S. HRG. 99-335

SOVIET STRATEGIC FORCE DEVELOPMENTS

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BEFORE THE

SUBCOMMITTEE ON STRATEGIC AND THEATER NUCLEAR FORCES

OF THE

COMMITTEE ON ARMED SERVICES

AND THE

SUBCOMMITTEE ON DEFENSE

OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

NINETY-NINTH CONGRESS

FIRST SESSION

JUNE 26, 1985

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SOVIET STRATEGIC FORCE DEVELOPMENTS

WEDNESDAY, JUNE 26, 1985

U.S. SENATE,
SUBCOMMITTEE ON STRATEGIC AND
THEATER NUCLEAR FORCES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON DEFENSE,
COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittees met in open session, pursuant to notice, at 10:07 a.m., in room SD-192, Dirksen Senate Office Building, Senator Ted Stevens (chairman of the Subcommittee on Defense) presiding.

Appropriations Committee—Subcommittee on Defense members present: Senators Stevens, McClure, Andrews, Kasten, Jr., D'Amato, Rudman, Cochran, Proxmire, Hollings, Chiles, Johnston, and Sasser.

Armed Services—Subcommittee on Strategic and Theater Nuclear Forces members present: Senators Thurmond, Warner, Humphrey, Quayle, Gramm, Nunn, Hart, Levin, Bingaman, Dixon, and Glenn.

Armed Services Committee staff members present: Arnold L. Punaro, staff director for the minority; Robert G. Bell, Robert F. Bott, Douglas R. Graham, William E. Hoehn, Jr., and George K. Johnson, Jr, professional staff members; Colleen M. Getz, research assistant; and Karen A. Love, staff assistant.

Also present: Romie L. Brownlee, assistant to Senator Warner; Henry D. Sokolski, assistant to Senator Quayle; Mark J. Albrecht, assistant to Senator Wilson; Allan W. Cameron, assistant to Senator Denton; Alan Ptak, assistant to Senator Gramm; Francis J. Sullivan, assistant to Senator Stennis; Janne E. Nolan, assistant to Senator Hart; Jeffrey B. Subko, assistant to Senator Exon; Gordon Kerr, assistant to Senator Levin; James B. Steinberg, assistant to Senator Kennedy; Charles C. Smith, assistant to Senator Dixon; and Phillip P. Upschulte, assistant to Senator Glenn.

OPENING STATEMENT BY SENATOR TED STEVENS

Senator STEVENS. The hearing will be in order.

We are here this morning to take testimony on Soviet Strategic Force Developments. This is a joint hearing of the Defense Subcommittee of the Senate Appropriations Committee and the Subcommittee on Strategic and Theater Nuclear Forces of the Senate Armed Services Committee—the first opportunity in many years to

conduct a joint hearing of the Appropriations and Armed Services Committees.

This hearing is for the express purpose of developing important new information on Soviet strategic force developments. We are able to conduct an open hearing because information has been recently declassified by the intelligence community in response to congressional requests.

Senator McClure has been active in supporting a public hearing to make this information available. Actually, many Members of Congress have repeatedly urged the administration to make more of this kind of information on Soviet strategic force developments available to the general public. The extent of the massive Soviet buildup of nuclear strike forces, I think, will be illuminating.

Our witnesses for today's hearing are Robert M. Gates, Chairman, National Intelligence Council, and Deputy Director for Intelligence at the Central Intelligence Agency and also Lawrence K. Gershwin, National Intelligence Officer for Strategic Programs, National Intelligence Council.

Gentlemen, we understand that you have an extensive statement, which will be submitted for the record in its entirety.

We expect to have good attendance for this hearing and wish to ask a wide range of questions, so we hope that the oral statements present a condensed summary and permit ample time for committee questions.

As soon as we have more members here from the other committee, along with Senator Warner, we will determine at that time the length of the questioning by each member.

Do you have an opening statement, Senator Proxmire.

Senator PROXMIRE. No, Mr. Chairman, thank you.

Senator STEVENS. Senator Thurmond?

Senator THURMOND. I have a brief statement, Mr. Chairman.

I have to leave to go to the White House. I will stay as long as I can.

I would like to thank my distinguished colleague for convening this hearing. After reviewing the material to be presented today, I am pleased to say that this is an important first step, but I am afraid it does not go far enough.

It is paradoxical in a democracy that those who are constitutionally charged with providing for the common defense cannot use all the information at their disposal to inform the public of the grave nature of the threat we face.

We are a nation that places the highest value on freedom of speech and the unimpeded flow of information. Yet there is some information that is so important that we must safeguard it despite the fact it would greatly influence public opinion.

Mr. Chairman, thank you for all your efforts. I hope that we can do more along these lines in the future.

Senator STEVENS. Thank you, Senator.

Does any other Senator have an opening statement?

Senator McClure?

Senator MCCLURE. Mr. Chairman, thank you very much for holding this special joint open hearing of the Defense Appropriations Subcommittee and the Subcommittee on Strategic and Theater Nuclear Forces of the Armed Services Committee.

This CIA testimony on the National Intelligence Estimate [NIE] is extremely important. I share the sentiments that both you and the distinguished members of the Armed Services Committee have made with respect to the importance of the testimony and the importance of having an informed American public.

I believe we can summarize the testimony which we will hear today by stating that there is a serious missile gap today, much more serious than the 1957–1961 missile gap, which was really an IRBM gap and not an ICBM gap. Today we face a mobile ICBM gap, a mobile IRBM gap, and a mobile ABM gap.

I believe further that the sum of all the Soviet offensive and defensive missile construction activities we see throughout the U.S.S.R., factories, test ranges and deployment bases, indicate Soviet intention to break out of the SALT II Treaty and the ABM Treaty. This is a very serious threat to U.S. national security.

The Soviets already have the most modern strategic offensive arsenal in the world and the only ABM defense in the world. By 1990 they will have almost completely modernized these forces with a fifth and sixth generation ICBM force and a second and third generation ABM force.

Mr. Chairman, I want to thank both you and Senator Warner for permitting this hearing to be held in this particular setting. I hope the American public will be better informed at the end of the hearing.

Senator STEVENS. Senator Warner, you are co-Chairman.

Senator WARNER. Thank you very much, Mr. Chairman.

I would like to associate myself with your remarks and join in welcoming our witnesses. In the 6-plus years I have been privileged to serve here in the Senate I have heard many times from these witnesses.

I, too, have been frustrated by our inability as Senators to share the facts about the Soviet strategic force buildup with the American public, indeed, the free world.

In my view, these facts serve as a sound justification for the decisions made by President Reagan and his predecessors with respect to the need for strategic force modernization. In the absence of budgetary constraints, I believe that the magnitude of the Soviet buildup would justify even greater efforts on our behalf, subject, of course, to the parallel course of negotiations in the arms control arena.

I am, therefore, very pleased that the intelligence community has prepared such a substantive assessment for the public record. Today's testimony will provide a 10-year estimate of the Soviet modernization program across the spectrum of strategic defensive and offensive forces. As such it will provide an authoritative basis for public debate on such critical issues as strategic force modernization, strategic defense and arms control.

It is also my hope that this authoritative threat assessment will serve to discourage the frequent leaks, which I find very troubling, of alleged intelligence information which at a minimum confuse the debate, and often work counter to the interests of a strong national security.

I note, for example, several recent articles that appeared in anticipation of today's hearing. In reviewing today's testimony, I find in many parts these stories do not have substantiation.

Mr. Chairman, I will put my statement in the record.

[The prepared statement of Senator Warner follows:]

PREPARED STATEMENT BY SENATOR JOHN W. WARNER

I would like to associate myself with the remarks of my colleague from Alaska, and join in welcoming our witnesses. In many years of receiving classified testimony from these gentlemen and their colleagues, I have been frustrated by our inability to share the facts about the Soviet strategic force build-up with the American people. In my view, these facts serve as a sound justification for the U.S. strategic force modernization program. In the absence of budgetary constraints, I believe that the magnitude of the Soviet build-up would justify even greater efforts on our behalf. I am, therefore, very pleased that the intelligence community has collectively been able to prepare such a substantive assessment for the public record.

Today's testimony will provide a 10-year estimate of Soviet modernization programs across the spectrum of strategic offensive and defensive forces. As such, it will provide an authoritative basis for informed public debate on such critical issues as strategic force modernization, strategic defense, and arms control.

It is also my hope that this authoritative threat assessment will serve to discourage the frequent leaks of alleged intelligence information which at a minimum confuse the debate and often work counter to the interests of a strong national security.

I note, for example, several recent articles that appeared in anticipation of today's hearing. In reviewing today's testimony, I find no substantiation of the more newsworthy findings in these articles, which are purported to represent the latest intelligence. I will look forward in the questioning period to obtain the views of our witnesses on these differences.

Senator STEVENS. Thank you very much.

Senator Dixon.

Senator DIXON. Mr. Chairman, I understand that today's presentation has been derived from the latest national intelligence estimate [NIE] on Soviet strategic force development. It is unfortunate that many specific questions we might have cannot be answered in open session.

Although this hearing will be limited, I feel it provides another opportunity to present important information to our citizens on the present and projected Soviet threat.

This hearing can also assist the American public in understanding what is being discussed in Geneva and the problems faced by our negotiators on arms control.

Senator STEVENS. Gentlemen, it has been a long time since we have had more than 10 members of the Subcommittee on Defense. We are all here. We are glad to have you, Mr. Chairman.

Mr. Gates, will you proceed.

STATEMENT OF ROBERT GATES, CHAIRMAN, NATIONAL INTELLIGENCE COUNCIL, AND DEPUTY DIRECTOR FOR INTELLIGENCE, CIA

Mr. GATES. Thank you, Mr. Chairman.

I believe a word or two about why we are here is warranted before beginning the briefing. We believe there is merit in a comprehensive, authoritative description of Soviet strategic force developments being available to all the Members of Congress and the public.

There is much information already publicly available; some of it, as in the Department of Defense publication "Soviet Military

Power," is quite authoritative, but a good deal else is inaccurate, distorted, and incomplete.

For more than a decade, each year CIA and DIA have provided to the public a detailed report on the Soviet economy under the auspices of the Joint Economic Committee of the Congress. We have received many requests from Members of the Congress and the executive branch for a similar, unclassified intelligence assessment of Soviet strategic force developments.

This briefing responds to those requests. We will pursue with our oversight committees in both the House and Senate whether such a briefing should become a regular event in the future under their auspices.

The material we will present today has been carefully reviewed by elements of the intelligence community to safeguard intelligence sources and methods. Our hope is that this briefing and perhaps others in the future might reduce damaging leaks of intelligence information at least somewhat.

The assessment we present today represents the agreed views of all elements of the American intelligence community. It is not a net assessment, nor are we in a position to provide one.

Following the briefing, we will be happy to take your questions. We will try to be as forthcoming as possible on an unclassified basis and where we simply cannot answer in order to protect intelligence sources and methods, we will attempt to develop unclassified answers that can be made a part of the record to be published by the committees.

The National Intelligence Council is comprised of some dozen senior intelligence officers who represent the intelligence community and serve as the senior substantive experts in their particular areas of responsibilities.

Today's briefing will be given by Mr. Larry Gershwin, National Intelligence Officer for Strategic Programs.

Senator STEVENS. Mr. Gershwin.

STATEMENT OF LAWRENCE K. GERSHWIN, NATIONAL INTELLIGENCE OFFICER FOR STRATEGIC PROGRAMS, NATIONAL INTELLIGENCE COUNCIL

Mr. GERSHWIN. By the midnineties, nearly all of the Soviets' currently deployed intercontinental nuclear attack forces—land and sea-based ballistic missiles and heavy bombers—will be replaced by new and improved systems. New mobile intercontinental ballistic missiles [ICBM's] and a variety of cruise missiles are about to enter the force.

The number of deployed strategic force warheads will increase by a few thousand over the next 5 years, with the potential for greater expansion in the 1990's.

We are concerned about the Soviets' longstanding commitment to strategic defense, including an extensive program to protect their leadership, their potential to deploy widespread defenses against ballistic missiles, and their extensive efforts in directed-energy weapons technologies, including high-energy lasers.

Their vigorous effort in strategic force research, development, and deployment is not new, but is the result of an unswerving com-

mitment for the past two decades to build up and improve their strategic force capabilities.

Soviet leaders are attempting to prepare their military forces for the possibility that they will actually have to fight a nuclear war. They have seriously addressed many of the problems of conducting military operations in such a nuclear war, thereby improving their ability to deal with the many contingencies of such a conflict.

We judge that the Soviets would plan to conduct a military campaign that would seek to end a nuclear war on their terms—by neutralizing the ability of United States intercontinental and theater nuclear forces to interfere with Soviet capabilities to prevail in a conflict in Eurasia.

STRATEGIC OFFENSIVE FORCES

The most notable recent trend in offensive forces is the construction of bases for mobile strategic missiles—SS-20 intermediate-range ballistic missiles [IRBM's] and new ICBM's.

During 1984, the Soviets embarked on an unprecedented program for constructing new SS-20 bases, starting more new bases than in any previous year.

The Soviets have made major strides in preparing for the deployment of their two new mobile ICBM's—the road-mobile SS-X-25 and the rail-mobile SS-X-24. The Soviets' commitment to deploy mobile ICBM's represents a major resource decision; such systems require substantially more support infrastructure than do silo-based systems, and thus are much more costly to operate and maintain.

All elements of Soviet strategic offensive forces will be extensively modernized by the midnineties, as the result of programs that have been in training for many years. While the Soviets will continue to rely on fixed, silo-based ICBM's, as noted in figure No. 1, mobile ICBM's will be deployed in large numbers, and major improvements will be made to the sea-based and bomber forces.

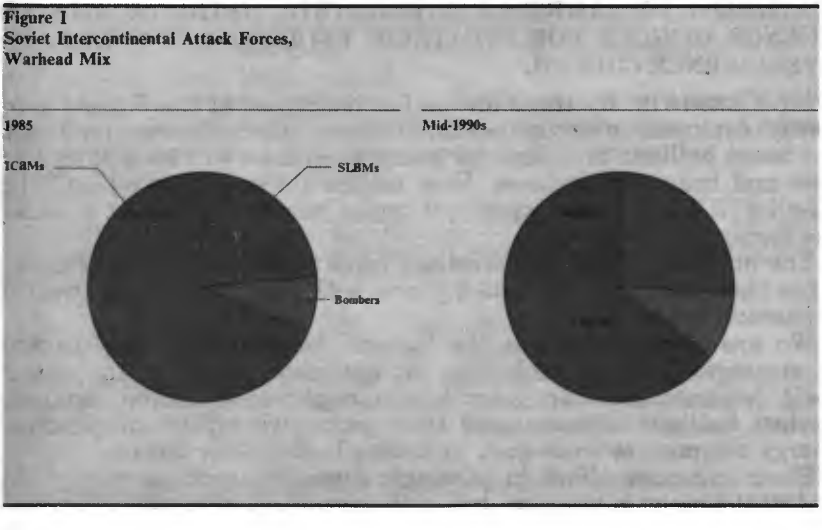


Figure I
Soviet Intercontinental Attack Forces, Warhead Mix

The major changes in the force will include:

An improved capability against hardened targets. The Soviets already have enough hard-target-capable ICBM reentry vehicles today to attack all U.S. ICBM silos and launch control centers and will have larger numbers of hard-target-capable RV's in the future. In such an attack today, they would stand a good chance of destroying Minuteman silos. The projected accuracy improvements for the new heavy ICBM we expect the Soviets to deploy in the late 1980's would result in a substantial increase in this damage capability.

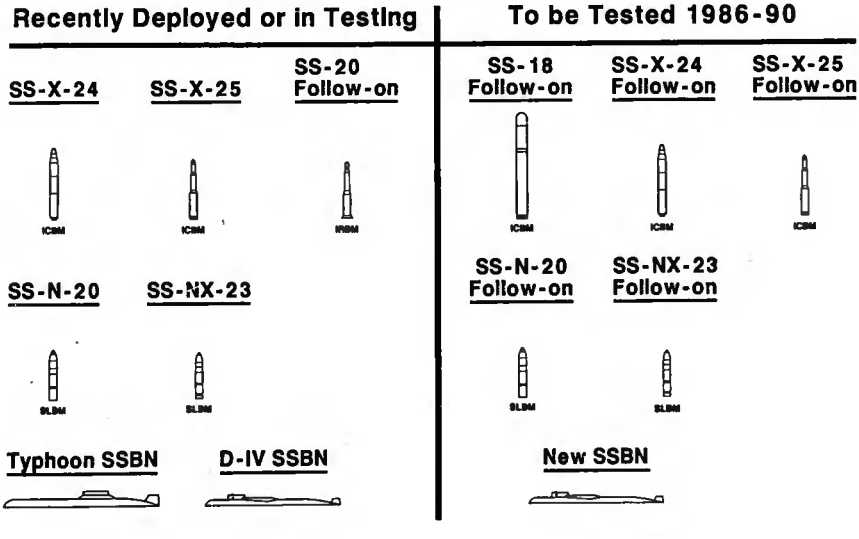
Significantly better survivability from improvements in the submarine-launched ballistic missile [SLBM] force—through quieter submarines and longer range missiles—and deployment of mobile ICBM's. Today a large part of the Soviet silo-based ICBM force would survive an attack by U.S. forces. However, with the increasing vulnerability of Soviet ICBM silos in the next 10 years if more accurate U.S. missiles are deployed, the Soviets will increasingly depend on the survivability of their mobile ICBM and SLBM forces.

A substantial increase in the number of deliverable warheads for the heavy bomber force as a result of the deployment of new bombers with long-range, land-attack cruise missiles.

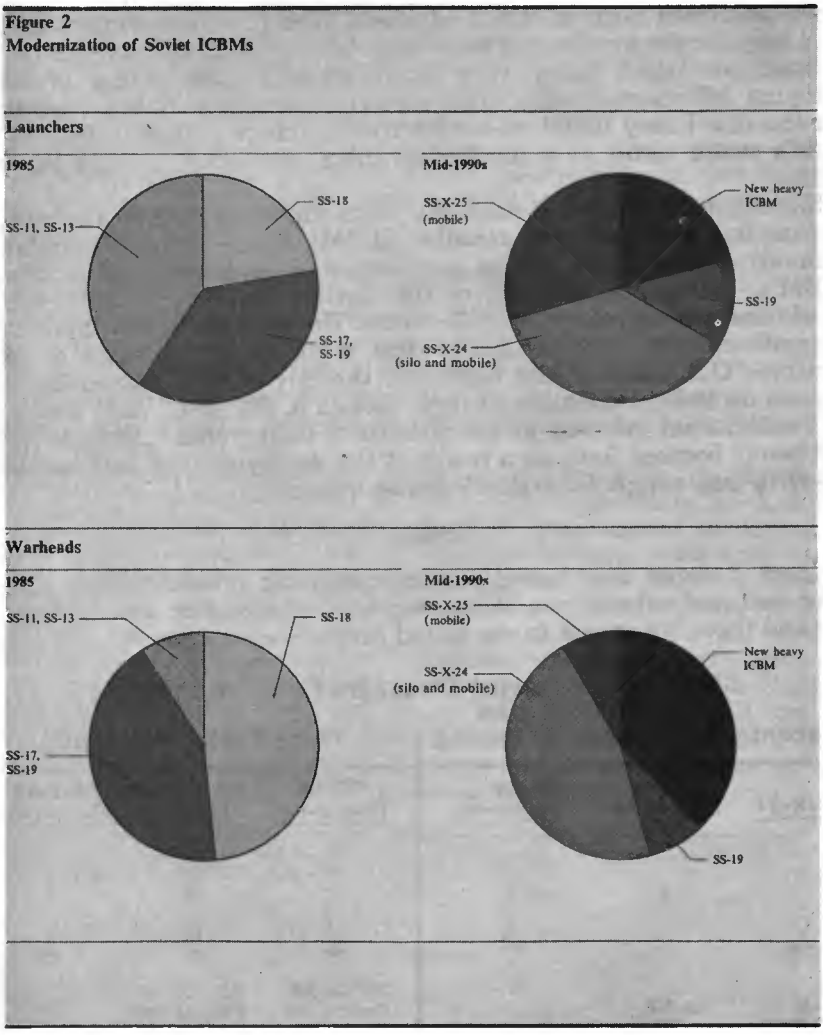
ICBM'S

Chart 1 shows new Soviet strategic ballistic missiles, land- and sea-based and submarines—those recently deployed or now in testing and those we expect to see tested over the next 5 years.

Chart I: New Soviet Strategic Ballistic Missiles



The ICBM force, as shown in figure 2, will have been almost entirely replaced with new systems by the midnineties:



This chart shows in the top half the force mix of Soviet ICBM launchers today in 1985 and by the mid-1990's, in our estimate. The same mix is shown at the bottom of the chart when you look at it in terms of how many warheads are on these missiles, so that the larger ICBM's are weighted more heavily because they carry more warheads.

The color changes going from left to right indicate new systems being deployed so that only colors on the right that are common with those on the left are those systems that would still be deployed, such as some SS-19's that would continue to be deployed in the midnineties.

In our estimation the rest of the Soviet ICBM force will be replaced by the midnineties.

For example, the Soviets are preparing to deploy the SS-X-24 ICBM in silos in 1986 and on rail-mobile launchers in 1987. We expect SS-X-24-class ICBM's equipped with 10 multiple independently targetable reentry vehicles [MIRV's] to replace the MIRVed SS-17 and SS-19 silo-based ICBM's, which carry fewer warheads. This will start next year.

The Soviets have started to retire older silo-based single-RV SS-11's as they prepare to deploy the single-RV road-mobile SS-X-25. We expect the SS-X-25 to be operational by late 1985.

We expect at least three new ICBM's will be flight tested in the 1985-90 time period—those are noted on chart 1:

A new silo-based heavy ICBM, to replace the SS-18.

A new version of the SS-X-24, which is not even deployed yet.

A new version of the mobile SS-X-25, which could have a MIRVed payload option.

SS-20'S

The SS-20 force of intermediate-range ballistic missiles is expected to expand to over 450 deployed launchers by 1987, as a result of an extensive program of constructing new bases. More new bases were started in 1984 than in any previous year.

The total would have been considerably higher if the Soviets had not deactivated SS-20 bases in the central U.S.S.R. to convert to SS-X-25 ICBM bases. A follow-on to the SS-20, which also carries three warheads and is probably designed to improve lethality, began flight testing in 1984.

SLBM'S

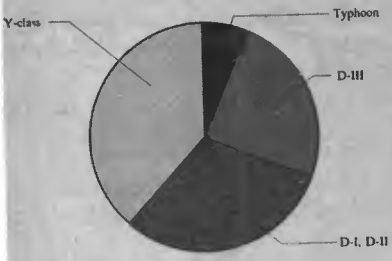
An extensive modernization program will result in replacement of the entire MIRVed Soviet SLBM force and deployment of much better nuclear-powered ballistic missile submarines [SSBN's]. The major changes, as shown in figure 3, will include:

Deployment of Delta-IV and additional Typhoon SSBN's. These boats have improvements that will contribute to their survivability. In addition, a new class of submarines is likely to enter the force in the early 1990's.

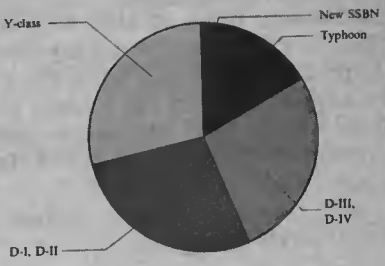
Figure 3
Modernization of Soviet SLBMs

Launchers

1985

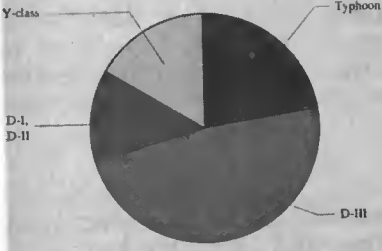


Mid-1990s

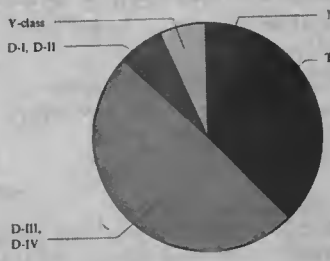


Warheads

1985



Mid-1990s



Note: Color changes for D-III and Typhoon in the mid-1990s indicate new missiles deployed in existing submarine classes.

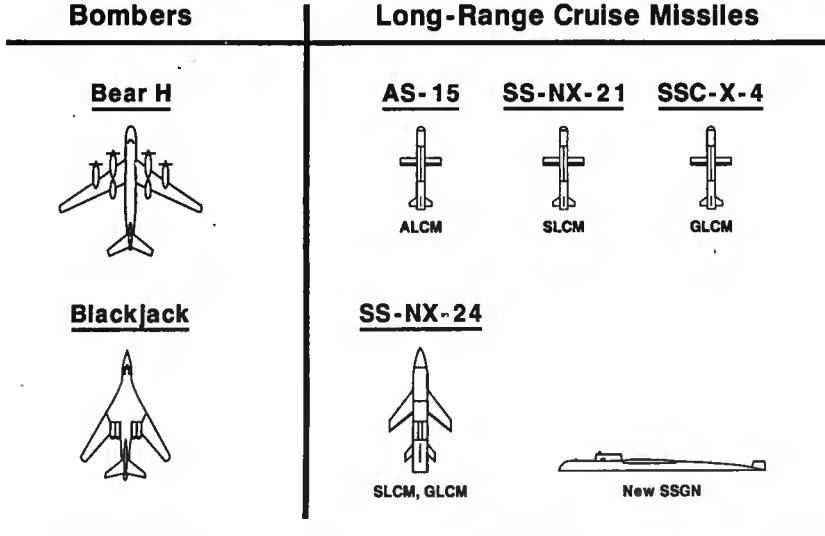
Deployment of the new SS-NX-23 SLBM beginning in late 1985 or early 1986 on Delta-IV's and on Delta-III's. The increased range of the SS-NX-23, relative to that of the SS-N-18 missile currently on Delta-III's, will make SS-NX-23-equipped SSBN's more survivable because they will be able to operate closer to Soviet shores, where the Soviet Navy can better protect them.

A replacement for the SS-N-20 on Typhoon SSBN's will probably be flight tested in late 1985 or 1986, and a missile in the SS-NX-23 class will probably be tested later in the 1980's.

HEAVY BOMBERS

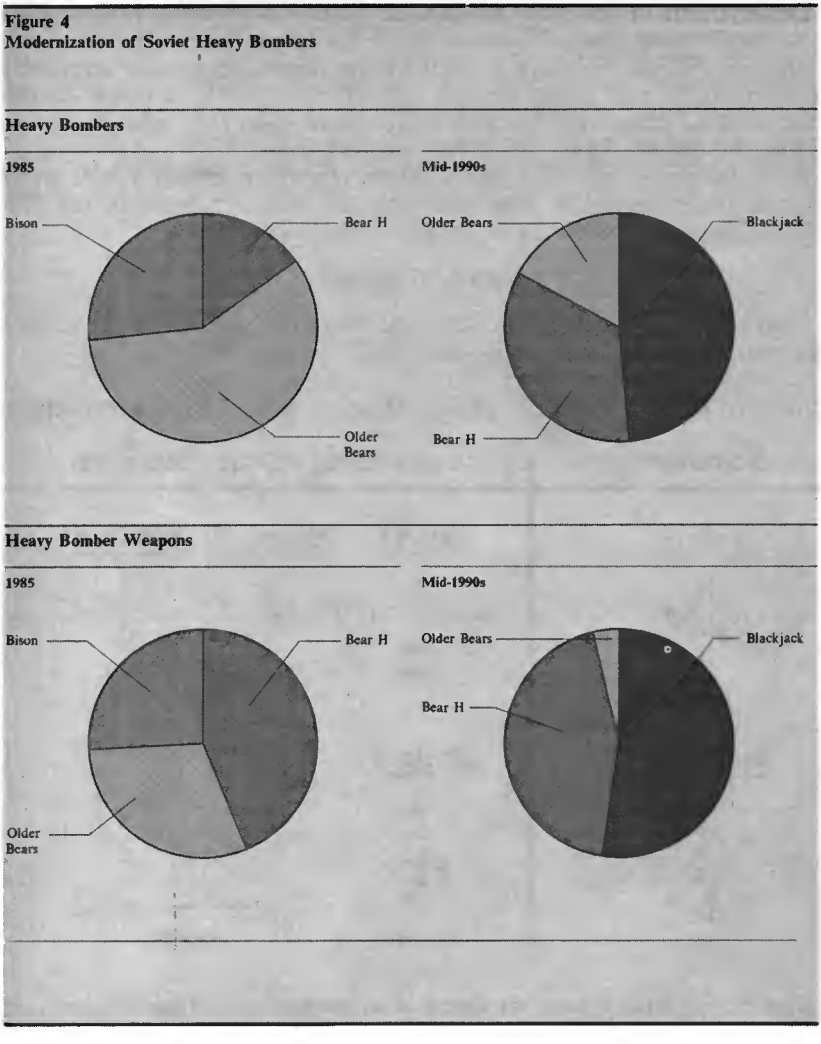
Chart 2 shows new Soviet strategic bombers and a variety of new long-range, land-attack cruise missiles.

Chart II: New Soviet Strategic Bombers and Cruise Missiles



The Soviet heavy bomber force is undergoing its first major modernization since the 1960's; by the mid-1990's, as shown in figure 4, most of the older bombers will have been replaced.

Figure 4
Modernization of Soviet Heavy Bombers



Again, the color scheme—changes in color—indicating the new systems being replaced. The top, the bombers, and the bottom, the number of weapons they will carry, showing the force mix. The heavy bomber force will have a greater role in intercontinental attack:

The AS-15 air-launched cruise missile [ALCM] became operational on newly produced Bear H aircraft in 1984. By using newly produced aircraft of an old design, the Soviets were able to deploy ALCM's at least 4 years earlier than if they had waited for the new Blackjack bomber to be ready.

We project Blackjack will be operational in 1988 or 1989, carrying both ALCM's and bombs.

CRUISE MISSILES

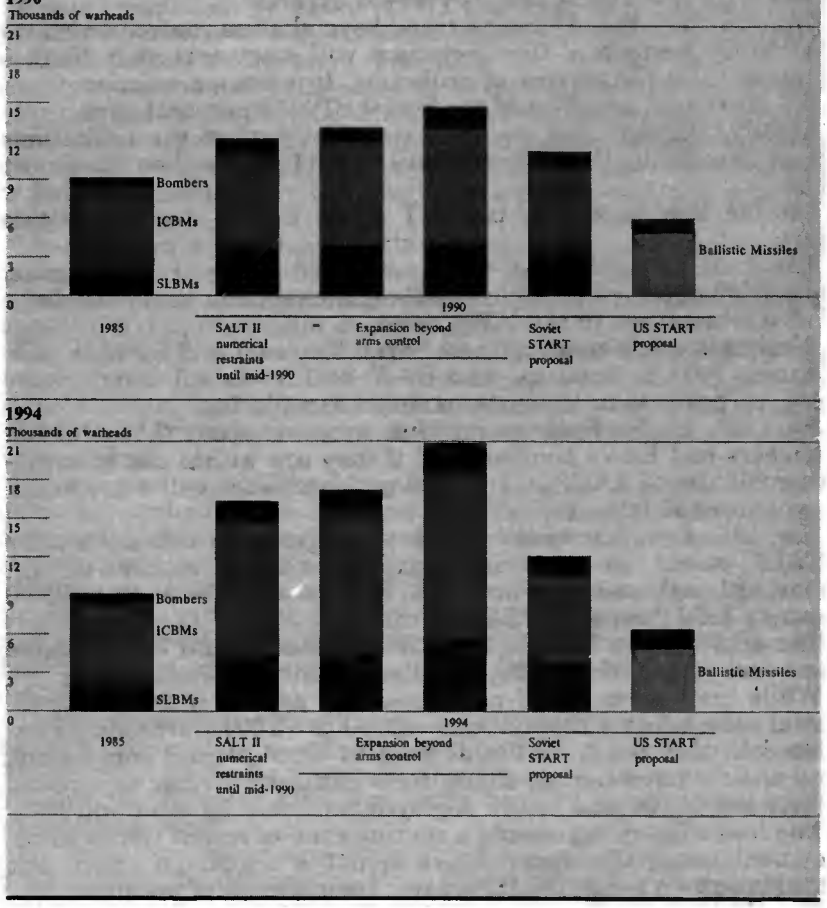
The ALCM is the first in a series of deployments of long-range, land-attack cruise missiles. Over the next 10 years, we expect them to deploy 2,000 to 3,000 nuclear-armed ALCM's, sea-launched cruise missiles [SLCM's], and ground-launched cruise missiles [GLCM's].

The deployment of cruise missiles provides the Soviets with new multidirectional capabilities against U.S. targets.

GROWTH OF INTERCONTINENTAL ATTACK FORCES

The projected growth in the number of deployed warheads on Soviet intercontinental attack forces, under various assumptions, is shown in figure 5.

Figure 5
Growth in Number of Deployed Warheads on Soviet Strategic Intercontinental Attack Forces



Let me explain for a moment what this chart is. The top half of the chart shows a picture we might expect to see in 1990 under various assumptions, at the bottom, 1994. Plotted vertically are the number of warheads we would expect to see in the Soviet intercontinental attack forces with about 9,000, slightly over 9,000, today in this force and on the chart the scale is such that this is up to 21,000 here.

Several graphics are shown here. First, on the left the force composition and total for 1985 which is right now, distributed between the submarine force, ICBM force, and the heavy bomber force.

Various assumptions were made by us in estimating the potential for the Soviet force in the future including, first, that their forces stay roughly within SALT II's numerical restraints until mid-1990 so that by 1990 in this chart here those forces would still be restrained by those type limits.

By 1994, the same picture, after 1990 the Soviets in this particular chart here would no longer have their forces within, say, the MIRV limit of SALT II and they would expand.

We also show the expansion trend beyond arms control which we assume for purpose of this projection will start next year. This is an assumption for purpose of projection. It is not a prediction.

We also show the effect of the Soviet START proposal here.

Finally, on the right we show essentially what the limitations are as imposed by the United States START proposal on the Soviet force.

Let me now make the points I would like to draw from this chart.

The force currently consists of over 9,000 deployed warheads on some 2,500 deployed ballistic missile launchers and heavy bombers. Most warheads are in the ICBM force.

Warheads are increasing: new Soviet Typhoon and Delta-IV submarines, Bear H bombers, and SS-X-24 ICBM's will carry many more warheads than the systems they are replacing.

By 1990, if the Soviets continue to have about 2,500 missile launchers and heavy bombers and if they are within the quantitative sublimits of SALT II, the deployed warheads will nonetheless grow to over 12,000.

The 1983 Soviet proposal at the strategic arms reduction talks [START] would also result in an expansion in the number of warheads, although under its limits the Soviets would have about 1,000 fewer by 1990 than under SALT II limits.

The effect of the 1983 U.S. START proposal would be to reverse this trend and, by the 1990's, lead to substantial reductions.

While the Soviets would not necessarily expand their intercontinental attack forces beyond some 12,000 to 13,000 warheads, as exhibited in this chart, in the absence of arms control constraints, they clearly have the capability for significant further expansion, to between 16,000 and 21,000 deployed warheads by the mid-1990's.

The lower figure represents a continuation of recent trends in deployment rates; the upper figure is not a maximum effort, but would require a substantially greater commitment of resources.

The Soviets will face important decisions in the next few years, as they proceed with flight testing the ballistic missiles which are

scheduled to begin deployment in the late 1980's and early 1990's. [See chart 1.]

Specifically, they have technical options to test new ICBM's in such a way as to conform with, or exceed, the limitations on characteristics and improvements in the unratified SALT II Treaty.

STRATEGIC DEFENSE

Soviet active and passive strategic defenses, while unable to prevent large-scale damage from a major attack, are intended to provide a degree of protection for the leadership, military, and military-related facilities necessary for wartime operations.

The Soviets will significantly improve the capabilities of their strategic defenses over the next 10 years.

BALLISTIC MISSILE DEFENSE

The Soviets have actively engaged in antiballistic missile [ABM] research, development, and deployment programs for many years.

When completed by about 1987, the improved Moscow ABM system will consist of 100 silo-based high acceleration missiles and modified Galosh interceptors, providing an improved intercept capability against small-scale attacks on key targets around Moscow.

By the end of the decade, when a new network of large phased-array radars—including the Krasnoyarsk radar—is expected to be fully operational, the Soviets will have a much improved capability for ballistic missile early warning, attack assessment, and accurate target tracking.

These radars will be technically capable of providing battle management support to a widespread ABM system, but there are uncertainties about whether the Soviets would rely on these radars to support a widespread ABM deployment.

The SA-X-12, a surface-to-air missile, to be deployed in the Soviet ground forces in 1985–86, can engage conventional aircraft, cruise missiles, and tactical ballistic missiles. It could have capabilities to intercept some types of U.S. strategic ballistic missile reentry vehicles.

Its technical capabilities bring to the forefront the problem that improving technology is blurring the distinction between air defense and ABM systems. This problem will be further complicated as newer, more complex air defense missile systems are developed.

We are particularly concerned that the Soviets' continuing development efforts give them the potential for widespread ABM deployments. The Soviets have the major components for an ABM system that could be used for widespread ABM deployments well in excess of ABM Treaty limits.

The components include radars, an above-ground launcher, and the high acceleration missile that will be deployed around Moscow. The potential exists for the production lines associated with the upgrade of the Moscow ABM system to be used to support a widespread deployment.

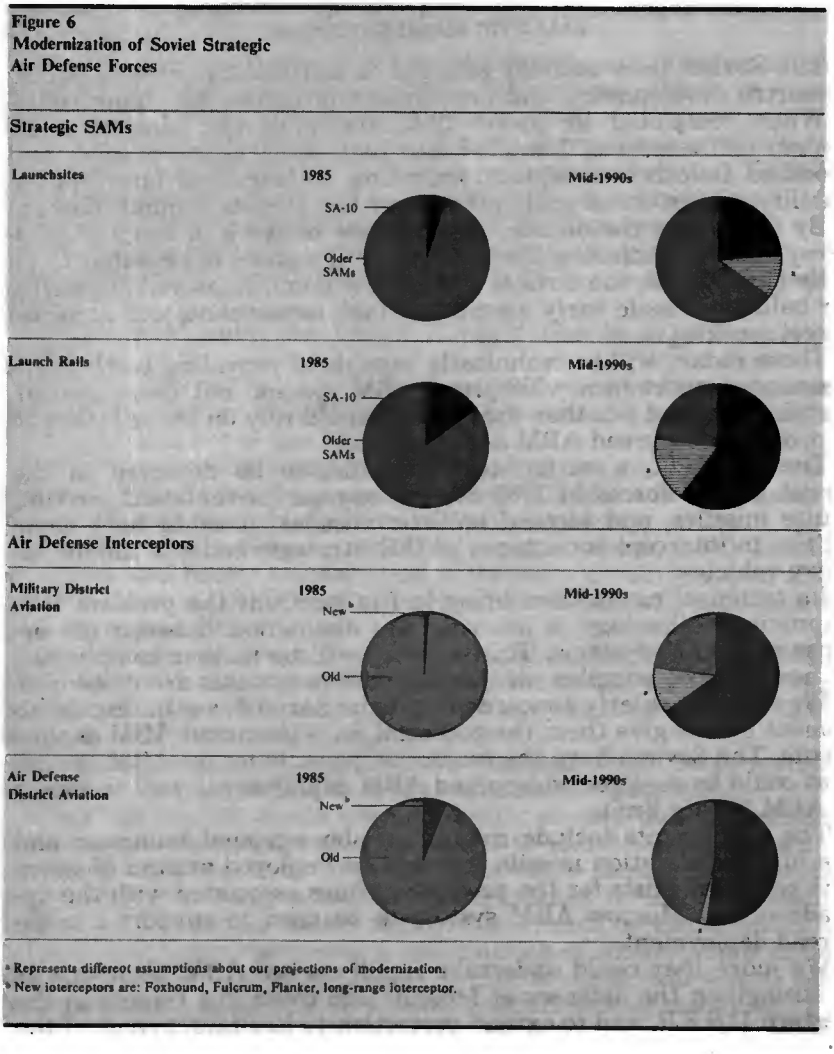
We judge they could undertake rapidly paced ABM deployments to strengthen the defenses at Moscow and cover key targets in the western U.S.S.R. and to extend protection to key targets east of the Urals, by the early 1990's.

In contemplating such a deployment, however, the Soviets will have to weigh the military advantages they would see in such defenses, against the disadvantages of such a move, particularly the responses by the United States and its allies.

AIR DEFENSE

Deployment of new low-altitude-capable strategic air defense systems will increase. [See fig. 6.] The Soviets are continuing to deploy the new SA-10 all-altitude surface-to-air missile [SAM], are deploying new aircraft with much better capabilities against low-flying targets, and will deploy the Mainstay airborne warning and control system [AWACS] aircraft in 1985.

Figure 6
Modernization of Soviet Strategic Air Defense Forces



[a] Represents different assumptions about our projections of modernization.
[b] New interceptors are: Foxhound, Fulcrum, Flanker, long-range interceptor.

Penetration of Soviet air defenses by currently deployed bombers would be more difficult as improved systems are deployed. These defenses, however, would be considerably less effective against U.S. cruise missiles.

Against a combined attack of penetrating bombers and cruise missiles, Soviet air defenses during the next 10 years probably would not be capable of inflicting sufficient losses to prevent large-scale damage to the U.S.S.R.

We judge, however, that the Soviets will be able to provide an increasingly capable air defense for many key leadership, control, and military and industrial installations essential to wartime operations.

ANTISUBMARINE WARFARE

The Soviets still lack effective means to locate United States ballistic missile submarines at sea. We expect them to continue to pursue vigorously all antisubmarine warfare [ASW] technologies as potential solutions to the problems of countering U.S. SSBN's and defending their own SSBN's against U.S. attack submarines.

We are concerned about the energetic Soviet ASW research and technology efforts. However, we do not believe there is a realistic possibility that the Soviets will be able to deploy in the 1990's a system that could pose any significant threat to United States SSBN's on patrol.

LEADERSHIP PROTECTION

The Soviets have a large program to provide protection for their leadership. We judge that, with as little as a few hours' warning, a large percentage of the wartime management structure would survive the initial effects of a large-scale U.S. nuclear attack.

We estimate there are at least 800, perhaps as many as 1,500, relocation facilities for leaders at the national and regional levels. Deep underground facilities for the top national leadership might enable the top leadership to survive—a key objective of their wartime management plans.

COMMAND AND CONTROL CONSIDERATIONS

While significant improvements in the capabilities of both Soviet and United States strategic offensive forces will occur throughout the next years, sizable forces on both sides would survive large-scale nuclear strikes.

The Soviets' confidence in their capabilities for global conflict and in their ability to limit damage to the Soviet Union would be affected to a large extent by command and control considerations.

Although United States attacks could destroy many known fixed command, control, and communications facilities, the Soviets' emphasis in this area has resulted in their having many key hardened facilities and redundant means of communication; thus, it seems highly likely that the Soviets could maintain overall continuity of command and control, although it would probably be degraded and they could experience difficulty in maintaining endurance after such attack.

We believe the Soviets would launch continuing attacks on United States and allied strategic command, control, and communications to try to prevent or impair the coordination of retaliatory strikes, thereby easing the burden on Soviet strategic defenses and impairing United States and allied abilities to marshal military and civilian resources to reconstitute forces.

While the Soviets would devote substantial efforts to this mission, they probably are not confident that they could accomplish these objectives.

SPACE PROGRAM

The vigorous Soviet space program is predominantly military in nature. More than 70 percent of Soviet space missions are for military purposes only, with much of the rest serving a dual military-civil function.

The Soviets view space as an integral part of their overall offensive and defensive force structure, not as a separate arena or as a sanctuary. While the Soviets seek to be able to deny enemy use of space in wartime, current Soviet antisatellite capabilities are limited and fall short of meeting this apparent requirement.

Today in addition to the dedicated nonnuclear orbital interceptor, other systems—the nuclear Galosh ABM interceptor and two ground-based high-energy lasers—have the potential to destroy or interfere with some satellites in near-Earth orbit, but the potential threat to satellites in higher orbit is limited.

It is likely that the Soviets would attempt to destroy or interfere with United States satellites during an intense conventional conflict, and in the initial stages of a nuclear war. These capabilities, however, would not survive a nuclear attack. Some improvement in Soviet antisatellite capabilities are expected.

DIRECTED-ENERGY AND HYPERVELOCITY KINETIC-ENERGY WEAPONS

Some of these systems are comparable in some respects to the U.S. Strategic Defense Initiative Program.

Directed-energy and kinetic-energy weapons potentially could be developed for several strategic weapons applications—antisatellite [ASAT], air defense, battlefield use, and, in the longer term, ballistic missile defense [BMD].

There is strong evidence of Soviet efforts to develop high-energy laser weapons, and these efforts have been taking place, in some cases, since the 1960's.

We estimate a laser weapon program of the magnitude of the Soviet effort would cost roughly $1 billion per year if carried out in the United States.

Two facilities at the Saryshagan test range are assessed to have high-energy lasers with the potential to function as ASAT weapons.

We are concerned about a large Soviet program to develop ground-based laser weapons for terminal defense against reentry vehicles. There are major uncertainties, however, concerning the feasibility and practicality of using ground-based lasers for BMD. We expect the Soviets to test the feasibility of such a system during the 1980's, probably using one of the high-energy laser fa-

cilities at Saryshagan. An operational system could not be deployed until many years later, probably not until after the year 2000.

The Soviets appear to be developing two high-energy laser weapons with potential strategic air defense applications—one ground-based and one naval point defense.

The Soviets are continuing to develop an airborne laser.

Soviet research includes a project to develop high-energy laser weapons for use in space. A prototype high-energy, space-based laser ASAT weapon could be tested in low orbit in the early 1990's. Even if testing were successful, such a system probably could not be operational before the mid-1990's.

The Soviets are also conducting research under military sponsorship for the purpose of acquiring the ability to develop particle beam weapons [PBW's]. We believe the Soviets will eventually attempt to build a space-based PBW, but the technical requirements are so severe that we estimate there is a low probability they will test a prototype before the year 2000.

The Soviets are strong in the technologies appropriate for radio frequency [RF] weapons, which could be used to interfere with or destroy components of missiles or satellites, and we judge they are probably capable of developing a prototype RF weapon system.

We are concerned that Soviet directed-energy programs may have proceeded to the point where they could construct operational ground-based ASAT weapons.

The Soviets have expended significant resources since the 1960's in R&D on technologies with potential applications for hypervelocity kinetic-energy weapons.

RESOURCES FOR PROJECTED DEVELOPMENTS AND ARMS CONTROL CONSIDERATIONS

Strategic offensive and defensive forces account for about one-fifth of total defense spending—about one-tenth each. The Soviets are increasing their resource commitments to their already formidable strategic forces research, development, and deployment programs.

We estimate that total investment and operating expenditures for projected Soviet strategic offensive forces—intercontinental attack and intermediate range—and strategic defensive forces—assuming no widespread ABM deployments—will result in a growth in total Soviet strategic force expenditures of between 5 and 7 percent a year over the next 5 years. The rate would be 7 to 10 percent if widespread ABM defenses were deployed.

A growth rate of 5 to 7 percent a year for strategic programs, combined with the projected growth rate for nonstrategic programs of about 3 percent, would lead to a growth in total defense spending of between 3 and 4 percent per year—at the same time that we foresee sluggish growth in the Soviet economy for the rest of the decade.

Increasing the share of the GNP devoted to defense will confront the Soviets with the difficult choice of reducing the growth in investment, which is critical to modernizing the industrial base, or curtailing growth in consumption, which is an important factor in the Soviet drive to improve labor productivity.

Despite serious economic problems since the mid-1970's, Soviet military procurement has been at high annual levels; in particular, the Soviets have continued to procure large quantities of new strategic weapons.

Since the mid-1970's, for example, the Soviets fielded their MIRVed ICBM force, and then improved it; deployed the MIRVed SLBM force on new SSBN's; and deployed their mobile SS-20 force.

In recent years the Soviets have increased their resource commitments to emerging new systems, particularly with respect to the deployment of costly mobile missile systems.

While Soviet economic problems are severe, we see no signs that the Soviets feel compelled to forgo important strategic programs or that they will make substantial concessions in arms control in order to relieve economic pressures.

Soviet force decisions and arms control decisions are likely to continue to be driven by calculations of political-strategic benefits and the dynamism of weapons technology. We judge that strategic forces will continue to command the highest resource priorities and, therefore, would be affected less by economic problems than any other element of the Soviet military.

We believe, however, that, as a result of the stark economic realities, decisions involving the rate of strategic force modernization probably will be influenced by economic factors more now than in the past and some deployment programs could be stretched out.

We believe the Soviets are determined to prevent any erosion of the military gains the U.S.S.R. has made over the past decade. They recognize that new U.S. strategic systems being deployed or under development will increase the threat to the survivability of their silo-based ICBM force, complicate their ASW efforts, and present their air defense forces with increasingly complex problems.

By their actions and propaganda, the Soviets have demonstrated they are very concerned about the United States Strategic Defense Initiative (SDI) and its focus on advanced technology.

In their view, it could force them to redirect their offensive ballistic missile development programs to reduce vulnerabilities or could stimulate a costly, open-ended high-technology competition for which they probably are concerned that the United States can outpace their own ongoing efforts.

They are probably also concerned that SDI will lead to a sustained U.S. effort in strategic defenses.

ARMS CONTROL

Soviet leaders view arms control policy as an important factor in advancing their strategy of achieving strategic advantage. They have been willing to negotiate restraints on force improvements and deployments when it served their interests.

Moscow has long believed that arms control must first and foremost protect the capabilities of Soviet military forces relative to their opponents. The Soviets seek to limit United States force modernization through both the arms control process and any resulting agreements.

A salient feature of Soviet arms control policy will be its emphasis on trying to limit United States ballistic missile defense and space warfare capabilities. The Soviets will try to use arms control discussions as a means of delaying or undercutting the United States SDI program.

That concludes my remarks, Mr. Chairman.

Senator STEVENS. Thank you very much.

Mr. Gates, do you have anything to add?

Mr. GATES. No, Mr. Chairman.

Senator STEVENS. Gentlemen, in our subcommittee we have followed the procedure of recognizing the Senators in the order they come in the committee room and limiting the time so that we can hope to get through a round of questioning within 1 hour.

I have discussed this with Senator Proxmire and Senator Warner. If there is any objection, we will be pleased to discuss it now. It will be my intention to recognize Senators in the order they came in, and to limit the questions to five minutes.

We will ask Mr. Gates and Mr. Gershwin to be mindful of that limitation so that each Senator might make the inquiries he wants to make.

Is there objection to that procedure?

Senator MCCLURE. Mr. Chairman, I have no objection to the procedure. I just wanted to thank you again for calling the hearing.

I am due at a meeting at the White House at 11 o'clock. I will try to get back before the hearing is concluded.

Senator STEVENS. Thank you very much.

Any objection to the procedure?

[No response.]

Then I will yield to Senator Warner to begin and then Senator Proxmire.

Senator WARNER. Thank you, Mr. Chairman. I will be brief.

Gentlemen, I would like to address the issue of trends. Your testimony portrays extensive Soviet development and deployment programs across a broad front.

Does this estimate differ substantially from estimates prepared in recent years with regard to the Soviet offensive and defensive developments and projected force developments?

In other words, is this estimate more somber or pessimistic than the ones given previously in classified hearings in the years before this or is this a fairly constant trend?

Mr. GERSHWIN. Fundamentally, the trend has been evident for a number of years. Fundamentally, the briefing does not present a startling new picture of what we have been briefing to the Congress. Let me make a few comments on that.

Our understanding of the Soviet effort has progressed as they have flight tested and begun deployment efforts for many of these new weapons systems. This year in our national intelligence effort we have portrayed more vividly and more graphically the progress the Soviets have been making and the implications for the future.

We are able to conclude that we are witnessing what amounts to a replacement of the entire force and that perspective, while it was there before, was not brought out as strongly, although it was there. It has come into more clear focus.

There has not been a dramatic change in their efforts or our reporting of it, but we stood back a little. We have a better appreciation for their mobile ICBM efforts than we had several years ago, but we had recognized that those efforts were in progress, it is just more vivid and we can see the implications somewhat better.

The potential the Soviets have for offensive force expansion, for ABM deployments that are widespread, those pictures are really about the same as they have been for several years in terms of our understanding.

We have been able this year to conclude that they are increasing the resources in their strategic forces compared to what they were actually spending for them in the last few years, but that was not a sudden Soviet decision, but it is rather the result of something they had evidently planned to do for a number of years.

Senator WARNER. In substance it is a steady upward curve?

Mr. GERSHWIN. Yes.

Senator WARNER. Not dramatic?

Mr. GERSHWIN. Yes.

A hallmark of the Soviet effort is that they very steadily move along on a broad spectrum of their force developments year after year. What we are witnessing is essentially a continuation of that.

It is dramatic in the sense that there is a lot going on, but there is nothing startling or new about it in terms of the impact on our understanding.

Senator WARNER. The question of leaks I addressed in my opening comments and I would like now to more specifically express my concerns.

One revelation in a recent Washington Times article yesterday was the allegation, and I quote:

> The estimate says that the Soviet Union is likely to deploy a nationwide mobile antiballistic defense system in 1986, according to one official.

Your testimony, while noting the potential for such development and a deserved level of concern we should have here in the United States, does not address the likelihood of a specific deployment date.

Could you elaborate on that because that particular subject is so intertwined in the debate on SDI and also the work in the arms control arena.

Mr. GERSHWIN. Senator Warner, we have in our national estimates recognized for a number of years certainly the Soviet potential for ABM deployment. We have represented that in what amounts to a warning of concern.

We have very strongly noted their potential, watched it very carefully, and attempted to evaluate the implications, how fast it could be installed. But at no time have we judged that it is "likely" that the Soviets would in fact move out to such a deployment in the near term.

We have evaluated that by the early 1990's, based on our understanding of where the Soviets are, they could have in place a fairly large ABM deployment, but that is not a prediction that it is in fact what is taking place.

The Soviets have provided themselves with an option, carefully provided for an option to be able to do that if they feel compelled

to, for one reason or another or choose to for reasons of strategic defense.

How large such a deployment would be we really don't know. We can estimate various sizes, but we can't argue, for instance, that it would necessarily be 3,000 or any other number and as for how soon it could be, we have not predicted it would take place immediately.

The Soviets could, in our view, move out to such a thing in the next few years. They could, but we cannot say that they will, and in no way did we ever estimate that they would in fact do this next year.

Senator WARNER. One of the more interesting elements of your testimony today was the presentation of projected growth in the number of warheads in the Soviet intercontinental attack forces under the various assumptions.

Do these estimates reflect your best judgment of what will happen under certain arms control regimes, the options the Soviets could exercise, or other factors?

That will be my last question, Mr. Chairman.

Mr. GERSHWIN. To answer this question, I may need a few minutes because it is a fairly complicated subject and I think it is a very critical subject. We have looked at the Soviet force structure within SALT II constraints such as number of MIRVed missiles while allowing for the fact that their current number of nuclear delivery vehicles today is in the neighborhood of 2,500, which is actually higher than the SALT II Treaty, itself, would allow for.

Senator STEVENS. Pardon me, Mr. Gershwin. You are referring to the figure 5 attached to your statement?

Mr. GERSHWIN. Yes.

Senator STEVENS. Thank you.

Mr. GERSHWIN. What we have seen is that the Soviets in fact, as I noted in the testimony, are increasing the number of warheads in this force and within the types of limitations that SALT II imposes, the Soviets would still by 1990 certainly have, in our view, over 12,000 warheads.

In fact, although not shown on the chart, within SALT II limits they could have more warheads than that under different assumptions. There are other elements of their forces for which they could increase the number of warheads.

So, even the number of about 12,000 we have shown here is not necessarily the precise number the Soviets would have, but that is our estimate of where we think they will be by 1990.

If they were to expand beyond arms control right away, starting next year, which is what these other two figures show, it does not mean necessarily they will go up to these kinds of numbers, but these are potentials for expansion.

These are from our looking at the same programs we see they are undergoing right now, the same programs contributing to the increase under SALT II could increase even higher. This would come from several actions.

One, in some cases the Soviets might not necessarily retire some of their older systems as quickly as they might under SALT II. Some missiles, for instance, might be retained longer, although in fact the Soviets are in the process of retiring a lot of missiles be-

cause some of them are getting very old and the Soviets are really taking these out of the forces, in any event, but some retirements could take a little longer to actually come out.

In addition, the number of weapon systems of various types could be somewhat greater than the MIRVed limit of 820 MIRVed ICBM's. As time goes on, the Soviets could increase the number of MIRVed ICBM's. That is certainly well within their potential.

In particular, when we look at 1994, the increases could get higher. The point is that the Soviets won't necessarily do that even without actual arms control limitations in formal agreements or in understandings. The Soviets will not necessarily expand.

It depends on many factors, some of which are truly beyond our ability to estimate, including the state of the United States-Soviet relationship, whether in fact there are continuing discussions in Geneva, with or without limitations of SALT II being followed to some extent by both sides.

It really depends on a lot of factors. One cannot predict that in the absence of formal SALT II limitations being observed, there will necessarily be expansion.

We have shown here a potential and this is a very real potential for force expansion. But it is not a prediction and to get into such predictions, you have to lay down a number of assumptions which many people can argue about because many of these things are essentially unknowable to us.

The Soviets are very good at providing options for themselves to cover various contingencies and that is what we are essentially showing here.

Senator STEVENS. Senator Proxmire?

Senator PROXMIRE. Thank you, Mr. Chairman.

Mr. Gates, on page 9 of your joint statement you forecast new Soviet missiles and for the overall defense a growth rate of between 3 and 4 percent overall in defense growth.

Isn't it correct that the CIA's forecasts have been wrong in the past and haven't we just gone through a period when the CIA was estimating 4-percent growth, then revised downward their estimate to 2-percent growth?

Doesn't that mean we can't have much confidence in this kind of estimate now?

Mr. GATES. Senator Proxmire, I think that the most honest answer to that is that our estimates of the cost of Soviet forces are analytical reconstructions.

We have to distinguish between Soviet force capabilities, things that we actually see on the ground, in production or in deployment, which Mr. Gershwin has been describing, from the analytical constructions of what those forces may have cost them.

No one has ever made a claim that that effort is a particularly exact science. We reported to the Joint Economic Committee that we thought that the overall growth in Soviet defense programs during the latter part of the seventies and early part of the eighties had probably averaged around 2 percent.

Nevertheless, Mr. Gershwin has made clear the number of weapons programs that the Soviets were able to deploy during that time in the modernization of the force. We believe that the Soviet economy, based on what we see, can sustain the burden of the programs

that Larry has described with the present programs and those that we see coming down stream.

In terms of these figures, we postulated before the Joint Economic Committee that we saw some upturn in Soviet defense spending for 1983, the latest year for which we have done the calculations.

So, it seems to us that a growth rate of between 3 and 4 percent overall for Soviet defense forces——

Senator PROXMIRE. According to the response that was given by Mr. Gershwin to Mr. Warner, this represents a long-term program on the part of the Soviets.

In other words, this is not a breakout. If it goes to three percent, it is a 50-percent increase. If it goes to 4 percent, it is a 100-percent increase.

It seems to me it is quite a difference. You told us, the Joint Economic Committee, there was a 2-percent growth in the late seventies and early eighties. Now you are telling us that there is a dramatic change in that, it has been a 50-percent or 100-percent rate of increase as far as defense spending is concerned overall?

Mr. GATES. I think the answer to that is we really don't know. What we do know is what we see on the ground in terms of their military capability.

[Additional information follows:]

Let me clarify one point in your question. We are not bringing you information about a dramatic change. An increase to a rate of growth in defense spending of three or four percent is just that. It is an annual increase of a few percent, on top of an already very large annual expenditure. It is not correct to characterize this as dramatic, or as a 50 percent or 100 percent rate of increase.

Senator PROXMIRE. Let me tell you what disturbs me about your appearance here. It seems to me it has more of a political than an intelligence purpose.

A Pentagon official is cited in the New York Times story today saying your testimony this morning, that the changes involved in going public, approved by the White House, "was designed to muster popular support for the President's embattled military budget."

My question is: Is this an appropriate role for you to play and does it compromise the CIA's credibility to get dragged into the controversy over the size of the defense budget?

Senator STEVENS. With due respect, Senator, I asked them to come and gave them an invitation as to what we wanted them to talk about.

Senator PROXMIRE. Absolutely, there is no question CIA is responding properly to your request. The request, itself, seems to have political implications since we have broken this out from a classified hearing to a public hearing.

In the past these have been classified. So, there is a change here. The change is approved by the White House, to muster popular support, according to a report in the New York Times.

What is your answer to that?

Mr. GATES. Senator Proxmire, I won't address the motives of the White House in this respect.

I will tell you that this briefing has been given on a classified basis to a very large number of Members of Congress over the last several weeks. A large number of those who received that briefing

here on the Hill asked if there wasn't some way that this information could be made available to the public.

We were then asked by the White House if in fact we could be responsive to those requests, if we could provide a declassified version of our most recent assessment.

Given the amount of material that had already been made available officially, we decided we could do that.

We at this point, as professional intelligence officers face something of a dilemma. We are fully aware of the dangers of a public presentation to the integrity and objectivity of our judgments on such subjects.

At the same time we are aware so much of the information on this subject is incomplete and distorted as I indicated at the outset. We also recognized the value of making available on a broad basis a commonly agreed set of facts for discussion on Soviet strategy for development.

Senator PROXMIRE. My time is almost up. I have about 15 seconds left. Let me try to get in another question. I think you have answered my question as well as you can in view of your position.

The question is: Is there a missile gap?

Senator McClure said the missile gap now would be greater than the missile gap in the late fifties and early sixties. It could be greater because there wasn't a missile gap. It was a myth. It is a claim the Democrats made and we were wrong. There wasn't a missile gap. We discovered that shortly after the Democrats took office.

My question is: Is there a missile gap now and can you speak to it in view of the fact this is a public hearing?

Mr. GATES. Let me make an observation and if Mr. Gershwin wants to add to it, he can.

My view is that the question of whether there is a missile gap is a net assessment which depends on an evaluation of U.S. forces compared to Soviet forces and we are not in a position to provide that.

Mr. GERSHWIN. I agree.

Senator PROXMIRE. You can't provide it because this is an open hearing?

Mr. GATES. No, we cannot provide it because we do not do net assessments correlating U.S. forces to Soviet forces.

Senator PROXMIRE. Thank you.

Senator STEVENS. Senator, we first had a meeting of this subcommittee in a classified area on February 25 and at that time several of us, I particularly, asked why we couldn't declassify some of this information.

It has been since that period that we have been going through conversations with the White House and the White House assisted us in terms of addressing the matter within the intelligence community. This is essentially what we were told in February.

There are some additions, I might add, and I congratulate you for adding the information.

Senator Rudman.

Senator RUDMAN. I am not sure I am the next one here.

Senator STEVENS. I have been keeping track.

Senator RUDMAN. Thank you, Mr. Chairman.

I will ask just one question, although, frankly, I would like to hear the rest of your answer to Senator Proxmire. I would like to give up a couple minutes of my time since you were kind of cut off, time was running.

Would you like to finish that answer. I would like to hear the rest of it.

Mr. GATES. To the last question?

Senator RUDMAN. To the one before that.

Mr. GATES. On defense spending?

Senator RUDMAN. Yes.

Mr. GATES. I think the point I would like to make is that the work that the intelligence community does on Soviet defense spending is an analytical tool and it has very real limitations.

What our estimate of Soviet defense spending allows us to do, as we do it over a period of years, is to track relative levels of emphasis within their own forces. Are they allocating more money to strategic defense or more to strategic offense or to the general purpose forces, and so on?

Those figures become less and less accurate and more difficult to deal with the more current one is, and also, in my own judgment, do not provide a useful basis for comparison with the United States.

It is comparing two completely different systems. Our estimates and DIA's, for example, cover a range in Soviet percent of GNP for defense of between 13 and 17 percent, but those are just the strictly military things we can count.

There are very real limitations to this accounting procedure. We have demonstrated those in a variety of ways over the years and it seems to us that while we can make use of those defense costing figures to make some points within our own analysis, in terms of broad Soviet programs it is the capabilities that we ought to be paying attention to.

Senator RUDMAN. That is the point I want to make. I believe you will agree with me the fact of the matter is that what is totally unrepudiated here is each of these systems which we have had in classified session, overwhelming evidence of the correctness of your assessment, we had that 2 weeks ago, the fact is that each of these systems is being manufactured, being planned for deployment and there is no question about that.

Mr. GATES. That is correct.

Senator RUDMAN. I want to ask really one question that relates to SDI to some extent and to air defense.

Dr. Gershwin, you made a very excellent point this is now becoming more and more of a blur because of technology between air defense and ABM defense in certain cases. You made that point in your initial statement.

All of the cruise missiles that the Soviets, we think, are going to deploy—you gave a number of 2,500, I think, in your opening statement——

Mr. GERSHWIN. 2,000 to 3,000.

Senator RUDMAN. They are all generally subsonic. Many or all of ours are presently subsonic. We have no air defense ground based that is really major and massive. Our air defense is very old. The

latest we have is sea based. And all the work we are doing with SDI.

My question is: What does the national intelligence estimate say is the threat from all the cruise missiles, assuming SDI is in place?

To many of us that seems like a rather substantial gap.

Have you analyzed that?

You have all of these 3,000, let us say, cruise missiles moving in at various altitudes at subsonic speeds.

SDI probably won't deal with it; is that correct?

Mr. GERSHWIN. The prediction of the number of cruise missiles, 2,000 to 3,000, includes air launched, sea launched and ground launched.

The ground launched we estimate would be primarily deployed in a U.S.S.R. attack on Europe and Asia, and would not be aimed at the United States.

The sea launched would be a mix. Some, we would anticipate, they would want to use against Europe and Asia and some potentially allocated to the United States.

The air launched predominantly would be targeted against the United States on the two bombers, Bear H and Blackjack.

What you would see over the next few years is an increasing capability to launch air-launched cruise missiles over Canada to the United States, subsonic flying at fairly low altitudes. The aircraft they are on, the Bear H, would probably not in fact enter the U.S. territory at all.

The Blackjack, however, might in an attack, because the Blackjack is not only an air-launched cruise missile carrier, but would also carry bombs—Blackjack is a relatively new airplane, rather modern. Certainly it has modern penetration characteristics of some type.

The sea-launched cruise missiles, we would think they would deploy off the U.S. Pacific coast and Atlantic coast. So, there is a multidirectional threat increasing from the cruise missile and the improvements in the bomber force.

Senator STEVENS. Will the Senator yield for just one second?

Mr. Gershwin, being provincial, the air space to the west of Canada is Alaska's. The cruise missile-carrying Bear H has been over Alaska within Alaska air space repeatedly recently, as I am sure you know.

Mr. GERSHWIN. Yes.

Senator STEVENS. It is U.S. air space up there.

Mr. GERSHWIN. Yes; we tend to talk about the contiguous States.

Senator RUDMAN. In this subcommittee we are continuously reminded of where U.S. air space is.

Let me just use the last 30 seconds here and that is with your presentation today and in classified sessions which indicate the number of antiaircraft missiles or antimissile missiles that the Soviets are building, all supersonic, some of which you discussed this morning, compare that with the number of cruise missiles they have to deploy against us, doesn't that suggest that maybe we have some priorities a little backward in terms of where we are spending our funds?

If we go ahead with the SDI program, which we won't discuss here, that does not really address all these cruise missiles?

Mr. GERSHWIN. I can't comment on the U.S. effort, but it is correct that the Soviets are doing the type of things you are talking about.

Senator RUDMAN. There is a strong suggestion about where we are putting our money. It seems, Mr. Chairman, we are appropriating $2.5 to $3 billion on SDI and yet we are open in the very near future to some very serious attack from subsonic cruise missiles that probably could penetrate our defenses as they presently are.

Senator STEVENS. I suggest you talk to people at Redstone. The spinoffs from the SDI research is becoming apparent in terms of the cruise missile defense.

Senator Sasser?

Senator SASSER. Thank you very much, Mr. Chairman.

Mr. Gershwin, on page 2 of your statement you state and I quote:

> The Soviets already have enough hard target capable ICBM reentry vehicles today to attack all U.S. ICBM silos. In such an attack today they would stand a good chance of destroying Minuteman silos. The projected accuracy improvements for the new heavy ICBM we expect the Soviets to deploy in the late 1980's would result in a substantial increase in this damage capability.

My question is this: If they can destroy the Minuteman silos today, they can destroy those same Minuteman silos with MX missiles; is that correct?

Mr. GERSHWIN. Let me clarify. We have not used, for obvious reasons, the specific numerical type capabilities that we are talking about in the material that we presented today. The Soviets' capability today against Minuteman silos is substantial, but not perfect by any means.

Without getting into numbers, we expect the Soviets certainly will improve the accuracy of their new missiles and that that accuracy improvement will lead to a lower survival rate for a Minuteman silo when attacked by them.

Their capability today, we don't make a complete evaluation of Minuteman survivability because that is a Defense Department effort as well, but it is certainly not our intention to create the impression that the Soviets today could destroy all Minuteman silos, period.

They could do a pretty good job against that. They will be getting better at that. Substantial increase means just that. The number of surviving Minuteman silos in a well-orchestrated Soviet attack we would expect to see diminished.

Senator SASSER. You would agree with the Congressional Budget Office's estimate that by 1990 less than 5 percent of the MXs would survive in old Minuteman silos?

Mr. GERSHWIN. I don't really want to comment on whether that is correct or not, but certainly, as I said, the survivability problem will become more difficult unless substantial hardening takes place, in which case it would have to be looked at numerically.

Senator SASSER. On the basis of your testimony it appears that the Soviets could more than double the number of their deployed warheads in less than 2 years without SALT II restraint.

Is that correct?

Mr. GERSHWIN. I don't think that is, although potentially for a longer period of time, you could say that. Let me note on this chart

that even within SALT II by 1990 we are expecting over 12,000. That is not a maximum at all within SALT II.

That can be several thousand warheads higher actually than we have shown for 1990, by 1994. Over the years within SALT II various things could take place that could raise those numbers above 12,000.

By 1994 we look to the potential of 21,000 without arms control. I don't think it is fair to compare 21,000 directly to 12,000 because the 12,000 under SALT II could be quite a bit higher. It is certainly evident without any SALT II constraints whatsoever, the Soviet potential to have a substantially higher number is clearly there.

It doesn't mean it would be, but the potential is for that. In our view, the potential doesn't necessarily lead to the conclusion that that will take place.

Senator NUNN. Would the Senator yield for a clarification?

You said 12,000 was not the right number to compare to 21,000. What is the right number?

Mr. GERSHWIN. We don't have a specific number. The point is that under the assumptions that lead to the 21,000 in this particular picture the Soviets take some technology steps in our assumptions to get to that that they did not take in the parallel picture here which was leading to numbers well over 16,000.

These two here are both without SALT II limitations, but there are different technological choices. The projection here under SALT II is more parallel to the first of these two expansion options. Some of the technology assumptions that go into this could have been visited on our projection of what the Soviets would have under SALT II.

With those kinds of assumptions, the Soviet numbers could be higher. We have not explicitly done that in detail. I will offer up that I think it ends up leading to an increase over 12,000 of a few thousand, but I don't want to be more precise.

Senator NUNN. Mr. Chairman, I yield to Senator Sasser my time on that.

Senator SASSER. The point I wish to make, Mr. Gershwin, is pursuant to your testimony here, SALT II or any follow-on arms control agreement would be a restraining influence on the Soviets and without these arms control agreements, clearly they could have a potential for constructing many thousands more warheads within the period of time we are discussing here.

Is that not a correct statement?

Mr. GERSHWIN. It clearly would have the potential to exceed and in fact the Soviet options are to plan for that potential with or without arms control. That has all been planned for.

This potential for expansion has been planned for under the assumptions that by then it might be necessary in the future to go higher. In fact, this chart here shows while in this case the Soviets will stay within SALT II until 1990, 4 years thereafter there is an expansion.

That expansion that takes place there is about the same size as if they had expanded in 1986. There is very little difference between these two. That illustrates under SALT II the Soviets were running a set of programs that is quite satisfactory from their point of view.

I mean we are looking at a number of things taking place and the Soviets have been doing these things for a number of years, planning for this.

Senator SASSER. You are talking about planning. I am talking about deployment. There is a substantial difference.

Mr. GERSHWIN. Surely, but the number of systems that are moving along in the Soviet development process is substantial and that was taking place before.

Senator SASSER. Let me ask this. My time is running out.

Certainly the Soviets have extensively modernized their strategic capability. I think we can all agree that the United States has not been standing still.

During the last administration, President Carter initiated several important strategic improvements, the Stealth bomber for one, cruise missile deployment, a survivable MX missile system, Trident II submarine-launched ballistic missile, and the present administration has continued these programs, except, I am sorry to say, the MX no longer appears to be survivable.

But new programs have been initiated by this administration. The B-1 bomber is under production, the single-warhead Midgetman missile, which I believe will be road deployed, will be deployed in the next decade.

So, while the Soviets are modernizing, so are we. I was under the impression we should be encouraged by the fact that we are moving, we see some movement on their part toward mobile single-warhead missiles because these would enhance deterrence on both sides. They could not be knocked out by a first strike.

I will ask both of you gentlemen this question. Do you believe the Soviets will be able to achieve a nuclear superiority over the United States, whatever that means?

Mr. GATES. I would say, Senator Sasser, that that depends entirely on what the United States does. The trends in Soviet defense programs over the last 20 years, particularly in the strategic arena, are clear. How that nets out depends on what the other side does.

Senator STEVENS. Senator Glenn?

Senator GLENN. Thank you, Mr. Chairman.

Gentlemen, would you think it would be fair to characterize the Soviet forces in general as going more mobile?

In other words, they are moving to mobile, to cruise missiles and submarine-launched missiles.

Is that a fair characterization?

Mr. GERSHWIN. That is fair, but I would come back to the point that the Soviets are going to serious modernization programs for their silo-based missile force including a new heavy ICBM which is too large to be put anywhere except in the silos. That is a serious Soviet effort.

The result of that effort will be a silo-based ICBM force of a substantial proportion, for at least 20 years. So, it is dangerous to overshoot in assuming the trend toward mobility is away from silos entirely. It is not.

In fact, it is essentially a balance among several types of forces. Silo-based ICBM's will be a rather predominant aspect of their military force for the rest of the century.

Senator GLENN. I share the concern that Senator Rudman expressed a minute ago. I have brought this up in testimony in other hearings we have had in the past.

While the Soviets are increasing their mobile force, they are not eliminating the fixed force. We know from our own war planning, that gives us the greatest kind of difficulty in war planning.

While they are doing that, we are arguing over a MX going back in the same old hole that is even more vulnerable than the missile that it is replacing, albeit, a more attractive target. I think we have been going in the wrong direction with some of those.

Regarding the Soviet warhead breakout potential enabling them to deploy an increased number of warheads, did you include the large warhead numbers for the SS-18's that were given as potential back a few years ago?

They are limited to 10 on the SS-18. They have tested 12. Some of our people estimated a 20- to 45-warhead capability in the years past for the SS-18.

Did you include that in your estimate?

Mr. GERSHWIN. I don't want to go into specific numbers, but in looking at the Soviet potential for force expansion, we considered the large payload capability of the heavy ICBM's. In the future with a very large missile it certainly is possible for the Soviets to augment the number of warheads on that ICBM.

Senator GLENN. On the Soviet potential ICBM developments in the future I believe this is the first time in public you or anyone else has revealed there might be a fifth new type ICBM which will be a followon for the SS-25.

Is that correct?

Mr. GERSHWIN. I get lost, frankly, in the generations and the number of new types. It is very difficult to keep up with the numbers on that.

Senator GLENN. If you do, imagine how the public feels.

Mr. GERSHWIN. Your question was a new type of SS-X-25?

Senator GLENN. I question whether that is not a fifth new type you are talking about when you go to a mobile SS-X-25?

Mr. GERSHWIN. The mobile SS-X-25 that has been tested up to now is, in our view, a new missile. It certainly has been the subject of a lot of discussion. We are projecting between 1986 and 1990 a follow-on to that SS-X-25 will be tested. We expect to see that.

We expect to see in fact on this chart all of the things on the right side tested in the next several years. The potential is there for that missile to carry a multiple-warhead payload. It is a fairly large missile.

Senator GLENN. You say on page 6 we still would be able to get through their air defense in Moscow with cruise missiles and aircraft because there is not a viable defense. You indicated you thought we could do substantial damage with cruise missiles and with aircraft and could get through that Moscow ABM system.

I think that was the context that was brought up, was it not, on page 6?

Mr. GERSHWIN. In terms of the Moscow ABM system, we noted it will be increasingly capable against a small attack, but it is too small to handle a large-scale attack. The air defense system the Soviets have is designed to try to deal with a large-scale air attack.

It is our estimation that looking at the modernization of that system, that while it will improve in capability from a lot of new elements being deployed, that against the large-scale combined attack of several U.S. penetration elements, the Soviets' air defense will still not be able to prevent large-scale damage.

It will do better protecting certain kinds of key targets, but that is not an absolute statement, it is a relative statement.

Senator GLENN. Senator Rudman referred to the fact that by the time we get star wars deployed, if we ever invent the physics, we will be up against cruise missiles of a different type that Star Wars will not be capable of dealing with.

I am aware of some of the things the chairman mentioned about Huntsville, but I think there is still a very real possibility that the big weaponry in the future and the one that we are not able to take care of, neither will the Soviets, will be in the cruise missile area, and some of those systems where new computer technologies give a fantastic capability.

Do you see the Soviets moving more in that direction or does your intelligence indicate they are pressing on more than they have in the past in the cruise missile area?

Mr. GERSHWIN. Roughly speaking, because of all the new ballistic missile programs we are talking about, the mix of their forces over the next 10 years at least will still be predominantly ballistic missiles.

For the first time we are seeing a flock of cruise missiles being tested and getting ready for deployment. We would expect the Soviets will advance from the current generation of cruise missiles as time goes on and make improvements. It is rather hard to predict how much a part of that force that will necessarily be, or that it could be, after the next 5- to 10-year period.

Senator GLENN. In the strategic area do you limit it just to nuclear or do you make estimates on strategic conventional capability?

Mr. GERSHWIN. Today's discussion was about strategic nuclear.

We also certainly evaluate emerging new technologies and what effect that would have on Soviet ability to have long-range strategic type conventional weaponry, but I didn't cover that today.

Senator GLENN. I would suggest in the area of strategic weapons we might have a briefing sometime on nonnuclear weapons. We hope we will never get to that nuclear threshold. We should be prepared to fight a war if we never get to a nuclear threshold. That is a wholly different subject.

Senator STEVENS. I agree that would be an interesting topic.

Senator Quayle.

Senator QUAYLE. Thank you, Mr. Chairman.

Mr. Gershwin, on the ICBM's to be tested in 1986 to 1990, follow-on SS-18, SS-X-24 and SS-X-25, which one will be violating SALT II?

Mr. GERSHWIN. Since they have not been tested yet, one cannot deal quickly with that. Let me comment on it.

As I noted in the testimony in looking at these new ICBM's that are coming along, we are concerned about the charactertistics of these types of systems and whether or not in fact they would be systems within the arms control limitations that the Soviets signed on to, with modernization and things of that sort.

We see the Soviets having these systems designed in such a way that we may in fact run into some problems of that type. The Soviets could test these to conform with limitations or they could exceed. I don't want to be explicit about which one is the biggest problem, but they all present some serious problems.

Anytime a missile comes along which is going to replace a previous missile when the limitations deal with the characteristics of one compared to the other, you know we are talking about fairly tight restrictions on what those characteristics can be and what improvements are allowed.

New missiles have new characteristics for a reason, for the reason they need to be better than what they have.

Senator QUAYLE. Clearly the SS-X-24 and SS-X-25 and possibly the follow-on SS-18 will be violations of the SALT II agreement?

Mr. GERSHWIN. That is not clear. What we are saying is, for instance, the new SS-18 follow-on we think will be, from a normal definition, a new missile. But if its characteristics were to come out to be the same as those of the SS-18 in terms of those characteristics enumerated in SALT II, if they were the same, then whether they were a violation would not be in question.

Senator QUAYLE. You would have to wait and see?

Mr. GERSHWIN. You really cannot predict until something is flight tested. In fact, in these arms control compliance issues, it is the testing of a missile that leads to characteristics that are shown, not what advances you expect to see.

What we are doing is essentially issuing a warning to watch those because those could potentially be serious problems. But in no way can we make a prediction at this time they would necessarily be a violation.

Senator QUAYLE. A question that weighs heavily on all our minds and the question I was going to ask and maybe ask a couple follow-ons is: If, in fact, we go ahead and abide by the constraints in SALT II, will that have the ultimate effect to significantly reduce the number of warheads that will be produced and deployed in the 1990's?

In other words, what is the difference from your professional judgment and your analysis of having the SALT II restraints in place and not having them in place?

Is there a significant difference on potential that the Soviet Union has?

You have already said, and Senator Sasser got into this a little bit, they already have or will have enough warheads with hard target kill capability to get our land-based ICBM's and many of our command and control targets, so there certainly would be a limit on how many they would actually need.

I guess what I am looking for in this area, is there really a major difference in the number of warheads that in all probability will be deployed with the SALT II restraints?

Mr. GERSHWIN. I wish I could give you as direct an answer as you would like. The problem really is that the kind of assumptions one has to make to deal with the Soviet expansion issue, those assumptions include a lot of things that, frankly, are not something the intelligence community can evaluate, which includes the ongoing United States-Soviet relationship.

We can talk about the Soviet side, but it is hard to deal with it in the net. It is clear that the Soviets have a large number of new weapons programs taking place and that from the way these things are moving along, the Soviets expect to be able to test these systems and deploy them under some kind of arms control regime.

Senator QUAYLE. Would you think there would be any newer systems they might be going toward if they didn't have SALT II?

Mr. GERSHWIN. I don't really want to speculate on anything specific, but certainly the Soviets have a very dynamic technology effort and are looking at all times for ways to improve the capabilities they have.

Some of the things they would clearly evaluate at the technological level would not be allowed by the arms control agreement that this country would contemplate. That does not mean that those are serious Soviet efforts necessarily.

What we are seeing is a set of serious Soviet efforts that are moving along.

Senator QUAYLE. Do you think there is a significant difference in the number of warheads that would be deployed with or without continuation of SALT II restraints?

Mr. GERSHWIN. I think there would be some difference, that is clear.

An example, I would offer one up. That is, the SS-X-25 ICBM, which is a mobile ICBM, is a one-warhead system, which we see going into the inventory this year.

We see certainly the potential for the Soviets in their SS-X-25 follow-on missile to have a multiple-warhead version of that, but that multiple-warhead version could not take place—they could not test it and we think it is unlikely they would go ahead and deploy it—within the MIRVed limits that we have seen under SALT II because the number of MIRVed launchers is limited to 820 ICBM's and they are already at that.

As a tangible example, if in having deployed the SS-X-25s and replaced them, they follow the MIRV'ed limits, the number of warheads in that part of the force would be less than if they MIRVed the follow-on.

Senator STEVENS. Your time has expired, Senator.

Senator Humphrey?

Senator HUMPHREY. Thank you, Mr. Chairman.

Mr. Gershwin, in your statement on page 1 you say that the Soviet leaders are attempting to prepare military forces for the possibility that they might have to actually fight a nuclear war.

What does that mean? One is tempted to say, so what?

I suppose there is more meaning here than might be first evident.

Wouldn't we expect them to prepare for all eventualities?

What is the real significance of that statement?

Mr. GERSHWIN. The real significance of that is that the Soviets see their strategic force structure not in some sort of detached way as a sort of political deterrent and that is all, but that they have essentially formulated a variety of war plans which include the use of strategic forces to some extent or the other and that those war plans are rich enough to include the carrying out of operations of those forces over a period of time, that they don't view those as es-

sentially a single point in time-type force, but that they are integrated, if you would like, into their overall force posture which predominantly means that in their view of a campaign to take over a large fraction of Europe, for instance, they would see nuclear forces as fitting in an integral way into that type of campaign over a period of time.

It is really that idea in terms of fighting a nuclear war that we mean.

Senator HUMPHREY. Are you saying their strategic forces are structured, so as to be able to use them not merely in a retaliatory way, but in an offensive way?

Mr. GERSHWIN. That is correct. They pay attention heavily to the idea of launching an offensive with the nuclear weapons.

They also seriously dwell on the issue of how well they can retaliate in case they fail to preempt. So, it is a fairly rich set of contingencies that we think the Soviets plan for.

Senator HUMPHREY. Of course, the knowledge that the Soviet strategic forces are structured to be used aggressively and offensively is nothing new to members of this committee, but I thought it was worth bringing that out one more time in hopes that dribble by dribble the perception might get through among the American people that there is a fundamental difference between the structuring of our strategic forces, which are in no way laid out or sufficient in number or designed to be used offensively, and the Soviet forces which are.

There is that difference, is there not?

It is a very important difference to note in the structuring of our respective strategic forces.

Mr. GERSHWIN. I don't want to comment professionally on how the U.S. force is structured.

I would note that the Soviets have a keen sense of the element of offense in their overall plans.

Senator HUMPHREY. Below that you say:

> We judge that the Soviets would plan to conduct a military campaign that would seek to end nuclear war on their terms—by neutralizing the ability of the U.S. intercontinental and theater nuclear forces to interfere with Soviet capabilities to prevail in a conflict in Eurasia.

What do you mean, seek to end nuclear war on their terms?

What sort of scenarios can you envision that would lead you to that kind of conclusions and would lead you to make that kind of statement?

Mr. GERSHWIN. We see the Soviets having a general strategy for war that is based upon conflict of serious magnitude on their borders, including the most obvious large one which is a conflict in Europe, and that the way the Soviets would seek to end a conflict, should it go nuclear, would essentially be to prevail in accomplishing the objective of that campaign which they started, which is a campaign in that contiguous theater. To the extent that United States and allied nuclear weapons are employed to interfere with that, the Soviets would seek to put a stop to that level of interference and, especially, accomplish what is the ultimate goal, which is to complete their original objective.

That means when the nuclear war is over, the way the Soviets want to see it is their being in control of a certain large part of

territory for which, for some reason or other, they felt it was worth going to war to begin with.

Senator HUMPHREY. Are you also saying by this statement that the Soviets have deployed their strategic forces in such a way that they have designed it with the intent to have it deployed in such a way and in sufficient numbers that they can prevail over the United States and, as you say, seek to end the nuclear war on their terms?

Do they now have that capability?

Mr. GERSHWIN. We are not saying they have that capability. We are saying that is essentially the objective for which they design, plan and augment their forces and do things.

This is not an evaluative statement that that is in fact where they are. It is a very difficult judgment. Again, it ultimately amounts to a net assessment and I don't know that that would be correct one way or the other.

We are saying that that is essentially the model the Soviets use in designing their campaign plans.

Senator HUMPHREY. Do you reach any new conclusions as a result of this year's findings, this year's briefings?

Mr. GERSHWIN. I have thought about that. Fundamentally, no, because we don't think we have come up with any shocking new insight that we really didn't have coming along already.

I think more now than before, we are rather vividly noting the extent of their force modernization effort that these programs will focus on, but we don't reach any tremendous new insight.

There are a lot of areas that are not covered in this briefing for which our judgment will move slightly from one year to the next as we get new information, or whatever. This briefing is essentially drawing out the more critical and essential elements of the picture, and these are consistent with where we were last year.

Senator STEVENS. Your time is up, Senator, I am sorry.

Senator Hart?

Senator HART. Mr. Chairman, thank you.

Mr. Chairman, let me join those who have raised some questions about the hearing itself for two reasons.

One, I understand the presentation is what the witnesses have called sanitized and that great effort has been made to protect sources and methods. But we have seen almost all the testimony this morning has to be qualified according to what assumptions you used and there is reluctance to go into those assumptions in open hearing.

I am also mindful of both the Church Committee and Oversight Committee, how critical many people in the Congress have been about the Congress opening up the secrets of the intelligence community and how that weakens the intelligence community, and so on.

What I am appealing for is one standard in which you don't open up national intelligence estimates when one side or the other perceives it to be in their interest to do so and close them up again when it is necessary to protect intelligence collection and assessments.

Further, by bringing professionals before what is admittedly by all of us a political institution, we threaten to make partisan and even ideological what is central to this nation's security.

I think there has been restraint this morning in doing that, but a pattern can be established in which those who want to make a partisan or ideological point can do so.

I recall in the midseventies when the CIA was perceived not to have come up with a tough enough estimate of Soviet capability and there was great pressure brought on a Republican President then to appoint something called Team B whose whole purpose was to call in question the authenticity and integrity of CIA estimates.

My point is to suggest from the left or the right if you begin to make partisan or ideological what ought to be totally professional and neutral, we can get into some very, very difficult points.

That is the only hesitation I would bring to bear on these hearings.

Senator STEVENS. Senator, I have to tell you that again I think that the origination of this concept of having these hearings came out of the briefings we received starting in February.

I perceived the problem you mentioned in terms of attempting to make the CIA partisan. That is not the case.

We were impressed that we were getting in closed session the assessment of the CIA about things that we know about the Russians that they know we know, but our public didn't know. We felt they had a right to know.

We have prevailed on the administration to be more forthcoming in that area without jeopardizing the sources of our information on a basis of full disclosure of the status of the Soviet strategic forces.

I think there should be a greater dialog and, if anything, the recent conclusions justify us to now declassify a considerable portion of this information because the CIA estimates which they have given us year after year have in fact been confirmed by later developments.

These gentlemen have made projections this morning as to what will happen in the 1986 to 1990 period. They made similar projections to us in 1981 and 1982 about what was going to be happening.

Now, I have to tell you they were conservative. That is the main thing, they were conservative in those estimates.

Senator WARNER. I would also comment that the Strategic Subcommittee which I chair, and on which the distinguished Senator from Colorado is the ranking minority member, time and time again colleagues on both sides of the aisle petitioned for this hearing. I do not view it in any way as a partisan move.

Second, in the nearly 15 years I have been involved with these issues, one of the most heartening developments has been the increasing interest of the public to learn. I think it is imperative that since they are going to be an active participant in the debates on these issues, that they be given as much of a factual base as we can provide short of destruction of our national security.

Senator STEVENS. In fairness to you we will start the clock now.

Senator HART. If I may say, in responding, the issue is not whether we should debate Soviet capability or whether we should make facts available to the public. The issue is who does it.

Up to now, with some exceptions, we have insulated the national intelligence community and particularly the NIE from the partisan arena. That is all.

You have the President of the United States, who is properly elected and who has not been reticent talking about Soviet threat. You have the Secretary of Defense who is equally qualified to do that.

The issue is not whether we should have the facts on the table and the public debate them as the parties debate them. The issue is whether you bring those elements of the intelligence community, which up to now we have tried to insulate, into that arena.

Senator D'AMATO. I would like to make an observation in connection with that and reiterate again what Senator Stevens and Senator Warner have said.

I am shocked that we continue to insulate the public from information which would have much greater credibility coming from the intelligence community, letting them lay it out in their own way without those of us, who are in political office, including the White House and the President, whether this President or any other President, so that there is no question as to its authenticity.

I suggest not only in this area, but in the area when we begin to consider the strategic defense initiative, SDI, as to why it should not be, we find in this presentation some very important information that the public has a right to know. Why not?

Far better coming from the intelligence community than a Senator who would be suspect or someone in the White House who might be suspect or the administration in the intelligence area, the spy efforts that the Soviets have undertaken.

I think Senator Stevens aptly put the question: Why should we not let the American people know the plain and unvarnished truth as to what is taking place subject to source protection, protecting the source, and not jeopardizing our sources.

Senator WARNER. The alternative is leaks which I pointed out this morning in one particular area are erroneous on two of the issues being discussed today, namely the effectiveness of Soviet BMD and hoped for results of arms control.

Senator STEVENS. Let us get back to Senator Hart. We will start the clock again for a question, Senator.

Senator HART. Thank you, Mr. Chairman.

I may use part of this time to comment further that I hope Senators who are defending this process will do so also under future Democrat administrations who may want to haul the CIA in before some congressional committee to prove perhaps an opposite point.

Now, Mr. Gershwin, you have concluded your testimony by saying Soviet leaders view arms control policy as an important factor in advancing their strategy of achieving strategic advantage.

Was that in fact what SALT II did?

Mr. GERSHWIN. I can't really say whether that is what it did. I think that is an objective the Soviets had in SALT II, to attempt to achieve an advantage over us in such an agreement.

Senator HART. We are talking facts here.

Did the treaty do that or did it not?

Mr. GERSHWIN. We are not in a position in the intelligence community to evaluate who came out better in the arms control agreement. That is really not part of our charter.

Senator HART. Are you in a position to evaluate whether the Soviet efforts to achieve strategic advantage would have been better without the treaty than with it?

Mr. GERSHWIN. Not really, no.

Senator HART. You are not?

I thought that is what chart 5 did.

Mr. GERSHWIN. That was not an advantage chart. That had to do with the size of the Soviet inventory.

Senator HART. Right. Without the treaty the limits to expansion of nuclear forces were less; is that correct?

Mr. GERSHWIN. It is not evident now that the Soviet force would have been considerably larger today than it is, without SALT II.

Senator HART. That is not what I said. The limits to expansion were less without the treaty?

Mr. GERSHWIN. The limits to expansion? Yes, the treaty had certain limitations. The Soviets have had the potential to expand. They had it in 1979 and they have it today. That is an ongoing aspect of the Soviet process, the potential for expansion.

With or without limitations in effect, the Soviets provided for themselves a potential just as they have in the ABM Treaty which they are a continuing signatory to, the Soviets have potential for ABM expansion as well.

Senator HART. They have had no limit because the SALT II Treaty was not ratified; is that correct?

Mr. GERSHWIN. The Soviets have continued to stay within the MIRV limits of SALT II through a series of understandings and agreements with the United States.

Senator HART. Are ICBM's generally becoming more or less survivable?

Mr. GERSHWIN. The mobile ICBM's are becoming more survivable because they are essentially very difficult for anybody to target. The Soviets are going into those in a large way.

Silo-based ICBM's for the Soviets would become less survivable if more accurate U.S. weapons are developed and deployed. But there is another issue and that is: Is there a possibility that they could be made more survivable either through hardening, defense or whatever?

So, absent any other effort of that type, certainly improved accuracy of U.S. missiles would lead to a lower survivability of the Soviet missiles just as the opposite, the same situation is true for us.

Soviet improvements against U.S. fixed silos will lead to a lower survivability of fixed silos. Fixed targets have increasing problems because of their fixed location as technology improves.

Senator HART. What options do we possess to shape or size or condition the Soviet nuclear military expansion?

Mr. GERSHWIN. That is a tough one.

Senator HART. Dr. Gates?

Mr. GATES. I would say what limited capability we have is probably through the arms control process. The concern in that area, however, is that there have been several consistent threads in

Soviet arms control negotiating behavior over the years that include, among other things, preserving in all of the agreements their ability to modernize their systems and what we have ended up doing in most instances is perhaps channeling or redirecting Soviet effort rather than reducing it.

Senator HART. Were the options to modernize nuclear forces which were kept in the SALT II Treaty solely or primarily those at the insistence of the Soviet Union?

Mr. GATES. I don't know the answer to that, Senator.

Senator HART. I think the Joint Chiefs of Staff testified to congressional committees in favor of SALT II on the grounds that they supported it for three reasons.

One, that it did condition the size and shape of future Soviet forces.

Two, that it was verifiable.

And, three, that it did not fault in any way modernization of our own forces, and that third factor was very important in our own military establishment's support of that Treaty.

Is that an accurate recollection?

Mr. GATES. I think that is correct.

Senator HART. Thank you, Mr. Chairman.

Senator STEVENS. Thank you very much, Senator.

Senator D'Amato?

Senator D'AMATO. Thank you, Mr. Chairman.

Mr. Chairman, I think that there is much more information that the American public can handle that can and should be made by our intelligence community, giving them the plain facts and unvarnished truth so that people who make decisions won't be making them as a result of demagogic positions that those of us in politics are known to make at various times with respect to important issues of national security.

Why not let the people understand what is taking place? Give them the facts, whether it be on military weapons systems, whether it be in the area of espionage, whether it be the kinds of tactics that are being employed regularly, the type of devices that are being used in the area of intelligence.

Mr. Chairman, I think we need more of this and should open the process up, not just now and not just under this administration, but as an ongoing part of what America is about.

This is nonsense that the people can't handle the information or shouldn't know it. I don't know why.

Having said that, I would like to ask Mr. Gershwin this question.

You indicate that the Soviets are very concerned about our SDI research and they are obviously attempting to stop it. At the same time you have indicated that the Soviets are conducting extensive research themselves, high-energy laser, in particle beam weapons for use in space.

Can you elaborate a bit on that, what their efforts are encompassing?

You mentioned it would be about a billion-dollar-a-year effort if it were going on here in America.

How long has this effort been taking place?

Mr. GERSHWIN. I want to make a cautionary statement that the billion-dollars-a-year estimate is an estimate based on our understanding of their laser program alone.

Senator D'AMATO. Just the laser program?

Mr. GERSHWIN. The laser program. It does not include their efforts in particle beam, radiofrequency weapons, ground-based ABM, and conventional type ABM, which is a substantial effort.

Senator D'AMATO. How long has that effort been undertaken?

Mr. GERSHWIN. Certainly much of the laser program goes back to the 1960's, shortly after the laser was invented. The Soviets recognized in the sixties the possibility that lasers could have application to ballistic missile defense. They had a quick recognition of that.

The particle beam weapon research certainly goes back into the early 1970's.

The radiofrequency weapon research goes back to the 1970's.

On the conventional ABM effort the Soviets go back to the beginning of essentially the nuclear age practically.

The Soviets were actively involved in antiballistic missile research and development in the late fifties and early sixties. They have had many different attempts at it, some of that leading to, in fact, the Moscow ABM system that the Soviets deployed which was constrained by the 1972 ABM Treaty.

But the Soviets interest in strategic defense goes back to the beginning of Soviet military efforts. Interest in ballistic missile defense was from the beginning of the missile era.

The more exotic technologies they are looking at, the Soviets have recognized that potential and have actively been working on those programs right along.

Senator D'AMATO. These are not programs they have raised objection to our undertaking?

Mr. GERSHWIN. Yes, they have essentially objected to our pursuing the options that the United States has described, for the SDI program. For those types of research efforts the Soviets themselves have a very active research program of their own. That is not simply pure research.

Certainly we can look at the laser programs and recognize the attempt to develop weapons out of the program as part of the effort. It is not just an offshoot, but focused on that objective.

Senator D'AMATO. Is it possible for you to give us a description in terms of what kind of weapon systems they are attempting to develop vis-a-vis the laser?

Mr. GERSHWIN. In the testimony what I covered was the fact that they have a lot of effort that we can recognize for ground-based high-energy lasers. We expect to see some of that tested in a feasibility test sometime in this decade through what they have in existence at Saryshagan. That is happening now.

Senator D'AMATO. What is the gap—let us focus in on lasers—the gap that might exist between the United States and Soviets on Soviet laser systems they are going to undertake and test?

Mr. GERSHWIN. Let me comment in this way. The Soviets are pursuing some areas in high-energy lasers that we do not in this country pursue and vise versa.

So, the programs don't match up one for one. We and they both work on some similar types of high-energy lasers with potential for anti-satellite, or whatever.

Some Soviet efforts are in areas that we in this country are not pursuing or have worked on and left for one reason or another.

One thing is evident. That is, the Soviets will in fact work on any area we appear to be making progress in because they themselves view the potential for the United States to do better than they can. They simply cannot afford, from their point of view, to have us pursuing some high-energy laser technology that they themselves were not able to do at that time, they have to pick it up from now on.

But they will continue to work on the areas they have been doing as well.

Senator D'AMATO. Thank you very much, Mr. Gershwin.

Thank you, Mr. Chairman.

Senator STEVENS. Thank you.

Now, gentlemen, I don't know which one of us is next.

Senator Levin?

Senator LEVIN. Thank you, Mr. Chairman.

You have indicated that there is some uncertainty as to whether or not the SS-X-25 represents a new missile at this point.

Do you think those uncertainties will be resolved?

Mr. GERSHWIN. I don't recall indicating that.

Senator LEVIN. I thought I heard you indicate it may be a violation?

Mr. GERSHWIN. That was in reference to a question as to whether the new missiles that had not yet been flight tested would or would not pose a violation. The uncertainty was that before a missile is flight tested, one can speculate about whether or not it will violate the Treaty, but the proof is in the demonstration test results and comparison of those with characteristics that we already have in hand.

Senator LEVIN. Has the SS-X-25 been flight tested?

Mr. GERSHWIN. Yes, it has been flight tested since 1983.

Senator LEVIN. There is no uncertainty in your mind about that?

Mr. GERSHWIN. The SS-X-25 has been going through a whole series of flight tests. The Soviets have been building bases for deployment of this missile. It is clear that that is a new missile and we have been involved heavily, of course, in the compliance concern on that missile.

Senator LEVIN. I misunderstood you on that. You testified maybe 10 minutes ago about one type of restraint that SALT II places on the Soviet Union. You gave us an example of that, I believe, a little earlier this morning.

You also acknowledged, in response to Senator Glenn's testimony that the SALT limit of 10 warheads restrains the Soviets from putting up to 30 warheads on their SS-18; is that correct?

Mr. GERSHWIN. It is certainly correct the Soviets could not put 30 warheads on a heavy ICBM under the limitation where they could only have ten without our detecting it.

Senator LEVIN. They have lived up to the ten limit?

Mr. GERSHWIN. I would rather not get into that one.

Senator LEVIN. You mean you cannot tell the public whether or not they have lived up to the 10 limit or not?

Mr. GERSHWIN. It is a difficult problem because, as I think the public record——

Senator LEVIN. Have we filed claim of violation of 10?

Mr. GERSHWIN. Let me elaborate. At the time the treaty was signed there was concern at that time with the payload capability of the SS-18. There was much discussion between the United States and Soviet Union about that payload capability. We and they agreed to put in the treaty that that system would not be deployed with more than 10 warheads.

What I am saying is that the reason for that concern in 1979 was the fact that the heavy ICBM was a large payload capability that in many people's concerns could exceed 10. That was the reason that was put in the treaty.

Senator LEVIN. Have we filed a treaty violation that they have exceeded a limit of 10?

Mr. GERSHWIN. Not to my knowledge.

Senator LEVIN. Is it to our advantage that they be limited to 10? Do we care if they are limited to 10?

Mr. GERSHWIN. It depends on the considerations of what else——

Senator LEVIN. In your view?

Mr. GERSHWIN. I really don't have an independent view on that.

Senator LEVIN. You gave us a chart showing the prospect of the modernization program.

Aren't we better off with their being limited to 10 warheads?

Mr. GERSHWIN. As compared to?

Senator LEVIN. Twelve.

Mr. GERSHWIN. It would be marginally more to our advantage if it were 10 than if it were 12.

Senator LEVIN. How about 14?

Mr. GERSHWIN. Yes.

Senator LEVIN. How about 16?

Mr. GERSHWIN. Yes.

Senator LEVIN. Is it to our advantage that there be a fractionation limit of 10?

Mr. GERSHWIN. It would be to our advantage if that limit were actually what they had.

Senator LEVIN. Have we claimed that they have violated the treaty?

Mr. GERSHWIN. No, we have not as far as I know.

Senator LEVIN. Assuming they have lived up to that limit, is it to our advantage?

Mr. GERSHWIN. Assuming they have lived up to that limit on that particular issue, it is clearly to our advantage.

Senator LEVIN. SALT II may give us an advantage in that area?

Mr. GERSHWIN. It may.

Senator LEVIN. Is the 1,200 MIRV limit to our advantage?

Mr. GERSHWIN. The Soviets have not exceeded that limit.

Senator LEVIN. Is it to our advantage that they not exceed it?

Mr. GERSHWIN. The questions are really net questions because it depends on what the United States would do otherwise and what the Soviets might do.

Senator LEVIN. Are we better off with their having 1,200 MIRVed missiles or less?

Mr. GERSHWIN. All other things being equal, that would obviously be to our advantage.

Mr. GATES. That is a difficult area for us because you are asking us to net out a consideration that really is up to the President and the Congress.

Senator LEVIN. Let me be more specific. The Soviets are currently building two new types of submarines, the Typhoon and the Delta-IV. Recent reports indicate that four more of each class are now under consideration.

Now, under the SALT II limit of 1,200 MIRVed missile limit, is it not true that the Soviets will be forced to dismantle the relatively new Delta-III submarines if they build those other submarines?

Mr. GATES. We did not report that those numbers were correct.

Senator LEVIN. It has been reported those numbers are correct.

Mr. GATES. It has been reported, but it has not been reported by us.

Senator LEVIN. Are you able to report?

Mr. GATES. Those numbers are not necessarily correct.

Senator LEVIN. If those numbers are correct?

Mr. GATES. If those numbers were correct and the Soviets were constrained by the 1,200 MIRVed missile limit, then at some point in that process of deployment of additional submarines they would have to retire some of their earlier MIRVed missile submarines.

Senator LEVIN. Is it fair to say that SALT II puts constraints on Soviet growth and our growth? Is that a fair statement?

Mr. GATES. It potentially puts constraints if the Soviets were in fact planning to grow beyond that. It is not clear that they are planning to go beyond those numbers in the near term.

Senator LEVIN. Does it not put a limit on Soviet growth?

Mr. GATES. You are saying, my gosh, maybe they won't grow above that anyway. They can't grow above that, if they comply with the numbers. If they comply, they cannot.

Senator LEVIN. Is it not true that those numbers do place limits on Soviet growth; that is, the outward bound of their growth?

Mr. GATES. If they were to comply.

Senator STEVENS. Your time is up, Senator.

Senator Bingaman?

Senator BINGAMAN. Thank you, Mr. Chairman.

Let me ask Dr. Gershwin about some of the directed energy, hypervelocity kinetic energy weapons you discuss on page 8 of your testimony.

I gather you are saying there that it is your best estimate that the Soviets could not have an operational system of a ground-based laser until after the year 2000; is that right?

Mr. GERSHWIN. For ballistic missile defense, that is our best estimate, we expect the Soviets to test the feasibility of a ground-based laser to do that during this decade, but from a feasibility test to an operational deployment of the same is a long road.

Senator BINGAMAN. Let me go back to your expectation that they will test it in this decade.

Can you tell me what that is based on?

Mr. GERSHWIN. I can't really get into the full reasoning why we have concluded that.

As I said, we have a lot of evidence about the Soviet high-energy laser program and a lot about their ground-based laser effort. Based on that information, we have concluded from looking at all the evidence that this is what they are likely to do in the 1980's.

Senator BINGAMAN. What kind of ground-based laser are they developing at Saryshagan?

Mr. GERSHWIN. They have had two lasers at Saryshagan for a number of years.

One of the lasers is the laser we would expect to see them use for the feasibility demonstration, so that the laser facility is in place.

Senator BINGAMAN. I am asking, is it a chemical laser, x-ray laser? What is powering the laser?

Mr. GERSHWIN. I cannot get into detail of what that laser is, but in our estimation we are looking at a fairly high-power, high-energy laser, but the actual characterization of what that is I would rather leave out.

Senator BINGAMAN. Let me ask about your discussion of particle beam weapons. There again you say that the technical requirements are so severe that you estimate a low probability that they will even test a prototype before the year 2000.

So that you see this as substantially further away, they may test the ground-based laser this decade, but you would not expect them to test a particle beam weapon until after the year 2000?

Is that what you are saying?

Mr. GERSHWIN. That is correct, for a space-based particle beam weapon. We think that it is a very difficult technology achievement.

Senator BINGAMAN. You would not expect them to test a space-based particle beam weapon until after the year 2000?

Mr. GERSHWIN. That is our assessment.

Senator BINGAMAN. You talk about an airborne laser.

When would you expect them to test an airborne laser?

Mr. GERSHWIN. That is unclear. It depends on exactly what their objectives are for an airborne laser. There are a number of possibilities that an airborne laser can be used for, some of which are easier than others. We see, in fact, a Soviet program including an aircraft.

Senator BINGAMAN. You don't have an estimate as to when they might test an airborne laser or an estimate as to when they might be able to field an operational system?

Mr. GERSHWIN. We have had some discussion of that which we have not put into the testimony. I don't want to get into the specifics of that, but they have an ongoing airborne laser program at the current time.

Senator BINGAMAN. I am struck by the language you use in part of this testimony on page 8 where you say the Soviets are conducting research for the purpose of acquiring the ability to develop particle beam weapons.

You are not saying that they have the ability to develop particle beam weapons?

You are saying they are conducting research for the purpose of acquiring the ability to develop particle beam weapons; is that right?

Mr. GERSHWIN. We are not looking at a pure research program. We are looking at the research program that the Soviets have which has, in our view, the intent to make technology improvements leading to such a capability. We expect the Soviets to attempt to develop and test particle beam weapons as an outgrowth of the technology effort.

Senator BINGAMAN. You know they are doing research with an intent to develop this, but you don't really have an assessment of what capability, if any, they have at the present time to do anything in this area.

Is that an accurate statement?

Mr. GERSHWIN. Not entirely.

Senator BINGAMAN. Could you rephrase it accurately?

Mr. GERSHWIN. We have a lot of understanding of what the Soviets are doing in their research and technology, but I really don't want to get into our current understanding of just exactly where they are. I would rather not discuss that in a public forum.

But we are certainly focusing on this effort as one of their more important technology efforts.

Senator BINGAMAN. Has the agency given a statement publicly about the level of capability the Soviets have in these areas?

You say you don't want to give that in this forum?

Mr. GERSHWIN. We can take a look for the record to see precisely what has already been made available at an unclassified level. I can't cite it at the moment, but there is information available on the intelligence about this in Soviet Military Power and in other places. We will have to take a look to see what is available.

[The information follows:]

The Soviet research and development effort in particle beams, potentially applicable to a particle beam weapon, has been impressive. The work on ion sources is particularly impressive. Such a weapon, however, requires significant achievements in a number of technology areas, and some of the requirements for a space-based weapon are particularly difficult. Thus we do not believe the Soviets today are close to testing a prototype particle beam weapon system applicable to ASAT or ballistic missile defense; we do believe they are working very hard in the research for such systems.

Senator BINGAMAN. Have we been able to detect any emanations from any of these laser and particle beam facilities that you are describing here in your testimony?

Mr. GERSHWIN. I can't discuss that.

Senator STEVENS. Your time is up, Senator.

Senator BINGAMAN. Thank you very much.

Senator STEVENS. Gentlemen, let me thank you for fending off the attacks of the ideological interpretations from the left and right. As I say, I think you have confirmed some of the projections you made in closed session before.

I would like to ask you about two specific areas.

One, the Krasnoyarsk radar. You mentioned in your statement, Mr. Gershwin, you expect by that the end of the decade, when a new network of large phased-array radars, including Krasnoyarsk, is to be fully operational, the Soviets will have a much improved

capability for ballistic missile warning attack assessment and target tracking.

You said these radars are technically capable of providing battle management support to a widespread ABM system.

Are there other radars beyond Krasnoyarsk that would tie into such a system that you have mentioned?

Mr. GERSHWIN. Yes, we see a set of large phased-array radars of which Krasnoyarsk is a member of that set, and there are some six radars of that type either operational or under construction.

The Krasnoyarsk radar is very similar to the other five that we are talking about.

Senator STEVENS. Are the others part of an ABM system?

Mr. GERSHWIN. These radars are an improvement over the earlier Henhouse radars that the Soviets fielded much earlier and that have a number of functions. We would expect the Krasnoyarsk-type radars to have a number of functions, primarily ballistic missile detection and tracking, which means looking at reentry vehicles outside the atmosphere and tracking them as they go down toward the Soviet Union.

Within that ballistic missile tracking function is early warning, which is called ballistic missile early warning, which provides warning to the Soviet Union that they are under attack. That kind of warning function would lead to the Soviet decision to do something.

In addition, that type of information, if the radars are technically suitable and capable, could be used to feed an ABM system, if there were an ABM system deployed, to attempt to engage those reentry vehicles quickly before they actually come in and attack the target.

Senator STEVENS. The Krasnoyarsk radar is certainly capable of being a portion of a battle management system?

Mr. GERSHWIN. Yes.

Senator STEVENS. Which would support an ABM system of a territorial nature?

Mr. GERSHWIN. Yes, we see that as a technical capability because we expect the Soviets to have that technical capability in these radars.

The issue is, at least at the moment and certainly the near term, we don't expect to see that nationwide ABM system there, that such a network could feed. These radars could in fact be very useful and important, and we think would be important to the Soviet Union simply for their early warning function alone.

Senator STEVENS. The Krasnoyarsk radar is a violation of the ABM Treaty in terms of its location in the beginning, is it not?

Mr. GERSHWIN. Where it is located. It is located further inside the Soviet Union and it faces essentially in the wrong direction for it to have been allowed by the ABM Treaty, given that it is our assessment that it is for the purpose of tracking ballistic missile reentry vehicles.

Whether or not there is a nationwide ABM system for this thing to feed is not the issue for the ABM Treaty. The ABM Treaty forbids a ballistic missile early warning function for this radar if it is *to* be in that location. It can only be in that location and orienta-

tion if in fact it has another purpose such as space tracking or for national technical means of verification.

The Soviets have stated it is for space tracking. It is our judgment it is for ballistic missile detection and tracking. That is based on a very careful, thorough body of work done by the intelligence community, the entire intelligence community, on this matter.

It does not, however, mean that necessarily the Soviets intend to have a nationwide ABM system as a result.

Senator STEVENS. It could be part of one?

Mr. GERSHWIN. If they did have such a nationwide ABM system, this radar as part of this network would be an integral part of that ABM system because it would provide this important battle management function. It is not necessarily certain that that will happen.

Senator STEVENS. Are you prepared to comment on the technological capability of the Soviet systems as far as computer capacity to service the array of weapon systems that you have described here today?

Mr. GERSHWIN. A little bit. One of the issues about capacity has to do with the network of radars.

One of the most important aspects of potential for such radars to serve for battle management is the computer capability on the ground associated with those radars to process information they collect and sort it out in such a way that it can be usable quickly and accurately by an ABM system.

It is our assessment that the Soviets in fact are technologically capable of having that type of computer capability for these radars.

Senator STEVENS. I am talking about the computer capability in order to have an early warning system for bombers, approaching bombers. They would have to have a computer capability tied together with the Krasnoyarsk radar?

Mr. GERSHWIN. Yes.

Senator STEVENS. In order to have a territorial ABM system, they would have to have a better system?

Mr. GERSHWIN. Yes.

Senator STEVENS. In order to have the laser capability you describe, they would have to have computer capability?

Mr. GERSHWIN. Yes.

Senator STEVENS. It is possible to analyze the Soviets' computer capability in terms of their production, maintenance and their whole capability in the computer sense to judge whether they have the capability now to support this vast array of highly technological and new generation weapons systems, in effect what you have presented to us?

Do they have the capability to support that today?

Mr. GERSHWIN. We certainly evaluate the Soviet computer capability and look for those kinds of points. It is our estimation they do have computer capability to be able to support this network of radars for the purpose of ABM battle management.

The Soviets have a lot of serious limitations in their computer capability. They are certainly limited in many aspects of computers, especially for the nonmilitary part of the country.

For these kinds of functions we are describing and the time period we are looking at it, is our assessment that the Soviets have

the basic computer capability. Whether that computer capability is fully realized is another issue. That is not easy to tell because technological capability to have computers do certain things and the actuality of that can be different.

Mr. GATES. I might add, Mr. Chairman, to the degree the Soviets do have limitations or are behind us in computer technology, they have a very aggressive program to both buy and steal computer technology in the West to help them along in this area.

Senator STEVENS. Gentlemen, we are in the second round.

Senator Proxmire?

Senator PROXMIRE. A lot of people feel that our intelligence community and our military always see the Russians as 10 feet tall and exaggerate their capability.

I have in front of me here a chart that comes from the Acting Under Secretary of Defense for Research and Engineering, Mr. Wade, which shows U.S. superiority in 15 of the 20 most important basic technology areas, equal to the U.S.S.R. in five, and the U.S.S.R. superiority in none.

The one area where the United States is superior and where the superiority is improving is in computers.

Futhermore, the Soviets, as you say, are way behind in computers.

I just wonder if, in view of that situation, you undoubtedly can count the number of bombers and number of missiles and number of planes, and so forth, but the quality, the reliability, the maintenance capability of this equipment, don't we assume that these would work when the likelihood is that in many cases they would not and that the assessment may exaggerate their strength.

Mr. GATES. Senator, I think the answer to that is that the Soviets have demonstrated in their use of military equipment that in fact it does work.

Senator PROXMIRE. It has not worked very well in Afghanistan.

Mr. GATES. It has not been the equipment that has been at fault in Afghanistan. It is very difficult for it to work when the Mujaddin are blowing it up.

The question is whether the Soviets can get what you might call "B" level technology in the field while more superior technology elsewhere is not being introduced in the forces.

The way the Soviets have built their forces over the years is to go ahead and field what they can get out there and then over time to improve it. Part of what we see is this continuing modernization of the Soviet force.

Sometimes they go with modest improvement over a missile or a piece of equipment that they have already fielded.

At other times they will field something that is new.

At the same time we see evidence in a variety of areas where the Soviets may be making a considerable jump ahead, not necessarily jump ahead of us, but jump ahead in their own technology, so that they can introduce new things.

I wouldn't want to address whether the Soviets are ahead or we are ahead, but the fact is that they have a great deal of new technology and they are able to get it into the field and then they will continue to improve it over time.

Senator WARNER. Let me try the question in a slightly different way.

Just observing for the purpose of the answer the strategic military field.

Is the Soviet computer capability keeping pace with advancement in strategic systems?

Mr. GATES. I don't think we honestly know the answer to that question. I think what we have is a capability to field specific systems which Mr. Gershwin referred to, these radars, these aircraft, and so on.

Occasionally they have difficulty in production of these things because of quality control, and so on, particularly the higher technology equipment.

At the same time where the intelligence community may not have adequate information is their ability to integrate all of this and their capacity to do that.

Mr. GERSHWIN. As the Soviets get into more complex systems, they could create some serious problems for themselves. The Soviets, we think, have made a serious commitment to seeking to deploy weapon systems with essentially as good technology as they know how to have because they are concerned about the technological levels of our efforts and feel that sheer numbers alone are not the answer to what they need.

They essentially made a strong commitment toward more sophisticated, more highly technological equipment. That causes obvious problems as was noted.

Their deficiencies in the computer area could affect some of that. The question would be essentially as the Soviets deploy these advanced cruise missiles they have been coming along with, how good are they in the sense that they depend on a lot of computer equipment?

That is the kind of issues one can deal with.

Senator WARNER. Are they closing the gap in their ability to keep pace with computer technology matching the progression in strategic systems?

Mr. GERSHWIN. It is hard to answer. I don't think we can really answer, as much as I understand the need for that. Let me note that generally when the technology comparisons are made between the United States and Soviet Union and what Senator Proxmire was referring to from the Defense Department, those comparisons are not of technology in the weapon systems.

Those are comparisons of the technology levels achieved in the technology area, not applied yet to the weapon systems.

It is our view that the Soviets, while they have lots of deficiencies certainly in the computer technology and elsewhere, know their deficiencies and seek to in fact incorporate those technologies frequently as they improve them into weapon systems.

If they are running a weapon system modernization program, that is, in their view, consistent with where they are technologically, that means they are not mismatching.

Senator STEVENS. We have to go. I want to thank you both for being so forthcoming.

I want to state for the record some Senators have asked to submit questions. We ask that those questions be submitted to Sen-

ator Warner and me. We will submit to you those questions we think should be put in the record on issues that were not addressed here and within the time constraints that would have been imposed on Senators had they been here.

[Questions with answers supplied follow:]

QUESTIONS SUMBITTED BY SENATOR STROM THURMOND

Senator THURMOND. Dr. Gershwin, your prepared text indicates that the Soviets will replace most of their ICBM force by the mid-1990s if current trends continue. What sort of throw weight capability will this give them?

Dr. GERSHWIN. The overall throw weight of the Soviet ballistic missile force could increase, if the Soviets expand their forces beyond current numbers, or could decrease somewhat, if the Soviets reduce their forces along the lines of the Soviet START proposal.

Senator THURMOND. Dr. Gershwin, if the Soviets ignore the present number of approximately 2500 missiles and heavy bombers and utilize all of their current and projected production capacity what sort of force structure will they be capable of fielding by the mid-1990s?

Dr. GERSHWIN. If the Soviets were to expand their forces along these lines, they could achieve a force size in the mid-1990s comparable to the expanded forces illustrated in figure 5, with a force mix similar to that shown in figures 2, 3, and 4. This force would be predominantly ICBMs, both silo-based and mobile, with significantly improved capabilities in the submarine and bomber components. The increase in warheads would be substantial, much greater in percentage than the increase in the number of deployed missiles and bombers.

Senator THURMOND. Mr. Gates, Soviet strategic developments surpass any reasonable need for deterrence. What do you feel are Soviet objectives?

Mr. GATES. Soviet objectives in building strategic offensive forces are to provide nuclear capabilities comparable to, or in excess of, the capabilities of all their enemies combined. As a result of these objectives, combined with their strategic defense and command and control efforts, they seek to be in a position to be able to fight effectively in any kind of conflict, including a strategic nuclear conflict. Their objective in preparing for such a conflict, if it occurs, is to be able to prevail, in the sense that they can accomplish their offensive military campaign objectives while also enabling the Soviet homeland to survive and remain viable.

Senator THURMOND. Dr. Gershwin, if Soviet warhead accuracies continue to improve during the next decade at the same rate as the last decade, what sort of accuracies can they achieve by the mid-1990s?

Dr. GERSHWIN. We expect the accuracy of Soviet ICBMs to continue to improve. The new heavy ICBM we expect the Soviets to deploy in the late 1980s is likely to have improved accuracy such that it will achieve a substantial increase in damage capability against hardened targets. Our specific quantitative projections of future missile accuracy are classified.

QUESTIONS SUBMITTED BY SENATOR DAN QUAYLE

Senator QUAYLE. Dr. Gershwin, what does the Soviets' continued emphasis on strategic defense and the hardening of their command and control and leadership bunkers tell us about Soviet strategy and the likelihood that they believe or adhere to a Mutual Assured Destruction approach to nuclear war?

Dr. GERSHWIN. While the Soviets believe that the destructive effects of a nuclear attack on their homeland would be a catastrophe, they do not accept mutual assured destruction as an operating principle for the development of their strategic force posture. They have consistently invested as much in strategic defense as they have in strategic offense. In their view, it is possible that nuclear war could occur. Their emphasis on strategic defense and command and control hardening has, in their view, the effect of enhancing the survivability of key elements of Soviet warfighting capabilities, in the event of nuclear war, thereby enhancing their chances for prevailing.

Senator QUAYLE. Dr. Gershwin, if the Soviets decided to use their Moscow ABM system to protect several key military assets rather than the Moscow population against a U.S. attack, how effective would their defenses be in protecting such military assets?

Dr. GERSHWIN. The improved Moscow ABM system of 100 silo-based interceptors will increase their capabilities to defend against small-scale attacks on key targets

around Moscow, but would ultimately not be effective in defending against a large-scale attack against key targets in Moscow. Such an attack, however, would require a greater number of warheads to assure a high degree of success than if the targets were undefended, and would require using some weapons to attack key elements of the ABM system.

Senator QUAYLE. Dr. Gershwin, in your testimony you state that the "the potential exists for the production lines associated with the upgrade of the Moscow ABM system to be used to support a widespread deployment" and that the Soviets could undertake effective, rapid deployment of defenses for key military targets by the early 1990's. How long might it take the United States to detect such a deployment? What sort of responses would we then have to initiate?

Dr. GERSHWIN. We cannot provide an unclassified answer to this question. The issue of the types of responses the United States would have to initiate should be addressed to the Department of Defense.

Senator QUAYLE. Dr. Gershwin, looking at your figure 5 on the growth of Soviet warheads with and without SALT constraints, it appears that by 1994 there is little difference between the SALT constrained number and the continuation of recent trends. How likely is it that the Soviets would go to a "maximum effort" beyond recent trends given your determination that they already have enough warheads to destroy all U.S. ICBM silos and launch control centers?

Dr. GERSHWIN. The 1994 figure did not include a projection of the number of warheads the Soviets could have within SALT II through 1994; rather, it showed a projection for SALT II through 1990, with an assumed expansion thereafter, compared with projections of assumed expansion starting in 1986. A projection of the number of deployed warheads assuming SALT II constraints through 1994 would come out somewhat lower than the projections shown in the figure that assumed some expansion beyond such limits. The difference could be several thousand warheads, maybe more, but it is by no means certain that the Soviets would expand very much more than they are already doing within SALT II limits. The larger of the projections of Soviet expansion is not a maximum effort but would require a substantially greater commitment of resources than exhibited in recent trends. The number of U.S. hard targets is an important criterion for the Soviets in gauging their force size and capabilities, but there are a number of other factors that would be taken into consideration. The factors that would affect the likelihood that the Soviets would go to such a greater effort include the state of the US-Soviet relationship, the prospects for arms control agreements or negotiations, the nature of the strategic defense efforts on both sides, and the nature of U.S. strategic modernization efforts.

Senator QUAYLE. Dr. Gershwin, in your testimony you state that "The Soviets will face important decisions in the next few years as they proceed with flight-testing the ballistic missiles which are scheduled to begin deployment in the late 1980s and early 1990s," that they "have technical options to test the new ICBMs in such a way as to conform with, or exceed, the SALT II limits." Are you referring to whether or not the SS-18, SS-X-24, SS-X-25 and SS-NX-23 follow-ons will be merely modifications (new mods.), which are permitted, or true follow-ons (new missile types), which are not? If so, isn't the problem that with Soviet encryption, we have difficulty verifying the difference?

Dr. GERSHWIN. The modernization limits in SALT II established various criteria for ICBMs and SLBMs in judging whether modernization was permitted. The limitations were more stringent for ICBMs than for SLBMs. We envision the potential for the new ICBMs we expect to see flight-tested in the 1986-90 time period—follow-ons to the SS-18, SS-X-24, and SS-X-25—to be tested in ways that exceed some of these limits, but it is possible they may not be tested in these ways. We have been concerned with Soviet encryption practices in their flight test programs, but I do not want to be more specific on this issue at the unclassified level. Our concern, and the reason that the Executive Branch has determined that Soviet encryption practices are a violation of the SALT II Treaty, is that Soviet encryption impedes U.S. verification of Soviet compliance with Treaty limits.

Senator QUAYLE. Dr. Gershwin, in your testimony you state that you are concerned about "the Soviets' longstanding commitment to strategic defense." Precisely why are you concerned? What relation, if any, does this concern relate to your assessment that "Soviet leaders are attempting to prepare their military forces for the possibliity that they will actually have to fight a nuclear war?"

Dr. GERSHWIN. We addressed some of our concerns in answer to your question 1. The Soviet efforts are indicative of a Soviet attempt to prepare for the possibility of actually fighting a nuclear war. The Soviets' commitment to strategic defense has been sustained over many years, and is an integral part of their overall strategic force posture. If the Soviets come to believe that their strategic defense efforts

would enable much of their key leadership and military forces to survive a nuclear attack, and they believed that they had an advantage as a result, it could embolden them to take greater risk in a crisis situation, and their perception of an advantage could embolden them to be more assertive in their foreign policy.

QUESTIONS SUBMITTED BY SENATOR PETE WILSON

Senator WILSON. Did I interpret chart #1 correctly, that the Soviets will continue to rely mostly on silo-based ICBMs well into the 1990s? Why don't the Soviets go all mobile? Why keep so many missiles in "vulnerable" fixed silos?

ANSWER. Yes, we expect the Soviets to continue to depend heavily on their silo-based ICBMs. These missiles, despite their potentially greater vulnerability to improved U.S. weapons, provide the best capability for the Soviets' preferred strategy of launching the initial strikes in a nuclear conflict. The accuracy and throw weight of silo-based missiles, and their excellent command and control and readiness properties, make them the most suitable, in the Soviet view, for attacking a broad set of key targets and reducing the potential of U.S. strategic forces to launch retaliatory strikes; hence, they are most serious in making improvements to this force by deploying new silo-based missiles. Because the Soviets cannot be confident that they could successfully launch an initial strike, they have been concerned for years that eventually, U.S. weapons improvements could result in a greater vulnerability to a U.S. preemptive strike. Together with Soviet needs for survivable reserve forces, this concern has led the Soviets to begin deploying mobile ICBMs—the current programs can be traced back to the beginning of the ICBM era, indicating the long-standing Soviet concern for the vulnerability of fixed targets.

Senator WILSON. Soviet mobiles: Do I interpret your future ICBM development charts correctly to mean that the SS-25 could carry multiple warheads?

ANSWER. The new version of the mobile SS-X-25 that we expect will be flight-tested in the 1986-90 time period could have a MIRVed payload option, as well as a single warhead option. The SS-X-25 itself will be deployed with only one warhead.

Senator WILSON. Do I further assume correctly that the SS-25 mobile missile weighs considerably more than 30,000 and that its range is considerably larger than 6,000 miles?

ANSWER. The SS-X-25 weighs considerably more than 30,000 pounds. Our estimate of its maximum range is classified, but it will have a full intercontinental range capability.

Senator WILSON. About the SA-12, you state that these could have an ABM capability. Would it be fair to say that the SA-12 would be more effective against a single warhead weapon than a multiple warhead weapon? Would it work better against warheads without penetration aids or warhead maneuverability? As a Soviet defense planner which would you prefer as a target, a MIRVed ICBM or a single warhead ICBM force, even for the same number of warheads?

ANSWER. If the SA-X-12 has a capability to defend against some strategic ballistic missiles and is deployed to carry out such a mission, as with other ABM-type systems, it would be able to defend better against attacks by single warheads, or against attacks without penetration aids or maneuvering reentry vehicles. An attack by several warheads arriving close in time against a single defended target would have a greater chance of beating the defense, but it is not clear that there is any difference whether the warheads come from a single missile, or from several different missiles. Also, the warheads from a MIRVed missile would normally be used against different targets, since that has generally been considered as the advantage of a MIRVed missile.

QUESTIONS SUBMITTED BY SENATOR CARL LEVIN

Senator LEVIN. According to some reports, the Soviets may deploy hundreds of new Bear H and Blackjack bombers equipped with the long-range AS-15 cruise missile—by the end of the decade. If SALT II is complied with, wouldn't they have to either deploy fewer bombers or less MIRVed missiles to remain within the SALT II ceiling on 1,320 MIRVed missiles plus bombers with cruise missiles?

ANSWER. If the Soviets observed the SALT II limitations, they would have to limit themselves to 120 ALCM-carrying aircraft or else reduce the number of MIRVed missiles as they went above 120. On the other hand, the reports of hundreds of such bombers equipped with ALCMs by the end of the decade are highly exaggerated, so that we doubt the Soviets have made any plans for their bomber force that, in the near term, would require them to face this issue.

Senator LEVIN. According to recent reports, the Soviets may deploy as many as 350 of their new SS-24 ICBMs by 1990. What would they have to dismantle to offset these deployments under SALT II? Would they be expected to dismantle anything if the treaty expired?

ANSWER. If the Soviets observed SALT II limitations on the number of MIRVed ICBMs and planned to deploy 350 SS-X-24 ICBMs by 1990, they would have to remove an equivalent number of deployed MIRVed ICBMs, probably SS-17s and SS-19s. For those SS-X-24s deployed in silos, it would amount to a simple one-for-one missile replacement. For rail mobile SS-X-24s it would require dismantling of SS-17 or SS-19 silos. Even if the Soviets did not observe such SALT II limitations, we would expect them to deploy many of their new SS-X-24 type missiles in existing silos as a replacement for the currently deployed missiles. For rail mobile deployments the Soviets in this case would not have to dismantle silos, but we expect them in this case as well to replace the older missile systems with the new SS-X-24 and its follow-on, so that in another ten years most of the older SS-17s and SS-19s would no longer be deployed. Finally, we have not projected deployment of as many as 350 SS-X-24 ICBMs by 1990.

Senator LEVIN. The Soviets are reportedly pursuing the development of two large missiles, the SS-X-26 and SS-X-27, as follow-ons to their existing SS-18 and SS-19. If SALT II is extended, wouldn't the testing and deployment of these new missiles be prohibited?

ANSWER. There are no missiles with these names. As noted in the testimony, we expect the Soviets to flight test at least three new ICBMs in the 1986-90 time period, including follow-ons to the SS-18 and the SS-X-24. We expect these missiles to be tested, and probably deployed, regardless of whether SALT II is extended. The issue regarding the compatibility of these missiles with SALT II limitations is whether their characteristics are consistent with the modernization limitations defined in the Treaty, not whether they are "new" in the normal sense of the word. As noted in the testimony, they have technical options in the testing of these new ICBMs that could allow them to conform technically to modernization limitations or to exceed them. For these missiles, just as was the case with the SS-X-25 ICBM, the Soviets will develop, test, and deploy new missiles that they want for their forces and which they believe they can justify within arms control limitations.

Senator LEVIN. In figure 5, you don't show what Soviet warhead levels would be like if SALT limits were extended past mid-1990. Wouldn't these levels be lower if SALT limits were extended?

ANSWER. A projection of the number of deployed warheads assuming SALT II constraints through 1994 would come out somewhat lower than the projections shown in the figure that assumed some expansion beyond such limits. The difference could be several thousand warheads, maybe more, but it is by no means certain that the Soviets would expand very much more than they are already doing within SALT II limits.

Senator LEVIN. Several years ago, the Department of Defense publication Soviet Military Power said the Blackjack would be operational in 1986. The 1985 edition of that publication predicted an IOC of 1987. This year's edition says 1988. You now say 1988 or 1989. Are the Soviets experiencing problems in the Blackjack program? Might the IOC slip still further, into the 1990s?

ANSWER. The Soviets may have experienced some delays in the Blackjack program, which would be normal for such a major weapon system program, but which is hard for us to specifically anticipate in making our projections of IOC. If the program proceeds properly, an IOC of 1988 or 1989 is likely, and an IOC in the 1990s is quite unlikely. However, it is possible that the Soviets could run into a major problem that neither they nor the U.S. Intelligence Community would expect.

Senator LEVIN. On pages 2 and 3 you mention the Soviets replacing older weapons with new ones. Given that the Soviets tend to retain older conventional weapons as they build new ones, do you think the Soviets would retain these older strategic nuclear systems if it weren't for the requirements of SALT II?

ANSWER. Some of the older strategic nuclear systems, such as some SS-11s and Bison bombers, are coming to the end of their service life, and it would make little sense for the Soviets in those cases to invest in continuing to maintain them in the force. In another case the Soviets have taken a Yankee ballistic missile submarine dismantled for arms control reasons and converted it to carry cruise missiles. In other cases the Soviets have planned to replace systems such as the SS-17 and SS-19 with the newer SS-X-24, and we expect they will carry through with much or all of that replacement regardless of whether arms control limitations were being observed. Nevertheless, it is certainly reasonable to assume that some Soviet ICBMs slated for replacement by mobile ICBMs, and perhaps some submarines slated for

dismantlement or conversion, could be retained somewhat longer than would be the case if arms control limitations were being observed. We judge, however, that the Soviets are much more likely to deploy the follow-on for the SS-18, and the silo version of the SS-X-24 and its follow-on, in existing silos as replacements for the missiles now in those silos, than to build completely different silos and retain the existing ones as well.

Senator LEVIN. Would the kind of ABM system deployed around Moscow have any capability against the U.S. Mark-500 Evader maneuvering RVs that the Navy developed for the kind of Soviet ABM expansion your testimony describes?

ANSWER. We cannot provide an unclassified answer to this question.

Senator LEVIN. Do you have any evidence of Soviet intent to break out of the SALT II or ABM Treaties?

ANSWER. We have no direct evidence of Soviet intent to break out of either SALT II or the ABM Treaty, in the sense that they are moving to increase their deployed strategic offensive systems beyond current numbers (SNDVs have been, and continue to be, greater in number than the Treaty would have required), and in the sense that they would clearly exceed 100 ABM launchers. We do have evidence, however, of Soviet potential and capabilities to exceed such numbers, and we do have evidence, as documented in the President's report to the Congress, of Soviet violations of both of these treaties. In the case of the SS-X-25 ICBM, the Soviets have tested and are in the process of deploying an ICBM that, according to the SALT II Treaty, they are not allowed either to test or to deploy. In the case of the Krasnoyarsk radar the Soviets are continuing to build a radar that, according to the ABM Treaty, they are not allowed to build.

Senator LEVIN. Have you reached a judgment that we would be better or worse off if the Soviets modernize their strategic nuclear forces in the ways you have indicated might happen? If so, what is that judgment?

ANSWER. The modernization efforts for strategic nuclear offensive forces described in the testimony are our judgments of what we expect the Soviets will do, not just of what might happen. In many cases the testing or deployment is well underway, and the commitments have been made. While the Soviets' vigorous efforts will lead to important improvements over the capabilities of their current forces, the Intelligence Community has not made a judgment as to whether the United States is better or worse off as a result. Such an evaluation would have to take into account actual and potential U.S. efforts.

Senator LEVIN. Have you reached a judgment that we would be better or worse off if the Soviets continue to be limited by SALT II constraints? If so, what is that judgment?

ANSWER. We have not reached such a judgment. Such a judgment would have to be based on a net assessment that included current and projected U.S. forces.

QUESTIONS SUBMITTED BY SENATOR JAMES MCCLURE

Senator MCCLURE. Is this testimony based upon NIE 11-3/8-85, the National Intelligence Estimate on Soviet Strategic Forces?

ANSWER. Yes, the testimony is based upon NIE 11-3/8-84/85, the most recent NIE on Soviet strategic forces.

Senator MCCLURE. What is your best judgment on whether the Soviets will deploy a nationwide ABM defense during the next 5 years?

ANSWER. We have not made a firm judgment on whether or not the Soviets will deploy such a defense during the next 5 years. We have evaluated their potential for such deployments, as noted in the testimony, and we are particularly concerned about their potential. For several years the Intelligence Community has emphasized this concern—what amounts to a warning of the possibility. There are differing views among intelligence analysts about the prospects for such deployments.

Senator MCCLURE. How many interceptor launchers would be entailed in a Soviet nationwide ABM defense?

ANSWER. We do not have a best estimate of the size of such a deployment. We have looked at a number of possibilities, based on our understanding of Soviet priorities for defensive protection (primarily their leadership and military forces), the technical capabilities of their ABM components, and their production and deployment potential. If the Soviets deployed a nationwide ABM defense, to provide some protection to many key facilities nationwide but not protecting all potential targets, they would have well over 1,000 launchers, perhaps even a few thousand.

Senator McCLURE. How many net additional mobile SS-24 and SS-25 ICBM launchers will probably be deployed in the next 5 years? How many mobile ICBM bases are under construction?

ANSWER. The specific answer to these questions are classified. We expect hundreds of mobile ICBM launchers—SS-X-24s and SS-X-25s—to be deployed over the next ten years and, as noted in Figures 1 and 2 of the testimony, to constitute an important part of the Soviet strategic force. The Soviets have built new bases for the SS-X-25 ICBM, and are converting former SS-20 bases to be SS-X-25 ICBM bases. They are preparing for the deployment of the rail-mobile SS-X-24 ICBM.

Senator McCLURE. What is your best estimate of the rate of growth annually for Soviet strategic forces and defense spending through 1990?

ANSWER. We expect a growth rate of 5 to 7 percent a year in Soviet expenditures for strategic forces (offense and defense) over the next 5 years. This growth rate, combined with our expectations for Soviet spending on conventional forces, leads to growth in total defense spending of between 3 and 4 percent per year.

Senator McCLURE. Please describe SS-20 follow-on, and scale of new SS-20 base and launcher deployment.

ANSWER. As noted in the testimony, during 1984 the Soviets embarked on an unprecedented program for constructing new SS-20 bases, starting more new bases than in any previous year. The SS-20 force is expected to expand to over 450 deployed launchers by 1987, as a result of the base construction program. The total would have been considerably higher if the Soviets had not deactivated SS-20 bases in the central USSR to convert to SS-X-25 ICBM bases. A follow-on to the SS-20, which also carries three warheads and is probably designed to improve lethality, began flight testing in 1984.

Senator McCLURE. How many additional warheads are on the Soviet Backfire bomber force?

ANSWER. I cannot provide specific numbers at the unclassified level for the number of additional warheads on the Soviet Backfire bomber force. Backfire bombers are capable of carrying nuclear bombs and, as noted in 1985's Soviet Military Power, the Soviets at that time had 250 Backfires in the force, including 120 in Soviet Naval Aviation.

Senator McCLURE. Will deployment of MIRVed SS-24 and SS-25 and SS-23 missiles result in 3 or 4 thousand more Soviet warheads by 1990?

ANSWER. We expect MIRVed SS-X-24 missiles to be deployed beginning in 1986, but those missiles of the SS-X-24 type going into silos will replace silo-based SS-17 and SS-19 missiles; those that are rail-mobile will be added to the force, but the Soviets may very well retire SS-17s or SS-19s as these new mobile missiles are deployed. The new SS-NX-23 SLBM will be deployed in late 1985 or early 1986 on newly built Delta-IV submarines, of which there will be only a few, and will replace MIRVed SS-N-18 missiles on the more numerous Delta-III submarines. The 1-RV SS-X-25 will be added to the force beginning this year, but the Soviets are retiring older SS-11s as the SS-X-25s get ready to enter the force. While the Soviets will not necessarily retire older SS-11s and SS-13s as they deploy the SS-X-25 and its follow-on (potentially having a MIRVed payload), we judge that they will retire most, if not all, these older missiles, even if they do not need to because of arms control limitations. The deployment of these new missiles will be substantial; the replacement of older missiles and the growth in the number of MIRVed SLBMs, together with the deployment of more ALCM-carrying bombers, will result in an increase in the number of deployed warheads on the Soviet strategic intercontinental attack force of at least 3,000 warheads by 1990, even without expansion of the current number of deployed launchers or an increase beyond SALT II limits in the number of MIRVed missiles and ALCM-carrying aircraft.

Senator McCLURE. Will the new Soviet ICBMs about to be flight-tested conform to SALT II constraints on ICBM characteristics and "new type" ICBMs?

ANSWER. As noted in the testimony, the Soviets have technical options to test these new ICBMs in such a way as to conform with, or exceed, the limitations on characteristics and improvements in the unratified SALT II Treaty. Before these missiles are flight tested, it is not possible to predict with any confidence what their demonstrated characteristics will be, or what potential they will have, demonstrated or not, in these characteristics. Our raising the issue of Soviet options and decisions on how to proceed with testing these new ICBMs stems from our concern for the potential problems these missiles could pose in terms of compliance with SALT II modernization limitations.

Senator McCLURE. Why do you downplay Soviet reported capabilities to detect submerged submarines from space?

ANSWER. The Soviets are energetically pursuing antisubmarine warfare research and technology efforts. These are of the highest priority for the Soviets, because their current capabilities to detect and locate submerged U.S. submarines are so poor. While Soviet efforts are extensive and the priority is high, the task of developing an ASW system posing a significant threat to U.S. submarines is a very difficult one. These Soviet ASW efforts are followed with great interest by the Intelligence Community, and we are well aware of the potential implications of Soviet success in this area, but we do not foresee the Soviets developing an effective ASW capability against U.S. submarines in the 1990s, based on the efforts we have seen thus far.

Senator MCCLURE. Do the Soviets have 4 Anti-Satellite systems: (1) SL-11; (2) ABM-3, SH-08; (3) Ground-based Moscow Laser; (4) Ground-based Sary Shagan Lasers?

ANSWER. Today, in addition to the dedicated nonnuclear orbital interceptor ASAT launched by the SL-11, other systems—the nuclear Galosh ABM interceptor and two ground-based high-energy lasers at Saryshagan—have potential ASAT capabilities. The other systems noted in the question are not assessed as currently posing an ASAT threat.

Senator MCCLURE. If the Soviets deploy a nationwide ABM defense between 1985 and 1990, at what percentage will their defense spending increase each year?

ANSWER. Depending on the rate at which such an ABM defense was deployed, the annual rate of increase in their expenditures for strategic forces would be 7 to 10 percent, compared to 5 to 7 percent without ABM expansion. In this case total defense spending would increase at about 4 percent per year.

QUESTIONS SUBMITTED BY SENATOR WILLIAM PROXMIRE

Senator PROXMIRE. Mr. Gates, what is the CIA's assessment of what the Soviet Union's immediate military response would be if the United States began deploying a star wars system?

Mr. GATES. The Soviets would build most of their strategic forces for the 1990s as previously planned, and would avoid major disruptions in both the defense sector and the overall planned economy. Thus, they are likely to emphasize programs that have intrinsic value to Soviet strategic forces with or without SDI deployments, such as: modification of existing systems to increase the number of warheads, expanded use of decoys and penetration aids, expanded deployments of long-range bombers, and deployments of large numbers of cruise missiles. The current Soviet ABM system could be upgraded and expanded to provide terminal defense. In addition, the Soviets would begin to develop modifications for their newer ballistic missile systems with reduced vulnerability to SDI from that of their current systems. They would probably begin implementing active defense suppression measures to be able to potentially interfere with SDI operation (sensor blinding, communications jamming, etc.). In addition, regardless of whether the United States goes ahead with a large SDI program or cuts it back, the Soviets will continue their strong ongoing efforts in the technologies similar to those in the SDI program, as was detailed in the prepared testimony.

Senator PROXMIRE. You mentioned in your testimony that "all elements of the Soviet strategic offensive forces will be extensively modernized by the mid-1990s, as a result of programs that have been in train for many years." So unless the Soviets are constrained by arms control treaties, that extensive modernization will come about the time this Administration envisions a go or no-go decision on star wars. In other words, just as we're supposedly in a position to begin launching a star wars deployment, the Soviets will likely be at their peak capability as far as deploying offensive nuclear forces to overcome our defenses. Their production lines will be all warmed up and ready to go. So, unless Mr. Reagan gets the Soviet Union to agree to arms limitations and reductions before the end of his term he's going to leave the next President between a rock and a hard place. The decision on star wars will be due and the Soviets will be all ginned up for a big offensive arms race. Is that a correct picture?

Mr. GATES. The description of Soviet strategic offensive force modernization presented in this testimony was not a hypothetical description of what the Soviets would do without arms control constraints. Rather, it was a description of their new programs that are proceeding, and which the Soviets intend to have in any case. The large-scale replacement of their offensive forces is in progress; new ICBMs, SLBMs, and bombers are being deployed, those in flight-testing will soon begin deployment, and new missiles will soon enter flight-testing. The potential for expansion of their forces beyond arms control limitations has been a feature of Soviet ef-

forts all along, and at any expansion. The Soviet effort now underway is not a new phenomenon, and it will not peak in 1988. It is not unusual for the Soviets, and is the result of an unswerving commitment for the past two decades to build up and improve their strategic force capabilities.

Senator PROXMIRE. You mentioned in your testimony that the Krasnoyarsk radar is "technically capable of providing battle management support to a widespread ABM system, but there are uncertainties about whether the Soviets would rely on these radars to support a widespread ABM deployment." Am I correct in concluding from your statement that you agree with the assessment of many intelligence analysts that the Krasnoyarsk radar is not well suited to be an ABM battle management radar because it is poorly located and poorly configured to serve in that capacity? In other words, what everyone has been worried about doesn't have much value as an ABM battle management radar?

Mr. GATES. The Soviet network of new large phased array radars, including the Krasnoyarsk radar, is judged to be technically capable of providing battle management support to an ABM system. If the Soviets were to deploy a widespread ABM system in the next several years, they would, in our judgment, use this radar network to provide the battle management support. These radars, however, are large fixed installations, vulnerable to direct attack, and they are potentially susceptible to degradation from nuclear blackout effects. Without the support from these radars, a widespread ABM system would be much less capable. To the extent that such radars are defended by air defense and ABM, an attacker would, at a minimum, have to allocate more warheads to increase his confidence in being able to take such radars out quickly. It was felt, at the time the terms of the ABM Treaty were formulated, that radars on the periphery of a country were more vulnerable to attack, in part because they could not be defended as well without defenses placed foward of them, and hence the large phased array radars were required to be on the periphery in order to reduce their suitability for ABM battle management. By that logic the Krasnoyarsk radar, because it is in the interior of the Soviet Union, would be considered more suitable for ABM battle management than if it were on the periphery. The issue of suitability, however, is complex, and these radars appear less suitable for ABM battle management to some analysts than to other analysts. Because such radars are fixed, and they are key nodes for an ABM system's capability, there will always be an issue of whether an ABM system is worth having which depends to a great extent on a few, potentially quite vulnerable facilities. We remain concerned about the Soviets' potential to deploy a widespread ABM system, with these large radars as part of that system, and such a Soviet ABM system would pose serious national security problems.

Senator PROXMIRE. Mr. Gates, the President has stated that he would be willing to share our star wars research with the Soviets. I was astonished when I heard that. So yesterday I asked Secretary Weinberger, who testified before our subcommittee and who has also said he would share star wars research with the Soviets, whether he and the President had retracted that offer. But to my amazement, Mr. Weinberger said that he and the president had not given up the option of sharing star wars research with the world. And Secretary Weinberger didn't exclude the Soviets from the world. As an intelligence officer, what problems and nightmares would you have with giving the Soviets our star wars secrets?

Mr. GATES. The question you raise concerns relative national priorities. They are determined by the President after considering all the relevant factors, including our assessments. My personal views beyond that therefore are not really relevant.

Senator PROXMIRE. One of the simplest countermeasures the Soviets could employ against a boost phase defense is to shorten the burn time of their boosters so the bus deploys the warheads quicker and we have less time to attack the boosters. (1) Isn't it true that a lower burn time can be achieved with not too great a decrease in throw weight? (2) Isn't it true that the technology for fast burn boosters can be developed fairly easily? (3) Isn't it true that the Soviets already have been shortening the burn time of their boosters and as they deploy solid fuel boosters the burn time will be shortened even more?

Mr. GATES. One of the concepts for countering space-based weapons designed to kill during the boost phase is to shorten the booster burn time so that booster burnout occurs before or shortly after the booster exits the earth's atmosphere. Such a boost concept either eliminates or, at a minimum, shortens the engagement time thus stressing the complex of defensive weapons. However, there are some difficult technical problems which must be overcome before such a boost concept could be implemented by the Soviets, and it is by no means clear that the Soviets would find such an approach attractive.

The high acceleration and aerodynamic loads experienced by fast-burn boosters with intercontinental range would require development of new missile structural materials, faster burning propellants, and improved missile control systems. While these particular problems can be solved, it would require a significant developmental effort. On the other hand, some much more difficult technical problems would be involved in effecting a major redesign to alter the shape of such missiles in order to be able to achieve the proper sequencing of operations for intercontinental range in a much shorter time.

If adequate solutions to the problems alluded to above are not obtained then missile ignition weight will increase which is, of course, not desirable for mobile missiles, or throw weight would have to be considerably reduced. The most significant result of the Soviets' moving to solid propellant ICBMs is the ability to deploy mobile ICBMs. It is highly unlikely that the Soviets could maintain their current level of throw weights if they went to fast-burn boosters. It is true that the Soviet solid propellant missiles have shorter burn times than the liquid propellant missiles; the current Soviet burn times for their solids are slightly longer than comparable US systems. They must at least cut in half their current burn times to approach an effective fast-burn booster. While there are perhaps no insurmountable technological problems in this, it is nevertheless a very challenging problem.

In attempting to assess Soviet counters to potential United States actions, it needs to be borne in mind that the Soviets will not necessarily adopt an approach that we would find the most logical. For example, the Soviets will continue to rely on heavy, liquid propellant ICBMs to at least the end of the century, for much of their strategic force capability, despite the very real vulnerability of the silos for these missiles to accurate U.S. nuclear weapons such as MX, D–5, and ALCM.

Thus, the issue of whether the Soviets would move to fast burn boosters to attempt to nullify a United States boost phase intercept defense turns on much more than whether it would be technically feasible. Serious consideration also needs to be given to the negative impact on their missile capabilities, force structure, missile mobility, and concept of operations.

Senator PROXMIRE. What other countermeasures does the CIA believe the Soviets could deploy against a United States star wars system? What is the current CIA assessment of how easy it would be to deploy these countermeasures?

Mr. GATES. There are various countermeasures that can be used. Passive countermeasures include hardening missiles and reentry vehicles against the various kill mechanisms, reducing or altering the "signatures" or observable features of missiles and reentry vehicles, using decoys to draw down SDI resources or overload SDI communications and data processing. Active countermeasures include jamming communications, blinding sensors, and direct attack on satellites or ground facilities.

While most countermeasures can have degrading effects on a system as complex as SDI is expected to produce, none can be expected to be totally effective. Furthermore, any countermeasure has associated costs, in economic terms as well as in tradeoffs in performance. Countermeasures must be designed against the specific threat to be effective, and until the SDI results in a system it is not possible for the Soviets to decide what the most effective countermeasures might be or what course to take, nor is it possible for anyone to assess the effectiveness of such countermeasures.

The countermeasures issue is much more complex than just listing the various technical possibilities. Countermeasures designed to degrade or defeat one element of an SDI defense would not necessarily help against another element, so that layered defenses or a diversity of SDI techniques could impose the need for a multiplicity of countermeasure approaches by the Soviets, some of which might even be mutually incompatible.

QUESTIONS SUBMITTED BY SENATOR MARK ANDREWS

Senator ANDREWS. Recently, as you know, the President gave the orders that the United States comply fully with the limits agreed to with the unratified SALT II Treaty. Mr. Gates, does the National Intelligence Council have an official position on this and if so please tell this joint committee? If there is no official position, please tell this joint committee your position on the President's decision.

Mr. GATES. Intelligence information with respect to Soviet compliance was provided to the President and the National Security Council, but such information contained no recommendations for US policy on this issue. We do not have an official position on this policy matter, and it is not appropriate for me to offer any personal views.

Senator ANDREWS. Are you of the opinion, Mr. Gates or Mr. Gershwin, that the United States should pursue talks with the Soviet Union on arms control? What kind of arms control regime, in general, would you recommend the United States pursuing with the Soviets?

ANSWER. Whether it is in the United States interest to pursue arms control talks with the Soviet Union is a decision for the President to make. The job of United States intelligence is to keep track of Soviet developments in their strategic forces whether or not there are arms control limitations. The Intelligence Community does not take a position on whether the United States should pursue arms control talks or on the type of arms control regime.

Senator STEVENS. I want to tell you that, in my judgment, you did not get any criticism for a sham presentation because you really did declassify some information here this morning and I think it has been a real step in the right direction.

I am hoping we will have some ongoing dialog about other areas that are currently classified that ought to be at least sanitized and presented to the public.

I thank you and I thank the total intelligence community for their cooperation in this regard.

Senator WARNER. I join in that and say you have conducted yourselves in a most professional manner.

[Whereupon, at 12:30 p.m., the joint subcommittees adjourned, subject to the call of the Chairs.]