will be deployed with six RVs.



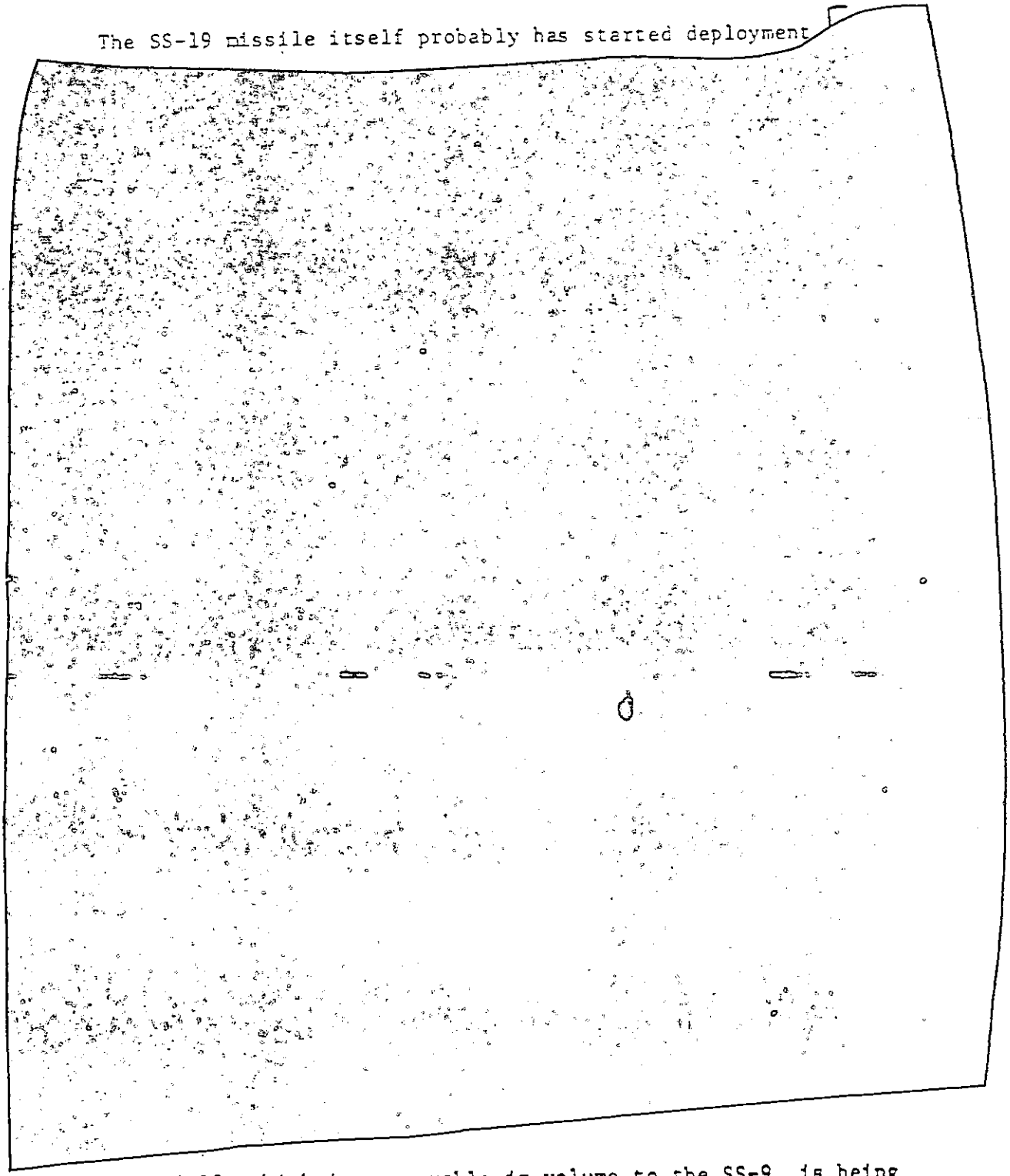
CEPs are difficult to estimate with any degree of precision, especially when they are relatively small.



we are convinced that the SS-19 is clearly intended to achieve high accuracy;



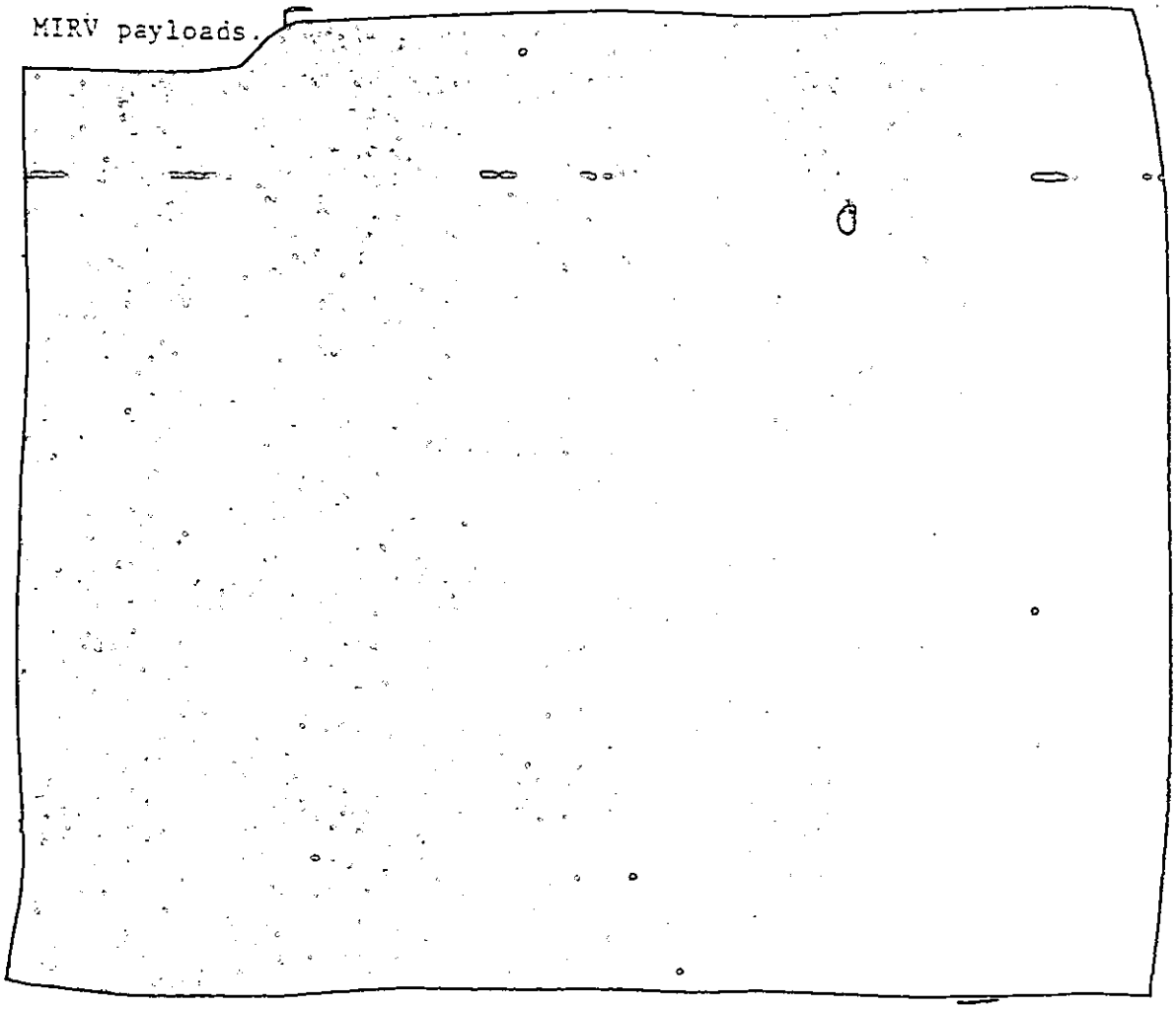
The SS-19 missile itself probably has started deployment



The SS-18, which is comparable in volume to the SS-9, is being flight tested in both a single RV and a MIRV mode. The single RV version has been designated the Mod 1, and the MIRVed version the

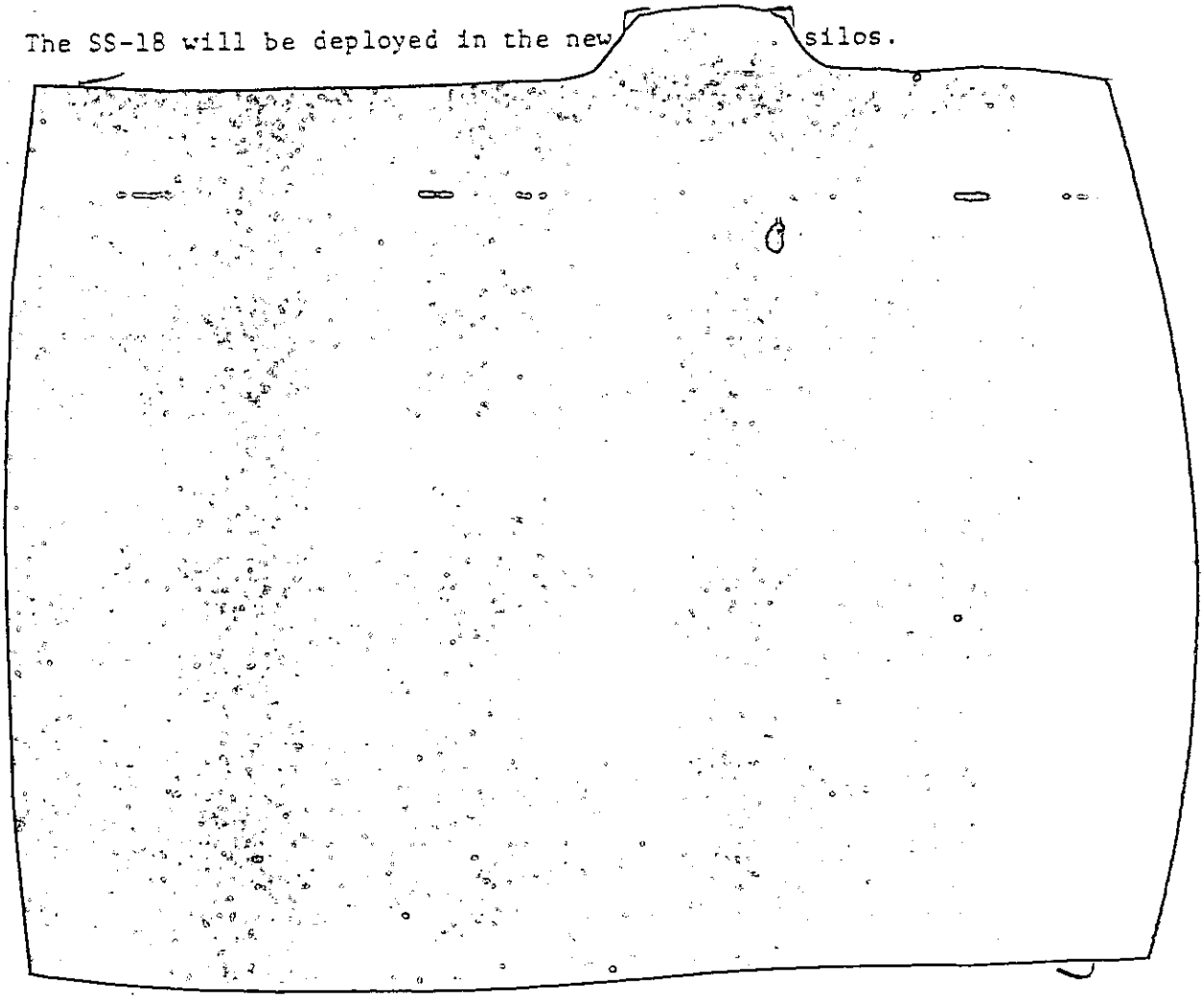
Mod 2. The SS-18 Mod 1 has a computer aboard and it is believed to be more accurate than the SS-9 -- with a warhead yield this missile would have a good hard target capability.

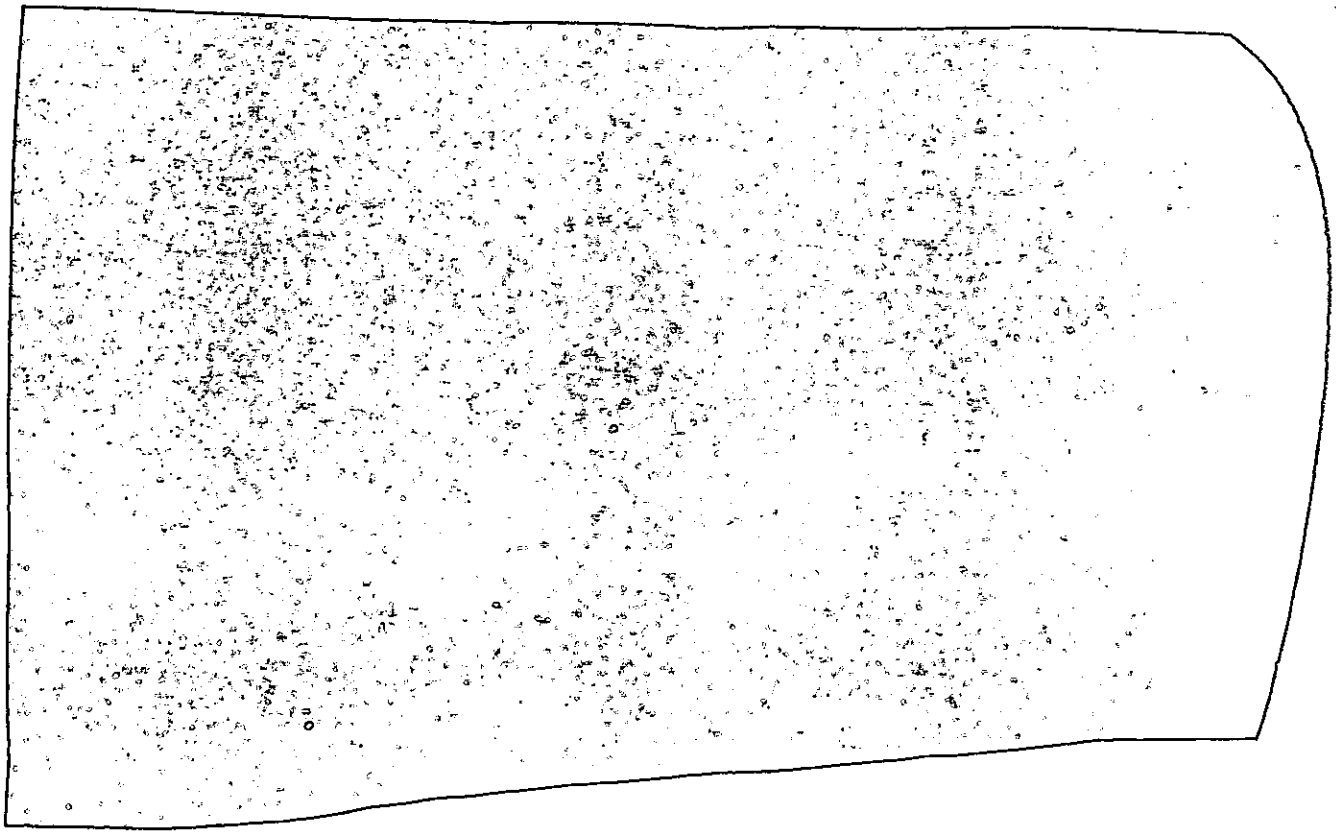
The SS-18 Mod 2 can carry as many as eight RVs or alternative MIRV payloads.



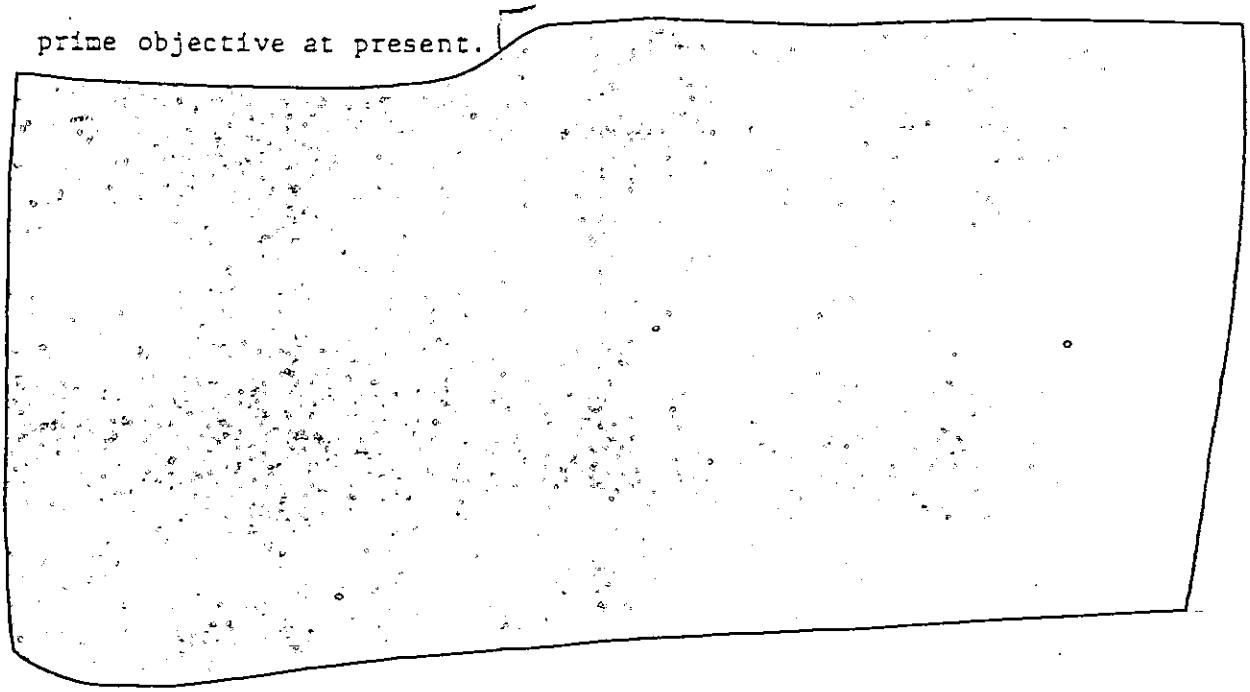
Flight testing of the SS-18 Mod 1 is further advanced than that of the Mod 2. Consequently, we believe the Mod 1 is being deployed first, to be followed later, [redacted] by the Mod 2.

The SS-18, like the SS-17, is designed to be cold-launched, i.e., the missile is boosted out of its silo by a gas generator before the main booster motors are ignited. The other two new ICBMs (the SS-X-16 and the SS-19) are hot-launched in the conventional manner, i.e., their main booster motors are ignited in the silos as in the case of the earlier Soviet ICBMs and all of the current U.S. ICBMs. The SS-18 will be deployed in the new [redacted] silos.



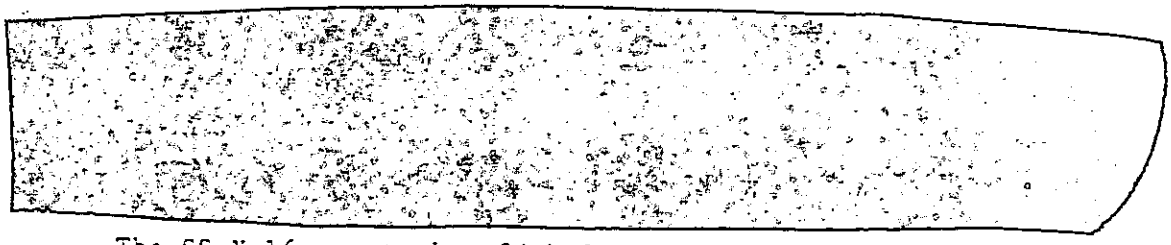


The SS-17 has certain features that are technologically more advanced than the SS-19, but high accuracy does not appear to be a prime objective at present.

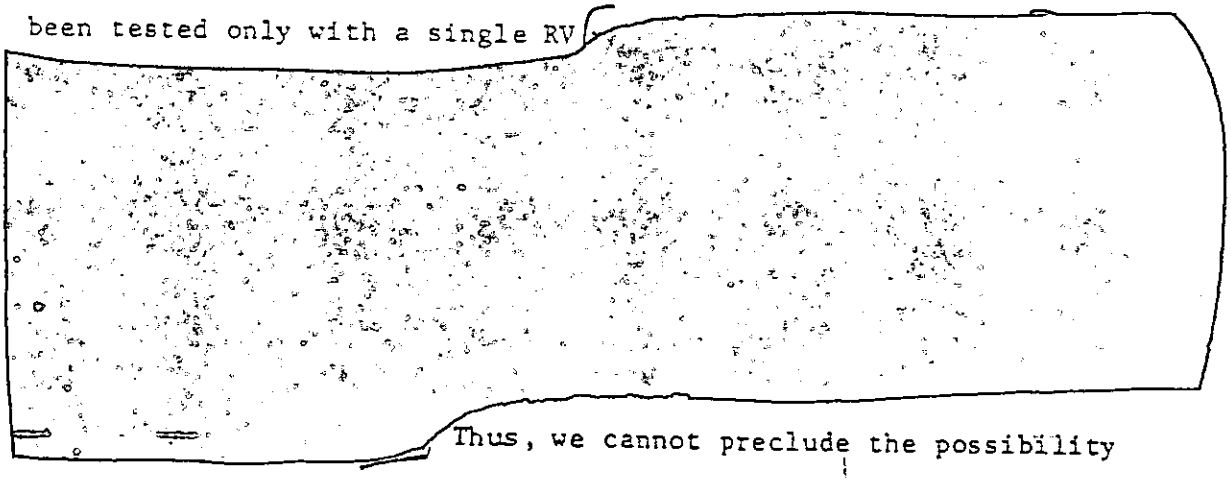


The SS-17 is [redacted] larger in volume than the SS-11, but it carries four times the payload of the SS-11 Mod 1. We believe that the SS-17 will be deployed with four RVs weighing [redacted] this missile would not have as good a hard target capability as the SS-19.

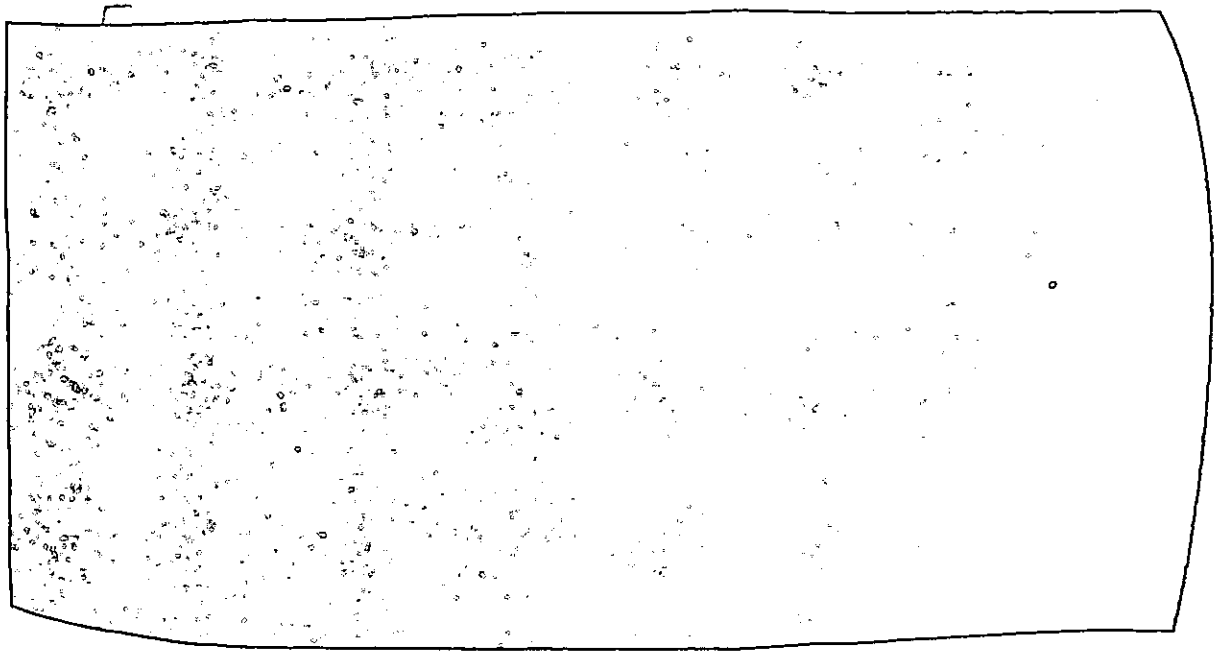
[redacted]

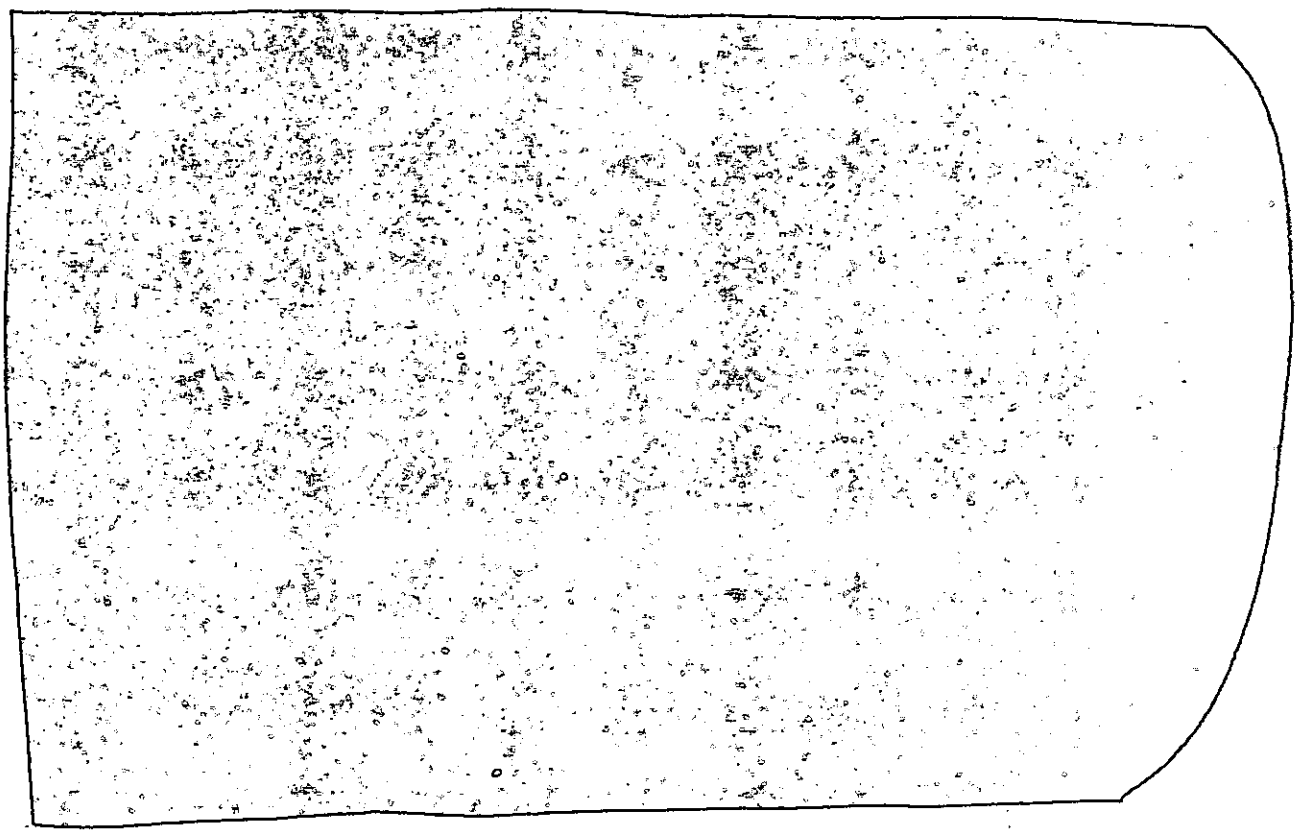


The SS-X-16 may to be slightly smaller in volume than the SS-13, but it carries about twice the throw-weight over about the same range. Although equipped with a bus, the SS-X-16 has thus far been tested only with a single RV

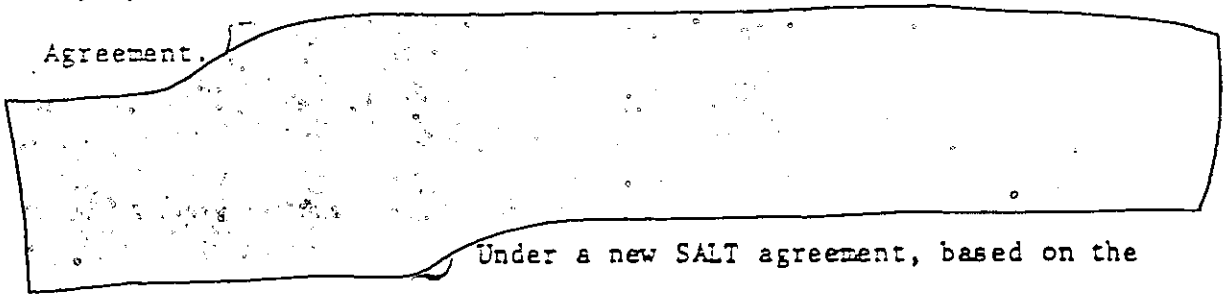


Thus, we cannot preclude the possibility that the SS-X-16 will be deployed in a MIRV, as well as a single RV, mode.

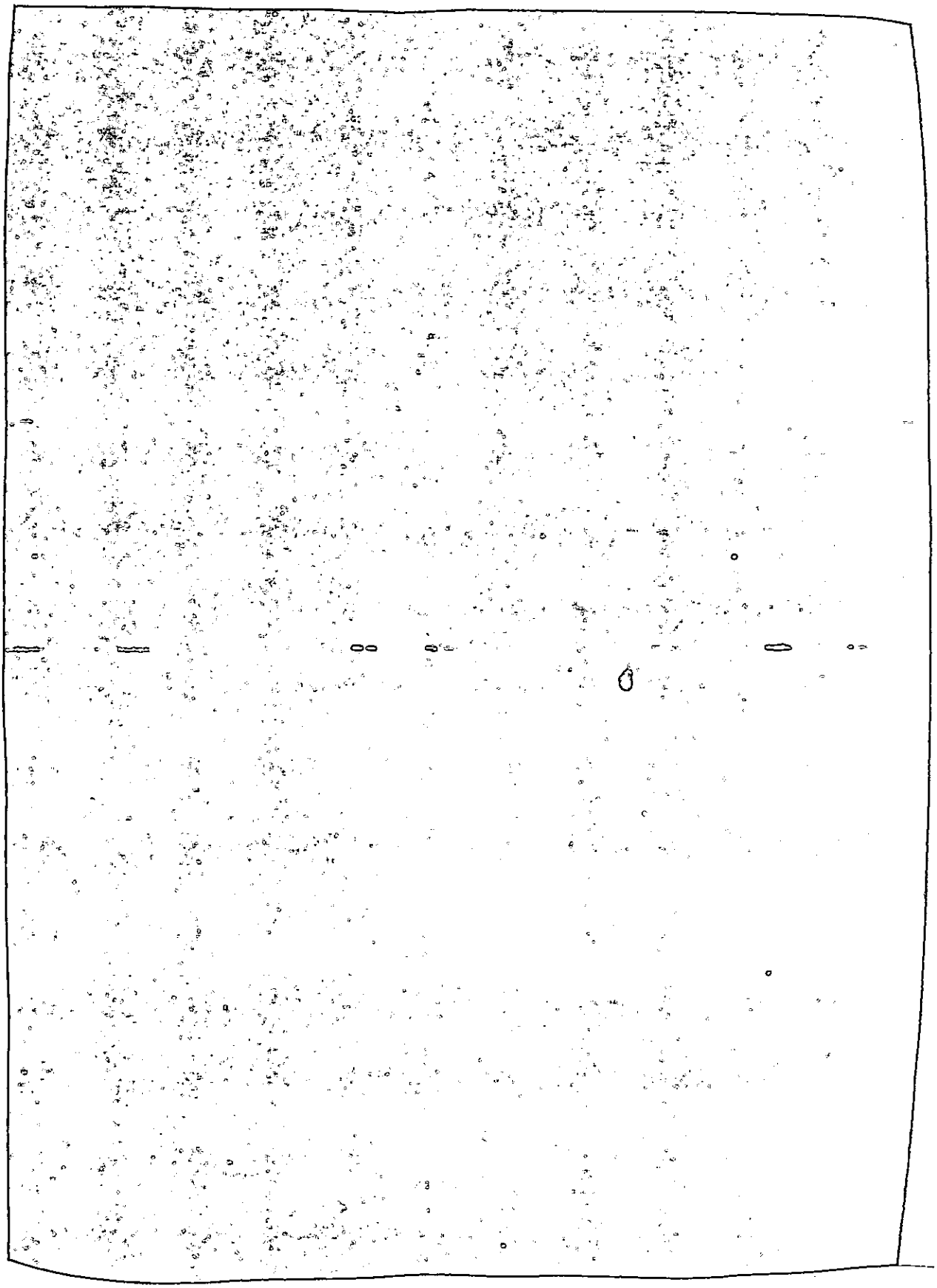


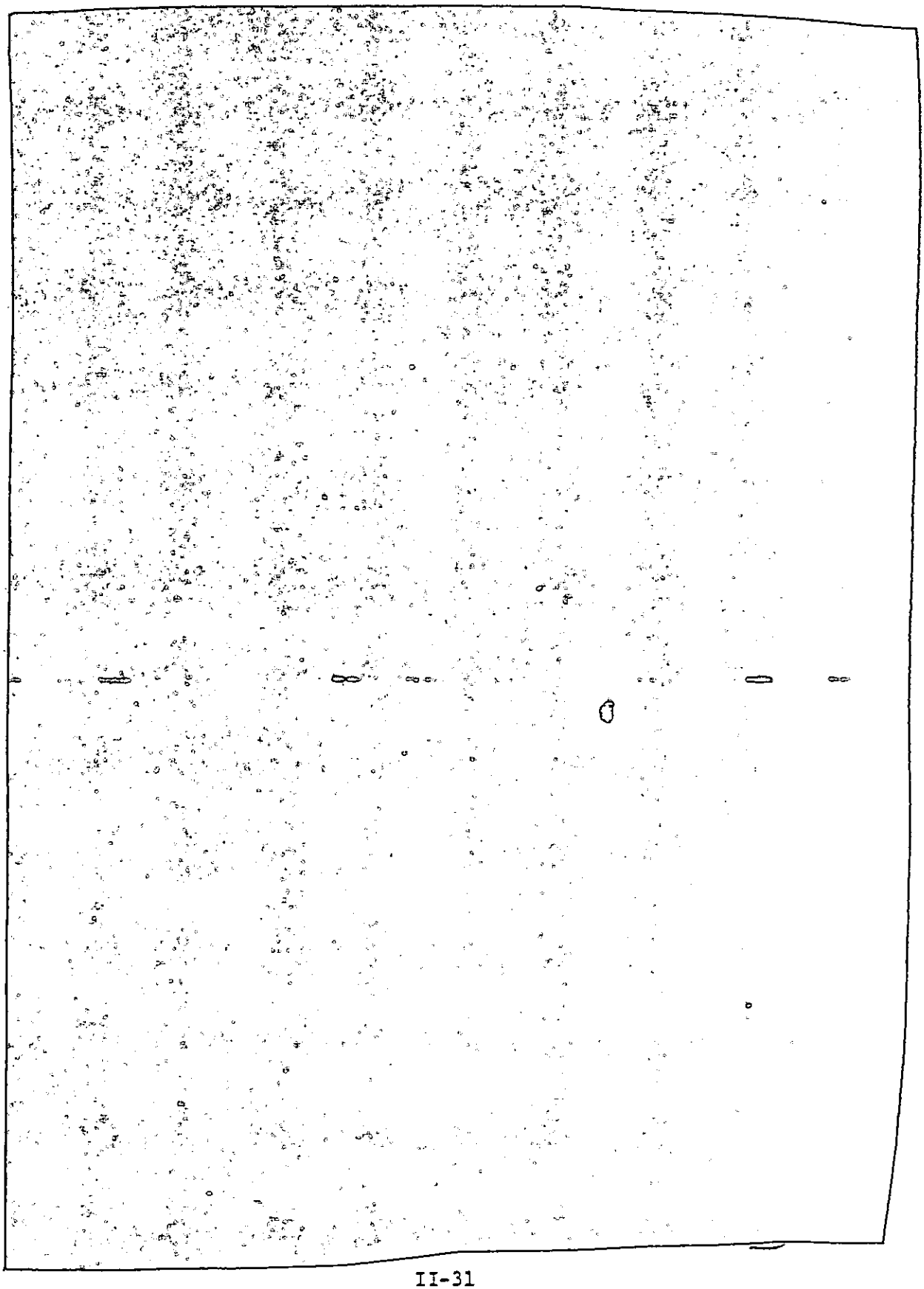


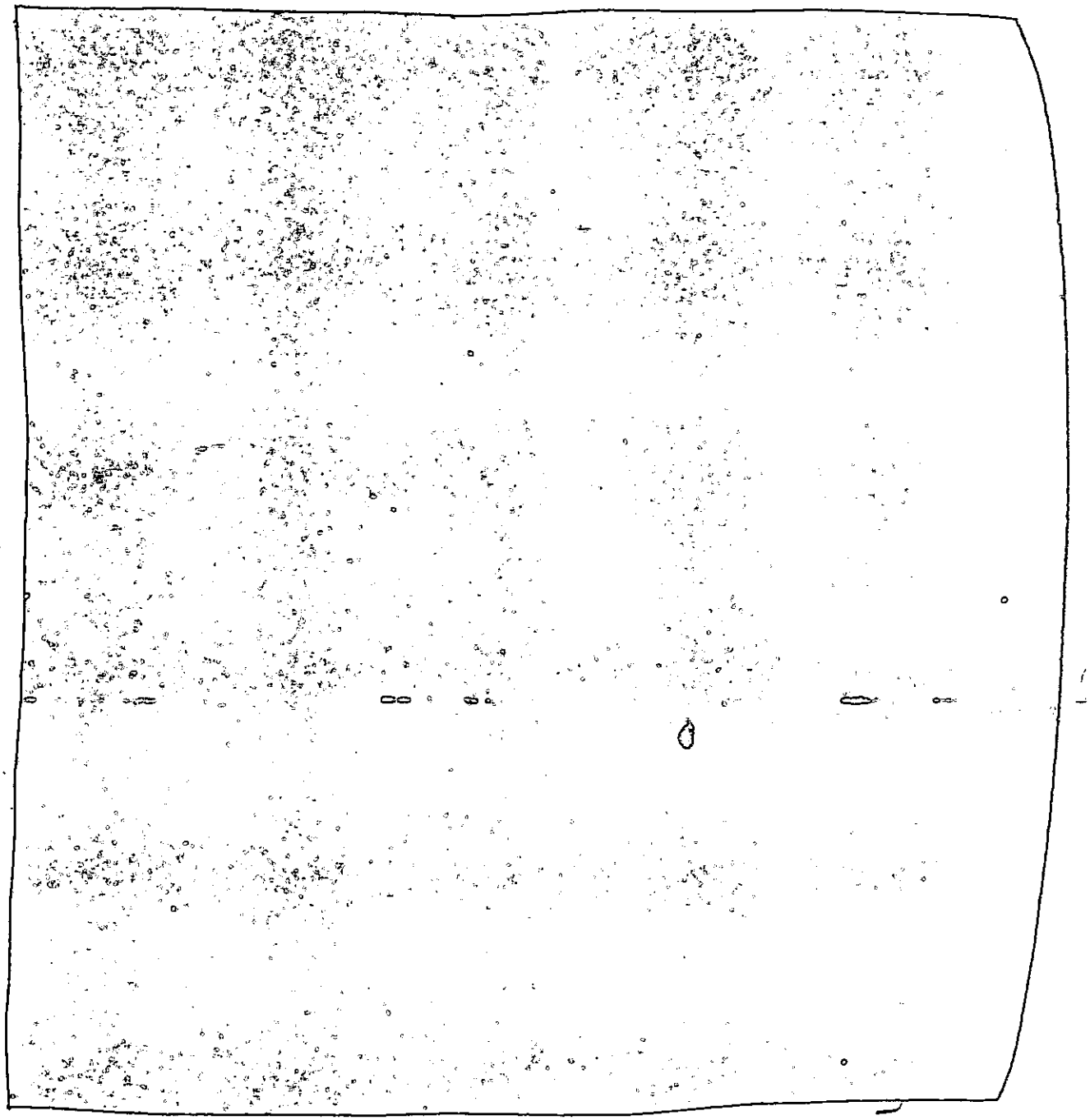
We still believe that a land-mobile version of the SS-X-16 is under development. Although the Interim Agreement itself does not restrict the development of land-mobile systems by either side, the U.S. Government has unilaterally declared that it would consider the deployment of such missiles inconsistent with the objectives of the Agreement.



Under a new SALT agreement, based on the Vladivostok summit meeting, any mobile ICBMs would be counted against the aggregate limits. In any event, we believe the SS-X-16 would be deployed first in [redacted] silos, and only thereafter in a land-mobile mode.







Speculation as to the rate of deployment of the new Soviet ICBMs and as to the buildup of its SLBM force are complicated by the provisions of the SALT I Interim Agreement which were to govern until mid-1977 and the ongoing negotiations to achieve a new agreement within the general outlines worked out at Vladivostok. The

discussion here assumes that the provisions of the Interim Agreement will hold for the period up to mid-1977.

In order to allow for deployment of newer delivery systems, we assume that the Soviet Union will phase out most, if not all 209 of the old SS-7s and SS-8s as long as the Interim Agreement remains in effect. We believe the SS-7s and SS-8s will be phased out in favor of modern SLBMs in nuclear-powered submarines, which is permitted under the Agreement. [redacted] Substitution of SLBMs for all of the 209 SS-7s and SS-8s would reduce the Soviet ICBM ceiling to [redacted] launchers, excluding mobile ICBM launchers. If the new family of ICBMs is deployed along the lines described earlier, these [redacted] launchers could [redacted] have a throw-weight of about 10,000,000 lbs [redacted]

This most impressive Soviet ICBM program, as I pointed out last year, 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. The full deployment of the force I have just described would unquestionably permit the attainment of the first two objectives. The attainment of the last objective would depend upon the accuracy achievable with the SS-18 and the SS-19. We believe the CEPs of both of these missiles

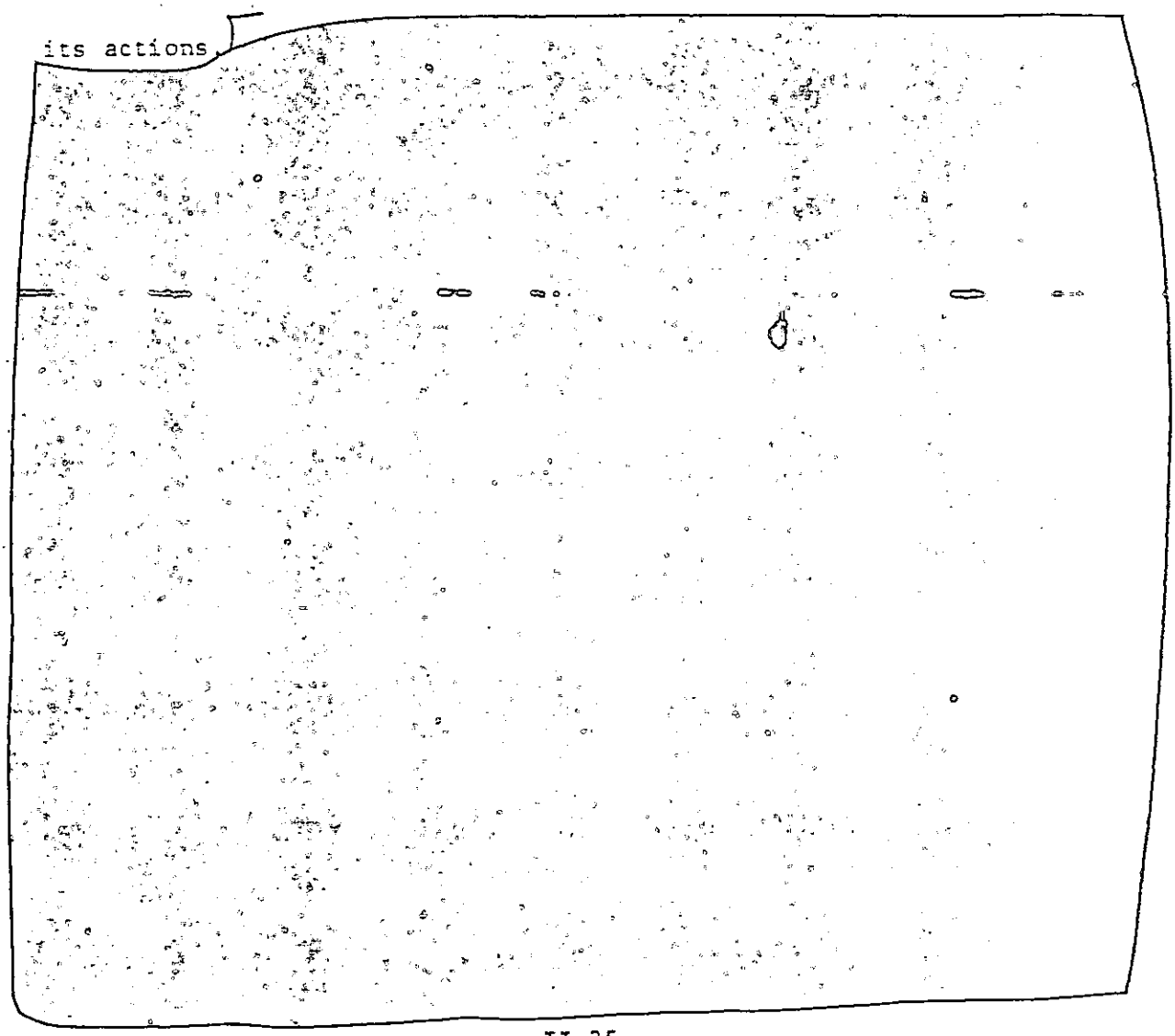
could be improved [redacted] A force of [redacted] SS-18 Mod 2s and [redacted] SS-19s, given their estimated warhead yields, could then pose a threat to our ICBMs in their silos, which threat, though limited by our silo upgrade program, would become increasingly serious as Soviet CEPs were improved [redacted] That force, [redacted] SS-17s, [redacted] SS-16s and [redacted] SS-11 Mod 3s, could be deployed by the early 1980s.

The Soviet SLBM program during the past year has also produced some interesting new developments. The new model of the D-class submarine [redacted] which I discussed last year, is now under construction. This new submarine is apparently a longer version of the original D-class which in turn is a longer version of the Y-class. [redacted] The new D-class submarine will probably have as many as [redacted] tubes, compared with 12 tubes for the original D-class; both are designed to carry the 4,200 nm SS-N-8 SLBM. The Y-class submarine has 16 smaller tubes for the SS-N-6.

Production of the Y-class submarine has apparently ended with completion of the 34th unit (last year we thought it would end with the 33rd unit). [redacted] of the 12-tube D-class submarines have been launched, [redacted]

the Soviet Union intends to exceed the Interim Agreement's "base line" ceiling of 740 SLBM launchers and move toward the maximum limit of 950 "modern" SLBM launchers and 62 "modern ballistic missile submarines".

When the SSBN with the 741st or larger number of launchers enters sea trials, the Soviet Union is required to begin dismantling an equal number of SS-7 or SS-8 launchers and/or SLBM launchers on older submarines and, under the Interim Agreement, to notify the U.S. of its actions.



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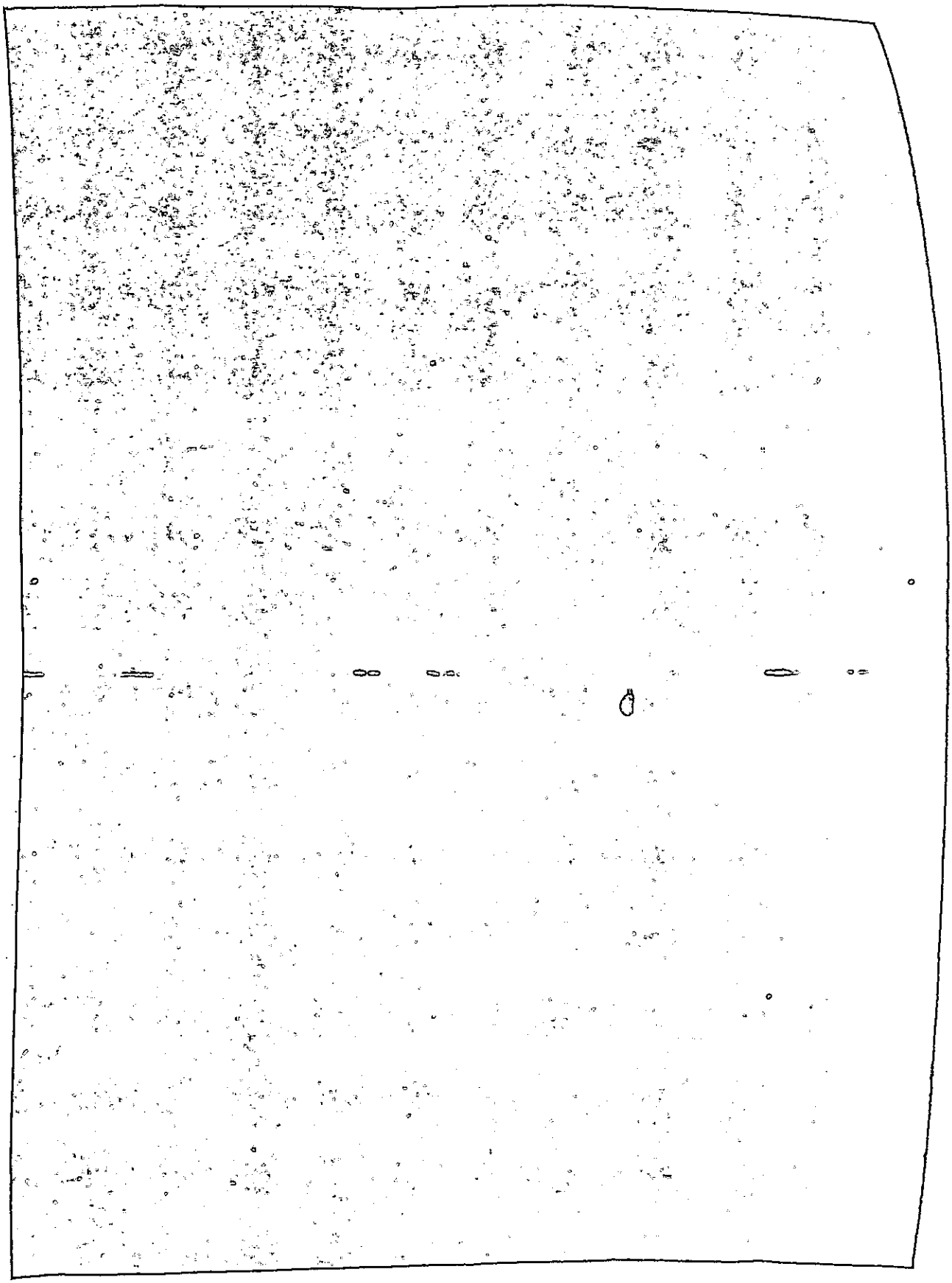
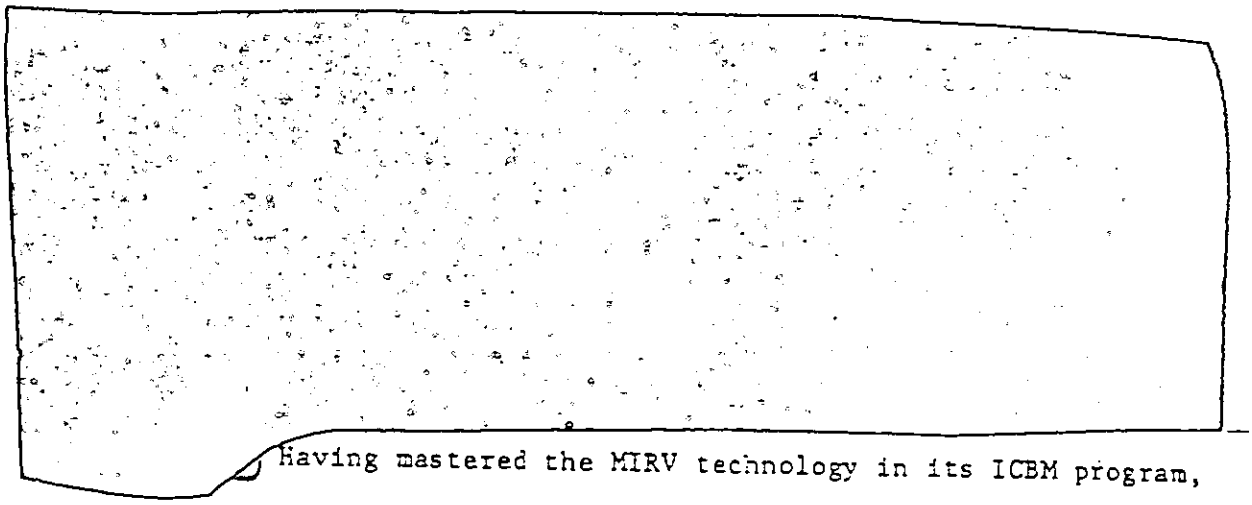
[redacted] In any event, it seems clear that the Soviet Union intends to expand its SLBM force up to the limit set in the Interim Agreement. An agreement in accordance with the general terms discussed at Vladivostok would allow the Soviet Union to further expand its SLBM force with compensating reductions in ICBMs or bombers within the 2,400 limit. Many of the detailed scheduling and counting problems discussed above would not exist.

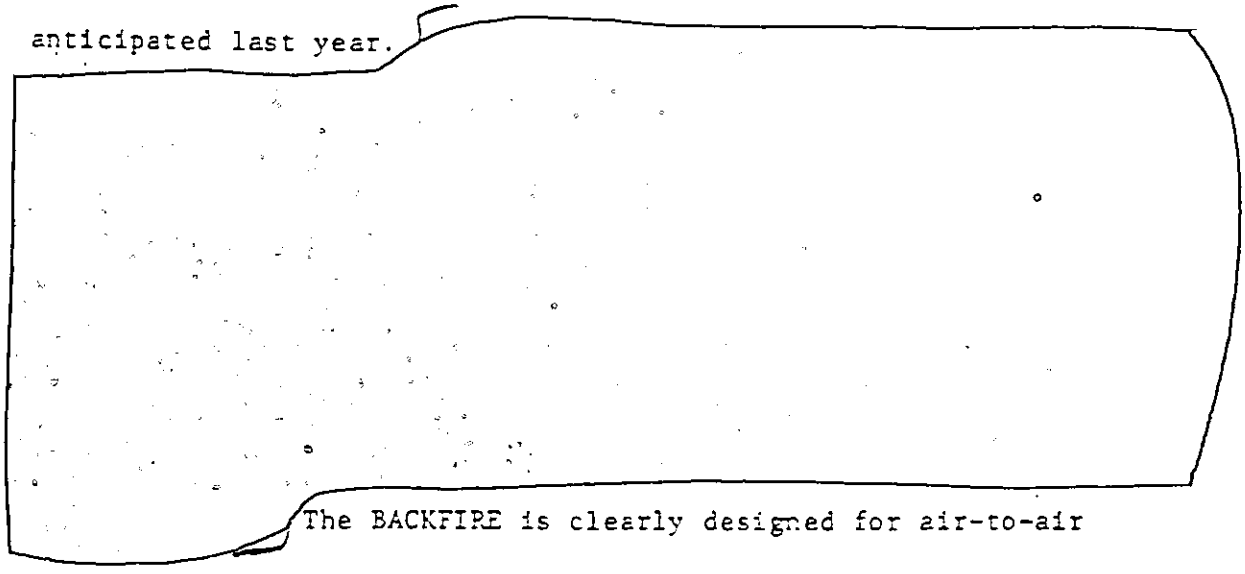
Last year I noted that the Soviet Union was flight testing a new version of the SS-N-6 with [redacted] MRVs. It is now clear that there are actually two new versions of the SS-N-6 -- the Mod 2 with a single RV and the Mod 3 with [redacted] MRVs -- both with a range [redacted]





Having mastered the MIRV technology in its ICBM program, there is no reason why the Soviet Union could not deploy MIRVs in its SLBMs as well. Should it do so, which it could under the terms of the Interim Agreement, the Soviet Union could exceed the United States in numbers of strategic missile RVs, as well as in total throw-weight, numbers of delivery vehicles, and megatonnage. The Vladivostok agreement is very important for the reason that it would not allow either the U.S. or Soviet Union to achieve superiority in all of these important measures of strategic offensive forces.

The Soviet strategic bomber program is progressing just about as anticipated last year.



The BACKFIRE is clearly designed for air-to-air

refueling [redacted] It is now generally agreed that with air-to-air refueling, staging through arctic bases and flying a high altitude subsonic profile all the way, the BACKFIRE B could cover virtually all targets in the U.S. and return to the Soviet Union. On one-way missions, recovering in non-hostile territory in the Western Hemisphere, the BACKFIRE B, flying subsonically, could operate from its home bases without any tanker support. The extent to which BACKFIREs will be assigned missions against the continental United States, however, remains an open question. We must await evidence from basing, operational and training patterns, or tanker development before we can confidently judge whether the Soviets intend the BACKFIRE for intercontinental missions and, if so, to what extent.

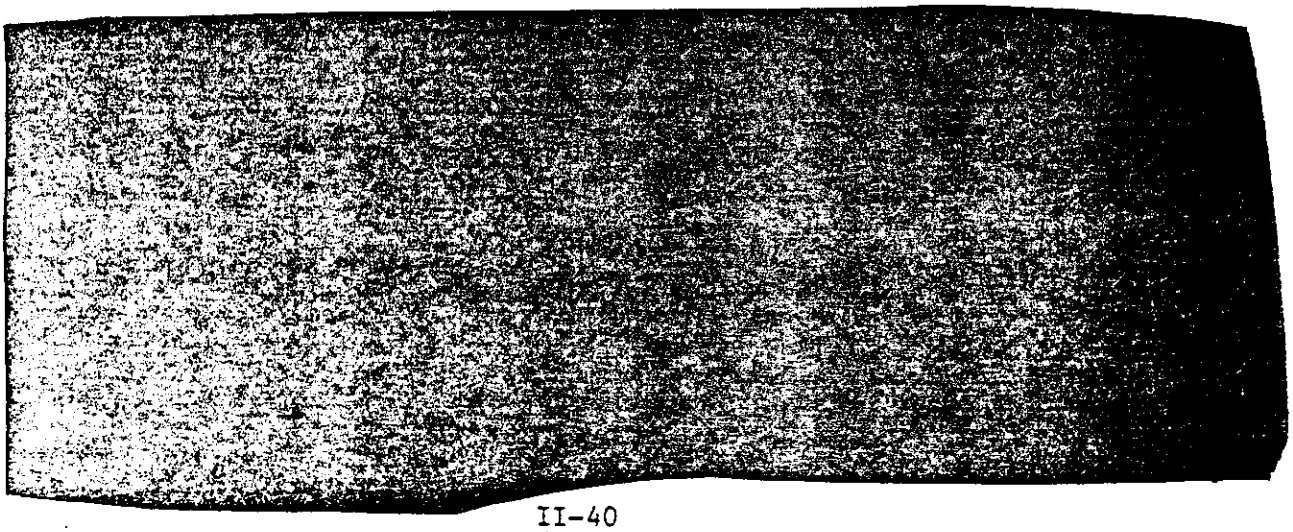
We have yet to identify a new tanker for the BACKFIRE, however. The tankers now compatible with the BACKFIRE are converted BISON bombers, and while it is possible that all 85 BISONS still in the bomber force might eventually be converted to tankers, a new tanker may be developed to increase intercontinental bomber capabilities. The best prospect for this tanker role appears to be the IL-76 CANDID jet transport and, indeed, there is some evidence that a tanker version of that aircraft may be under development.

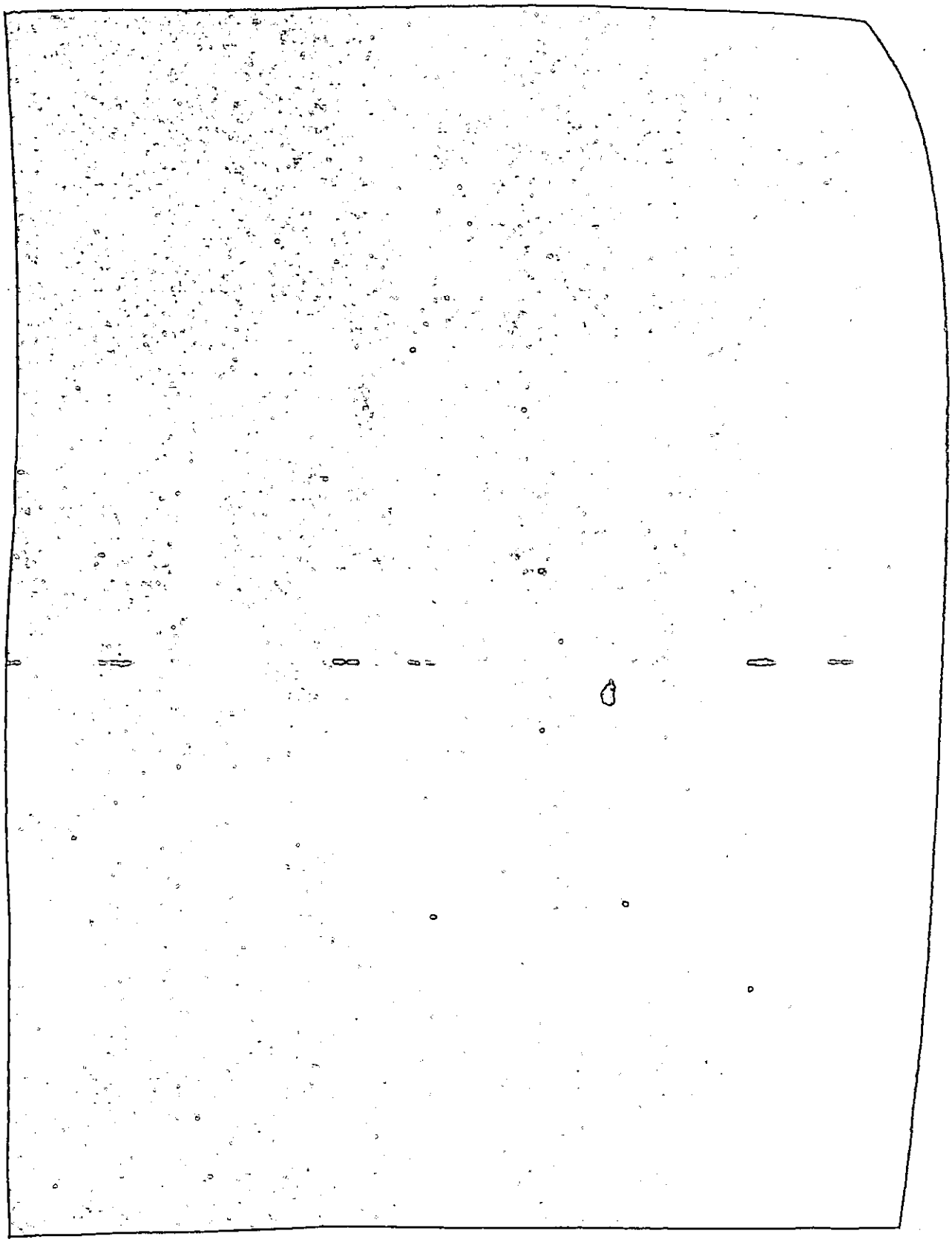
If a small force of BACKFIRE B bombers, plus an appropriate number of tankers, is eventually deployed, we do not believe that the U.S. air defense problem would be substantially altered. However, if a large force of BACKFIRE B bombers were to be deployed, then we would

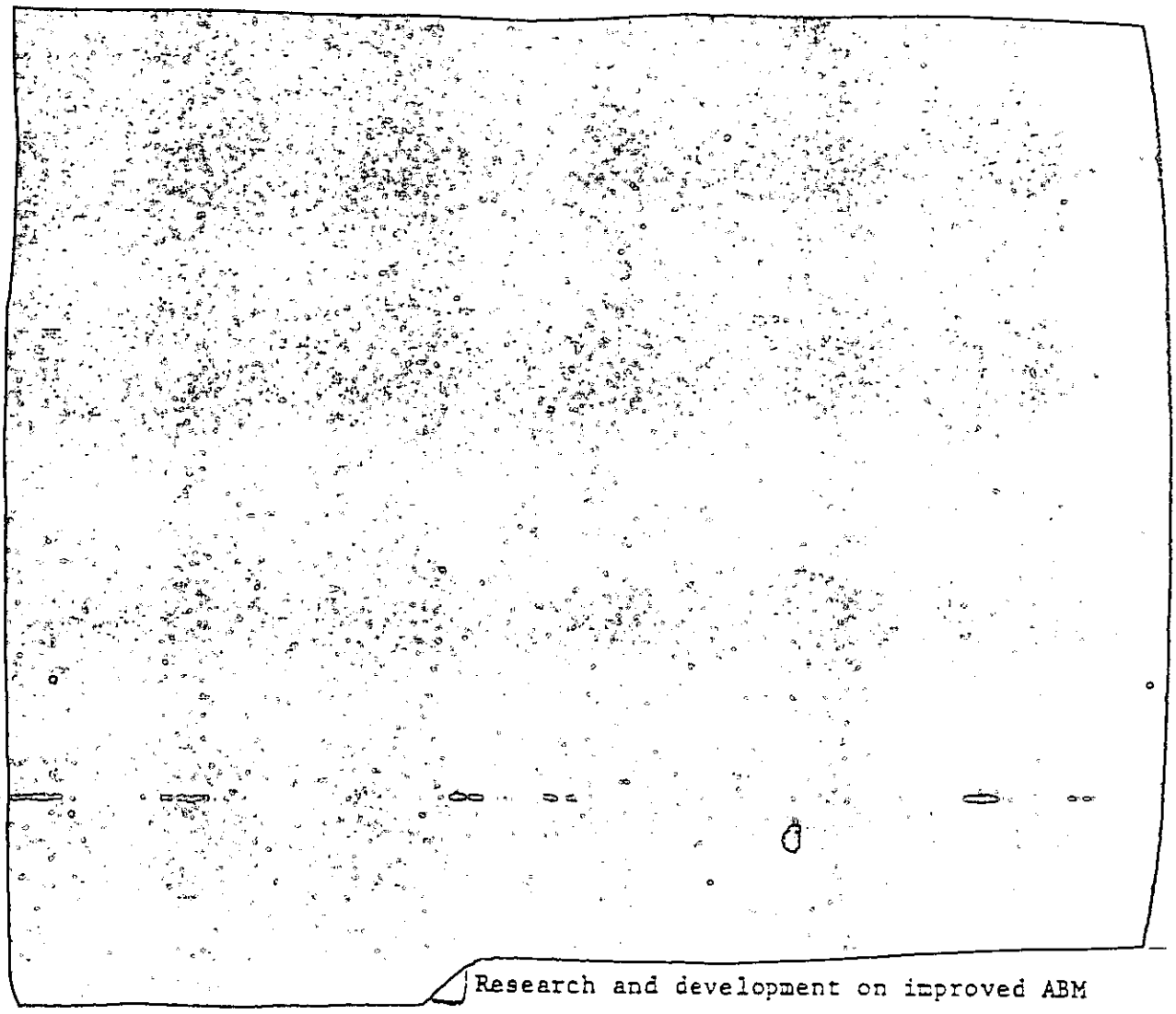
have to consider which increased CONUS bomber air defense programs we would wish to undertake.

The number of older bombers in Soviet Long Range Aviation, particularly the intermediate range BADGERS, continues to decline, albeit at a relatively slow rate. Inasmuch as the BACKFIRE B is expected to initially enter the force at a rate of only about 25 to 35 per year and be assigned first to the peripheral mission, we can assume that the older intercontinental long range bombers, the BISON and BEAR, will be continued in the force for some time to come.

With regard to strategic defensive forces, there is still no evidence of any additions to the 64 ABM launchers now deployed around Moscow, even though the ABM Treaty (with the 1974 Protocol) permits the deployment of 100 ABM launchers in that national capital area. This failure to deploy the full number of ABM launchers permitted under the Treaty, however, does not mean that the Soviet Union has lost interest in ABM research and development. Quite the contrary, the Soviet Union is continuing to pursue a very active R&D program at its principal ABM test base.







Research and development on improved ABM systems is permitted under the Treaty.

Modernization of Soviet air defenses is continuing along the lines I described last year. The number of active SA-2 sites is declining, but additional SA-3 low altitude and SA-5 high altitude SAMs are being deployed.

[redacted]

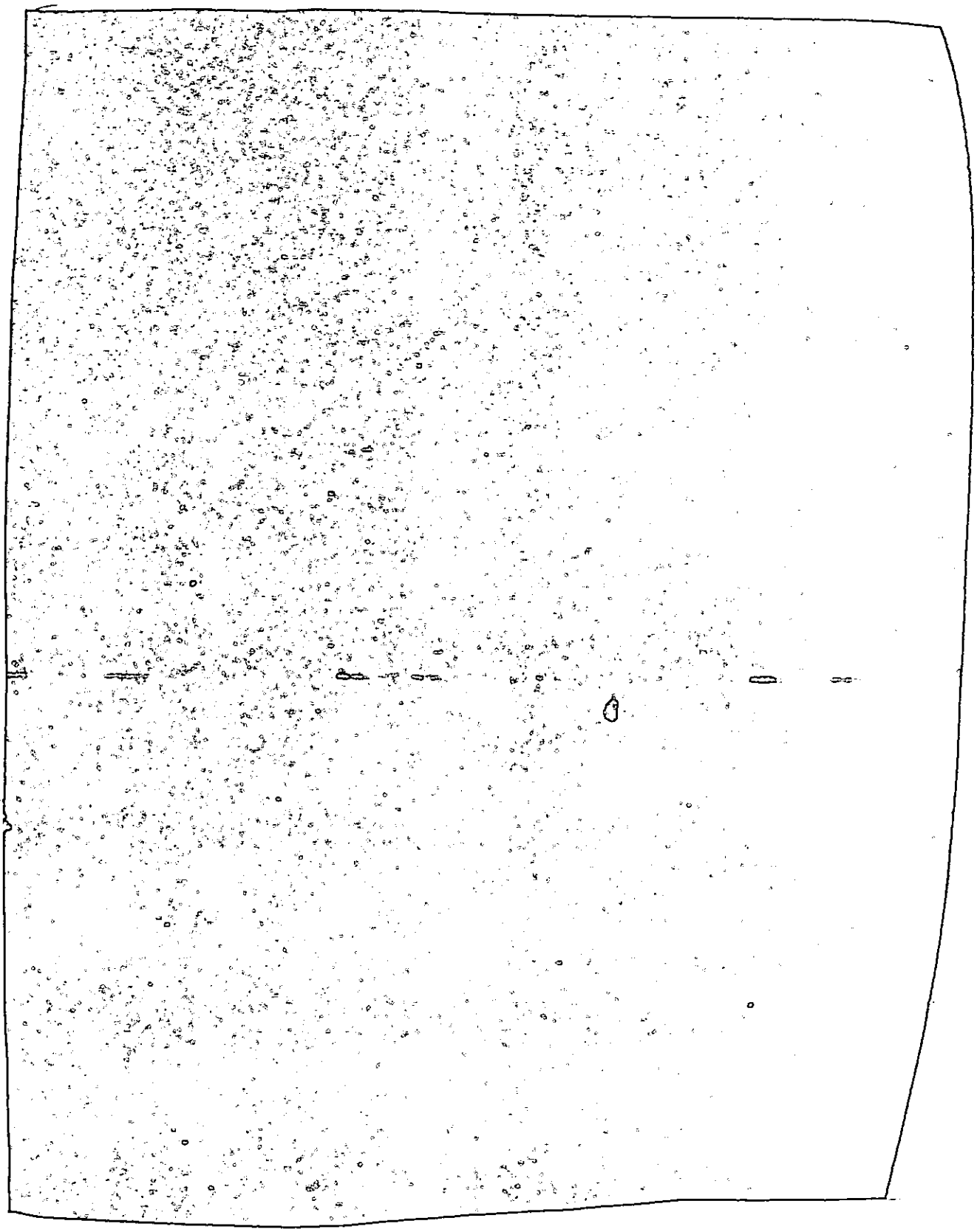
Similarly, new and more capable aircraft are entering the interceptor forces, but at a slower rate than the older aircraft are being phased out. [redacted] FLAGON E interceptors were added to the force last year. This aircraft has a moderately good intercept capability at low altitude and up to about 65,000 feet. [redacted] of FOXBATs has become operational, but there is still no evidence that the Soviet Union has developed an advanced AWACS or a "look-down, shoot-down" system for its air defense interceptors. Should such systems be developed and deployed, we would have to counter them with new penetration devices and techniques such as the cruise missile, bomber defense missiles, and improved ECM. Without a "look-down, shoot-down" capability, the Soviet air defense interceptor aircraft are not likely to offer a serious obstacle to our bomber force, although the fact that improvements are being made requires continued efforts to maintain and improve our bomber forces.

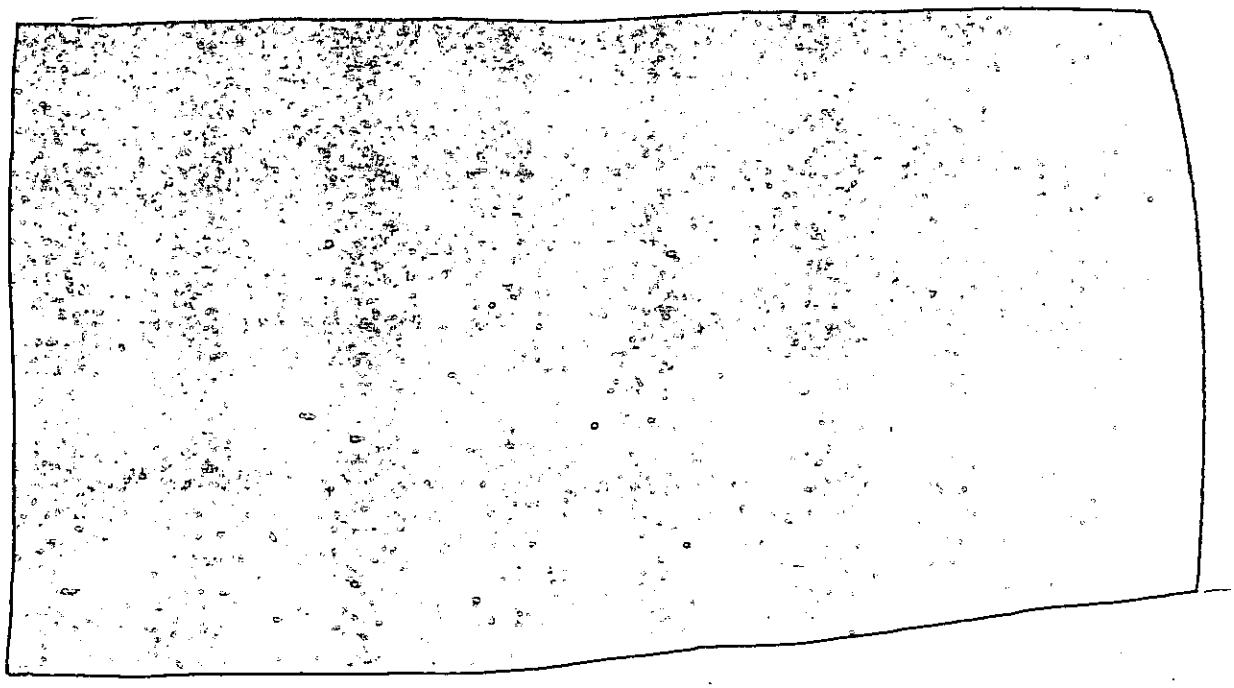
2. The People's Republic of China

In contrast to the Soviet strategic forces program, the PRC strategic forces program in the last year or two appears to be losing some of its momentum, at least in part as a result of technical difficulties. [redacted] MREM, which became operational in 1966, and the [redacted] IREM, which became operational in 1971, are progressing as expected; [redacted]

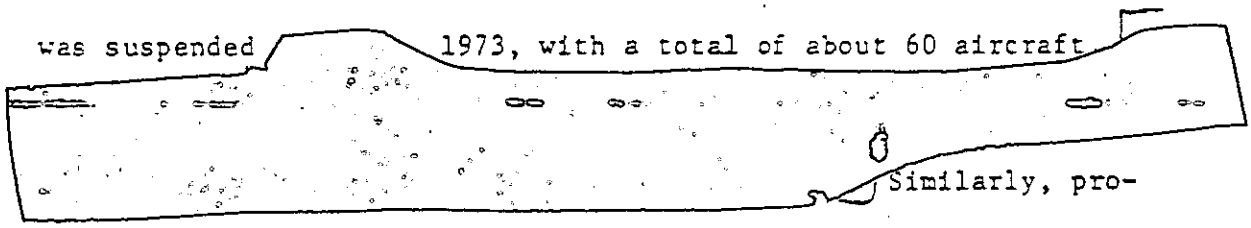
The presents something of an enigma.

The strategic missile program of most direct concern to the United States is the ICBM.

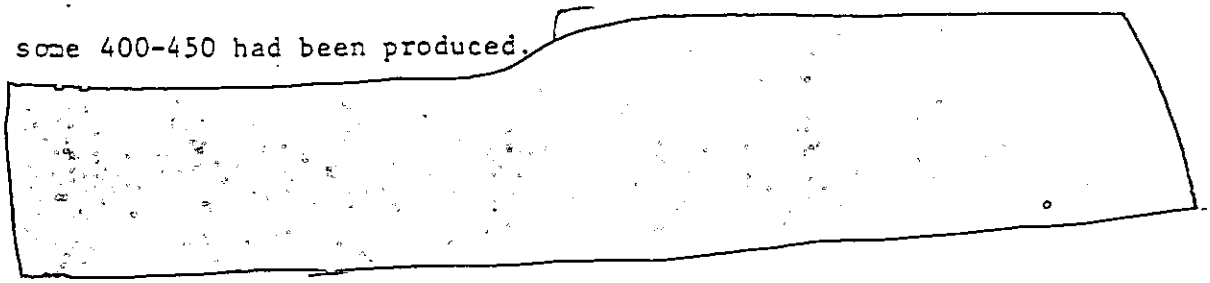




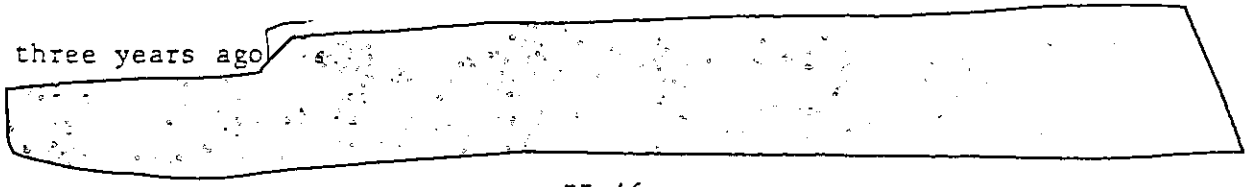
Production of the BADGER medium-range bomber apparently ceased or was suspended 1973, with a total of about 60 aircraft



Similarly, production of the BEAGLE light bomber (except for a small number to maintain inventory) apparently ended in mid-1973, after a total of some 400-450 had been produced.



The PRC strategic air defense program has also displayed a loss of momentum. Production of the PRC version of the MIG-21 ended about three years ago



[redacted] We must conclude, therefore, that this program was a failure, [redacted]

Production of the PRC version of the MIG-19 clear-weather interceptor is continuing [redacted] and its continued production probably is intended to compensate for the failure of the MIG-21 program until a new interceptor is available for production. The new all-weather, long-range interceptor, which we thought last year might soon be placed in production, is apparently still in development. Production of the [redacted] surface-to-air missile [redacted] has also declined from earlier levels, [redacted]

It is, of course, very risky to draw any firm conclusions from these trends. The apparent loss of momentum may simply reflect our past inflated expectations, or it may reflect a period of transition to a new, reoriented defense program, or quite possibly a major reassessment of national priorities in favor of economic development. In any event, it is clear that some important PRC programs -- the [redacted] have encountered technical difficulties, and that other programs — most notably the CSS-X-3 and the BADGER bomber -- have been deferred or curtailed far short of what we would consider to be a reasonably sized force.

C. U.S. STRATEGIC FORCES AND PROGRAMS

[redacted] Pending the completion of negotiations on the final details of the Vladivostok agreement on the limitation of strategic offensive forces, we have continued to plan our forces within the general bounds of that agreement, as well as within the more specific limitations of the earlier agreements signed in Moscow in 1972 and 1974. We have assumed for purposes of intelligence estimating that the Soviet Union will also continue to plan its forces within the bounds of those agreements. A comparison of the projected U.S. and USSR strategic force levels through mid-1976 is shown on the following page.

1. Strategic Offensive Forces and Programs

I noted last year that well diversified strategic offensive forces are essential to our national security as a hedge against both foreseeable and unforeseeable risks and to enable us to make available to the President a reasonable range of strategic options. It is also worth noting that well planned force diversification greatly enhances deterrence because it severely complicates Soviet attack planning, thereby increasing the uncertainties and the risks confronting the initiator of an attack.

For example, the presence of both bombers and ICBMs in our forces virtually precludes the Soviet Union from destroying them both in a surprise attack. To pose a threat to our alert bombers the Soviet Union would have to station its ballistic missile submarines close

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

	Mid-1974		Mid-1975	
	U.S.	U.S.S.R.	U.S.	U.S.S.R.
Offensive				
ICBM Launchers 1/	1,054		1,054	
SLBM Launchers 2/	656		656	
Intercontinental Bombers 3/	500	140	498	
Force Loadings				
Weapons	7,650			
Megatons				
Defensive				
Air Defense				
Surveillance Radars	67		67	
Interceptors	539		405	
SAM Launchers	-		-	
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. U.S. figures include FB-111s; Soviet figures include Backfire.

These numbers represent Total Active Inventory (TAI).

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

(Dollars in Millions)

	FY 1974 Actual Funding	FY 1975 Planned Funding	FY 1976 Prop'd Funding	Trans. Period Prop'd Funding [2/]	FY 1977 Prop'd for Authorization
Strategic Offense					
Continued Procurement of MINUTEMAN III Missiles, MINUTEMAN Silo Up-Grading and Other Related Programs	720	728	780	105	485
Advanced ICBM Technology, including MX	4	37	41	15	70
Development of Advanced Ballistic Reentry Systems and Technology (ABRES)	90	112	101	29	125
Conversion of SSBNs to POSEIDON Configuration, Continued Procurement of POSEIDON Missiles and Associated Effort	323	183	91	7	35
Development, Procurement and Military Construction--TRIDENT Submarines and Missiles (TRIDENT II not included in total)	1,433	2,030	2,142 (3)	622 (1)	3,438 (10)
SSBN Subsystem Technology	-	-	2	1	4
B-52D Modifications	38	95	43	-	-
B-52/HARPOON Modification	-	-	10	7	18
Continued Development of New Strategic Bomber, B-1	449	445	749	196	1,652
Acquisition of Short Range Attack Missile (SRAM)	133	2	3	2	35

SECRET

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

(Dollars in Millions)

	FY 1974 Actual Funding	FY 1975 Planned Funding	FY 1976 Prop'd Funding	Trans. Period Prop'd Funding 2/	FY 1977 Prop'd for Authorization
Strategic Offense (Cont'd)					
Initial Development of Advanced Tanker/Cargo Aircraft	-	2	5	1	50
Development of the Bomber Launched and Submarine Launched Version of the Strategic Cruise Missile	13	98	153	55	296
Strategic Defense					
Continued Development of the Over-the-Horizon (OTH) Back-Scatter Radar	3	10	8	6	14
Continued Development of Site Defense	110	115	140	38	160
Development of Ballistic Missile Defense Advanced Technology	62	92	105	30	111
Continued Improvements in the Defense Support Program	88	118	68	9	55
Development and Acquisition of the SLBM Phased Array Radar Warning System	-	38	50	2	17
Command and Control					
Development and Procurement of Advanced Airborne Command Post (AABNCP)	50	78	43	192	26

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

(Dollars in Millions)

	FY 1974 Actual Funding	FY 1975 Planned Funding	FY 1976 Prop'd Funding	Trans. Period Prop'd Funding 2/	FY 1977 Prop'd for Authorization
Command and Control (Cont'd)					
Development and Procurement of AFSATCOM I and Development of AFSATCOM II	22	13	51	14	96
Development of SANGUINE ELF Communications System	12	8	18	4	24
Acquisition and Modification of the TACAMO Aircraft System	29	9	41	10	23
Civil Defense					
Continued Support of the Civil Defense Program	80	87	88	20	94

1/ Includes costs of RDT&E, procurement of the system and initial spares, and directly related military construction.
2/ July 1 to September 30, 1976.
3/ Total Obligational Authority includes $5 million prior year funds carried over from FY 1974.

The MK 12A development contract has been placed and design work started. Flight testing is expected to be completed in the summer of 1977; hence, production could be started in FY 1977. A total of about $46 million has been included in the FY 1976 and Transition Budgets and another $31 million in authorization only is requested for FY 1977 to continue this development program. In addition, an authorization of $37 million in procurement funds is requested for FY 1977 to initiate production of the MK 12A RV. [The first of the new warheads is expected to become available by the spring of 1978.]

The total development cost (DoD only) for the MK 12A is now estimated at about $107 million, compared with $125 million estimated last year. This reduction resulted from the elimination of the additional boosters which were to have been procured specifically for the MK 12A flight test program. No final decision has been made as to the number of MINUTEMAN III that ultimately will be equipped with the MK 12A RV. It is interesting to note, however, that the cost of producing sufficient MK 12A RVs for 550 MINUTEMAN III missiles [(3 per missile)] is estimated at about $335 million [redacted]

Third, we propose to complete the development of the refinements in the existing MINUTEMAN guidance system and incorporate these refinements in all of the MINUTEMAN III missiles in FY 1978. Once the new guidance programs have been developed, incorporation

of the refinements in the missiles simply involves the insertion of ground and flight software changes.

The total development cost of this program is now estimated at about $131 million, compared with the $100 million estimate presented here last year. The bulk of this cost, $108 million, is for the flight testing of the refined guidance system, including the cost of 10 boosters to be specially procured for this purpose. In order to maximize the return on these 10 boosters, some flight test missiles will carry two guidance systems. And, as noted earlier, these boosters will also be used to flight test the MK 12A RV.

The contracts for this project have been placed and the first flight test is expected to take place in the summer of 1976. Some $32 million was allocated to this program in FY 1975. Another $53 million is included in the FY 1976 and Transition Budgets, and the remaining $46 million is requested for authorization in FY 1977.

Fourth, we plan to continue work on the terminally-guided MaRV, but on a new, extended schedule, as indicated earlier. Since this is essentially a technology development project, it will be continued in the Advanced Ballistic Reentry Systems (ABRES) program which I will discuss later.

Fifth, we plan to complete the flight testing of two MINUTEMAN III missiles with [six or seven] smaller RVs each. 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. The additional capacity would be useful

as a hedge against large losses in the MINUTEMAN force, as a means of increasing our coverage of relatively soft point targets of value that are not collocated with population, for suppression of expanded Soviet defenses and as a hedge against unexpected failures in the bomber or SLBM forces. Even if only 50 MINUTEMAN so equipped were to survive an enemy first strike, they could deploy as many as 350 RVs for attacks on such targets. The $18 million provided in FY 1974 and FY 1975 plus the $2 million requested in FY 1976 will be enough to complete this program. The first flight test is scheduled in May, and the second in August, 1975. No significant problems have been encountered in this project thus far, and the tests are expected to be completed successfully.

The amounts shown in the Acquisition Costs table for the MINUTEMAN program in FY 1976, the transition period, and in FY 1977, also include funds for the continuation of the Silo Upgrade effort and for the installation of the Command Data Buffer System. This system permits the MINUTEMAN III missiles to be retargeted remotely from the Launch Control Centers and reduces the time for retargeting a single missile from 16 to 24 hours to about 36 minutes.

All MINUTEMAN silos are included in the upgrading program, which is expected to be completed by the end of FY 1979. Only the MINUTEMAN III missiles, however, will be provided the Command Data Buffer System since their MIRVs can make the most effective use of the retargeting feature. Installation of the new system is being

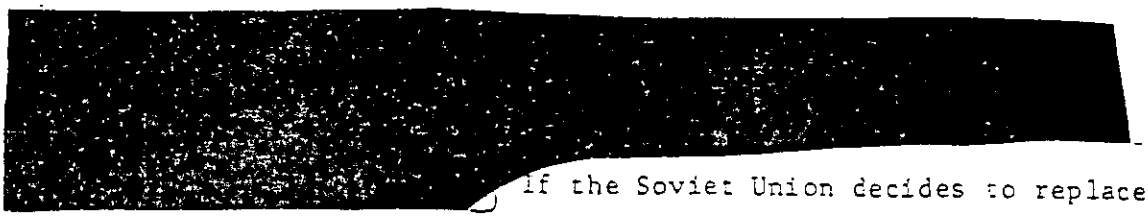
accomplished simultaneously with the upgrading of the silos. Deployment of the previously planned 550 MINUTEMAN III missiles will be completed on schedule by the end of FY 1975. But silo upgrading and installation of the Command Data Buffer System for the 550 MINUTEMAN IIIs will not be completed until late in FY 1977.

Advanced ICBM Technology and the MX

Last year we requested $37 million to continue the development of new technology leading to the development of an entirely new ICBM. We did so in order to ensure the availability of a realistic option for the modernization of our ICBM forces in the 1980s and beyond. I noted at the time that this effort would be focused primarily on three problem areas -- the selection of the preferred basing mode, the unique guidance requirements for mobile missiles (both air-launched and ground-launched), and the technology required for more efficient rocket motors.

These three problem areas reflect our principal concerns with regard to the kind of an ICBM we ought to have available for deployment in the period beyond the early or mid-1980s. By that time, MINUTEMAN silos may become increasingly vulnerable to the Soviet ICBM forces; hence our interest in new basing modes. Air-mobile ICBMs, utilizing unaided, all inertial guidance, are inherently less accurate than fixed-based ICBMs, hence our interest in more capable guidance systems which would be needed to maintain the desired degree of accuracy.

Furthermore, the MINUTEMAN III, as compared with the new family of Soviet ICBMs, has a relatively small throw-weight --



if the Soviet Union decides to replace all of its existing ICBMs with this new family of ICBMs, it could acquire an ICBM throw-weight advantage of 5 or 6 to 1 -- i.e., 10 to 12 million pounds for the Soviet Union versus 2 million pounds for the U.S.. Such a great disparity in throw-weight, in my judgment, would be very destabilizing. It would give the USSR a distinct advantage in one of the basic parameters that shape the future effectiveness of the strategic offensive forces. Hence our interest in new rocket motor technology, which would give us a greater amount of throw-weight per pound of propellant.

By far the most difficult problem which must be resolved in this new ICBM program is the selection of the basing mode. Fixed silos may become vulnerable to a Soviet counterforce attack, but they have some very important advantages, namely, accuracy, good two-way communications up and down the chain of command, general responsiveness to control by the National Command Authorities, and low operating costs. These are very important considerations in context with our efforts to expand our range of response options (i.e., increase our targeting flexibility), and we want to preserve them to the greatest extent feasible should we find it necessary to shift to a new basing mode in the future.

A large part of the Advanced ICBM Technology Program investigations concern alternate basing modes. We have a great deal of experience in the operation of fixed-based ICBM systems but virtually no operational experience with air- and land-mobile systems and thus the reason for their emphasis.

There are several types of air- and land-mobile options under consideration. One of the leading land-based candidates is the so-called shelter system. This system depends for its survivability on deception, that is, the missile mounted on a transporter-launcher would move from one relatively hard shelter (perhaps 600 psi) to another within a complex. The attacker would have to target all of the shelters, since he would not know in which shelter the missile was deployed. Thus, the cost to us per emergency shelter and the cost to him per reliable RV needed to destroy that shelter would be the critical factors driving the cost-exchange ratio of the shelter system. While this system would retain the accuracy of a silo-based system, its costs and operating problems are immediately apparent.

The air-mobile system would be the most expensive to acquire and to operate. It would require the acquisition of a fleet of suitable aircraft which could be modified wide-bodied jets or new low cost aircraft. To ensure pre-launch survivability, aircraft with the missile aboard preferably would be kept on airborne alert, and this we know is a very expensive operation. Alternatively, the aircraft with the missile aboard could be kept on ground alert, but then it

would have the same pre-launch vulnerabilities as the bomber/tanker force.

Finally, as previously mentioned, the air-mobile system with unaided navigation is inherently less accurate than any of the land systems since without navigation aids it is difficult to precisely determine aircraft velocity and heading. An in-flight position fixing system for the aircraft or a terminal homing system for the missile would help to alleviate this problem. We have the potential solution to the position fixing problem in a new high precision satellite navigation system now under development, called the NAVSTAR Global Positioning System. However, both NAVSTAR and the terminal homing system are still in early stages of development.

Given the many problems that still have to be resolved, we now propose advanced development of an ICBM that could be deployed interchangeably in the existing MINUTEMAN silos, in a land-based shelter or random deployment mode, or in an air-mobile mode. The new MX ICBM would have [redacted] new, more efficient rocket motors and a new, more accurate guidance system. The MX would be designed to be cold-launched from a cannister in a silo or on a transporter-launcher. In the air-mobile system, the missile could be pulled out of the cannister by parachute and fired when vertical stability had been achieved.

The MX could be deployed in the existing MINUTEMAN silos, since that is the least expensive mode, until such time as the threat to those silos has been definitely ascertained. At that

point, we could commence deployment of the missile in one of the mobile modes.

Meanwhile, we propose to continue advanced development of the key components of the mobile systems. A series of air drops has already been conducted from the C-5A, including three "Bathtub" drops (concrete slabs of increasing size and weight), three "mass simulation" drops (to investigate missile shape stability), one inert but instrumented MINUTEMAN I, one fueled but unfired MINUTEMAN I (the "dress rehearsal" test), and one "short burn" MINUTEMAN I (the final test of the series). These tests have proved the feasibility of air-dropping an ICBM, but many other problems remain to be solved before the technical feasibility of the air-mobile system as a whole can be demonstrated. The MINUTEMAN I, moreover, weighs about 75,000 pounds; the MX will weigh about 150,000 pounds.

Some work has also been done on the land-mobile systems. The problem here is not so much the technical feasibility of these systems as it is their operational feasibility. And the economic feasibility of all three mobile systems needs a great deal of additional study.

Accordingly, we are requesting for the Advanced ICBM technology program (i.e., MX and related projects) a total of $41 million in FY 1976, $15 million in the three month transition period, and $70 million for authorization only in FY 1977. Most of these funds would be devoted to guidance, control and propulsion. The cost to completion of the MX development is estimated at about $2.5 billion.

ABRES

Last year I noted that while the Advanced Ballistic Reentry Systems program (ABRES) is managed by the Air Force, the work being done also supports Navy and Army projects. Consequently, the Director of Defense Research and Engineering has been charged with the general direction of the program. He is responsible for defining the scope and priorities of the program and for providing the necessary guidance to the Air Force in order to ensure that the needs of the several Services are satisfied with a minimum amount of duplication.

The ABRES program has been the source of much of the advanced reentry technology incorporated in our strategic missile programs. Although the Soviet Union has made great advances in this area of technology in recent years, we still enjoy a distinct lead. But given the Soviet Union's great advantage in strategic missile throw-weight, we must ensure that we maintain our lead in this critical area of reentry technology.

We are requesting for this program about $101 million in FY 1976, $29 million in the three month transition period, and $125 million for authorization only in FY 1977. About one quarter of these funds will be devoted to the pre-prototype development of maneuvering reentry vehicles, including the terminally-guided MaRV I discussed earlier. Also included in this program is work on a large advanced ballistic reentry vehicle; penetration aids; optical, radar and electronic countermeasure technology; and

supporting technology such as nosetips, heatshields and arming and fusing components.

b. SLBMs

The portion of the SLBM force at sea is still the least vulnerable element of our strategic TRIAD; and as far as we can see ahead, it is likely to remain so. It behooves us, nonetheless, to take whatever measures may be necessary to ensure the continued survivability and operational effectiveness of that force.

The existing fleet of POLARIS/POSEIDON submarines eventually will have to be replaced, if for no other reason, because of aging. We believe that these submarines can be operated safely and effectively through their 20th year of service, and possibly longer. Since the last of the existing SSBNs went into service in 1967, we should plan on replacing the entire fleet by the late 1980s or the early 1990s.

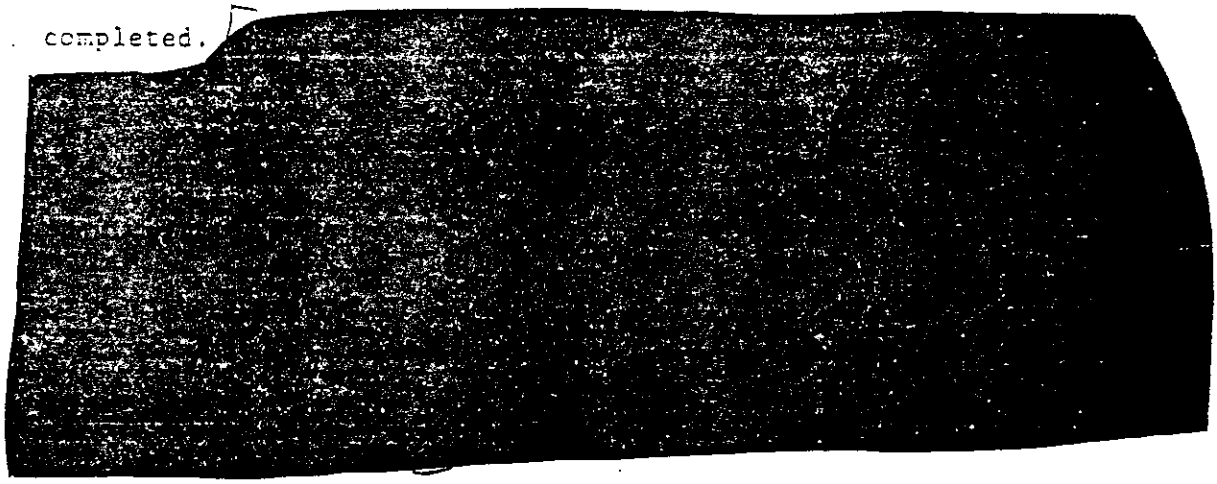
In order to ensure the future survivability of the SLBM force, both a quieter submarine and a longer range missile are deemed necessary. The TRIDENT submarine is designed to meet the first requirement and the TRIDENT I missile the second, at least in the near term, i.e., through the early 1980s. A still longer range missile, the TRIDENT II, which would more fully utilize the volume of the TRIDENT submarine missile tubes, may be needed in the long term, i.e., beyond the mid-1980s. This longer range missile would not only permit us to increase our SLBM throw-weight, it would also provide us the option to incorporate in our SLBM forces an improved hard-target capability, if that should be needed in the future.

Accordingly, we propose to complete the POSEIDON conversion program, continue the TRIDENT submarine construction program, complete the development and commence production of the TRIDENT I missile for the TRIDENT submarines, and pursue our studies of the TRIDENT II missile. Beyond these programs, we also propose to backfit the TRIDENT I missile into ten of our 31 POSEIDON SSBNs.

The last three of the 31 POSEIDON conversions and the last one of the four submarine tender conversions were funded in FY 1975, except for outfitting and post-delivery costs. Because of the impact of inflation, however, another $85 million will be required to complete the funding of the last three submarine conversions. We plan to finance $33 of that amount through reprogramming; the balance of $52 million is included in the FY 1976 Budget. The $98 million requested for POSEIDON in the FY 1976 and Transition Budgets will provide for completion of the POSEIDON conversions, outfitting and post-delivery costs, the support of POSEIDON missiles, and the POSEIDON Modification Program. The total authorization requested in FY 1977 is $35 million which will provide for post-delivery costs, support of POSEIDON missiles, and the POSEIDON missile modification program.

Of the 31 POSEIDON conversions, 23 have been completed and 22 are currently deployed, and six are undergoing conversion. The 30th submarine will start conversion in April, 1975, and the last in FY 1976.

The POSEIDON Modification Program is an outgrowth of the deficiencies encountered in the POSEIDON Operational Test (OT) program in 1973. The corrections discussed here last year have been made. By December, 1974, 8 operational flight tests, with the fixes installed in whole or in part, were completed.



The latest series of POSEIDON operational tests supports the judgment that the deficiencies identified last year were minor in nature and could be successfully corrected. The tests will continue, using improved missiles selected at random from POSEIDON submarines returning from patrol, to determine the best estimate of true missile reliability possible.

As indicated last year, improved missiles will be installed in the 21st through the 31st converted submarines; the first 20 submarines, which had already been deployed when this problem arose, will be retrofitted with the improved missiles over a period of about 4 years. The entire modification program is expected to be completed by 1978.

TRIDENT (Excluding TRIDENT II Missile)

To ease the financial strain on the Defense Budget and to relax the pressure on the shipbuilder, we have again slowed the TRIDENT submarine construction schedule from a two-a-year to an alternating 1-2-1-2 a year rate. The lead submarine was funded in FY 1974 and two follow-on submarines in FY 1975. Accordingly, only one submarine is included in the FY 1976 Budget and two submarines are requested for authorization in FY 1977.

We are still planning for an FY 1979 IOC for the TRIDENT submarine and TRIDENT I missile. Also, we still plan to retrofit the TRIDENT I missile in ten of the POSEIDON submarines.

Of the $2,142 million requested in FY 1976, about $817 million is for RDT&E ($84 million for the submarine and $733 million for the missile), $1,130 million is for procurement ($290 million additional to cover the cost increase projected for the three ships funded in FY 1975 and prior years as a result of abnormal inflation, $560 million to complete the funding of the fourth ship, $43 million for advance procurement of long lead time components for the fifth, sixth, and seventh ships, and $237 million for TRIDENT I missile production start-up costs and about $195 million is for military construction and construction planning (mostly for the TRIDENT support facility).

The $622 million in the Transition Budget would provide $184 million for RDT&E ($12 million for ships and $172 million for missiles), $437 million for procurement ($253 million for ship advanced procurement, $1 million for submarine outfitting, and $183 million for missile production start-up costs) and $1 million for military construction

planning. The $3,438 million for the FY 1977 authorization request includes $547 million for RDT&E, $2,708 million for procurement ($1,221 million to complete funding the fifth and sixth ships, $166 million for advance procurement of long lead time components for the seventh through tenth ships, $6 million for submarine outfitting, and $1,315 million for 98 missiles) and $183 million for military construction and construction planning including $8 million for POSEIDON SSBN backfit.

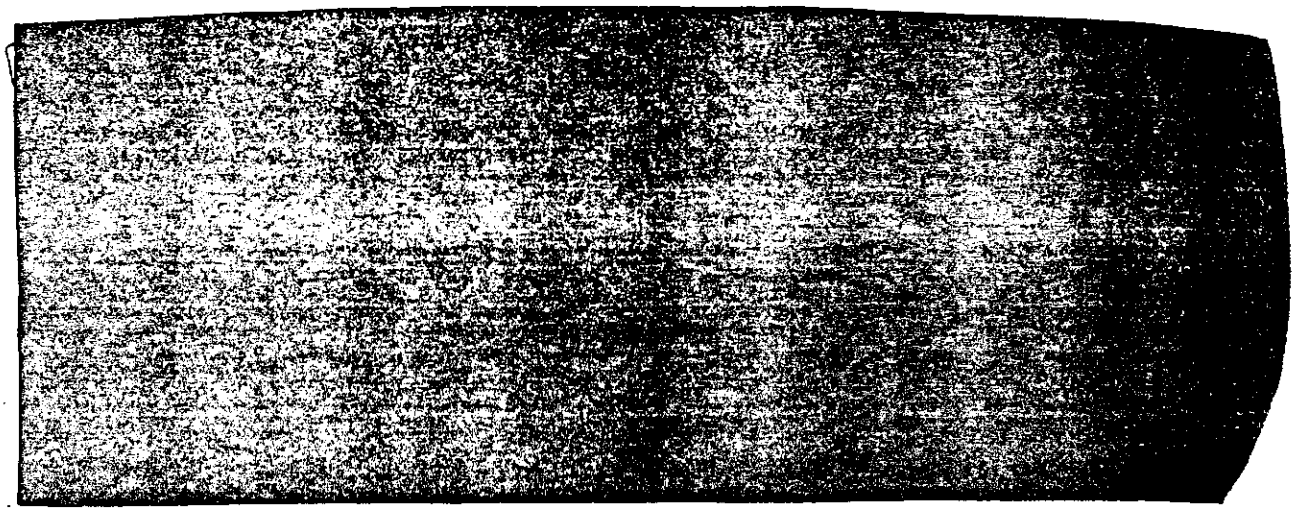
In compliance with the requirement in the FY 1975 Military Construction Authorization Act that funds be authorized for community impact assistance in conjunction with TRIDENT-related community growth, we are including, in addition to the funds discussed above, $7 million in the FY 1976 Budget and $11 million in the FY 1977 authorization request for this purpose.

The TRIDENT system, it should be borne in mind, represents a great advance over the POLARIS/POSEIDON system. The submarine will have a submerged displacement of about 18,700 tons, compared with 8,250 tons for the POSEIDON submarine. [redacted] It will carry 24 missiles, compared with 16 for the POLARIS/POSEIDON, and each TRIDENT missile tube will have a volume [redacted] greater than that of the POLARIS/POSEIDON. Moreover, it will be considerably quieter than POLARIS/POSEIDON, [redacted] It will also have a much more efficient command and control system, and a more capable sonar system.

The TRIDENT I missile will be [redacted] to a range of 4,000 nm, compared with the POSEIDON which [redacted] to a range of about [redacted] nm. Moreover, the TRIDENT I at 4,000 nm is planned to be as accurate as the POSEIDON at [redacted] nm.

The TRIDENT program thus far is moving along close to its planned schedule. The lead ship contract was awarded in July 1974, and the contractor's physical plant rearrangements and the production of detailed design drawings are now well underway. Indeed, the formation of hull sections has already been started. The shipbuilder's labor force and facilities are being greatly expanded to accommodate the TRIDENT program on top of the already on-going shipbuilding programs, notably the 688 class SSNs. Development of new subsystems [redacted] are receiving special attention. These are proceeding on schedule and special facilities have been established to provide the step-by-step testing of these subsystems.

The development contract for the TRIDENT I missile also has been awarded and the first flight test is expected in July, 1976. Four supplemental flight tests of the TRIDENT I MK 4 RV using ATLAS/MINUTEMAN boosters have already been successfully completed. [redacted]



The first flight test on a TRIDENT I missile of the MK 500 MaRV Evader, which will be carried through advanced development only, is scheduled for January, 1977.

In view of our experience with the POSEIDON operational tests, we plan to conduct a larger proportion of such operational tests early in the TRIDENT program. For these tests to be valid, however, missiles which actually have been operationally deployed must be used. Thus the OT flight tests cannot be conducted prior to operational deployment.

Assuming that the desired submarine delivery dates are met, we would have the first 40 TRIDENT I missiles deployed by the end of FY 1979 -- 24 in the first TRIDENT submarine and 16 in a POSEIDON submarine retrofitted to carry TRIDENT I. By the end of FY 1980, we would have 136 TRIDENT I missiles deployed -- 72 in new TRIDENT submarines and 64 in existing POSEIDON submarines.

TRIDENT II Missile

To provide an option to deploy a higher throw-weight, more accurate SLBM in the late 1980s, if such a system should be needed at that time,

we propose to continue our studies of the TRIDENT II. The new missile would be designed to utilize more fully the available volume of the TRIDENT submarine launch tubes. [redacted]

We plan to proceed with the TRIDENT II effort at a very moderate pace. Only about $3 million is included in the FY 1976 Budget for this purpose, plus $1 million more in the Transition Budget. An authorization of about $10 million requested for FY 1977.

SSBN Subsystem Technology

As indicated earlier, we must continue our search for technology that will provide less expensive alternatives for use in future SLBM systems. Accordingly, we have established a new program element, "SSBN Subsystem Technology", to focus attention on this essential effort. About $2 million is included in the FY 1976 Budget and $1 million in the Transition Budget for this purpose. In addition, we are requesting an authorization of about $4 million in FY 1977.

c. Bombers

As I indicated at the beginning of this discussion of strategic offensive forces and programs, we believe the retention of bombers in our forces for the foreseeable future is essential to a well

balanced U.S. strategic posture. The current bomber force, particularly the B-52Gs and Hs, should be able to fulfill this need into the 1980s. But if we are to maintain an effective bomber force beyond that time, a new aircraft will have to be procured. While we can continue to modify and improve the B-52Gs and Hs for some time to come, and even equip them with stand-off cruise missiles, these aircraft may well become less effective during the next decade.

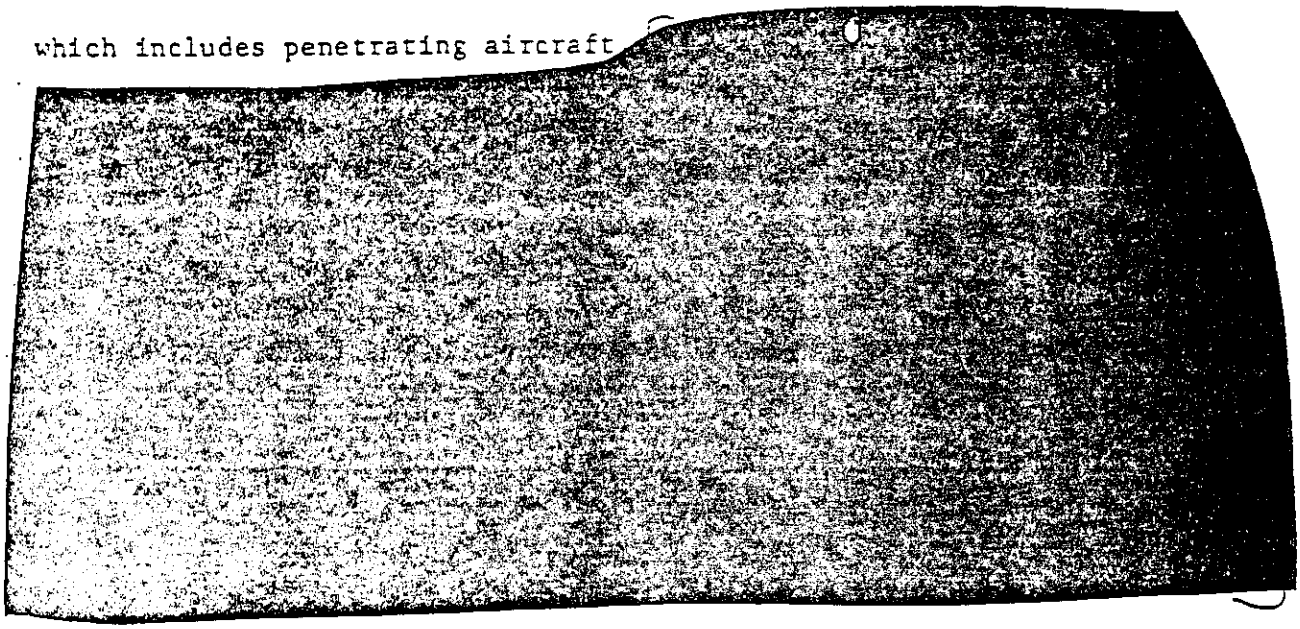
The principal potential threat to the pre-launch survivability of our current bomber force is the rapidly growing fleet of Soviet SSBNs which, if equipped with depressed trajectory missiles and operated close to our shores, could catch many of our alert B-52s before they could escape from the vicinity of their bases. While we still have no evidence of a Soviet depressed trajectory SLBM development program, such a system is clearly within their technical competence.

We have already taken some steps to hedge against that potential threat, e.g., the satellite basing and the quick engine start modification programs. But beyond these measures we need a bomber which has both increased hardening to nuclear effects, and a significantly faster airfield escape time than the B-52.

With regard to penetration at very low altitude, the currently preferred U.S. mode, the principal potential threat to our current

bomber force is the deployment of a Soviet AWACS/fighter air defense system with a good look-down, shoot-down capability. We have no evidence as yet that the Soviet Union has such a system under development but as we ourselves have already demonstrated, such a system is technologically feasible. Effective penetration at low altitude against an AWACS/fighter air defense system would require a faster bomber with a smaller radar cross section which is much more difficult to "see" against the ground clutter, and which is more difficult to intercept in a tail chase.

A B-52 force armed with Air Launched Cruise Missiles (ALCMs) could attack targets within the Soviet Union without the B-52 penetrating the air defenses. But a bomber force limited to stand-off operations would have far less capability and flexibility than a force which includes penetrating aircraft



a pure stand-off bomber force could not provide reconnaissance or attack targets of opportunity as could a penetrating bomber force.

For all of these reasons, a bomber force which includes penetrating aircraft is much to be preferred over a pure stand-off bomber force, providing that the cost of the former is reasonably commensurate with the benefits to be gained. The difference in costs, we feel, would be modest in comparison to the difference in gain. Accordingly, we believe the B-1 development and test program should be continued to provide us the option to modernize our bomber force with that aircraft in the 1980s.

A bomber force is not only expensive to acquire and keep modern, it is also expensive to operate. Accordingly, we have carefully reexamined our operational plans and procedures to determine where savings can be made with minimum additional risk. As a result of this reexamination, we are now making two major changes in the operation of the bomber force.

The first change involves a reduction in the proportion of the force to be maintained on day-to-day ground alert. When this pre-launch survival technique was first introduced in the late 1950s, the ground alert objective was 33% of the force, i.e., 33% of the UE aircraft. In the early 1960s, this objective was raised to 50%, but in more recent years it was reduced to 40%.

Inasmuch as we consider a Soviet surprise attack "out of the blue" to be quite unlikely under the current circumstances, we believe that a further modest reduction in the proportion of the force to be maintained on day-to-day ground alert would be acceptable. A nuclear attack on the United States, even one which is

limited to our strategic offensive forces, would most likely be preceded by a series of crises, and certainly by a sharp deterioration in our relations with the Soviet Union. Under these circumstances, we would have the time to place virtually the entire force on ground alert.

Moreover, during the last few years we have greatly increased the number of strategic missile warheads on line; by June 1975 we will have more than 500 MINUTEMAN III missiles [redacted] and [redacted] POSEIDON missiles [redacted] deployed. With [redacted] strategic missile RVs on line, we believe we can prudently take the additional risk entailed in the reduction of the bomber forces on day-to-day ground alert.

We calculate that a ratio of 1.29 crews per UE bomber and 1.27 per UE tanker would provide an adequate number of crews to generate the entire force in [redacted] and maintain it on a fully generated ground alert for [redacted] This same number of crews would permit us to maintain about 30% of the bomber/tanker force on day-to-day ground alert, a reduction of about 10 percentage points.

The second major action involves the transfer of 128 UE KC-135 tankers from the active force to the Air Reserve Components. These 128 aircraft will be formed into 16 squadrons of eight UE aircraft per squadron. Each Reserve Component squadron will maintain at least one of its eight aircraft on day-to-day alert in support of active force alert bombers. Also, the Reserve Component units will be afforded

the same number of flying hours per aircraft as the active forces. Since reservists can devote only part-time to their military activities, these Reserve Component squadrons will be provided with a higher crew ratio than the active forces -- 1.5 vs 1.27.

This transfer to the Reserve Components, and the phaseout of seven F-101 interceptor squadrons and nine KC-97 tanker squadrons for which we no longer have an urgent need, will result in overall cost savings while at the same time helping us to meet the Congressional mandate to maintain 91 flying units in the Air National Guard.

The reduction in the bomber crew ratio from 1.64 to 1.29 will permit us to reduce the number of bomber crews from 622 to 472. The reduction in the active force tanker crew ratio from 1.5 to 1.27, together with the transfer of KC-135s to the Reserve Components, will permit us to reduce the number of KC-135 crews in the active force from 925 to 585. As shown on Table 2 of the Appendix, the first four squadrons of KC-135s will be formed in Reserve Components in FY 1976 and the remaining 12 squadrons by FY 1979. These two actions, when fully implemented, will produce a savings of about $272 million per year in operating costs.

B-52D Modifications

Included in the FY 1976 Budget is about $43 million to complete the installation of structural modification on 80 B-52D aircraft to extend their safe service life into the 1980s. A total of 79 B-52Ds are being structure-tested prior to modification and retention. Including the cost of the test program, the total cost for the

modification of 80 aircraft is now estimated at about $237 million. The program is expected to be completed by the fall of 1976.

[redacted]

B-52/HARPOON Modification

In keeping with our major effort to ensure a greater degree of mutual support among the Services, the Air Force will undertake prototype development of a B-52/HARPOON system, using two modified B-52 Ds. These HARPOON-equipped B-52s would supplement the Navy's capability to search out and destroy maritime targets. The project will require about $10 million in FY 1976, $7 million in the three month transition period, plus an authorization of $18 million in FY 1977. Most of these funds will be devoted to the development and flight testing of the two HARPOON-equipped B-52D aircraft, including engineering studies, prototype drawings, specifications, instrumentation and component testing. In addition, we are requesting an authorization of $41 million in FY 1977 to initiate procurement of 90 HARPOON missiles for use by B-52s.

B-1 Bomber

Given the need to strengthen and to modernize the bomber force sometime in the 1980s, I see no better alternative to the continued development of the B-1 bomber, notwithstanding its high unit cost. We have again examined the entire bomber modernization problem and the results of that study have been provided to the

Congress. Of the six "equal cost" alternative forces examined against the estimated threat in the late 1980s, those including the B-1 appear to be the most cost-effective. Because of its greater speed and greater ability to withstand the effects of nuclear detonations, it will have a distinctly shorter airfield escape time than the B-52; and because of its smaller radar cross-section and its ability to fly at very low altitudes at high subsonic speed, it should have a much better capability to penetrate improved Soviet air defenses. Moreover, because of its wider range of air speed options and larger number of internal weapon spaces, the B-1 will provide considerably greater employment flexibility than the B-52, thereby enhancing our ability to execute a wide range of attack options in response to potential enemy actions. In short, the B-1 provides us with a weapon system which is least sensitive to potential increases in the threat.

Before we commit this aircraft to production, however, we want to be sure that it will be able to perform satisfactorily the mission for which it is designed, and that its cost will be commensurate with its expected capability. These assurances, with regard to both performance and cost, can be obtained only by extensive flight testing. Accordingly, we are allowing a period of about two years for flight testing before a production decision is scheduled to be made.. By that time we should have a total of 250 flying hours on Air Vehicle (AV) No. 1, which began flight tests late last year, 30 hours on AV No. 2, and 85 hours on AV No. 3.

AV No. 1 will be used primarily to demonstrate the flight characteristics of the aircraft, including take-off and landing, low-level and high-level penetration, aerial refueling, and range/payload. AV No. 2 will be used initially to demonstrate structural integrity in static tests (i.e., proof loading), and then be assigned to the flight test program. AV No. 3 will be used primarily for flight testing the offensive avionics.

We have already informed the Congress that the crew escape module is being eliminated from the B-1 program. Instead, the aircraft will be equipped with ejection seats. The crew escape module has presented the most troublesome engineering problem in the entire program. The elimination of this feature will reduce the airframe weight by a few thousand pounds, but it will entail some additional risk to the flight crew. Considering the difficulties, delays and additional costs involved in trying to perfect this module, the Air Force has decided to take that added risk. It should be noted, however, that AVs 1, 2, and 3, which are already equipped with this crew escape module, will be flight tested as currently configured.

In order to place ourselves in a position to initiate production in late CY 1976, if such a decision is appropriate, certain actions must be taken beforehand. These actions include the commencement of construction of AV No. 4, the pre-production prototype, and the procurement of advanced materials for the six production aircraft tentatively planned for FY 1977. AV No. 4 would reflect all of the lessons learned from the fabrication and initial flight tests of the

first three aircraft, as well as the elimination of the crew module. That vehicle would help us to maintain continuity between RDT&E and production should we decide to produce and deploy the aircraft.

The approximately $749 million requested for the B-1 in FY 1976 includes $672 million for RDT&E (of which about $70 million will continue the 4th aircraft) and $77 million for advanced materials. The comparable figures for the three month transition period are $165 million for RDT&E (including $22 million for the 4th aircraft) and $31 million for advanced materials. In addition, we are requesting an authorization of $1,652 million for FY 1977, including about $433 million for RDT&E and $1,219 million for the procurement of the first six production aircraft. While none of the FY 1977 procurement funds would need to be committed prior to the production decision, we would need some advance material funds in FY 1976 and the transition period if the results of the flight test program warrant a limited commitment of funds to facilitate the initiation of production in FY 1977. Without these funds, the cost of a production program would increase due to the necessity of reconstituting the work force and inflation.

SRAM

I noted last year that the acquisition of the SRAM would be essentially completed with FY 1974 funds. The amounts requested for SRAM in the FY 1976 and Transition Budgets, a total of about $5 million, is for the development of a new motor for that missile. The missile itself was designed for a ten year life, but the motor was designed for only a five year life. While it is still not clear

how long these solid fuel motors will actually retain their effectiveness, the first SRAMs entered the force in FY 1972, and we should be prepared to begin the replacement of the existing motors by as early as FY 1977. However, the chemical process involved in the manufacture of the solid propellant is now unacceptable from a pollution control point of view; hence, the motor must be redesigned to accommodate a new propellant and liner, and then thoroughly tested.

Of the approximately $35 million requested for authorization in FY 1977, $15 million is included for completing development of the new motor and about $20 million for tooling and startup costs for production of missiles for the B-1. As in the case of the FY 1977 procurement funds for the B-1 aircraft, the use of these SRAM funds would be contingent on the decision to produce the B-1.

Advanced Tanker/Cargo Aircraft

We are continuing to study the requirement for additional refueling support of our strategic and general purpose forces. Alternative approaches which are being examined include commercial wide body candidates as well as modification of existing refueling aircraft. Preliminary study results indicate that additional tankers to support general purpose forces, including airlift aircraft, may be required. Accordingly, we are requesting $5 million in FY 1976 and $1 million in the transition period to initiate development if the final study results warrant such action. In addition, we are requesting an authorization of $50 million in FY 1977 to continue the proposed development.

Cruise Missiles

Last year the Congress was informed of the DoD's decision to proceed with 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 sea-launched cruise missile, and the Navy was to pursue the development of guidance technology which was also to be common to both missile systems. The Air Force was to commence engineering development of the Air Launched Cruise Missile (ALCM) in FY 1975, making maximum use of the previously terminated SCAD engineering program for air vehicle design and engine development, while the Navy was to continue with advanced development of a Sea Launched Cruise Missile (SLCM) in both a strategic and tactical variant.

The Congress expressed concern about these cruise missile programs, and we share that concern. As a result, we have completely reappraised the programs, examining in detail both the need and the technical considerations. The major conclusions which evolved from this reappraisal are as follows:

-- An ALCM would enhance the capability of the pure penetrating bomber in advanced threat environments; however, the extent of the need for ALCM depends on how the threat evolves.

-- A SLCM would provide a desirable augmentation of our strategic capabilities and a unique potential for unambiguous, controlled, single-weapon response from relatively invulnerable submarines as well as from other surface platforms.

-- Both ALCM and SLCM, because they are designed for use on existing carrier vehicles, would have a relatively low incremental cost, but they would impose on the Soviet Union large additional expenditures for air defenses to counter them.

-- A tactical cruise missile variant of the strategic version could provide the Navy with a highly effective over-the-horizon antiship capability.

-- There is a potential for improving management and the allocation of scarce RDT&E resources by restructuring the ALCM and SLCM programs.

-- Cruise missile technology, though well in hand, has not yet been integrated into a functional whole which could demonstrate proof of concept.

Of these conclusions, the last is the most crucial. While the separate pieces of technology required for the development of a cruise missile are well in hand, the problem of integrating them into a useful cost-effective system has not been solved. Consequently, it would be premature to consolidate the cruise missile efforts into a single, integrated engineering development program at this time. It is in the engineering development phase that expenditures begin to reach high levels. By keeping the two systems in the advanced development stage where expenditure levels are relatively low, we can afford to keep all viable options open.

Accordingly, we propose to keep the ALCM in advanced development until the cruise missile concept has been satisfactorily demonstrated. We also propose to continue the SLCM program in advanced development but on a revised schedule that would permit important milestones to be reached concurrently with ALCM. Both programs would be scheduled for first flight in early 1976 and for an engineering development decision (DSARC II) in early 1977. Both programs would continue to emphasize commonality of major components.

This proposed program would enable us to proceed toward an IOC of 1980 with a more deliberate pace in the earlier years. We are requesting for the development of the ALCM $51 million in FY 1976, $13 million in the transition period, and an authorization of $104 million in FY 1977. For the SLCM development, the amounts are $102 million in FY 1976, $42 million in the transition period, and $192 million in FY 1977. SLCM funding is higher because of the Navy's competitive contractor approach and because both a strategic and a tactical variant of the missile are being developed.

2. Strategic Defensive Forces and Programs

The strategic defensive forces include the air defense and ballistic missile defense forces, the bomber and strategic missile surveillance and warning systems, and the space surveillance system. These components of the strategic defensive forces are not only interrelated with one another but also with the strategic offensive forces.

As I noted last year, without effective ABM defenses, air defenses are of limited value against potential aggressors armed primarily with strategic missiles. That is to say, if we cannot defend ourselves against strategic missiles, there is little to gain from trying to defend ourselves against strategic bombers. With reduced emphasis on active defenses, however, we become more dependent on warning for the survival and, hence, the deterrent effectiveness of our strategic offensive forces, particularly in the case of bombers, which are very vulnerable when on the ground. Consequently, as we proposed at that time, a basic readjustment in our air defense program and some major improvements in our tactical warning systems should be made.

a. Air Defense

With regard to air defense, the reasons that led us to propose a major realignment of our forces last year are even more compelling this year. The level of ABM deployment has been further limited by agreement between the U.S. and the USSR. Thus, the utility of air defense in a major attack on the United States is further restricted. More importantly, the high rate of inflation experienced during the past year has compelled us to excise from the Defense Program forces and activities that we no longer need or can no longer afford in relation to more urgent requirements.

Both of these developments reinforce the need to move forward promptly with the realignment of our air defense forces in support of their current primary mission, namely, to ensure the sovereignty of our air space in peacetime. This mission requires three related

capabilities -- surveillance to detect and warn of intruders, forces to deter intrusion, and command and control to coordinate the two.

The major impact of this realignment is on the second of these capabilities, the interceptor and surface-to-air missile forces. Given the very tight constraints on the defense budget, I have no choice but to propose again the phaseout of the Air National Guard F-101 units which, in my judgment, are no longer worth their cost to operate and maintain. As noted earlier, the 91 flying units mandated by the Congress would be retained, if that mandate is continued, but the composition of the force would be changed. The seven F-101 units (including one Combat Crew Training Squadron not shown on Table 2 in the Appendix) would be replaced over a two year period (four in FY 1976 and three in FY 1977) by other types of aircraft, notably the KC-135.

Thus, by the end of FY 1977 the dedicated interceptor force would consist of 12 F-106 squadrons -- six in the Active Force and six in the ANG. These 12 F-106 squadrons, operating at peacetime alert rates, could support a total of 19 alert locations around the periphery of the 48 contiguous states. Additional alert locations, mostly in the South, could be provided by CONUS-based general purpose forces to enhance coverage along that periphery. These additional sites would be located on Air Force tactical bases and manned by F-4s (two aircraft each) drawn from the Air Force tactical units on the bases. The tactical aircraft, while on air defense alert, would operate under the control of the North American Air Defense Command, and the

necessary communication links would be provided for that purpose. General support of the detachments would continue to be provided by the parent organizations.

We believe this application of the principle of mutual support and force interdependence is completely feasible and, indeed, desirable. The F-4 is currently our primary theater air defense aircraft and its tactical air-to-air capabilities have been well demonstrated not only in Vietnam but also in the Middle East. Moreover, service with our dedicated air defense forces in peacetime would provide very useful training for the F-4 crews involved. The main disadvantage is that a major war abroad, particularly in Europe, would require a prompt decision on the allocation of the available air defense resources between our needs at home and our needs abroad. But, this is the kind of military risk we must be prepared to take in a Defense Budget as tightly constrained as that proposed for FY 1976.

Although the air defense forces are being sized to perform their primary mission -- surveillance and control of U.S. air space in peacetime -- a force adequate for that mission would have an inherent capability in times of crisis to inflict attrition on penetrating bombers or reconnaissance aircraft, thus precluding them from having a "free ride" over the United States. In a crisis we would expect at least some strategic warning, which would give us time to increase the readiness of our air defense forces and augment them with appropriate general purpose forces. The Joint Chiefs of Staff and the Services have prepared detailed plans for this contingency.

Portions of the strategic air defense force could also perform air defense missions on a worldwide basis should contingencies requiring air defense arise. It should be noted in this connection that many of the AWACS aircraft, which we now propose to acquire for the tactical air mission, normally would be stationed in the U.S. Hence, AWACS would be available to train with the Continental Air Defense forces in peacetime and to take over the mobile command and control function in wartime. The older EC-121 airborne radars will be phased out by end FY 1977 as previously planned, consistent with the planned introduction of AWACS.

Last year we had planned to phase out in FY 1975 all of the remaining Continental Air Defense NIKE-HERCULES (both active and reserve) and their Fire Coordination Centers. Pressure on both personnel and funds, however, caused the Army to phase out these units in FY 1974.

We also planned last year to phase out over a period of years all of the existing CONUS Air Force regional command and control centers -- the Regional Control, BUIC Control and Manual Control Centers -- and replace them with 13 USAF/FAA Joint Control Centers (JCCs). I noted at the time that a new command and control plan tailored specifically to the revised air defense structure and missions was under development by the Air Force, and that the JCC plan could change.

This plan has now been completed. The principal change concerns the joint use of the 13 FAA Control Centers. Further study has convinced us that the command and control of the interceptor forces from

13 separate JCCs would be inefficient in peacetime and unworkable under actual combat conditions. Accordingly, we now propose to establish four Region Operations Control Centers (ROCCs), one in each of the four regions into which the forty-eight contiguous states would be divided. Each ROCC would be able to handle the input from as many as 15 surveillance radars and would be able to control all of the interceptors stationed in its region. All four ROCCs, of course, would be tied into the North American Air Defense Command (NORAD).

Under the new plan, 43 military/FAA joint-use surveillance radars will be required. However, five military radars would have to be retained to cover areas in which FAA has no requirement for radar coverage.

The total investment cost of this new command and control system is estimated at about $95 million, of which $80 million would be for procurement (including installation and check-out) and $15 million for military construction. As shown in Table 2 of the Appendix, the first two ROCCs would become operational in FY 1977 and the last two in FY 1978. The realignment of the surveillance radars would be completed in FY 1978, and all of the existing CONUS Regional, BUIC, and Manual Control Centers would be phased out by end FY 1979.

I noted last year that the Air Force was investigating the feasibility of modernizing the Alaskan air defense system. In view of the new ROCC program proposed for CONUS, the Air Force has developed a plan to establish such a control center in Alaska. This ROCC, which

would also be tied in to NORAD, would replace the existing Regional Control Center and Manual Control Centers in Alaska by end FY 1979.

Inasmuch as Canada is a partner in NORAD, discussions have been held with the Canadian authorities concerning realignment of the North American Air Defense system. These authorities have indicated that the proposed changes in the NORAD structure, particularly the establishment of two regions in Canada, will meet their national air space surveillance and control requirements.

In addition to the DEW Line radars in northern Canada, there are a number of surveillance radars in southern Canada which are part of the NORAD system. Moreover, Canada operates [redacted] squadrons of CF-101s to ensure the sovereignty of its own air space as well as to contribute to the defense of the North American continent. [We have already assured the Canadian authorities that we will continue to support those CF-101 squadrons, even when we phase out our own F-101 squadrons. With regard to surveillance and control, we hope that Canada will also adopt the new command and control concept and the associated realignment of NORAD regions. That would greatly facilitate surveillance and control of North American air space, and permit cost savings by both nations.]

In addition to the CONUS air defense forces, we will continue to maintain 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. We will also continue in-place the active Army general purpose forces

NIKE-HERCULES and HAWK batteries now operational in Florida. We will continue, of course, to have options to improve our F-106s, deploy a follow-on interceptor (e.g., F-15, ACF or F-14), or to deploy a new SAM system (e.g., SAM-D) for CONUS air defense, since these programs are being pursued in any event for the general purpose forces.

CONUS OTH-B Radar

As I indicated earlier, with the sharp reduction in active defenses which has taken place in recent years, tactical warning assumes even greater importance than in the past. Consequently, I believe that we should continue our efforts to develop the CONUS Over-The-Horizon Backscatter (OTH-B) radar. This radar promises to extend our surveillance and early warning capability against bombers (or any other aircraft) to more than [redacted] nautical miles from our coasts, at both high and low altitudes. The detection range of our current surveillance radars out over the oceans is about 200-250 nm at high altitude and about 30-50 nm at low altitude.

Although the technology required for this radar has been under development for more than a decade, some technological risks still remain to be resolved. Therefore, we propose to pursue this program in two steps -- first, the development of a limited coverage prototype radar; and second, if the first step is successful, the deployment of a full two-site coverage system. The prototype radar would be used to validate system concepts, develop operational procedures

for wide area surveillance, and establish performance and cost parameters prior to the commitment of funds for operational sites. It would be designed initially to cover an azimuth of 30-45 degrees, but would be designed to be expansible to full coverage, i.e., 180 degrees, if the decision is made to deploy the system.

The currently planned program involves two OTH-B radars -- one near Cutler, Maine (the prototype) looking northeast, and one in Washington or Oregon looking northwest. With regard to the northern approach, we now plan 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. The need for a south-looking radar will be considered later.

Development and deployment of the two full coverage OTH-B radar system is estimated at roughly $300 million. The development, installation, check-out and testing of the limited coverage prototype radar would cost about $35-40 million. About $10 million has already been appropriated for this prototype program, and another $14 million is requested for FY 1976 and the transition period. In addition, an authorization of about $14 million is requested for FY 1977.

The contract for the prototype radar is expected to be awarded in mid-1975 after the receiver site problem encountered last year has been satisfactorily resolved. Installation and check-out is expected to be completed in 1978 and testing completed in 1979. A decision

to deploy, therefore, could be made in mid-1979 and a full operating capability with both radars achieved in early 1983.

b. Ballistic Missile Defense (BMD)

The R&D portion of our ballistic missile defense (BMD) effort is comprised of a restructured Site Defense program and an Advanced Technology program. The third element of our BMD program, SAFEGUARD, will successfully complete its R&D phase on schedule and begin its operational phase early this year. We have significantly reduced and streamlined our BMD management structure concurrent with the reduction in overall BMD funding as the SAFEGUARD system approaches completion. All elements of our BMD program are now controlled in the Army by a single program manager.

I believe we must continue a BMD effort of significant breadth and depth to ensure that we can keep pace with the continuing Soviet BMD efforts and improvements that I discussed earlier. Our continued effort is essential not only as a hedge against a sudden abrogation of the ABM Treaty, but also because our demonstrable competence in this field will continue to motivate the Soviet Union to negotiate additional limits on strategic arms. In addition, R&D in this strategic area assists in the design and evaluation of our strategic offensive systems by providing data on their ability to penetrate missile defenses. It also assists our intelligence agencies in the assessment of Soviet BMD capabilities by providing a core of expertise in this complex technology.

Our overall BMD program provides operational experience with a deployed system, SAFEGUARD, the advancement of system technology in the Site Defense program and research on the more futuristic technologies and concepts in the Advanced Technology program.

SAFEGUARD

Last year I informed the Congress that we planned to bring the SAFEGUARD site near Grand Forks, N. D. up to full operational capability, operate it on a full-time basis for about one year in order to shake it down and gain operational experience, and then operate it on a reduced capability basis in such a manner that it could be brought back into full-time operation within a few months of notice. I also noted at the time that the Army was working out the details of this revised SAFEGUARD operating plan.

The operating plan for FY 1976 has now been completed. The Equipment Readiness Date of 1 October 1974 for the Grand Forks site, which was set in April, 1970, was met on schedule. The Missile Site Radar (MSR) and the Perimeter Acquisition Radar (PAR) are operational and the missiles are undergoing installation. The Army expects to achieve an initial operational capability (IOC) with 8 SPARTAN and 28 SPRINT interceptors in early April of this year and a final operational capability (FOC) with 30 SPARTAN and 70 SPRINT missiles by October of this year. The site then would be operated on a full-time basis through 30 June 1976.

Beginning in July 1976, the scale of operation and the readiness of the system will be reduced. As a result, SAFEGUARD annual operating

costs will be reduced. Several plans for reduced operations and readiness are currently under consideration including plans to (a) place the PAR or MSR on standby and (b) remove some or all of the interceptor warheads and place the interceptors in storage. No decision has yet been made as to which of these options should be implemented.

No additional R&D funds will be required for the SAFEGUARD program after FY 1975. R&D flight tests were completed in August 1974 and no further upgrading of the system is planned. Production verification flight tests will be completed in April 1975. The cost of the Army's Meck Island R&D installation at the Kwajalein Missile Test Range will be reduced by closing down and storing the interceptor launch facilities in the spring of 1975 and the MSR at the end of that year. Until that time the MSR will support (and be funded by) the Ballistic Missile Defense Advanced Technology Programs as the SAFEGUARD activity is phased out. The $2 million in acquisition costs shown for SAFEGUARD in FY 1976 is for replenishment of spare parts.

Site Defense

In conformance with the desire of the Congress, the Site Defense program, which had been directed toward the demonstration of a prototype ABM system specifically designed for the defense of MINUTEMAN, now has been reoriented to a systems and component technology and validation effort. This system-oriented technology effort is important because the integration of complex components such as phased-array radars and large digital computers into a smoothly working system is

still the most demanding challenge in missile defense. The new program will be pursued in two phases -- (1) a validation phase to prove that our solutions to technical problems associated with the Site Defense concept of terminal defense are adequate, and (2) a second phase which will incorporate advances in technology into the Site Defense design and thereby keep the system concept abreast of newly emerging offensive and defensive capabilities.

The first phase will seek to validate the technical solutions to five key problem areas -- bulk filtering of tank fragment radar returns, discrimination of warheads in the midst of clutter, effective operation in a nuclear environment, prompt activation of the system from a peacetime dormant posture, and software required to permit real time engagement. Since these technical areas involve the radar, data processor and the software, the new effort will be concentrated on those three components of the system. The missile portion of the program -- i.e., the development of the SPRINT II -- will be de-emphasized; no flight tests will be conducted. We will, however, pursue improvements in interceptor performance by incorporating recent advances in the state-of-the-art into the improved interceptor design.

To test and verify our solutions to the key technical problem areas, it is critical that we conduct a limited number of field tests at the Kwajalein Missile Test Range. The new Site Defense Radar is scheduled to be installed at Kwajalein by the summer of 1976. [Tracking of live targets of opportunity is scheduled to commence in the spring]

of 1977, and testing using a limited number of dedicated targets will continue through the first half of 1978.

The total cost of the validation phase of the reoriented Site Defense program (including the $115 million appropriated for FY 1975 but excluding the $275 million appropriated for FY 1974 and prior years) is now estimated to be less than $600 million. The second phase will be a continuing introduction of advanced technology to better solve systems problems. It will enter the program gradually, beginning in FY 1976, and replace the validation phase by FY 1979-80. We are requesting for this combined effort $140 million in FY 1976 and $38 million in the transition period, plus an authorization of $160 million in FY 1977.

BMD Advanced Technology

In the strategic world of the future we cannot continue our leadership or even remain competitive without a sound understanding of the new emerging technologies. The BMD Advanced Technology Program keeps us abreast of new defensive techniques and radically new concepts, and thereby reduces the likelihood that we would be caught technically unaware of BMD advances by the USSR. To achieve this, the program maintains an aggressive search for new ideas, and conducts additional research to prove the feasibility of the most promising ideas. BMD Advanced Technology concentrates on five major areas of technology -- discrimination, data processing, optics, radar, and interceptors.

The ability of an ABM system to discriminate between RVs and other objects such as decoys and tank fragments is absolutely

essential to its effectiveness against a sophisticated opponent. Although a great deal of progress has already been made in this area, much more data on the radar and optical signatures of tank fragments and other non-RV objects is needed for more efficient designs to improve performance and reduce the cost of future systems.

Data processing software is generally the largest single cost item in the development of an ABM system and requires the longest lead time to develop. Consequently, more efficient methods for designing, planning and managing the development of this critical component will be pursued in this program. Moreover, improvements in data processing hardware also appear feasible, and these are being developed.

Optics technology appears to hold great promise for overcoming some of the shortcomings in radar sensors. Much remains to be learned, however, about target signatures and the application of optical sensors in a typical target environment.

Current ABM radars are very expensive to acquire. New approaches to antenna design, such as the dome shaped antenna, show promise of large reductions in construction costs. Similarly, solid state power amplifiers, if they can be economically produced, would improve radar performances and permit further economy in radar design and operation.

Improvements in interceptors beyond the SPRINT class of vehicles will require faster burning propellants, harder missile structures,

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electronic components which can stand the shock of high acceleration, and new guidance and flight control techniques. The development of a much faster burning propellant which can be produced economically in large quantities is currently being emphasized.

These five areas of technology, in our judgment, are the most critical at this stage of our knowledge and experience. A reasonable degree of success in these areas should enable us to maintain our lead in ABM technology, provided that the current pace of the Soviet R&D effort in this field is not accelerated. To continue this important basic technology program at a relatively constant level of effort, we are requesting $105 million in FY 1976 and $30 million in the transition period, plus an authorization of $111 million for FY 1977.

Ballistic Missile Attack Warning Systems

Because of the importance of high confidence warning to our overall strategy, we have adopted the policy of ensuring coverage of all relevant strategic missile launch areas by at least two different types of sensors (sensing different phenomenology). Such an approach minimizes false alarms and potential natural interference, and insures critical areas are always covered.

With regard to ICBMs, first warning of a Soviet (or PRC) launch would be provided by the Satellite Early Warning System [redacted] satellite maintained on station over the Eastern Hemisphere. Previously, this warning would have been verified first by the forward scatter Over-The-Horizon (OTH) radar system and then by the Ballistic Missile Early Warning System (BMEWS). But, as I pointed out last

year, the forward scatter OTH System is very sensitive to atmospheric disturbances and hence considerably less reliable than the satellite and BMEWS systems. We, therefore, had planned to phase out this system, with its four transmitters and five receivers, in FY 1976. At the urging of the House Appropriations Committee, however, the system is being phased out in FY 1975 to achieve an additional year of savings in operating costs. We are quite confident that the remaining two systems, together with available intelligence sources, will continue to provide highly credible warning of ICBM attack.

Our surveillance and early warning capability against SLBM attack, however, leaves much to be desired. First warning of SLBM launches against the United States is provided by the early warning satellites maintained on station over the Western Hemisphere. Complementary warning coverage is provided by the 474N SLBM Detection and Warning System consisting of seven FSS-7 radars — three on the East Coast, three on the West Coast, and one on the Gulf Coast. However, as I explained to the Congress last year, the FSS-7 radars have low reliability and can be bypassed by the Soviet SS-N-8 and SS-N-6 Mod 2 SLBMs. Moreover, there are occasional gaps in our satellite coverage caused by natural phenomena, i.e., solar reflections.

Accordingly, we had proposed last year to replace those seven "dish" radars with two new SLBM phased array early warning radars -- one on the East Coast and one on the West Coast. These much more reliable and capable radars, together with the Western Hemisphere satellites, would provide highly credible warning of a Soviet

SLBM launch against the United States. The new SLBM radars would not only corroborate the warning received from the satellites, but would also fill in any gaps that may occur in satellite coverage as a result of solar reflections.

Now, at the urging of the House Appropriations Committee, we propose to make three further changes in the plan presented last year in order to effect some reduction in operating cost in this area. First, the standby radar at Moorestown, New Jersey was phased-out in December, 1974, instead of maintaining it until the East Coast SLBM phased array radar is available.

Second, we will phase out the FSS-7 site at Laredo, Texas later this year when the modification of the Space Track radar at Eglin AFB, which will give it an SLBM warning capability, is completed.

Third, in line with an understanding with the House Appropriations Committee, we plan to close down the BMEWS radar at Clear, Alaska when the ability of COBRA DANE and the new West Coast SLBM phased array radar to take over Clear's warning functions has been determined.

The first SLBM phased array radar would replace the three East Coast FSS-7 dish radars. The second phased array radar would replace the three West Coast FSS-7 dish radars. The acquisition cost of the two SLBM phased array radars still is estimated at approximately $118 million.

We are requesting about $50 million in FY 1976 and $2 million in the transition period, plus an authorization of about $17 million in FY 1977, for the acquisition of the second of the two SLBM phased array radars. For the acquisition of the satellite and ground

to our shores. But that would place their submarines at risk to our antisubmarine warfare forces. Furthermore, to attack our alert bombers by surprise the Soviet Union would have to withhold the launch of its ICBMs until the SLBMs were launched. But this would mean that the first SLBM warheads would detonate over our bomber bases 15-20 minutes before the first ICBM warheads reached our MINUTEMAN silos. Whether our National Command Authorities would, under these circumstances, choose to launch some or all of our MINUTEMAN missiles before they were struck, no one, including the Soviet planners, can foretell in advance of the actual decision. Hence, that is a risk the Soviet decision makers would have to take in launching a nuclear attack against our land-based strategic forces.

Conversely, if the Soviet Union were to launch its ICBM forces first in order to achieve simultaneous arrival of the ICBMs and the SLBMs, our alert bombers would have ample time to clear their bases before the Soviet warheads arrived at their targets. Implicit in this statement, of course, is the assumption that our tactical warning systems can assuredly provide that time, and I will have more to say about this problem when I discuss the strategic defensive forces.

Finally, making the reasonable assumption that some fraction of each element of our mix of strategic systems would survive a Soviet first strike regardless of how it was carried out, each element would enhance the potential of the other in a retaliatory blow, a potential that would have to give the Soviets pause in

their calculations. Missiles, for example, could help clear the way for bomber penetration, and bombers, in turn, could help to fill the gap of those important targets missed by missiles.

It is this mutually supporting deterrent capability, in addition to the reasons I enumerated last year, that strongly commends to us the continued retention in our strategic offensive forces of both ICBMs and bombers as well as SLBMs. The cost of maintaining this diversified strategic capability is considerable. Consequently, we must emphasize the mutually supporting characteristics of the TRIAD, rather than just the independent capabilities of each of the components.

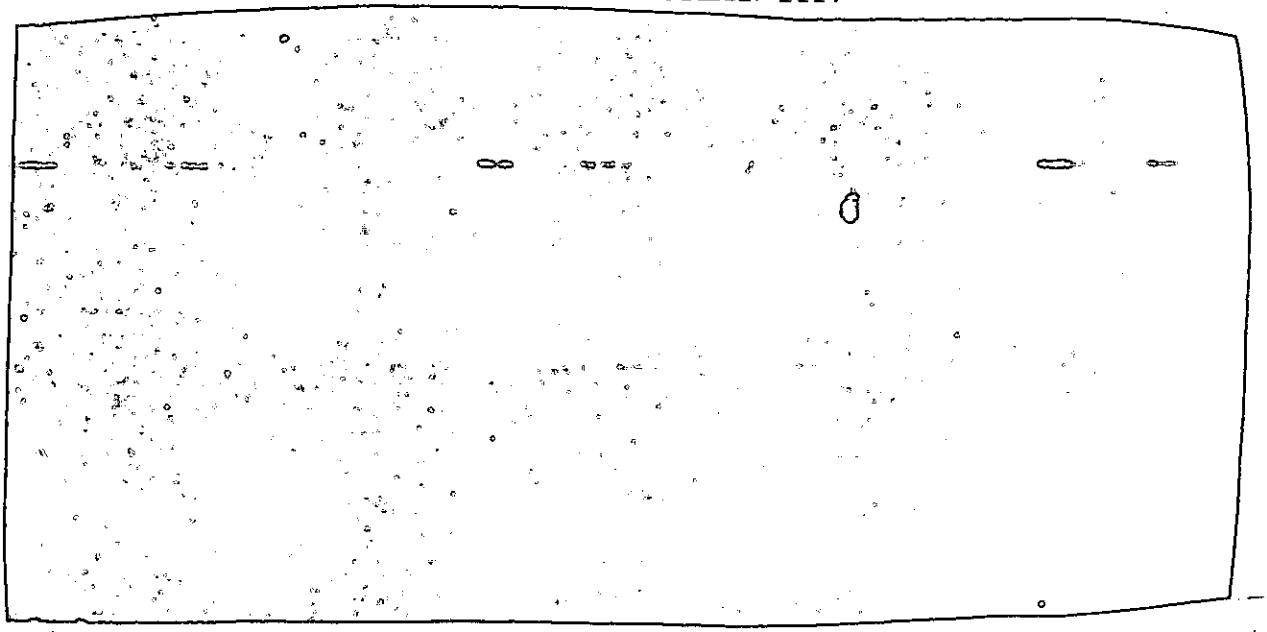
a. ICBMs

Given the continuing growth in Soviet strategic offensive capabilities, albeit within the bounds of the Vladivostok and earlier agreements, we believe that the U.S. must now move forward in an orderly and deliberate manner with the qualitative improvements initiated last year for the ICBM forces. This action is unavoidable if essential equivalence in strategic power between the U.S. and the USSR is to be preserved through the 1970s and beyond.

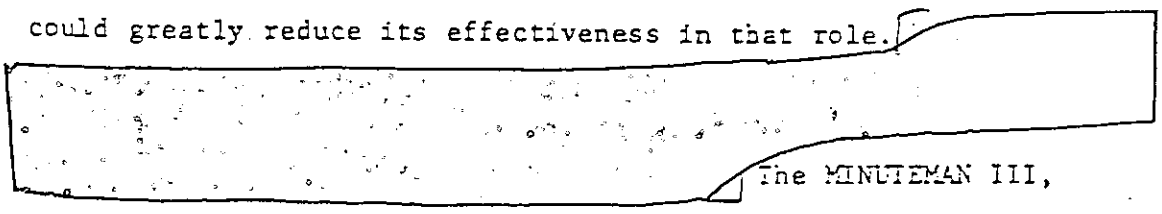
In the near term (through the early 1980s), the only way in which we can achieve a major improvement in our ICBM capabilities, particularly in expanding our options and keeping pace with growing Soviet hard-target kill capabilities, is through the modification of the MINUTEMAN III. For the long term (mid-1980s and beyond),

we can provide an option to develop an entirely new ICBM, namely what has now been designated the MX.

The principal options to improve the MINUTEMAN III are the refinement of the existing guidance system and the new higher yield warhead, the MK 12A reentry vehicle. The terminally-guided maneuvering reentry vehicle, which I associated last year with the MINUTEMAN III, will continue to be developed as a potential payload for the MX or the TRIDENT II. The time required for the development of this technology will place this reentry vehicle in the time frame of the MX and TRIDENT II, rather than the MINUTEMAN III.



As I pointed out last year, this improved MINUTEMAN III system would be heavily dependent upon accuracy for its hard-target kill capability. Consequently, even a small degradation in accuracy could greatly reduce its effectiveness in that role.



The MINUTEMAN III,

therefore, is not a system that we would pursue if we were interested in developing a disarming first-strike capability. Inasmuch as we are interested in the improved MINUTEMAN III for its deterrent value, that is, to deter the Soviet Union from launching a first strike against some or all of our ICBM silos, this uncertainty about its accuracy should not negate its usefulness for our purposes. This is so because the Soviet planners would also be faced with uncertainties about both the size of the surviving force and the particular targets that the MINUTEMAN III, with its improved accuracy and increased yield, would be programmed to attack.

Further improvements in our strategic missile capabilities must await the development of the MX and the TRIDENT II. How we proceed with the development of the MX and the TRIDENT II will depend upon future developments in the Soviet strategic missile forces. We should not deprive ourselves at this particular time of a reasonably wide range of ICBM and SLBM development options. Accordingly, we plan to pursue, at a pace closely linked to future developments in the Soviet strategic missile forces, the ICBM and SLBM force improvements initiated last year.

MINUTEMAN

First, we propose to continue the production of the MINUTEMAN III at the rate of five missiles per month -- the lowest feasible rate -- through the first ten months of the FY 1976 procurement period. The MINUTEMAN III is the only U.S. ICBM still in production; the USSR currently has at least three or four. It would be imprudent,

in my judgment, to close down that production line before we have a more definitive assessment of how many of each type of the new MIRVed ICBMs the Soviet Union intends to deploy under the Vladivostok agreement.

The $270 million required to procure another 50 MINUTEMAN III missiles and initial spares is included in the figures shown on the MINUTEMAN line of the Acquisition Costs table beginning on the following page. These 50 missiles would fulfill our requirements for follow-on flight testing and also preserve the option to deploy more MINUTEMAN IIIs, if that should be deemed necessary.

Second, we propose to complete the engineering development of the new higher yield warhead for the MINUTEMAN III, the MK 12A RV. The AEC test program for this [redacted] weapon has been accelerated so that it can be completed before the end of March, 1976, the proposed effective date of the Threshold Test Ban Treaty. The new arming and fusing mechanism and the reentry vehicle as a whole will be flight tested on MINUTEMAN III missiles already procured for the operational test program, as well as on the boosters to be procured specifically for the flight testing of the guidance refinements.

As I pointed out last year, the new warhead, plus the more advanced, (i.e., miniaturized) arming and fusing mechanism, can be retrofitted into the existing MINUTEMAN III MK 12 RV without any changes in its weight, balance, or other flight characteristics. Accordingly, flight testing of the MK 12A RV can be limited to checkout of the new arming and fusing components and verification that flight characteristics of the RV have not changed.