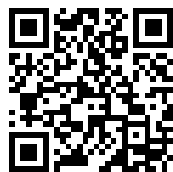

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ABM TREATY AND U.S. BALLISTIC MISSILE DEFENSE

HEARINGS BEFORE THE COMMITTEE ON FOREIGN RELATIONS UNITED STATES SENATE ONE HUNDRED FOURTH CONGRESS SECOND SESSION

SEPTEMBER 24 AND 26, 1996

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URGENT NEED FOR BALLISTIC MISSILE DEFENSE

TUESDAY, SEPTEMBER 24, 1996

U.S. SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, DC.

The committee met, pursuant to notice, at 10:10 a.m. in room SD-419, Dirksen Senate Office Building, Hon. Jesse Helms (chairman of the committee) presiding.

Present: Senators Helms, Lugar, Ashcroft, and Robb.

The CHAIRMAN. This hearing will come to order. Today's hearing is the first of a series, all of which will be focused on the threat of ballistic missile attacks on the United States, the urgent need for missile defenses, and the absolute necessity that the United States withdraw in a timely and complete fashion from an obsolete arms control agreement, the 1972 Anti-Ballistic Missile Treaty.

This morning's distinguished guest is an expert in arms control and proliferation, the Honorable James Woolsey, who will be recognized as the former Director of the Central Intelligence Agency during the Clinton administration. Mr. Director, we appreciate your coming this morning, and at the outset let me note that the greatest emerging threat to America's national security lies in the proliferation of weapons of mass destruction and ballistic missile technology.

On February 22 of this year, the Director of the Defense Intelligence Agency, Lt. Gen. Patrick Hughes, testified that approximately 24 countries "remain actively engaged in the development of nuclear, biological, or chemical weaponry," and that many of these countries are seeking to put warheads of mass destruction on their long-range missiles.

General Hughes further testified—again I am quoting him—that: "Approximately 10 countries worldwide have operational ballistic missiles with ranges greater than 500 kilometers and that by the year 2010 that number could grow to, say 15."

Many of these nations, for example Iran, Iraq, Libya, Syria, and North Korea, are clearly hostile to the United States. It is not merely highly possible, it is very probable, that in the not too distant future a hostile tyrant will possess ballistic missiles capable of reaching major population centers of the United States.

Now, I myself have watched unclassified assessments of the range of the North Korean Taepo Dong 2 missile grow from 2,000 to 3,000 to 4,000 kilometers. Last year the Washington Times reported that the Defense Intelligence Agency believes that the missile, using a smaller warhead, could reach more than 10,000 kilo-

meters, meaning that it could be used to strike cities such as Denver or Minneapolis or the heartland of America.

So obviously, with such an ominous threat emerging, one would assume that the United States would be actively developing defensive technology to protect the American people from this danger. One would assume that the Clinton administration surely would be working in cooperation with a bipartisan majority in Congress to make sure that the United States is never, never exposed to the threat of ballistic missile attacks by a terrorist regime.

Well, such assumptions are and would be wrong. The administration in fact has aggressively blocked every effort by the Republican Congress to implement a national missile defense system to protect the American people from this very real threat. The Clinton administration appears to be ready to leave the American people strategically naked as hostile nations rush forward in their relentless pursuit of nuclear-, chemical-, and biological-tipped missiles.

Indeed, in their zeal to stop the bipartisan majority led by Senator Dole, they proved their willingness to say or do anything to argue that the ballistic missile threat does not exist.

I have got to admit that I was appalled by the politicization of the most recent national intelligence estimate which was put forward to support the administration's position in this regard, declaring that no country other than the "declared nuclear powers" would threaten the continental, the continental United States, with a ballistic missile for 15 years.

I shake my head in astonishment that the administration has somehow managed to write off completely 2 of the 50 States of the Union, Alaska and Hawaii. How could anyone in good conscience draw a distinction between the ballistic missile threat to "the United States" and the ballistic missile threat to the continental United States? Nearly 2 million U.S. citizens live in Hawaii and Alaska, and I think the question inevitably must be are they less deserving of protection than people living in Arkansas or Tennessee or North Carolina or Indiana? I think not.

Second, it boggles the mind that this administration can make decisions about the missile threat to this country while explicitly ignoring the arsenals of declared nuclear powers. Red China, for example, has dozens of ballistic missiles along with several modernization initiatives going on, including development of the MIRV technology, and Red China is the same regime, you must remember, that has just flexed its military might by conducting live missile firing exercises in the Strait of Taiwan and threatening the United States of America with its nuclear arsenal.

Indeed, on February 28 of this year, the Chairman of the National Intelligence Council, Richard Cooper, stated: "Many of China's long-range systems are probably aimed at the United States."

This past winter when I introduced legislation to withdraw from the ABM Treaty, I wondered how the administration could possibly make a decision to veto the missile defense provisions in the Defense Authorization Act while at the same time acknowledging that China continues to threaten the entire United States with ballistic missiles. I for one cannot regard the Red Chinese menace in such a cavalier fashion.

The decision of the President to veto the defense authorization bill and to filibuster Senator Dole's comprehensive missile defense legislation, the Defend America Act, as it was called, and to revise and expand the ABM Treaty rather than withdraw from it all, were made at the peril of American citizens.

No policy reformulation sophistry can change the plain truth that the United States is indeed vulnerable to nuclear-tipped missiles. This perilous deficiency requires leadership and action and it requires bipartisan legislation to deploy an effective defense against a limited nuclear attack, such as one that might be mounted by China or North Korea. And it requires, if I may be forgiven for saying so, a new president in the U.S. Senate, or a new President in the White House, wherever he wants to be, one who is committed to the defense of the American people.

Senator Lugar, do you have any comments? Senator Robb, I welcome you, sir.

[The prepared statement of Senator Helms follows:]

PREPARED STATEMENT OF SENATOR HELMS

THE URGENT NEED FOR A BALLISTIC MISSILE DEFENSE

Today's hearing is the first of a series, all of which will be focused on the threat of ballistic missile attacks on the United States, the urgent need for missile defenses, and the absolute necessity that the United States withdraw in a timely and complete fashion from an obsolete arms control agreement—the 1972 Anti-Ballistic Missile Treaty.

This morning's distinguished witness is an expert in arms control and proliferation—the Honorable James Woolsey, former Director of Central Intelligence during the Clinton Administration.

Director Woolsey, we appreciate your coming here this morning. At the outset, let me note that the greatest emerging threat to America's national security lies in the proliferation of weapons of mass destruction (WMD) and ballistic missile technology. On February 22, 1996, the Director of the Defense Intelligence Agency, Lt. General Patrick Hughes, testified that approximately 24 countries "remain actively engaged in the development of nuclear, biological, or chemical weapons" and that many of these countries are seeking to put warheads of mass destruction on their longer range missiles.

General Hughes further testified that "approximately 10 countries worldwide have operational ballistic missiles with ranges greater than 500 km" and that by the year 2010, that number could grow to 15. Many of these nations—e.g., Iran, Iraq, Libya, Syria, and North Korea—are clearly hostile to the United States. It is not merely highly possible, it is very probable that in the not-too-distant future a hostile tyrant will possess ballistic missiles capable of reaching major population centers in the United States.

I myself have watched unclassified assessments of the range of the North Korean Taepo Dong-2 missile grow from 2,000 to 3,000 to 4,000 kilometers. Last year *The Washington Times* reported that the Defense Intelligence Agency believes that the missile, using a smaller warhead, could reach over 10,000 kilometers, meaning it could be used to strike cities such as Denver or Minneapolis in the heartland of America.

Obviously, with such an ominous threat emerging, one would assume that the United States would be actively developing defensive technology to protect the American people against this danger. One would assume that the Clinton Administration surely is working, in cooperation with a bipartisan majority in Congress, to make certain that the United States is never, never exposed to the threat of ballistic missile attack by a terrorist regime.

Well, such assumptions are wrong. The Clinton Administration in fact has aggressively blocked every effort by the Republican Congress to implement a national missile defense system to protect the American people from this very real threat. The Clinton Administration appears to be ready to leave the American people strategically naked as hostile nations rush forward in their relentless pursuit of nuclear, chemical, and biological-tipped missiles. Indeed, in their zeal to stop the bipartisan

majority led by Senator Dole, they proved their willingness to say or do anything to argue that the ballistic missile threat does not exist.

I was appalled by the politicization of the most recent National Intelligence Estimate, which was put forward to support the Administration's position in this regard, declaring that no country *other than the "declared nuclear powers"* would threaten the "*continental United States*" with a ballistic missile for 15 years.

First, I shake my head in astonishment that the Clinton Administration has somehow managed to write off completely two of the 50 states of the Union—Alaska and Hawaii. How can anyone, in good conscience, draw a distinction between the ballistic missile threat to the "United States" and the ballistic missile threat to the "*continental United States*"? Nearly 2 million U.S. citizens live in Alaska and Hawaii. Are they less deserving of protection than people living in Arkansas or Tennessee? I think not.

Second, it boggles the mind that this Administration can make decisions about the ballistic missile threat to this country while explicitly ignoring the arsenals of *declared* nuclear powers. Red China, for example, has dozens of ballistic missiles along with several modernization initiatives ongoing, including development of MIRV-technology. Red China is the same regime, remember, that has just flexed its military might by conducting live missile firing exercises in the Strait of Taiwan (and threatening the United States of America with its nuclear arsenal). Indeed, on February 28, 1996, the Chairman of the National Intelligence Council, Richard Cooper, stated "Many of China's long-range systems are probably aimed at the United States."

This winter, when I introduced legislation to withdraw from the ABM Treaty, I wondered how the Clinton Administration could possibly make a decision to veto the missile defense provisions in the Defense Authorization Act while at the same time acknowledging that China continues to threaten the *entire* United States with ballistic missiles.

Well, I, for one, cannot regard the Red Chinese menace in such cavalier fashion. The decision to veto the Defense Authorization bill, to filibuster Senator Dole's comprehensive missile defense legislation (The Defend America Act), and to revise and expand the ABM Treaty (rather than withdraw from it) all were made at the peril of the lives of U.S. citizens.

No policy reformulation sophistry can change the plain truth that the United States is vulnerable to nuclear-tipped missiles. This perilous deficiency requires leadership and action. It requires bipartisan legislation to deploy an effective defense against a limited nuclear attack, such as one that might be mounted by China, or North Korea.

And it requires a new President in the White House—one who is committed to the defense of the American people.

Ambassador Woolsey, we look forward to your insights on this matter.

Senator ROBB. Thank you, Mr. Chairman. I have no opening comments.

The topic that the chairman has selected for this hearing is certainly an important one. There are obviously some widely differing views on the subject and I think a public hearing of those views is entirely appropriate, and I thank the chairman for calling the hearing.

The CHAIRMAN. I thank you. Senator Lugar.

Senator LUGAR. Mr. Chairman, I thank you for calling the hearing. The distinguished witness has been before this committee and of course has a distinguished history in intelligence. This is a subject in which both of us have been very much involved for a long time, trying to think of weapons of mass destruction and the materials that are involved in that and the delivery. So we have to be alert, and I look forward to hearing the testimony.

The CHAIRMAN. Very well.

Ambassador Woolsey, we look forward to hearing your insights on this matter, and again I thank you for being here.

OPENING STATEMENT OF HON. R. JAMES WOOLSEY, FORMER DIRECTOR OF CENTRAL INTELLIGENCE

Ambassador WOOLSEY. Thank you very much, Mr. Chairman. If it is all right, I would submit my full statement for the record and then perhaps paraphrase and talk through it in somewhat less time than it would take to read it.

The CHAIRMAN. Very well, that statement will be printed in the record in its entirety.

Ambassador WOOLSEY. Mr. Chairman, members of the committee: It is indeed an honor to be asked to testify before you on this topic of ballistic missile defense. Let me say just a few words about the threat in general before turning to the most recent national intelligence estimate on the subject.

I was in Taipei last spring when the Chinese Government announced its so-called ballistic missile tests, really launches, several days later into the impact areas just off Taiwan's northeast and southwest coasts. Although the administration's original statements on this left something to be desired, I was glad to see that they did later label the firings reckless and provocative and send an added aircraft carrier to the region near Taiwan.

But one early statement, that there would be consequences should these tests go wrong, seemed to me to be very much on the wrong side of the issue. The main point here never should have been what the consequences would have been if China had turned out not to be able to hit a square in the ocean 20 miles on a side. The main point is the consequences when such firings go right.

The issue in Taiwan last spring, just as it was in Israel and in Saudi Arabia in early 1991, is that we have been shown a vision of what the future is going to look like in international affairs and it is not an attractive one. I want to point out first of all that ballistic missiles are normally discussed in the same breath with weapons of mass destruction, but it is not necessary to equip them in a number of circumstances with chemical, bacteriological, or nuclear warheads in order to have a very substantial impact on international affairs and crises.

Saddam's scud attacks, for example, on Israel were clearly designed in 1991 to provoke Israel into retaliation and thereby to fracture our coalition with other Arab states against Iraq.

Second, again apart from even considering the use of weapons of mass destruction, we are in the midst of a revolutionary era of guidance improvements. You can for under \$200 now go buy something about the size of a cellular telephone at virtually any sporting goods or electronic equipment or marine store and have a GPS receiver that will help you locate your sailboat, say, in the middle of the Chesapeake to within 30 or 40 meters. With the announced decision to move away from the so-called selective availability of GPS, it will be commercially possible in short order for countries to obtain truly excellent accuracies with commercially available guidance, with better than 30 to 40 meters.

With guidance improvements of that sort on ballistic missiles, it will not be too long before Saddam or the rulers in Beijing will be able to threaten something far more troubling than just firing relatively inaccurate explosive warheads in the general direction of a city. They may quite readily, for example, be able to threaten to de-

stroy the Knesset, or to create in effect an intentional Chernobyl at a Taiwanese nuclear power plant by hitting the power plant, again without using weapons of mass destruction.

Third, of course, even relatively inaccurate ballistic missiles can be given extraordinary power if they are equipped with weapons of mass destruction. We all know, and Senator Lugar and Senator Nunn have taken a particular lead in dealing with, the problem of loose nukes and fissionable material inside the former Soviet Union. But it is even easier to require the wherewithal to produce, for example, bacteriological warheads.

Anthrax grows in many cow pastures around the world and the assembly of bacteriological weapons for some types of bacteriological toxins is not much harder than running a small microbrewery attached to a restaurant. Indeed, the process of creating anthrax out of a culture that you pick up in a cow pasture is rather similar to the very simple brewing that some people can even do in their homes, and certainly is easy in a relatively small laboratory.

So if one is talking about adding weapons of mass destruction to ballistic missiles, I believe one needs to consider chemical, bacteriological, and nuclear all individually because they have different degrees of difficulty. Certainly a rogue state equipped with biological weapons, bacteriological toxins particularly such as anthrax, and even inaccurate longer range ballistic missiles could create an extraordinary blackmail threat against the United States or any of its friends or allies or against American forces overseas.

The fourth point I want to make is that it is not necessary to be able to conduct an effective counter force strike against our nuclear facilities in the lower 48 States in order to use ballistic missiles for terror and blackmail against the United States. This was a focus for much of the cold war, the survivability of our ICBM's and bomber bases. For example, the Scowcroft Commission report of 1983, of which I was the principal drafter, was heavily devoted to this question. But in current circumstances North Korean intermediate range missiles targeted on cities in Alaska or Hawaii or a relatively inaccurate Chinese ICBM targeted on Los Angeles would suffice just as well for blackmail against the United States in a lot of circumstances as a counter force strike targeted at U.S. nuclear facilities in the interior part of the lower 48 States.

A fifth point is that we should definitely not assume that Russia is a friendly democracy with a few inconsequential anomalies that is steadily developing a free enterprise economy and China is a free enterprise economy with a few inconsequential anomalies that is steadily becoming a democracy.

Yeltsin's health is only one issue, although it is an important one, that should give us pause in assuming that we will have friendly and cooperative relations for the near-, mid-, and long-term future with Russia and China. The future of the governmental structure of each of those countries is far from entirely settled and, although we will not see, I believe, in any of our lifetimes a Russian threat such as existed under the Soviet Union of 23 very fine divisions 100 miles or so from Frankfurt, we definitely still have to concern ourselves with the Russian and Chinese strategic nuclear programs, including the possibilities of unauthorized

launch, accidental launch, or chaotic governmental behavior in some sort of governmental crisis in the future.

Now, it is with those thoughts in mind that I have some things I would like to say to the committee about the recent NIE, 95-19. It is titled "Emerging Missile Threats to North America During the Next 15 Years." My comments are based entirely on the public record, Mr. Chairman. Although I still hold a security clearance, I have not reviewed the classified version of this NIE. I have drawn my comments from the rather detailed unclassified version which was presented to the Congress last spring by the Director of Central Intelligence.

One major reason, it seems to me, why this estimate seems to differ in some important ways from major assessments that occurred, for example, during my tenure as DCI lies much more in the questions that were asked rather than in the answers that were given. This NIE was really focused on a threat to the contiguous 48 States and with some other qualifications as well, and in my judgment that is to focus on a subset and not a particularly useful subset of the strategic problems that are posed to the United States by other countries' possession of ballistic missiles in the post-cold war era.

If broad conclusions are drawn from a national intelligence estimate of such limited scope, as they apparently were, for example that "intelligence indicates that ballistic missiles do not cause a serious threat to U.S. interests for the next 15 years," then the conclusions could be quite wrong even if the drafters of the NIE, the intelligence professionals, answered as best they could the questions that they were asked.

If decision makers conclude—and I believe this would be a serious error—that this NIE, at least as it has been presented in public, covers the most important questions about ballistic missile threats the American interests, I think that would definitely be an error. As the chairman mentioned in his opening remarks, obviously Alaska and Hawaii need to be considered. North Korean intermediate range missiles in well under 15 years will be able to target cities in Alaska and at least some portion of the Hawaiian Island chain, and the last time I looked Alaska and Hawaii had not been admitted to the Union under some terms that exclude them from the common defense called for in the Constitution's Preamble.

I believe that this contiguous 48 frame of reference for the NIE can lead to a badly distorted and minimized perception of the serious threats that we face from ballistic missiles now and in the near future. These are threats not just to the contiguous 48 States, but threats to our friends, our allies, our overseas bases, our military forces, our overseas territories, and the other two States as well.

Using an estimate that focuses on the ICBM threat to the contiguous 48 States to make general overall judgments about our need for ballistic missile defenses is, if you will pardon me perhaps a bit of literary license, somewhat like saying that because the police in the District of Columbia estimate that they know of no criminal conspiracy that will be able to blow up police headquarters in the District of Columbia during the next 15 years, there is therefore no serious threat to the security and safety of the police in the District of Columbia. I think that would be a false conclusion from such a

limited assessment, and it is similar to the conclusion that the administration has apparently drawn from the limited focus of the NIE that was put together.

There are some other aspects about this national intelligence estimate that are troubling. The unclassified version of the General Accounting Office's recent report makes several important points. I think the most important is that the GAO has stressed that the NIE did not "identify explicitly its key assumptions" and did not "account for alternative economic and political futures." Those I believe would be major failings of the national intelligence estimate.

The GAO also pointed out that the NIE did not quantify the certainty level of nearly all of its key judgments. I think that in matters of intelligence, Mr. Chairman, sometimes quantification can be overdone, but we always used to try to use what we called gambler's odds, rough estimates, 1 in 3 chance, 1 in 10 chance, that sort of thing, in order to give a general idea of the level of importance. And this NIE, as the GAO points out, did not do that.

The GAO also has stated that the evidence presented in the NIE "is considerably less than that presented" in the earlier NIE's—"I believe it is talking about the ones in 1991-93"—in both quantitative and qualitative terms.

There are several other points about this NIE that I think it is important to mention. If you are assessing indigenous capabilities within currently hostile states to develop ICBM's of standard design that can hit the lower 48 States, then the NIE's answer, that we have 15 years, may well be a plausible answer. But each of these qualifications in the questions asked is an important caveat and it substantially restricts one's ability to generalize legitimately or to make national policy based on such a limited document.

For example, concentrating on indigenous ICBM development seems to me to limit very sharply any general conclusions that might legitimately be drawn. Dr. Cooper's public version of the NIE indicates that the potential for foreign assistance introduces some uncertainty into our predictions of time lines. Well, that is putting it mildly.

Indigenous development of ICBM's was of interest during the cold war because the Soviets sought to restrain their client states and to maintain a monopoly. But countries such as Iraq are no longer client states of the Soviet Union, which does not exist any more, and they are not even client states of Russia. They are doing what they please.

And in the aftermath of the cold war, Russia, China, and North Korea particularly are very much in the business of export for many ballistic missile components and for some technologies that relate to weapons of mass destruction. Furthermore, the degree of central control in Moscow and Beijing may not be entirely complete with respect to the exports of these types of materials, so transfer deserves much more attention than it did during the cold war.

A further problem is created by transfers of technology to a country that is friendly to the United States today, or at least not hostile, if that country should later turn hostile through a revolution or radical change in government. Even with the best intelligence in the world, it is impossible to forecast 15 years in advance such

events as the Iranian revolution of the late 1970's, which turned a friendly state into a hostile one.

Furthermore, indigenous capabilities can be enhanced by unconventional means. Even a country that does not have traditional ICBM technology, if it has been able to produce a weapon of mass destruction such as a biological weapon, it may be able also to produce a functioning ICBM by strapping several smaller boosters together, a technique that is well-known and used in space launches. Even if such an ICBM's accuracy and performance were not up to American or even Russian standards, such a missile, equipped with such a warhead, might serve quite adequately for purposes of blackmail and terror.

Because of these uncertainties, we ought to study carefully the possibility of technically feasible threats, not only threats for which we actually see nations conducting tests and assembling the components. One reasonable course of action in my judgment would be to put together a sort of technical red team of bright American scientists and engineers and let them see what they could assemble from internationally available technology and components. I would bet we would be shocked at what they would be able to do with what is commercially and generally widely available in the world.

We should also remember that we seriously underestimated before 1990-91 what Iraq was going to be able to do in the field, especially, of weapons of mass destruction by merely looking at and focusing on what we actually saw Iraq undertaking. Some technological extrapolation may well be an important component of sound intelligence assessment, and we underestimated what Saddam was doing by simply reporting only what we saw and not what he could be doing under various types of possible technical innovations, including for example the use of calutrons, which we had not concentrated on because we rejected those in about 1942 or 1943. But he was making them work.

It may be that the President was relying on something other than this recent national intelligence estimate when he said in vetoing the 1996 defense authorization bill that U.S. intelligence does not foresee the existence of a ballistic missile threat to the United States in the coming decade. But to the degree that the President was extrapolating a general conclusion from the very limited part of the overall threat that appears to be assessed in this NIE, I believe that this was a serious error.

Finally, let me turn briefly to the current state of arms control negotiations as they might affect our ballistic missile defense programs. A little over a year ago my law partner and friend Steve Hadley, who served as Assistant Secretary of Defense for Intelligence Security Policy in the Bush administration, set out in detailed testimony before the Congress the history of the negotiations in 1992 that followed President Yeltsin's January speeches of that year. President Yeltsin called for "a global system for protection of the world community that could be based on a reorientation of the United States SDI to make use of high technologies developed in Russia's defense complex."

Now, earlier this year, according to press reports, earlier in 1996, the new Russian Foreign Minister, Mr. Primakov, threatened to withhold Russian ratification of the START II Treaty unless the

United States agreed to restrictions that could substantially limit even our theater ballistic missile defenses in the context of distinguishing such theater systems from treaty-limited systems.

A number of things have changed since 1992, but one is that President Yeltsin now has some important advisers, such as Mr. Primakov, who are generally less inclined to promote cooperation with the United States than their predecessors and who have in some cases very close ties to the rulers of some of the rogue states that are at the heart of our proliferation concerns.

But whatever the reasons for this shift since 1992 from Russian willingness to propose overall cooperation with the United States on ballistic missile defenses to Mr. Primakov's effort to undermine even our theater ballistic missile defense programs, the change is quite striking.

During these same 4 years, Mr. Chairman, the Russians have expressed substantial disagreement with one particular aspect of the treaty that I negotiated in 1990, the Conventional Armed Forces in Europe Treaty, CFE, particularly the special limitations that apply to the northern and southern flanks of the former Soviet Union. The United States has worked with its NATO allies in the course of the past year or so to find ways, by adjusting the CFE flank zones, to accommodate some of the Russian concerns.

Now, I have no quarrel with these efforts because they have been coordinated with our allies, especially Turkey and Norway, who are the ones who are principally interested in these particular limitations. I certainly have no quarrel with them, assuming that the administration seeks appropriate congressional approval for any changes in the CFE map.

But the point is that we are being quite reasonable with respect to CFE Treaty adjustments, but Russia is headed exactly in the opposite direction with respect to adjustments to the ABM Treaty. The Russian Government is trying now to make the treaty more restrictive on the United States, for example by trying to get us to agree to limitations on the speed of our ballistic missile interceptors.

Now, I understand that the delineation agreement applies only to lower speed interceptors and that the administration's position is that it will continue to resist Russian efforts to restrict capabilities of our faster interceptors, such as those that would be used for the Navy's Upper Tier theater defense system. But I am frankly concerned that we have agreed to discuss interceptor speed at all with the Russians. I am even more concerned that we are proceeding, that our Government is proceeding, toward multilateralizing the ABM Treaty. By adding other countries—Ukraine, Byelorussia, Kazakhstan—we will make it much harder to make modifications to and adjust the ABM Treaty.

The original purpose of the ABM Treaty was to prevent Soviet ABM deployment that would endanger our ability to retaliate following a Soviet counter force strike against the United States. We are not worried about a counter force strike from Byelorussia. I see no reason why we are moving to make it harder to make changes and modifications to the ABM Treaty rather than easier.

Finally, Mr. Chairman, I was quite disappointed in the administration's original defense budget for theater and national ballistic

missile defense programs, and I am pleased to see that the Congress has added \$900 million plus to those programs. I believe that the program that, frankly, right now I would put the most emphasis on is the theater defense program, the Navy Upper Tier and THAAD, because much of the work that would be done on interceptors and on tie-ins particularly with space-based sensors such as Brilliant Eyes would be quite useful and relevant to a national defense program at some time in the future.

We do need, however, to pay particular attention to a problem that is now just coming into the national debate, the public debate. I would call the committee's attention to a recent autumn 1996 article in the Strategic Review by Dr. Lawrence Goldmuntz about "Poor Man's MRV's and Space Defense." Dr. Goldmuntz's major point in this article is that by using fractionated payloads—simple, relatively small fractionated payloads—of a weapon of mass destruction such as biological weapons, a rogue state could make it substantially harder, to the point of near impossibility, for traditional types of ABM interceptors to do the job of protecting the United States or in many cases for theater defenses to work.

He proposes a particular type of space-based defense and it is a type, because of the inclination of the orbits of the satellites he discusses, that would not affect the Russian nuclear deterrent under the ABM Treaty. It is an interesting idea. It is one that has been discussed in various circles for some time. But I believe the most important point is that we need to be doing the research and development, including on space-based programs, that would make it possible for us to deal with future issues and problems such as the fractionated payloads that Dr. Goldmuntz discusses.

One final point. The Russians need to be made aware that we expect them to be reasonable and particularly that their international conduct and their military programs will be weighed by us as we make our long-term decisions about our approach toward the ABM Treaty and toward our cooperative programs with them. We have no reason to be hesitant to make it clear to the Russian Government what American needs and desires are. We are dealing from a position of strength here. It was their political and economic system that was cast onto the ash heap of history, not ours.

Thank you, Mr. Chairman.

[The prepared statement of Ambassador Woolsey follows:]

PREPARED STATEMENT OF AMBASSADOR WOOLSEY

Mr. Chairman, Members of the Committee, it is an honor to be asked to testify before you today on the topic of ballistic missile defense.

Let me begin by addressing the subject of the threat.

Last spring I was in Taipei when the Chinese government announced its intention to begin ballistic missile launches three days later into two 20-mile-square impact areas, one a mere 20 miles off Taiwan's northeast coast and the other 30 miles off the southwest coast. These launches interfered with access to Taiwan's principal port, Kaohsiung, to Taipei's international airport, and to rich fishing grounds. After originally stating that the firings did not constitute a blockade, were only political theater—albeit "a little too close to the edge of the stage"—and announcing that "there will be consequences should these tests go wrong," I was glad to see that the administration later labelled the firings reckless and provocative.

But the main point here should never have been what the consequences would be in the event that China turned out not to be able to hit even a square in the ocean 20 miles on a side. The main point is what the consequences are when such tests go right.

The key issue is that off Taiwan this past March, as well as in the streets of Tel Aviv and Riyadh in early 1991, we have been given an important insight into the future of international relations. It is not an attractive vision. Ballistic missiles can, and in the future they increasingly will, be used by hostile states for blackmail, terror, and to drive wedges between us and our friends and allies. It is my judgment that the administration is not currently giving this vital problem the proper weight it deserves.

I will turn in a moment to the presentation given the end of February to the Congress by Richard Cooper, Chairman of the National Intelligence Council, covering the new National Intelligence Estimate (NIE), "Emerging Missile Threats to North America During the Next Fifteen Years." (I would stress that throughout my testimony today in my references to this NIE, this unclassified presentation of Dr. Cooper's and other unclassified sources are my only sources of information about this estimate.) But here at the outset let me say a few words in general about the threat that ballistic missiles are coming to pose to American interests in the world.

First, although ballistic missiles are normally discussed in the same breath with weapons of mass destruction, it is important to realize that it is not always necessary to deploy nuclear, chemical, or bacteriological warheads in order to use ballistic missiles—even with current accuracies—as weapons of terror and blackmail. The Chinese, for example, have admitted that they were using these recent missile launches near Taiwan to attempt to influence Taiwan's Presidential elections and to affect Taiwan's conduct of its relations with other countries. Saddam's SCUD attacks on Israel, using conventional high-explosive warheads, were clearly an attempt to provoke an Israeli response and to split the coalition against Iraq, which included a number of Arab states which would have had great difficulty fighting alongside Israel against another Arab nation.

Second, we are in the midst of an era of revolutionary improvements in missile guidance. These improvements will soon make ballistic missiles much more effective for blackmail purposes—again, even without the need for warheads containing weapons of mass destruction. The press has reported, for example, that the U.S. Government is adopting a policy to permit other-than-U.S.-government-users of the Global Positioning System (GPS) satellite network to have much greater confidence that the satellites' signals will not be interrupted or degraded by the U.S. The press also reports that the administration believes that regional agreements will ensure that the signals cannot be used by hostile forces. But the efficacy of such arrangements remains to be seen. The current type of GPS access is adequate for many commercial purposes. But if the policy of "selective availability" of GPS is about to be abandoned, there will be a definite risk not only that guidance signals, provided by the U.S., will be usable by other nations for their ballistic missile systems (that is true today), but that truly excellent accuracy will thereby be achievable for many countries' missiles.

With such guidance improvements, it is quite reasonable to believe that within a few years Saddam or the Chinese rulers will be able to threaten something far more troubling than firings of relatively inaccurate ballistic missiles. They may quite plausibly be able to threaten to destroy, say, the Knesset, or threaten to create, in effect, an intentional Chernobyl incident at a Taiwanese nuclear power plant.

Third, even relatively inaccurate ballistic missiles may be given awesome power if equipped with weapons of mass destruction. Although attention is usually focused on the possibility of various countries' obtaining nuclear warheads, nuclear capability is at least somewhat constrained by the difficulty of acquiring fissionable material. Loose controls over fissionable material, particularly in the former Soviet Union, are nevertheless quite troubling because unauthorized sales and smuggling of fissionable material to rogue states are becoming increasingly likely. But it is even easier to acquire the wherewithal to produce chemical or, much worse, bacteriological warheads than it is to acquire fissionable material. Chemical and bacteriological weapons will be available far sooner and to a much larger number of countries than will nuclear warheads. Bacteriological warheads in particular will serve about as well as nuclear ones for purposes of turning a country's ballistic missiles into extremely effective tools of terror and blackmail, even if they are never launched. This Committee is well familiar with the large number of countries working on ballistic missiles, and with the international traffic in technology and equipment—much of it out of Russia, China, and North Korea—that assists other nations in developing and improving ballistic missiles and weapons of mass destruction.

Fourth, it is not necessary to be able to conduct an effective counter force strike with ballistic missiles against ICBM silos, bomber bases, and other nuclear facilities in our continental heartland in order to use ballistic missiles for terror and blackmail directly against the United States. This concern with a counter force strike against nuclear facilities in the interior of the lower 48 states was, of course, a prin-

cipal issue for us during the long strategic stand-off against the Soviet Union during the cold war. Much of our strategic analysis during those years centered on the ability of, particularly, our ICBM's and strategic bombers to withstand such a strike and retaliate effectively. For example, the Scowcroft Commission Report in 1983, of which I was the principal drafter, was heavily devoted to this question.

But in current circumstances, nuclear blackmail threats against the United States may be effectively posed by, e.g., North Korean intermediate-range missiles targeted on Alaska or Hawaii, or by relatively inaccurate Chinese ICBM's targeted on Los Angeles.

Fifth, we should not automatically assume a benign post-cold-war world in which Russia is a friendly democracy, with a few inconsequential anomalies, that is steadily developing a free enterprise economy and China is a free enterprise economy, with a few inconsequential anomalies, that is steadily becoming a friendly democracy. It is at least as likely, in my judgment, that the Russia that will face us will come to be autocratic and imperialistic—we may hope, but we should not be confident, that it will retain some measure of civil liberties and some free sectors in its economy. As for the new China, in addition to our serious differences with its leaders over civil liberties, proliferation, and trade, we may well have seen its international face in the Taiwan Straits this past spring. In short, we cannot discount the possibility of serious international crises developing in the future with either country—including crises in which Russian or Chinese officials will repeat new versions of the barely veiled threat expressed to former Assistant Secretary Freeman this past spring: American leaders "care more about Los Angeles than they do Taiwan."

It is with these considerations in mind that I have some thoughts about NIE 95-19 covering "Emerging Missile Threats to North America During the Next Fifteen Years." The answers provided to the questions that were asked—based on the public record—during the process of writing this NIE may well be the best consensus that the Intelligence Community could produce, and may be consistent in many ways with earlier work. One major reason, it seems to me, why this estimate seems to differ in important ways from the major assessments during my tenure as DCI, lies much more in the questions that were asked. To focus an NIE on the threat to the contiguous 48 states, in my judgment, is to focus on a sub-set, and not a particularly useful sub-set, of the strategic problems that are posed for us by other countries' possession of ballistic missiles in the post-cold-war era.

If broad conclusions are drawn from an NIE of such limited scope, as they apparently were—for example, that "intelligence indicates" that ballistic missiles do not pose a serious threat to U.S. interests—the conclusions could be quite wrong, even if the drafters of the NIE answered as best they could the questions they were asked. If decision-makers conclude, and I believe this would be a serious error, that this NIE—at least as it has publicly been described—covers the most important questions about ballistic missile threats to American interests, what would they say about, e.g., nuclear blackmail threats against Alaska and Hawaii? These sorts of threats will in great likelihood be present from North Korean intermediate range missiles in well under fifteen years. Such questions as these seem to be an after-thought, at least in the public description of the NIE. But the last time I looked, Alaska and Hawaii had not been admitted to the Union on terms that exclude them in some way from the common defense called for in the Constitution's preamble. As objects of blackmail they are of no less concern to us than Oklahoma and Kansas.

I believe that the "contiguous 48" frame of reference for this NIE, if the document is used as a basis for drawing general policy conclusions, can lead to a badly distorted and minimized perception of the serious threats we face from ballistic missiles now and in the very near future—threats to our friends, our allies, our overseas bases and military forces, our overseas territories, and some of the 50 states. Using an estimate that focuses on the ICBM threat to the contiguous 48 states to make *general* judgments about our need for ballistic missile defenses is, if you will grant me some literary license, akin to saying that because we believe that for the next number of years local criminals will not be able to blow up police headquarters in the District of Columbia, there is no serious threat to the safety and security of police in the District.

There are other aspects of the scope of this NIE that are troubling. The unclassified version of the GAO's recent report on the NIE makes several important points. First, and most significantly, the GAO stressed that the NIE did not "identify explicitly its key assumptions" and did not "account for alternative economic and political futures." The GAO also pointed out that the NIE did not "quantify the certainty level of nearly all of its key judgments" (although quantification can be over-used, I believe, in intelligence estimates, some use of rough "gambler's odds", such as stating that there is "a one-in-three chance" can assist understanding). The GAO added

that the evidence presented in the NIE "is considerably less than that presented in the earlier NIEs, in both quantitative and qualitative terms."

I would add several other points about this NIE, as it is set out in the unclassified February statement to the Congress. Again, the NIE's answers may be reasonable in view of the questions it seeks to answer. If you are assessing *indigenous* capabilities within *currently-hostile* countries to develop *ICBM's of standard design* that can hit the *lower 48 states*, the NIE's answer that we have 15 years of comfort may well be a plausible answer. But each of these qualifications is an important caveat and severely restricts one's ability to generalize legitimately, or to make national policy, based on such a limited document.

The concentration on *indigenous* ICBM development seems to me to limit sharply any general conclusions that might legitimately be drawn. Dr. Cooper's testimony indicates that "the potential for foreign assistance introduces some uncertainty into our predictions of timeliness." That is putting it mildly. Indigenous development of ICBM's was of interest during the cold war because the Soviets sought to maintain a monopoly on their most precious military capabilities and export of fully developed ICBM's was not in the cards. But in the cold war's aftermath, Russia, China, and North Korea are in the export business for missile technology and components, and for some technologies related to weapons of mass destruction as well. Moreover, with respect to some such exports the degree of control exercised by Moscow, and perhaps by Beijing, may not be at all complete. Consequently, transfers deserve more attention than they did during the cold war.

A further problem is created by transfers of ballistic missile technology or components to a country which is friendly to the U.S. if that country should later turn hostile through a revolution or radical change in government. Even with the best intelligence in the world it is impossible to forecast fifteen years in advance such events as the Iranian revolution of the late 1970's, which turned a friendly state into a hostile one.

Moreover, indigenous capabilities may be enhanced by unconventional means. A country without traditional ICBM technology that has been able to produce warheads carrying weapons of mass destruction—such as biological—may be able to produce a functioning ICBM by strapping several smaller boosters together, a technique sometimes used for space launches. Even if accuracy and performance were not up to our standards, such a missile, equipped with such a warhead, might serve quite adequately for purposes of blackmail and terror.

Because of these uncertainties we should study carefully the possibility of technically feasible threats, not only threats for which we actually see nations conducting tests and assembling components. One reasonable course of action, for example, would be for the government to assemble a small technical "red team" of bright young American scientists and engineers and let them see what could be assembled from internationally available technology and components. I would bet that we would be shocked at what they could show us about available capabilities in ballistic missiles. We should remember that by assessing only what we could actually see, we badly underestimated Iraq's efforts in the years before the Gulf War, especially with regard to weapons of mass destruction.

It may be that the President was relying on something other than this recent National Intelligence Estimate when he said, in vetoing the 1996 Defense Authorization Bill, that US intelligence "does not foresee" the existence of a ballistic missile threat to the US "in the coming decade". But to the degree that the President was extrapolating a general conclusion from the very limited part of the overall ballistic missile threat that appears to be assessed by the NIE, I believe that this was a serious error.

Finally, let me turn briefly to the current state of arms control negotiations as they might affect our BMD programs and to those programs themselves as set forth in the defense budget for 1997 as originally proposed by the administration—also based, of course, on public reports.

A little over a year ago, my law partner and friend, Steve Hadley, Assistant Secretary of Defense for International Security Policy in the Bush Administration, set out in testimony before the Congress the history of the negotiations in 1992 that followed President Yeltsin's January speeches of that year. President Yeltsin called for "a global system for protection of the world community [that could be] based on a reorientation of the U.S. SDI to make use of high technologies developed in Russia's defense complex."

Earlier this year, according to press reports, the new Russian Foreign Minister, Mr. Primakov, threatened to withhold Russian ratification of the START II Treaty unless the U.S. agreed to restrictions that could substantially limit even our *theater* ballistic missile defenses, in the context of distinguishing such theater systems from treaty-limited systems.

Among the many things that have changed since 1992 are that President Yeltsin is now surrounded by advisers, such as Mr. Primakov, who are generally less inclined to promote cooperation with the U.S. than their predecessors and who have very close ties to the rulers of rogue states that are at the heart of our proliferation concerns.

But whatever the reasons, the shift during these four years from Russian willingness to propose overall cooperation with the United States on ballistic missile defenses to Mr. Primakov's effort to undermine the effectiveness of our theater ballistic missile defense programs is quite striking.

During these same four years, the Russians have expressed substantial disagreement with one particular aspect of the treaty that I negotiated in 1990, covering conventional armed forces in Europe (CFE)—the special limitations that apply to the Russians' share of their total conventional armed forces that they can deploy to their northern and southern flanks. The United States has worked with its NATO allies during the last year or so to find ways, by making certain adjustments in the map defining the CFE flank zones, to accommodate some of the Russian concerns. I have no quarrel with these efforts, because they have been coordinated with our NATO allies, especially Turkey and Norway, who are principally interested in these particular limitations, assuming that the administration seeks appropriate Congressional approval for any map changes.

The point is that we are being quite reasonable with respect to CFE Treaty adjustments, but Russia is headed the opposite direction with respect to adjustments to the ABM Treaty. The Russian government is now trying to make the ABM Treaty *more* restrictive on the U.S.—for example, by trying to get us to agree to limitations on the speed of our theater ballistic missile interceptors. It is my understanding that the administration has resisted these Russian efforts, but it is unfortunate that—again according to press reports—we have apparently agreed to language that establishes interceptor speeds (below 3 kilometers per second) that would *not* violate the treaty. I hope and trust that we will continue to insist that faster interceptors (such as those that would be used for the Navy's Upper Tier theater defense system) are also treaty-compliant, but I am concerned that we have agreed to discuss interceptor speed at all. Limitations on the range and speed of *targets* for theater systems should be sufficient to establish that our theater systems are not being "tested in an ABM mode" in violation of the treaty.

I also have difficulty in understanding the reasons for adding other nations, such as other former Soviet Republics, to the ABM Treaty. Multilateralizing the Treaty will make it harder to amend and adjust it in order to accomplish the purposes President Yeltsin set out in 1992. The original purpose of the ABM Treaty was to prevent a Soviet ABM deployment that would endanger our ability to retaliate following a Soviet counter force strike against the U.S. We fear no such a strike from, e.g., Byelorussia. I see no reason why we are moving to make it *harder* to adjust the Treaty to the post-cold-war era rather than easier.

Finally, I was quite disappointed that the administration's original defense budget for 1997 delayed and cut the funding for the theater and national BMD programs that Congress has called for. I am sympathetic with the dilemma faced by the senior leaders of the Defense Department as they were forced to set priorities among BMD programs, given the fact that the funds available for defense procurement overall were less than two-thirds of the sustaining level of approximately \$60 billion that was needed. The problem is not so much, in my view, the choices that the Defense Department leadership made in the face of these fiscal constraints. It is the constraints themselves.

Any overall assessment of the risks and needs facing the United States should, in my judgment, indicate the primary importance of a vigorous program for theater defenses (Navy Upper Tier and THAAD) and also the importance of a sound program to move toward some type of national defense (coupled with a diplomatic effort to increase, not decrease, the flexibility in the ABM Treaty). I would personally put the top priority at the present time on the theater defense programs, in addition to the shorter-range systems that are already being pursued. The reasons are set forth very well in last year's report by the Heritage Foundation, "Defending America." In general, much of the work on theater systems, particularly in connection with space-based sensors, is also relevant to national defenses.

I would defer for the time being the question whether we should consider withdrawing from the ABM Treaty. I believe that, with an appropriately firm negotiating approach to the Russians and with adequate funding for our own BMD programs, we should be able to accommodate our needs within the Treaty for some time if it is appropriately interpreted and, possibly, modified.

In 1992 we explored seriously with the Russians how we might move toward limited national defenses cooperatively with them so that both countries could be de-

fended from a wide range of ballistic missile threats. With any reasonable Russian government, this approach should eventually bear fruit. As only one example, if we could reach agreement on returning to something very similar to the ABM Treaty's original 1972 form (permitting two sites, not one, in each country), a thin national defense against most threats other than a large attack by Russia would be made substantially easier. As part of a combined approach we might be willing to supply the Russians, as well as other nations, with data from our space-based sensors such as Brilliant Eyes. This would substantially enhance the performance of their theater defense systems. Such a combined approach of treaty modification and cooperative programs would give us a few more years to assess the direction in which we want to move over the long run.

One final point. The Russians should be made aware that we expect them to be reasonable and that particularly their international conduct and military programs will be weighed by us as we make our long-term decisions about our approach toward the Treaty and cooperative programs. We have no reason to be hesitant to make clear to the Russian government what American needs and desires are. We are dealing from a position of strength. It was our cold-war adversaries' political and economic system that has been cast onto the ash-heap of history, not ours.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, sir, Mr. Ambassador.

At one point here I decided to count the number of occasions when the President claimed publicly that no nuclear missiles of any kind threaten America. There were 84 times, as I counted them, that we have records of, and on 22 of those occasions he emphasized that no nuclear missiles of any kind threaten America.

On March 30, 1995, last year, in Tampa he got a little dramatic. He said: "And for the first time since the dawn of the nuclear age, there are no nuclear missiles pointed at the children of the United States of America." Maybe they are pointed at the adults, but not at the children. That is my comment, not his.

You have considerable experience. How long would it take Russia to retarget its strategic nuclear force against the United States?

Ambassador WOOLSEY. I believe the head of the Strategic Rocket Forces in Russia has said publicly at one point under 1 minute. I think for most retargeting of American ballistic missiles one is talking in terms of seconds. So although with respect to Russian missiles today, assuming they have carried through on this understanding about retargeting, it may be technically true that at least no Russian missiles are targeted on the United States, I have no reason to believe that that same thing applies with China.

And even in the case of Russia, that is a little bit, Mr. Chairman, as if I had a revolver here and was pointing it at the ceiling and I said: I am not threatening the committee with this revolver. It is quite easy for me to lower my arm, and it is only a little bit harder to retarget an ICBM.

The CHAIRMAN. Can you be a little bit more precise in terms of days, weeks, or what?

Ambassador WOOLSEY. Well, I think there is a public statement by the head of the Strategic Rocket Forces in Russia that it could be done in less than a minute with respect to any given missile. And my own understanding with respect to American ballistic missiles is that it, certainly with naval systems, is a matter of a very short time indeed, well under a minute.

So it may be technically true and it may be important with respect to a purely accidental launch that a Russian missile would, say, fly into the ocean instead of hitting New York. But it is also the case, I believe, that if there were an unauthorized launch or a

planned launch by the Russian Government that whoever was in charge of launching those missiles would be able to retarget them in very short order. I do not know whether it would have to be sequentially or could all be done at once, but we are talking a few minutes here. We are not talking days and weeks.

The CHAIRMAN. I want somebody to run the clock for me. I started 4 minutes ago and I suggest we have 6 minute timing for the first round. So I have a couple more minutes.

The 1995 NIE estimate states with absolute certainty, 100-percent certainty, that no Third World country will threaten the United States, continental United States, with a ballistic missile in the next 15 years. Now, that declaration stands in sharp contrast to the 1993 NIE, which found that substantial uncertainties cloud the intelligence community's ability to project development, especially beyond 10 years.

In 1992 the then-Director of the CIA, Robert Yates, stated: "We are analysts, not umpires," and that the intelligence community should not "exaggerate our certainty under the guise of making the tough calls."

Given the uncertainties expressed in the 1993 NIE, do you believe that the 1995 NIE overstated its certainty about the absence of a Third World ballistic missile threat?

Ambassador WOOLSEY. I certainly believe that it gave the implication that the certainty was greater than it was, because it focused on this indigenous threat by currently hostile countries to the lower 48 States. But if one looks even at one of the troubling concerns, the North Korean Taepo Dong 2 missile, which we already know is under development, and its capability of reaching Alaska, which is after all on the North American continent and certainly is one of the 50 States, I believe that there is no real argument inside the intelligence community that the Taepo Dong 2 would be able to threaten cities in Alaska in well under 15 years.

So by excluding that possibility from their general statement about 15 years, I think the NIE gave an inaccurate and unsupportable overall picture, even if it might have been technically true within the confines of the question that was being answered.

The CHAIRMAN. Thank you, sir. Senator Robb.

Senator ROBB. Thank you, Mr. Chairman.

Mr. Woolsey, you certainly have the credentials to discuss this topic, given your background in both negotiations over the treaties that you have described in your testimony and your more recent service as DCI, and I appreciate the expertise that you bring to it.

Two matters that you did not really discuss in your testimony, but I believe are especially relevant today, and I would like to get your thoughts on those. One has to do with the state of the art or the technology that we have available to us or believe that we will have available to us in the near future. The second one has to do with cost and the kinds of defensive readiness that you might purchase for the same number of dollars that would otherwise be invested in this particular architecture so that you could provide for the kinds of contingencies that you have outlined and have frequently been discussed in this arena.

Reduced to its simplest terms, we are still talking about the concept at least of hitting a bullet with a bullet in terms of what we can do. Recognizing that this is an open hearing and that many of the specific details would not be appropriate for discussion here, would you give us a general sense of where you believe the research and development efforts today place us in terms of our true capability to have a reliable defense against incoming ballistic missiles? And second, if you will—and it is really just one central question—if you would relate those to the costs in terms of what we might do now and how much of the investment we would make at any given stage would be applicable to advanced technologies that we might be able to perfect in the interim that might make the scientific ability to intercept these incoming missiles better and give us a greater sense of true security?

Ambassador WOOLSEY. Thank you, Senator Robb. I believe that in the near term focus on the intermediate range programs, the Navy Upper Tier and THAAD, and also ensuring that those are not restricted by agreements to expand or delineate the ABM Treaty is a high priority. But I believe it is especially important that we focus on the interaction between space-based sensors and those interceptors, because if one can cue with a space-based sensor, such as Brilliant Eyes, an interceptor such as THAAD or the Navy Aegis Upper Tier, one can get a good deal more coverage than would otherwise be the case.

One could, as the recent Heritage Foundation report suggests, for example, probably defend Japan with two Aegis cruisers, whereas without that space-based cueing it would take a very large number of sites. That interaction between interceptors and space-based sensors will also be an important part, I think, of any program, whatever we decide upon, to defend the United States itself.

So I think the funds that Congress added this year are generally in the right areas. They were generally added to the intermediate range programs and to some extent to the national missile defense.

I am very concerned, though, with the problem that Lawrence Goldmuntz raises, which is that if we are trying from land or from the surface to, as you put it, hit a bullet with a bullet, we have got to be rather good at that. And we may well be able to hit individual bullets with bullets, but if the payload is fractionated into, for any given missile into, let us say, dozens of not independently targeted, but shotgun-like fractionation, MRV's, dozens of small packages of biological toxins, then one does not want to have to shoot down each package—softball-sized or basketball-sized or whatever they would be.

One needs to be able to deal with the missile in boost phase, and that ranges from maybe a minute for a short-range missile to, I do not know, maybe 3 or 4 minutes for an ICBM. That essentially means one has to be having space-based weapons, either something like Brilliant Pebbles or something else.

The cost of such a program would be substantial, for a worldwide comprehensive defense against ballistic missiles, tens of billions of dollars, I imagine. But I do not know—I have not done any precise estimates on my own or looked into it.

The earlier programs, the theater-based defenses with the space-based tie-in, I think are very much—or let me put it this way: they can be kept on track and the cost of those is much less.

Senator ROBB. Mr. Chairman, I thank Mr. Woolsey for his answer. He did respond to the question about the additional money that was put in the budget, but the question I had with respect to funding addressed the larger question of the cost of BMD that you alluded to if it were to be developed, given our current and expected near-term knowledge on that subject. I wonder if you could just address that with just a number, if you can, or just a comment.

Ambassador WOOLSEY. I do not have a single number, Senator Robb. And my experience as Under Secretary of the Navy years ago, as well as my experience as general counsel of the Senate Armed Services Committee, has always made me very cautious about giving cost estimates on programs, especially ones that I have not studied or tried to do any estimating myself.

I would think I would stick with, in addition to what is currently programmed, for theater defenses and perhaps for a one- or two-site defense of the United States, under the ABM Treaty or a modified version of the ABM Treaty, a few billion dollars. If one is talking about an entire worldwide space-based defense to do boost phase intercept, we would be talking certainly tens of billions of dollars. More precise than that I do not think I can be.

Senator ROBB. Thank you, Mr. Woolsey.

Thank you, Mr. Chairman.

The CHAIRMAN. Senator Lugar.

Senator LUGAR. Thank you, Mr. Chairman.

Mr. Woolsey, I just wanted to underline both for my understanding and assurance the action steps that you proposed. As an experienced negotiator, at the bottom of page 6, at least in the text that we have, you point out that "I hope and trust that we will continue to insist that faster interceptors, such as those to be used in the Navy's Upper Tier defense system, are also treaty-compliant. But I am concerned that we have to agree to a discussion of interceptors at all." And you have been discussing this interaction between these interceptors.

That statement, plus the fact that you get back to an overall editorial comment that the Russians ought to be reasonable about the situation, that clearly we have a case to be made here they may be adding new people to their foreign policy roster to make it difficult, but at the same time your suggestion is that the ABM Treaty could be modified and that we ought to be pressing to do that in a variety of ways.

I think this is a common sense, appropriate negotiating position. Let me just ask, from your own situation what are the elements of doing that? Clearly, a number of us have been counseling that the ABM Treaty perhaps ought not to pertain to certain elements, and you have suggested that in a specific case, but even if it does that the Russians ought to understand how it is in their interest, and you suggest in fact in one paragraph we look toward a serious limited national defense cooperation with the Russians and even the sharing, as you pointed out at the bottom of page 7, of certain data from the space-based sensors such as Brilliant Eyes.

This suggests a negotiating posture in which we really are quite explicit in pointing out to them how defense of their territory would be enhanced by their cooperation with us and some rule of reason with regard to the technical fixes that are now available in this.

Could you elaborate further on the negotiation side of it?

Ambassador WOOLSEY. Yes, Senator Lugar. I think we should take the position that speed of interceptor is just irrelevant to whether or not a system is treaty-compliant. I think we should give the Russians no sustenance at all in their effort to limit or have different criteria apply to different interceptor speeds.

I think under the treaty, even as written and under even a traditional interpretation of the treaty, it is perfectly adequate to limit the speed and the range of the targets at which our interceptors would be shooting in tests as a way of complying with what is now in the treaty, that a ballistic missile intercept system could not be "tested in an ABM mode." I think that is sufficient.

Now, I think that as a first movement toward having a national defense that would be effective against unauthorized launches, accidental launches, probably against China for a long period of time, and against rogue threats such as the North Korean Taepo Dong against Alaska or Hawaii, we should seriously consider proposing that we go back to, essentially, a version of the original ABM Treaty, which permitted two sites, not one. One of those sites had to be at the national capital, the National Command Authority, but if one could change that and have one ABM site in the northeastern corner of the country and one in the northwestern corner of the country, I believe that against a large number of rogue and Chinese threats and the like we would, at some cost but a reasonable cost, be able to have a nationwide defense.

I think that would be considerably more capable than trying to do it based on a single site in the north central part of the country, such as essentially would be called for by the current structure of the ABM Treaty.

Third, I would try to engage the Russians in a replay of their positive 1992 attitude and say that, you go along with us with the modification of the treaty, we are going to develop Brilliant Eyes, we are going to use it for our data for our theater programs and our national program; we have no reason, particularly as long as Russia stays a democracy, not to want to give Russia targeting data if Iran or Iraq fires a ballistic missile at them.

I think we could have the program structured in such a way that it could be read out by Russian ballistic missile defense systems.

Finally, I think we should probably begin now to engage the Russians in trying to figure out how we might move together over the longer run toward systems that would be more capable and which would require either doing away with the treaty or very, very substantial revisions to it. But I think we have time to do that and I think we could take something like this in steps and see how it goes.

Senator LUGAR. I appreciate that testimony very much. Your success with the CFE Treaty over a long period of time involving the Russians and others is a very remarkable achievement in American diplomacy, and that is why I wanted to tap your resources and I appreciate your responses.

Ambassador WOOLSEY. Thank you, Senator Lugar.

The CHAIRMAN. Senator Ashcroft.

Senator ASHCROFT. Thank you, Mr. Chairman.

I thank the Director for coming and sharing his thoughts with us. When you were asked about the NIE for 1995 and its value to us, you indicated that there was a clear flaw, at least I thought you did, that the Taepo Dong missile could probably reach Alaska. Is that the extent to which you think the study is flawed, or do you think that 15 years is too far to try to look into the future with confidence about a variety of other settings?

Ambassador WOOLSEY. I think 15 years is too far to look, particularly in light of the availability of the types of commercial guidance technology I described, in light of the possibility of unconventional approaches by rogue states, such as strapping several boosters together, the way it is done for space launch vehicles. I think it is too far to look into the future because countries that are in one way or another supposed to be abiding by the missile technology control regime may not abide by it or may have firms or portions of the government in, say, Russia or China ship components and technology even without thorough and clear central control in Moscow and Beijing.

And it is also possible that friendly countries with ballistic missile programs could turn hostile to the United States without our having 15 years notice of that. So for all those reasons, I think a 15-year horizon asserted with the clarity that the NIE does is overdrawn.

Senator ASHCROFT. That was kind of the feeling I got. So it is pretty clear that the 15-year timeframe is a false sense of security, especially as it relates to the strategic interests of the United States, like at least two of our States.

Second, it appears to be that it is an overextended sort of sense of confidence in terms of time for others. Do you have—is there a timeframe that you think could be intelligently stated? If 15 years is not correct, what is the right number of years? Or are we literally in jeopardy at the present time, given the variables which you have cited?

Ambassador WOOLSEY. If we are talking about vulnerability of U.S. allies in some parts of the world and U.S. forces, such as American forces in Kuwait or Saudi Arabia today, I think the only honest answer is that potentially those are vulnerable now. I mean, we lost some killed in action in Saudi Arabia to a ballistic missile, a scud. And all Saddam would have to do, or Iran, in some type of crisis would be to equip even a scud-range missile with a weapon of mass destruction, chemicals or biologicals, and we would have a very, very serious threat to deal with.

Now, for longer range threats, threats, let us say, against Europe from the Mideast or threats against Alaska from North Korea, those are perhaps a very few years out, but certainly they are well fewer than 15 years out. And if one is talking about threats to the 50 States from the Near East, it depends really on whether rogue states such as Iran and Iraq do things in a conventional way or whether they are willing and able to do such things as cobble together a collection of boosters to form a kind of jury-rigged ICBM in the way that some space launch vehicles are put together.

So there is not a single answer, Senator Ashcroft, but that is the spectrum as I see it.

Senator ASHCROFT. Well, maybe the problem that we have with the NIE is that it appeared to be a single answer and we feel like it might be unduly comforting.

Ambassador WOOLSEY. It was a single answer to a very specific and limited question, and the answer to that question may well be technically accurate. It is just that I think if you look at it from the point of view of the overall policy of the country and the overall concerns the country ought to have about ballistic missiles, it is misleading.

Senator ASHCROFT. You mentioned that the potential of using theater-based brilliant eyes technology could provide for a much greater and a more efficient use of the resources we have on the surface. Is it possible that we work toward a global system, one theater at a time? Is that efficient? Or would it be your view that if we were to be concerned about the deployment of a global system, that prior deployment of theater systems would not be the components or building blocks of the system?

Ambassador WOOLSEY. Well, I think the answer to that is complicated. I believe the key thing is the interaction between Brilliant Eyes and the theater-based systems and knowing that we can do that and that it is effective and that the first can cue the second.

Once we can do that, then that same technology and approach I think could be used for a continental defense. That would probably be in a first-generation system, as I suggested—one way to do it, I will put it that way—would be a couple of sites in the United States, perhaps in the northwest and the northeast.

But as time goes on, the types of sensors that only collect data in Brilliant Eyes and then hand that data off to land-based or surface-based interceptors would be inadequate. You would probably have to begin to move toward having space-based defensive systems as well, whether those are something like the old program called Brilliant Pebbles, where the interceptor itself flew into the ballistic missile as it was taking off, or a space-based laser or something else.

I believe that as time goes on one would have to move away from the systems that are more like Brilliant Eyes plus theater systems and would have to move more toward space-based interceptors.

Senator ASHCROFT. May I just ask one more?

This theater-based potential using the land-based intercept, does that not get the weapon in its boost stage? Or, in order to get to the boost stage interception, do we have to be in a space-deployment mode?

Ambassador WOOLSEY. You may need somebody who is a physicist rather than a lawyer-history-major up here on this point, but let me say this. Generally speaking, the theater-based systems would not be boost phase, but a lot would depend on the location.

An Aegis Upper Tier cruiser or destroyer with fast interceptors on it, tied into Brilliant Eyes, that was based in the Sea of Japan might well be able to intercept a Taepo Dong 2 in boost phase. But unless a mobile theater-based system, such as one on a ship, was up quite close to the launch point, generally speaking the theater-based systems would not be boost phase.

Senator ASHCROFT. Thank you very much.

The CHAIRMAN. I suggest that we have one more question, maybe 3 minutes, if you need a few more seconds than that.

I am amazed. I come from the news business and I have listened, I think, to all of the President's news conferences and, except for Bill Gertz of the Washington Times, I have heard the President not once asked about some of the statements that he has made, the positions he has taken. He has written off Alaska and Hawaii in terms of defense. He dismisses the Russian and Chinese missile threats. He downplays the impact of foreign assistance on rogue states' missile programs. He underestimates the impact of space launch programs upon missile proliferation. I wonder if Bill Gertz does not feel a little bit lonesome, but he has done a good job on this.

Now, to another thing, Mr. Ambassador. The GAO says that the 1995 national intelligence estimate on missile threats had a bunch of serious intelligence gaps in it. Now comes the Downing report. Are you familiar with that?

Ambassador WOOLSEY. I have seen an excerpt of it just within the last 2 days.

The CHAIRMAN. So have I. It is on terrorism, rogue states, and so forth and so on. It came to the conclusion that the administration policy restrictions on recruitment of intelligence sources may hamper, "may hamper," the efforts of national intelligence agencies and lead to intelligence gaps.

Now, tell me what the Downing report is? What is it talking about and what negative impact are these policy restrictions having upon our ability to monitor the ballistic missile programs of rogue states such as Iran, Iraq, Libya, Syria, and North Korea?

Ambassador WOOLSEY. General Downing is the retired, very able commander of the American Special Forces, Special Operations Forces, and he was recently asked, I believe in the aftermath of the terrorist incident at Kobar Towers, to put together an assessment. I just saw some of it within the last couple of days.

He does indeed call for a reassessment of our current guidelines, policy restrictions on recruitment of sources, he calls them, in order to improve our ability to collect intelligence against terrorist groups. Now, I believe what he is referring to here—and again, Mr. Chairman, I am going only on press reports because I have not seen the classified version of these guidelines.

But early this year the Director of Central Intelligence apparently issued guidelines about recruiting informants inside foreign groups for the CIA. This is a complicated subject, but let me just say this about it. If one is talking about an agent, that is the foreign individual who has been persuaded or hired by an American case officer, perhaps carrying out some covert action for the United States, let us say even overthrowing a government or running guns to the mujahedin rebels, there is some kind of reasonable test one wants to put on that individual. One does not want to help a terrible murderer become the head of a country in a coup, for example.

Now, full stop. Let us set aside covert action, which is after all a very tiny share of what American intelligence does these days, and let us just talk about recruiting informants in espionage for

purposes of obtaining information. In that world it seems to me, for that task, it is terribly important to be able to tell your case officers that it is not only permitted, but it is indeed encouraged, for them to recruit people who really know what is going on inside the upper reaches of rogue governments such as Iran or Iraq, inside Hezbollah, inside the Cali cartel.

Almost by definition, the close associates of Saddam Hussein or the top level of the Government of Iran or of the heads of the Cali cartel or of Hezbollah are not nice people. Occasionally when one is dealing with a complicated and large foreign government, we will have a spy like Colonel Penkovsky, who was a great man, a Russian patriot, and who spied for the United States and Britain not for any reason other than that he wanted to save his country from communism. And indeed the recent book about him, called *The Spy Who Saved the World*, chronicles the contributions that he made during the Cuban missile crisis, for example.

But when one is dealing with a rogue state or a terrorist group, there are very, very few—there are virtually no—Colonel Penkovsky's. What you are talking about is buying information from someone who is probably a human rights violator or worse, the worst kind of human rights violator.

Under those circumstances, I think we need to be quite clear, as I believe General Downing suggests, that any restrictions or policy guidance we have in place does not hinder our ability to penetrate terrorist groups and rogue states in order to learn about things like weapons of mass destruction and ballistic missile programs in Iraq, let us say.

I do not know for a fact whether these current new guidelines create a serious problem that way or not. I have not seen the classified version of the guidelines. The press reports, some of them say that there are waiver provisions and the like. But the general philosophical point is that it makes no more sense to tell CIA case officers that they cannot recruit bad people, as long as they are getting and they are convinced they are getting good information from them, at the top of the Iraqi Government or in Hezbollah to learn about these serious threats to the United States than it would make to tell the Director of the FBI that he should penetrate the Mafia inside the United States, but he cannot get any crooks as informants. By definition, the Mafia consists almost entirely of crooks, and by definition a lot of these places one needs to find the informants in consist almost entirely of some fairly undesirable people.

The CHAIRMAN. I agree entirely.

Without objection, I am going to ask the staff to include in the printed record the relevant portion of the Downing report, and it is marked here.

[The material referred to follows:]

Future intelligence collection and analysis must provide improved indications and warnings of attack and increased specificity at the tactical level. Because the terrorist has the ability to choose "where, when, and how" he will attack, his actions will always be difficult to predict. He has the advantage of time - time to select his target and the choice of the exact time of attack. Fanatics will be prepared to sacrifice their lives to achieve their goals. Human intelligence (H-UMINT) will assume greater importance to the effort than technical intelligence, although they will remain complementary disciplines and cannot succeed in isolation from each other. Precise warning of terrorist attacks depends on HUMINT to identify specific targets and the

time and nature of the attack. The United States must invest more time, effort, and resources into developing these crucial sources of information. Moreover, policy restrictions on recruitment of sources may hamper the efforts of national intelligence agencies and must be reexamined.

The CHAIRMAN. Senator Robb.

Senator ROBB. Thank you, Mr. Chairman. And I might say that the testimony that Mr. Woolsey just gave with respect to the kinds of tradeoffs that are necessary if you are going to penetrate terrorist or other hostile organizations is, regrettably, the kind of decision that we have to make, and it brings into conflict our idealistic approach on the one hand and our pragmatic approach on the other. It is very difficult to be able to satisfy both of the desires when we are working on the intelligence side.

Mr. Woolsey, if I may, just one last question that relates to the concept of the whole ABM Treaty and what used to be referred to as a concept of mutually assured destruction. If we move away from the ABM Treaty and the consequences that might flow from it with respect to both arms limitations and arms reduction treaties that have already been negotiated and are either in process of implementation or ratification, do we in your judgment end up with a false sense of security with respect to all of the other threats that may, again looking at the more realistic appraisal, that terrorists normally bring to bear on the equation and the way that weapons of mass destruction—nuclear, biological, or chemical—might be brought into this country, the old suitcase theory, whatever the case may be?

It seems to me that we make a very significant departure from the ability to intercept in the boost phase, as you describe it, to make certain that whatever residue from whatever may be launched does not fall within our borders, to keeping that weapon from being launched in the first place, the "trust but verify" dialog that has long existed. And it seems to me that at some point we have to decide whether or not we are going to make a shift based on a scientific ability that may or may not be as comprehensive as you describe. You talked about costs with respect to a limited accidental unauthorized launch capability or a much broader coverage, that would give us what we might assume would be reasonably total or close to total protection from any type of launch that might occur and the cost tradeoffs that are involved.

Do you think we are at the stage at this point with respect to development that we can safely move from the far less expensive arms reduction, arms limitation phase and the verification phase and the transparency phase, that have allowed us with respect to at least the former Soviet Union—and I recognize fully the complications that China or any other major nation possessing this capability brings to the equation—are we at the stage in your judgment where we ought to abandon the theory that underscores the ABM Treaty, basically?

Ambassador WOOLSEY. Senator Robb, an excellent question. Let me say this. Again focusing, as you say, on the former Soviet Union and setting aside for a minute China and the rogue states, which, that is an important piece of the issue, of course, but just focusing on Russia especially: I never really thought it was a good idea that assured destruction was mutual. I did not think that Russia need-

ed to have it guaranteed that they could retaliate against an American attack.

I thought that was a bad idea. I thought the basis of the ABM Treaty when I was working on the staff in 1969 and 1970, in some of the beginning negotiations of SALT I, part of which later became the ABM Treaty—the reason we agreed to limit our ballistic missile defenses was, first of all, at the time from the point of view of protecting the entire country the offense seemed a lot more capable than the defense and it seemed as if defense was going to be difficult to do.

But also, what we were after was limiting Russian ballistic missile defense so that we could be sure, and they would know that we were sure, that we could retaliate in case of an attack by them. And the coin we had to pay in, the price we had to pay, was to limit our own ABM systems. In 1972, frankly, I thought that was probably a reasonable deal.

A lot has changed. Russia's future is considerably uncertain now. I would say Russia is somewhat in the position that Germany was in the 1920's, except that German experience with the rule of law and parliamentary democracy was rather more extensive in the 1920's than Russia's is today. German democracy, it turned out, depended in the 1920's heavily on Gustav Stresemann, who unfortunately died in 1929, just about the time the Depression changed everything—the failure of the Credit Anstalt and so forth—and Hitler went from being a relatively insignificant figure to being someone with a mass following in the early thirties.

I am not predicting that something like that is going to happen in Russia, but I do not know where Russia is going to go. My great hope is that it stays a parliamentary democracy and, although its near neighbors may have some problems with it, that we are able to get along more or less reasonably with it over the years to come.

And if that is what turns out to happen, I think we would be well-advised to begin to work closely now with the Russians to move together away from the idea that we need to be able to have large numbers of weapons that could attack one another and to focus more heavily on how both Russia and the United States in a cooperative way can protect themselves and others against actions of the Iranians and the Iraqs and the North Koreans of the world.

If I am wrong about that hope, if Russia turns sour, as Germany did—and as I said, it will do it in a different way; it will go sour in its own way—but if Russia turns sour as Germany did during the 1930's, then in my judgment the need for defensive systems would probably be even more urgent and greater in our case.

I think that dealing with a power such as the former Soviet Union, which was ambitious in that they wanted to dominate, but was not crazy and warlike normally—they wanted to win without fighting. That is why we eventually defeated them, I think. To have in the future a sort of stodgy establishment, but in some cases aggressive, nomenklatura-oriented power of the sort that the Soviet Union was and that we worked out these arrangements with in the 1970's and the 1980's, I do not think that is in the cards for Russia. I think things are either going to be better or worse than that.

If they are better, I think we have lots of opportunities to cooperate with Russia on things I described. If they are worse, I do not

think mutual assured destruction is going to be what we want to point toward.

Senator ROBB. I think we have to, obviously, continue to focus on capability rather than intent, and that is implicit in your suggestion. And I think that anything that we can do mutually, at least with respect to this major part of the exchange of ICBM part of the equation makes sense. And your expertise in this area is very much appreciated and your sharing your time with us.

And Mr. Chairman, your patience in allowing us to go a minute or two over with this particular witness is also appreciated, and I thank you.

The CHAIRMAN. I thank you, Senator.

Mr. Ambassador, some Senators who were not able to be here this morning have suggested that they may want to file a written question or so with you, and I know you will accommodate that.

I want to add my thanks to that of Senator Robb for your coming here this morning. I have been a great admirer of yours for a long time. We have just got to hold hands tight and make sure that we do not give away the store. That is the way I feel about it.

There being no further business to come before the committee, we stand in recess.

[Whereupon, at 11:35 a.m., the committee adjourned, to reconvene at 10:13 a.m., September 26, 1996.]

THE ABM TREATY AND U.S. BALLISTIC MISSILE DEFENSE

THURSDAY, SEPTEMBER 26, 1996

U.S. SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, DC.

The committee met, pursuant to notice, at 10:13 a.m., in room SD-419, Dirksen Senate Office Building, Hon. Jesse Helms (chairman of the committee) presiding.

Present: Senators Helms, Pell, Kerry, and Robb.

The CHAIRMAN. The committee will come to order.

Today's hearing, which is the second of a series, is intended to focus on the threat of ballistic missile attacks on the United States, the urgent need for missile defenses, and the absolute necessity that the United States withdraw in timely and complete fashion from an obsolete arms control agreement, which is, of course, the 1972 Anti-Ballistic Missile Treaty.

Now this morning's distinguished witnesses are experts in arms control and missile defense. They are the Hon. Henry Cooper, former Director of the Strategic Defense Initiative Organization and chief U.S. negotiator to the Geneva Defense and Space Talks; the Hon. William R. Graham, former Director of the White House Office of Science and Technology Policy and Science Adviser to President Reagan; and Mr. Jack Mendelsohn, Deputy Director of the Arms Control Association.

We surely do appreciate your coming this morning.

That said, let me emphasize that I am convinced beyond peradventure that it is critical that the United States begin immediately the task of building and deploying a national missile defense to protect the American people from the growing threat of ballistic missile attack.

A couple of days ago, this committee was privileged to hear testimony by Jim Woolsey, whom you know, the former Director of Central Intelligence, and he said that the national intelligence estimate has been used—and I am characterizing this, this is my wording, not his—as contrived support for the administration's claims that the United States will not face a missile threat for at least another 15 years.

I say this because it is clear to me, and I think to many others, that during that hearing the politically skewed NIE was, in reality, merely a smokescreen. The true source of the Clinton administration's opposition to ballistic missile defense seems to be an almost fanatical devotion to an antiquated arms control agreement, which is, of course, the ABM Treaty.

(29)

Now I, for one, am deeply troubled that this country is being held hostage to an outdated concept of strategic deterrence that is truly mad—or MAD. The frenzied defense of the ABM Treaty is rooted in the mentality of the cold war and the threat to the United States has changed qualitatively and quantitatively. I think the Clinton administration is missing the boat in the process.

Henry Kissinger, former Secretary of State, as everybody knows, the architect of the ABM Treaty, put it best when he wrote not long ago, and I quote him: "The end of the cold war has made the strategy of mutually assured destruction—MAD—largely irrelevant."

Then Mr. Kissinger continued that it was "barely plausible when there was only one strategic opponent. The theory makes no sense at all in a multipolar world of proliferating nuclear powers."

Henry Kissinger went on to note specifically that MAD would not work against blackmail with nuclear weapons. Yet that is exactly what we were faced with when Red China issued thinly veiled threats back in the spring, suggesting that nuclear weapons would be used against the United States if the United States intervened on behalf of Taiwan.

Now Assistant Secretary of State Winston Lord acknowledged that Chinese officials had declared that the United States "wouldn't dare defend Taiwan because they, Communist China, would rain nuclear bombs on Los Angeles."

Now if that is not nuclear blackmail, it will do until nuclear blackmail comes along. It will do while the Clinton administration folds its hands until the first nuclear missile hits the west coast of the United States.

China's ability, do you not see, to hold the United States hostage to such threats is made possible by the fact that a band of latter day "Luddites," here in Washington, have consistently refused even to consider building the very strategic missile defenses necessary to protect the American people from such an attack.

At the heart of this matter, of course, is the perverse logic of the ABM Treaty, which argues that vulnerability to nuclear-tipped ballistic missiles is essential to stability. There are a number of factors that bring into question the value of this line of reasoning in the post-cold war world, and I will touch on just a few of them, then conclude.

First of all, thanks in no small part to President Reagan's Strategic Defense Initiative, we have made major technological advances in the last quarter century, which make ballistic missile defenses both feasible and affordable.

Second, there has been a considerable improvement in relations between Russia and the United States following the dissolution of the Soviet Union. At its most basic level, the logic of the ABM Treaty assumes hostility between Russia and the United States. Clearly, while there are movements afoot in Russia that are exceedingly troublesome, even today, we are no longer, at least, grappling in a cold war embrace with Russia.

Third, and most importantly, the post-cold war world is one of multiple potential threats which are compounded by trends in ballistic missile proliferation, Chinese and rogue state adventurism, and the potential for turmoil in Russia. All of these trends also

suggest that the most likely nuclear danger to the United States is not a massive preemptive Russian strike, but the deliberate or accidental launch of a few warheads.

Such a danger, of course, is unpredictable and undeterrable—in short, a threat against which the ABM Treaty offers absolutely no protection.

But the United States can defend itself against these dangers. The fact that we have no national missile defense is a reflection on a lot of things; but it is not a reflection upon our capabilities as a nation. Instead, it is the troubling legacy of the first four years of an administration that has vetoed a defense authorization bill for its missile defense provisions; it has filibustered Senator Dole's comprehensive missile defense legislation, the Defend America Act; and it has sought to revise and expand the ABM Treaty, rather than withdraw it.

So, with all of that said and after we hear from our distinguished ranking member, Senator Pell, and from Senator Robb, we will look forward to hearing from our three distinguished witnesses today. Senator Pell.

Senator PELL. Thank you, Mr. Chairman. I commend you on your decision to begin these hearings on the ABM Treaty and the ballistic missile defense.

There are many advocates of a rush to build an ABM defense for this country, and today we will hear several different assessments as to the continued value of the ABM Treaty, the wisdom of possible changes, the merits of a ballistic missile defense. President Clinton, to his great credit, is proceeding deliberately and slowly to try to clarify what is allowed under the 1972 ABM Treaty and what changes can be envisioned without at the same time undermining that treaty.

At the same time, he is preparing the way for a possible decision to deploy ABM defenses while leaving the way clear for the best informed reviews before making any recommendation on deployment to the Congress.

It seems to me that the ABM Treaty has at least one tremendous virtue: it helps to assure the continuation of a process under which three former Soviet states are giving up their nuclear weapons and Russia is reducing its arsenal by two-thirds and working with the United States to eliminate nuclear warheads.

We must remember that the spending of tens of billions of dollars on a national missile defense is thought of by its advocates as a reasonable protection against the attainment of several nuclear weapons as well as the missiles to deliver them by some perhaps rogue state. There are already existing international strictures, such as the missile technology control regime, to deal with missile proliferation, and the Non-Proliferation Treaty and international sanctions are designed to deal with nuclear proliferation. It is wrong to assume such controls will fail.

We and other nations should and would use our most intensive diplomacy to deal with threats to us. Moreover, we must not forget that, as a last resort, we have conventional military power to respond to any rogue state that attacks or has the temerity to threaten to attack us, our friends, and our allies with weapons of mass destruction.

We must be careful not to waste our resources. At the same time, we must be careful not to underestimate the resources available to us as we pursue what we deem to be our true and real national interests.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, sir. Senator Robb.

Senator ROBB. Thank you, Mr. Chairman. I appreciate very much your holding this series of hearings. It is very useful. At the risk of being somehow cast with the Luddites, I would say that my views do not parallel the chairman's in their entirety, but I certainly share the desire to make certain that the United States is secure, both in the near-term and in the long-term.

Because of the slightly delayed start, I am not going to be able to remain for all of even the opening testimony. I have the statements of all three witnesses. Mr. Chairman, if it is your plan, as you did during the last hearing, to leave the hearing record open for possible questions that might be submitted, I may well, after I have had a chance to review the testimony, submit a couple of questions for the record.

But I thank you very much for holding the hearings. I think public discussion of these issues is extremely helpful.

The CHAIRMAN. Thank you, Senator, and I do intend to keep the record open for written questions and written answers. We will miss you when you depart.

Senator ROBB. Thank you, Mr. Chairman.

The CHAIRMAN. Ambassador Cooper.

STATEMENT OF HENRY F. COOPER, FORMER DIRECTOR, STRATEGIC DEFENSE INITIATIVE ORGANIZATION AND CHIEF U.S. NEGOTIATOR TO THE GENEVA DEFENSE AND SPACE TALKS WITH THE SOVIET UNION, WASHINGTON, DC

Ambassador COOPER. Thank you, Mr. Chairman for the opportunity to provide my views on the ABM Treaty, a cold war treaty with a nation that no longer exists.

I request that my prepared testimony be entered into the record and I shall summarize its high points.

The CHAIRMAN. That will be the case with all of the witnesses. Your printed testimony will be included in the printed record.

Ambassador COOPER. Today I do not intend to dwell on policy issues surrounding the ABM Treaty. I have included, as a part of the record, a reprint of a recent "Orbis" article which summarizes those views.

Rather, today I want to discuss the costs of the treaty. In my prepared testimony I gave a number of examples where real or imagined ABM Treaty constraints have cost the United States time, treasure, and perhaps lives. I include constraints we placed on Patriot and Aegis, the cancellation of all credible, near-term boost phase intercept programs, and the emphasis on the most costly, least effective defenses, while canceling the most effective, least expensive defenses.

Here, however, I will emphasize the costs of the double standard applied to United States and Soviet, now Russian, interpretations involving the use of external sensors to improve the effectiveness of ABM systems over that which would be possible if only co-lo-

cated radars were used to identify and track incoming missiles and guide defensive interceptors to counter them.

President Bush's March 1992 Report to the Congress on Soviet Noncompliance indicated that large, phased array radars on the periphery of the former Soviet Union probably provided Moscow's ABM system with handover data on attacking missiles suitable for target acquisition. This data could enable launch of Moscow based interceptors before the Moscow ABM radars acting alone could enable an intercept attempt.

For 20 years, the United States had judged such an activity to be a significant treaty violation and limited U.S. activities accordingly. But the President's 1992 report noted that the ABM Treaty was not explicit regarding this activity and charged no violation.

After a year's review, the President's 1993 Report to Congress on Soviet Noncompliance concluded that, "In light of the ambiguity of the treaty language," exploitation of these early warning radars to provide precise handoff data to the Moscow system is not a violation of the treaty. In other words, this Soviet broad interpretation of the treaty was compliant, even though we had for 20 years considered such actions to be violations and had restricted our activities accordingly.

Whatever its prior interpretation, the United States should now follow this precedent. It should upgrade its early warning radars to support any future national missile defense system. Also, U.S. defenses should exploit precise target handover data from any sensor not co-located with ABM interceptors, including space-based sensors.

Instead, the Clinton administration is precluding the use of such handover data even in its design and development of theater missile defenses, which were never supposed to be limited by the treaty. In effect, it is turning the ABM Treaty into an ATBM treaty, and it has made clear that it intends to do so without the approval of the Senate, ignoring the Senate's constitutionally mandated treaty-making responsibilities.

The major potential costs of this narrow interpretation were discussed by my colleague, Dr. Bill Graham, in his Senate Armed Services Committee testimony last year, and I would like to build on a graph he provided, as shown after page 8 in my prepared testimony. If you would, please turn to that.

A useful performance parameter is the area on the surface of the ground, or the footprint, that a ground-based interceptor can defend. The Clinton administration's ABM Treaty related prohibition on exploiting external sensing can be summarized by the ratio of defended area with external sensing to the defended area without external sensing—in other words, the area Moscow would defend with the LPAR data divided by the defended area without the LPAR data.

For the United States, the largest surface area that could be defended by an interceptor under no ABM Treaty constraint can be compared, then, to the area that can be defended under the ABM Treaty-related prohibition on external sensing now being imposed on system design and implementation.

The attached figure, the figure that I am referring to [indicating], shows the ratio of interceptors with velocities of from 2 to 5 kilo-

meters per second, plotted against the range of offensive theater ballistic missiles. You will note that I have listed there a number of those that exist around the world today.

This defended area ratio, which is significantly larger for longer range offensive missiles in all cases, increases approximately as the square of the defensive interceptor's velocity.

The 3 kilometer per second interceptor velocity case is of particular interest because the Clinton administration and Russia are reported to have agreed that the lower velocity interceptors are treaty compliant. At between 2 and 3 kilometers per second, then, THAAD is compliant, but the Navy's Upper Tier interceptor's velocity is between 4 and 5 kilometers per second, with which the Russians have not agreed as being treaty compliant.

Restricting interceptor velocities to 3 kilometers per second would deny the improved coverage that could be provided by higher velocity advanced THAAD or Navy Upper Tier interceptors. And not permitting handoff data from sensors other than a co-located radar, as the Clinton administration is doing, imposes a large penalty, as is indicated by the upper trend of these curves, for all velocities, but most of all for the higher velocities.

Given that U.S. defenses will surely face longer range offensive missiles in the future, it is truly an irony that the Clinton administration is "dumbing down" U.S. theater missile defense systems by not allowing them to exploit external sensors, even though the Soviet or Russian practice for their Moscow ABM system has been declared to be compliant.

This area ratio for a given interceptor currently represents an unrealized potential defense coverage capability because the Clinton administration is not permitting the use of data from sensors other than the co-located radars to enable interceptors to achieve their potential effectiveness. To compensate for this lost potential, additional interceptor sites could be deployed to gain the area coverage. Thus, the area ratio is also a first order estimate of the treaty related costs for defending a given area.

You will notice that the scale on the chart goes from 0 to 140 as the upper end for the higher velocity interceptors against the longer range offensive missiles.

The importance of external sensor data is also illustrated by the second figure in my prepared testimony, which is also on the easel, next to you, Senator Robb. This chart, from the report of the Heritage Foundation's team B, which I was privileged to lead, provides a total acquisition cost estimate as a function of the defended area for a number of possible defensive systems. You will note, if you can see that from where you are, that the area of various regions of interest are highlighted along the horizontal axis, extending from Israel, which is very small, on the left-hand side, to the middle of the chart, which is NATO, not counting the United States and Canada. The right-hand side, I might note, is roughly the radius that would be associated with defending the United States.

The cost of not taking advantage of external sensors is shown explicitly for THAAD in the shaded region. This is against a 3,000 kilometer range offensive missile for the purposes of preparing this chart.

I might add that the costs of THAAD have increased somewhat since this chart was prepared. So this is an underestimate of the impact.

The Navy Upper Tier, deployed on 22 Aegis cruisers around the world for \$2 billion to \$3 billion, and that is the bottom horizontal line there, could defend most of the Earth's surface provided—provided—handoff data from external sensors are permitted, which, of course, as I have indicated, the Clinton administration is currently prohibiting.

Without exploiting external sensors, the Navy Upper Tier costs would increase more rapidly with defended area than does even THAAD, with an autonomous radar or without external sensors, as shown on this chart.

Space-based interceptors and the Navy Upper Tier with external sensors are global defenses and, clearly, the best buy for defending large areas, which I believe will be of strategic importance in the future as we face more longer range missiles in the hands of nations like North Korea, Iran, Iraq, Libya, and Syria.

To emphasize this point, I would call your attention to the chart over to my left—to your right—which is not in my prepared testimony. It also comes from the team B report, and I would be happy to provide copies later.

The outermost circle on this chart is associated with a 3,000 kilometer range missile that might be launched from Libya. You can see here that it could reach most of the capitals of Europe. From Iraq, this same missile could reach Rome, Moscow, and the capitals of Eastern Europe. Imagine the political realities with such a missile in the hands of Saddam Hussein.

Either space-based interceptors or the Navy Upper Tier in the Mediterranean Sea, with handoff data from external sensors, could defend this area from launches from North Africa or the Middle East toward Europe, or, for that matter, toward the United States. With external sensors, THAAD might affordably defend Europe, as illustrated in this chart to my right. Without external sensors, however, the previous chart, this chart [indicating], suggests that it would be unaffordable.

You can see again, as I just point to NATO, that it goes off the scale above \$30 billion, at the size of NATO.

This second chart also indicates the number of intercept attempts that could be provided by a space-based interceptor system that can engage attacking missiles beginning early in their flight and the associated probability of kill. I am dwelling on space-based interceptors because I believe the body politic has unwisely dropped them from consideration. A very important consideration is that they can intercept missiles in their boost phase—a capability that may be needed soon because even rogue states may soon develop missiles that release their warheads early in their flight.

Such a development will defeat all missile defense systems now in serious acquisition programs. I repeat: such a development will defeat all missile defense systems now in serious acquisition programs.

Contrary to conventional wisdom, such systems are affordable and can be built soon. Indeed, the technology has been space quali-

fied and is, even now, being exploited by the private sector to make money.

I was very interested to note that Teledesic President, Russell Daggatt, recently gave SDI, and Brilliant Pebbles in particular, credit for the enabling technology for their privately funded 840 small satellite telecommunications system. Brilliant Pebbles died because of politics largely associated with the ABM Treaty, not for any technical or management reason.

Starting today from scratch with an investment of \$1 billion to \$2 billion a year, a global space defense system could begin initial operations as early as 2001. This level of investment could support the development and deployment of both space-based interceptors and follow-on space-based lasers. Such a system could provide multiple intercept opportunities against ballistic missiles with ranges greater than a few hundred miles, in time under 100 miles, launched from any place on Earth toward any other place.

As pointed out by Larry Goldmuntz in a recent "Strategic Review" article, which I attach to my testimony—and I understand Jim Woolsey referred to this on Tuesday—such a space-based defense could be placed in orbit so that the United States could be defended against missiles launched from rogue states, but not if they were launched from Russia—if the United States were to adopt the bizarre view that it wishes to remain entirely vulnerable to Russian missiles for the sake of the ABM Treaty.

For my part, I believe that the ABM Treaty is a relic of the cold war and that its adverse restraints on our ability to defend Americans at home and abroad should be discarded as amicably as possible, but also as soon as possible.

I am satisfied that the threat to the United States is a present and growing danger, demanding an urgent response with the best and most affordable defenses available.

For 5 years in Geneva, I argued with the Soviets that we should move beyond confrontation and threats of mutual annihilation to a regime of cooperation, including on missile defenses.

In 1992, in the same U.N. speech in which he proposed the deeper reductions that became START II, Russian President Boris Yeltsin proposed that SDI be redirected to take advantage of Russian technology and to build a global defense for the world community.

The Bush administration made progress toward agreement on that agenda, but in the final analysis it failed to capitalize on Yeltsin's initiative. And the Clinton administration did not continue that negotiating agenda; rather, it called the ABM Treaty the cornerstone of strategic stability and has sought to strengthen it by making it an ATBM treaty as well.

This trend is, in my opinion, quite contrary to U.S. national interests. Indeed, it is even contrary to Russia's interests in the long run—if cooperation is Russia's true objective.

In any case, I urge the United States clearly, unambiguously, to state its intention to build the most effective, affordable defenses that current technology permits with or without Russia's cooperation. If Russia chooses to cooperate, we can work together to assure that the global defense serves our mutual interests. Otherwise, we

should withdraw from the ABM Treaty, as is permitted in article XV.

Mr. Chairman, I believe we should put behind us the era of dumbing down systems to be consistent with our perceptions of the constraints imposed by an ambiguous cold war treaty. We should end America's total vulnerability to missile attack as soon as possible and with the best defenses we can afford.

Thank you very much.

[The prepared statement of Ambassador Cooper follows:]

PREPARED STATEMENT OF AMBASSADOR COOPER

Mr. Chairman, thank you for the opportunity to provide my personal views on the threat to Americans at home and abroad posed by continuing adherence to the ABM Treaty—a Cold War treaty with a nation that no longer exists, a treaty out of step with realities of the new world disorder.

Today, I do not intend to dwell on policy issues surrounding the ABM Treaty. I have summarized my views elsewhere, and have attached for the record a reprint of a recent *Orbis* article.

My main purpose is to discuss, from a technical perspective, the impact of ABM Treaty on constraining design, research, testing and deployment of effective ballistic missile defenses—and the major costs for strict adherence to “perceived” restrictions of what are, in fact, ambiguous terms of that treaty. Also, I shall comment on the additional dangers to America and our overseas troops, friends and allies because our continued attachment to the ABM Treaty precludes building the most effective defenses—which, incidentally, are also the least expensive and can be built fastest.

Let me begin by elaborating a specific example that illustrates the inherent ambiguities of the ABM Treaty and the double standard applied to U.S. and Soviet—now Russian—interpretations in view of these ambiguities.

INCLUDING EXTERNAL SENSORS—A CASE STUDY

President Bush's March 1992 *Report to Congress on Soviet Non-Compliance* explained that the U.S. Government judged it probable that the (formerly Soviet) Pechora-class Large Phased Array Radars (LPARS) supported the Moscow ABM system with handover data suitable for target acquisition by the Pill Box engagement radar. Such LPARS are permitted only if pointed outward on the country's periphery—a provision of the Treaty violated by the Krasnoyarsk radar, as then Soviet Foreign Minister Shevardnadze finally admitted in October 1989 after five years of denials. If integrated with the Soviet's Moscow ABM system, they could provide data on attacking ballistic missiles to enable the Moscow command system to launch Moscow-based interceptors before Moscow-based ABM radars could gather information needed for that purpose.

The U.S. had judged such an activity to be a significant Treaty violation and limited U.S. activities accordingly, but the President's 1992 report noted that the ABM Treaty was not explicit regarding this activity—and no violation was charged. After a year of internal review and discussions with the Russians, the President, in his January 1993 *Report to Congress on Soviet Non-Compliance* concluded—and I quote:

In light of the ambiguity of the Treaty language, and based on further review of the issue and on the probable Soviet practice—which amounts to the use of precise target handover data in support of an effort to counter strategic ballistic missiles—the USG now judges that the support of ABM systems by early warning radar providing precise handover data will not constitute use of the early warning radar as ABM radar in violation of the ABM Treaty.

Specifically, the USG will not consider as prohibited the handover of precise state vectors of properly located and oriented early warning radars to ABM systems or ABM components. Such operations or test support to ABM systems or ABM components does not cause those early warning radars to be themselves considered ABM components or considered to have been given the capability to counter strategic ballistic missiles. While the handover of these data allows the ABM system or ABM component to initiate its ABM functions, the actual capability to counter strategic ballistic missiles remains exclusively with the ABM system of ABM components. Consequently, such handover would not constitute “testing in an ABM mode” nor giving of “capability to counter strategic ballistic missiles.”

This committee drafted lawyerly gobble-de-gook was composed to conform to Treaty terms-of-art not clearly defined in the ABM Treaty negotiations—nor since. What

it means, in this instance, is that Soviet—and presumably Russian—broad interpretations of the Treaty could not be called cheating even though we had—for 20 years—considered such actions to be violations and had restricted our activities accordingly.

Whatever had been the prior U.S. interpretation, the U.S. should fully exploit the same ambiguity following this Soviet/Russian precedent—rather than continuing to restrict its own activities as though nothing had happened. Clearly, we can upgrade our own Early Warning Radars to support any future National Missile Defense system. By direct analogy, we should also be able to design our NMD systems to exploit precise target handover data from any sensor not otherwise precluded by the Treaty and not co-located with ABM interceptors, including space-based sensors.

THE COSTS OF CORRUPTING TMD

Nevertheless, the Clinton Administration is precluding the use of such handover data even for Theater Missile Defenses, which were never supposed to be limited by the Treaty. To repeat, the Clinton Administration is precluding the exploitation of target handover data from any sensor other than a radar co-located with the TMD interceptors—in system design, research, testing, and deployment. And it is negotiating with the Russians to include such inhibitions as *de facto* amendments to the letter and purpose of the ABM Treaty, turning it into an ATBM Treaty—and the Clinton Administration has made clear it intends to do so without the approval of the Senate, ignoring the Senate's Constitutionally mandated treaty-making responsibilities.

The major potential costs of this narrow interpretation were discussed by my colleague Dr. Bill Graham in his SASC Testimony last year, and I'd like to build on a graphic he provided in responding to questions for the record. He defined a system performance parameter by the area on the surface of the ground, or "footprint," that a ground-based interceptor can defend. The Clinton Administration's ABM Treaty-related prohibition on exploiting the advantages of external sensing can be summarized by showing the ratio of defended area *with* external sensing to the defended area *without* external sensing. In this way, the largest surface area that could be defended by an interceptor under no ABM Treaty constraint (the kinematic limit of the interceptor) can be compared to the area that can be defended under the ABM Treaty-related prohibition on external sensing now being imposed on system design and implementation.

The attached figure shows this ratio for a family of interceptors with velocities varying between 2 and 5 km/second plotted against the range of existing offensive theater ballistic missiles. This defended area ratio, which is significantly larger for longer range offensive missiles in all cases, increases approximately as the square of the defensive interceptor's velocity.

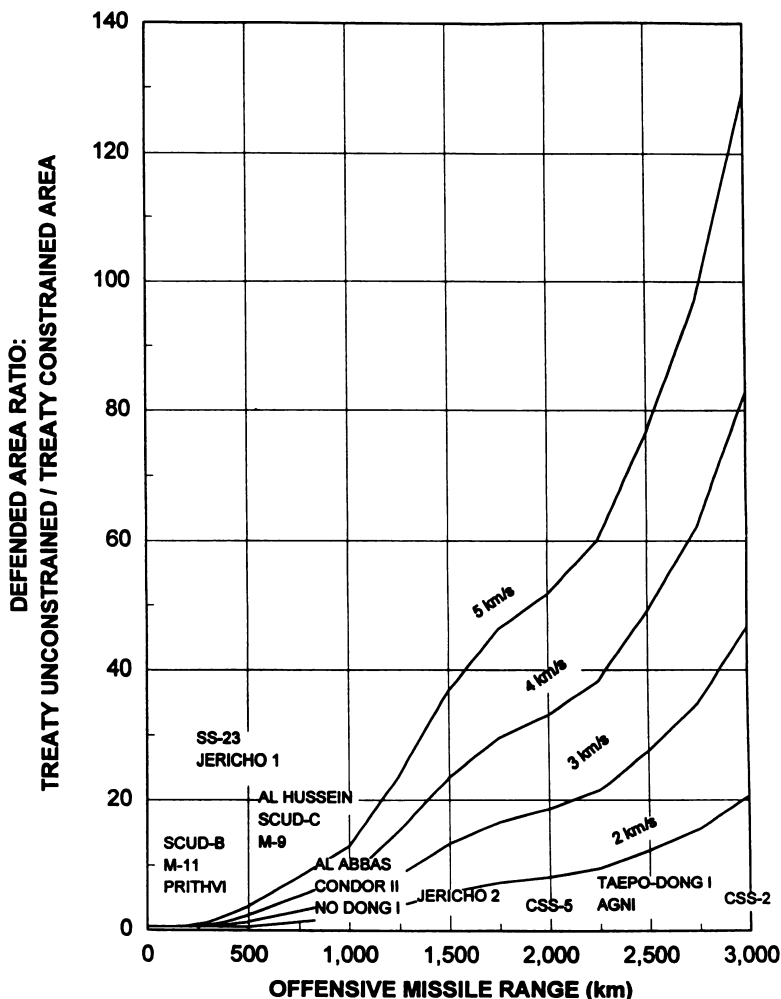
The 3 km/second interceptor velocity case is of particular interest because the Clinton Administration and Russia are reported to have agreed that lower velocity interceptors are Treaty compliant. Since the THAAD interceptor's velocity is between 2 and 3 km/second, THAAD is compliant—but the Navy's Upper Tier interceptor's velocity is between 4 and 5 km/second—which the Russians have not agreed is Treaty compliant. Restricting TMD interceptor velocities to 3 km/sec, as the Russians are demanding, would deny the improved coverage that could be provided by a higher velocity advanced THAAD or Navy Upper Tier interceptors. And not permitting handoff data from sensors other than a co-located radar—as the Clinton Administration is doing—imposes a large penalty for all velocities but most of all for the higher velocities.

This area ratio for a given velocity interceptor currently represents an unrealized potential defense coverage capability because the Clinton Administration is imposing its perceived ABM Treaty constraints on our development of these theater defenses—e.g., it is not permitting the use of data from sensors other than co-located radars to enable the interceptor to achieve its potential effectiveness. To compensate for this lost potential, additional interceptor sites could be deployed to gain the area coverage. Thus, the area ratio also is a first order estimate of the "treaty-related" costs for defending a given area.

For instance, against a 1500 km range missile, the lost potential for a 3 km/second interceptor is more than a factor of ten, i.e., over 10 times the number of sites—at over 10 times the marginal cost—would be required to defend the area that could be defended by a single interceptor site with hand-off data from external sensors. If a faster interceptor were employed, the lost potential would be substantially greater.

I have dwelt on the discussion of the importance of using a network of sensors to maximize the performance of missile defense systems—and in particular TMD

COST OF THE ABM TREATY TO GROUND BASED INTERCEPTORS **IN RATIO OF UNCONSTRAINED vs. CONSTRAINED AREA DEFENDED**



systems—because the Clinton administration is deliberately restricting designs to preclude this architecture for ballistic missile defense. This is particularly ironical given our inability to conclude that the Soviets/Russians were violating the ABM Treaty by adopting precisely this same architecture when including LPARS in the Moscow ABM system.

I emphasize that this is a policy decision, not a technology based one. The Navy's Cooperative Engagement architecture has demonstrated cruise missile intercepts beyond the range of the radar on the Aegis cruiser that launched the interceptor. And the Navy's "engage on remote" capability is but an example of the system-of-systems open architecture so widely touted for other applications in the Pentagon.

Such policy constraints—I call them a deliberate "dumbing down" of our fighting capabilities—are a direct consequence of an excessive commitment to the ABM Treaty and, by extension, to its underlying idea that intended victims of ballistic missiles are most safe when vulnerable to attack. We can work hard to shoot down cruise missiles—as we have since World War II, but as a matter of theology, our policy

is that we must *not* do all we can to defeat ballistic missiles. That is a matter only for arms control.

Whatever one's view of continuing the ABM Treaty—and I shall share my own later, I believe a clear lesson from this experience—and others as well—is that we should not impose upon ourselves restrictions in excess of those that can be verifiably imposed on the systems of the former Soviet Union. Taxpayers should be offended by the excessive costs of “dumbing-down” our military capabilities. More than that, American, allied and friendly lives are literally at stake; we should deploy defenses that are all they can be.

SOME OTHER CASE HISTORIES

There are many other examples that I could give of how our devotion to the ABM Treaty has cost and is costing us capability, time, money and operational effectiveness. Let me list a few for the record without elaboration.

- In the 1970s, no ballistic missile defense capability was given to SAM-D, now called Patriot. In the mid-1980s, many opposed giving Patriot the limited ballistic missile defense capability demonstrated in the 1991 Gulf War—and notable arms control experts testified that doing so would violate the ABM Treaty. While the U.S. body politic was reluctantly improving Patriot, the Soviets were building the SA-10 and SA-12 systems—now marketed by the Russians as being better than Patriot. In any case, the Patriot development program limped along with an annual Congressional fight until late 1990 after Saddam Hussein had invaded Kuwait, when production lines were turned on before the upgrades were fully tested. Every Patriot fired in the Gulf War was built between August 1990 and the War which began in January 1991. Since then, there has been plenty of money for Patriot improvements—whatever their technical merits when compared to other TMD programs.
- In the 1980s, software was constrained to assure the Aegis radar could not track attacking ballistic missiles. A recent fix to this software on the oldest deployed Aegis cruiser enabled the Bunker Hill to track all of the ballistic missiles China launched at Taiwan in last Spring's crisis—they could have been intercepted if capable interceptors had been on-board. Such interceptors might have been available had the Clinton Administration executed the Aegis upgrade program I left in place and fully funded on January 20, 1993—but these programs were severely cut. Now deployment of the Navy Upper Tier could begin as early as in the year 2000 if the Clinton administration executes the programs as directed and funded by the Congress. But the Administration has continued to procrastinate while conducting at least six internal reviews this last year—all of which yielded positive recommendations, by the way. These delays were, I believe, related to the Administration's concerns about the Treaty and whether a Navy Upper Tier system “dumbed-down” to meet perceived Treaty constraints can be justified as meeting a military need—and even so, the “dumbed-down” system makes sense.
- The Clinton Administration is restraining the Aegis radar so that it can track only targets that travel slower than 5 km/second and restricting the Aegis interceptor sensor suite so that it can “see” only warm attacking RVs—because if we gave the system the capability to track faster missiles and see cold RVs, the interceptors might have capability against Russian ballistic missiles. It is impossible to deny rogue states faster missiles and cold RVs. Retrofits to counter these inevitable developments will be much more expensive than they would have cost at the outset.
- The Clinton Administration has canceled essentially all programs that could provide a boost-phase intercept capability in the near term—even though threat missiles that release multiple warheads in their boost and ascent phases of flight may and probably will appear in the near-term, perhaps before effective defenses can be built even if responsive boost-phase intercept programs were re-instituted. Such a development would defeat all of the TMD systems currently being developed by the Clinton Administration. I believe this blind spot is related to the fact that if a ballistic missile can be destroyed in its boost phase, it doesn't matter what its range is or what its target is. Heaven forbid that we should be able to destroy missiles aimed at the United States, that might violate the ABM Treaty.
- Primarily because of political realities—largely associated with the ABM Treaty—since the early 1990s, Congress has directed that the main development and funding emphasis be given to ground-based U.S. homeland defenses—they can be Treaty compliant, at least initially. The needed multi-site ground-based interceptor system will be the most expensive, least effective defense—and, be-

lieve it or not, it will take the longest to build. (As I reported to Congress in 1992 and documented in my January 20, 1993, End-of-Tour Report, the 5-6 site Congressionally mandated system, approved by the Pentagon's acquisition process during the Bush Administration, would have cost about \$35 billion and would not have been fully deployed before the middle of the next decade—had the Clinton Administration sustained that program, which it did not.) And it will have no capability to counter missiles that release their warheads early in flight—in their boost- and ascent phases.

- Ever since the Missile Defense Act of 1991—which was crafted to assure enough votes in Congress to commit to building at least some defense while accommodating ABM Treaty concerns, the most effective, least expensive, and nearest term deployment options—space-based defenses, have been put on the back burner. Previously, there had been a fully approved acquisition program to develop Brilliant Pebbles, a space-based interceptor system. In spite of the annual programmatic turbulence introduced by Congressional cuts, this was my soundest program from management and technical perspectives. Indeed, Defense Secretary Les Aspin's Inspector General in 1994 judged this program to have been managed "efficiently and cost-effectively within the funding constraints imposed by Congress" and observed that termination of key contracts "was not a reflection on the quality of program management". That the technology is sufficiently mature to deploy much more effective space-based defenses soon was demonstrated by the award-winning 1995 Clementine mission which space-qualified first generation Brilliant Pebbles hardware. Also, it is made abundantly clear by numerous industrial and civil programs now exploiting the associated technology and architecture for other purposes, including just to make money. I was very interested to note that Teledesic's President, Russell Daggatt, gave SDI—and Brilliant Pebbles in particular—credit for the enabling technology for their privately funded 840 small satellite telecommunications system. To quote him, "Teledesic is made possible through * * * SDI work done on large satellite constellations." Brilliant Pebbles died because of politics—largely associated with the ABM Treaty, not for any technical or management reason.
- On my watch at SDI, substantial risk and costs were added to our testing activities because of the requirement to conform to ABM Treaty interpretations imposed by Congress—there was never agreement with the Soviets/Russians on a "narrow" interpretation prior to this administration. Testing programs for the most effective ballistic missile concepts were contorted by lawyers and only then designed by engineers. For example, to satisfy the lawyers in testing space-based interceptor concepts we had to commit an "ground-based" interceptor in a lofted trajectory—costing hundreds of millions of dollars before launching a few million dollar target for the interceptor to hit on its way back down. This took much longer and cost much more than putting the interceptor in orbit, launching the target, and then launching the interceptor from space for an intercept attempt.

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The above examples illustrate how the ABM Treaty has frustrated—and continues to frustrate—the development of the most effective defenses against ballistic missiles of all ranges. It has accomplished its purpose—no effective defense of the United States of America can be built consistent with its terms. Furthermore, it is corrupting our programs to defend our overseas troops, friends and allies—programs which never were supposed to be limited by its terms. It costs us dearly in treasure, time and, perhaps soon, lives. Actually, it has probably already cost us lives—the 28 military personnel killed when an Iraqi Scud hit their barracks during the Gulf War might have been spared if Patriot had not been dumbed-down and delayed because of ABM Treaty concerns. And America's continuing vulnerability is making the ballistic missile the surest way to threaten the U.S.—the weapon of choice for state terrorists. Building effective missile defenses should have a high priority in our counter-terrorism efforts.

If the ABM Treaty constraints were removed, we could fully exploit existing technology to build the most affordable and effective defenses against ballistic missiles of all ranges. Under that condition, I would give the highest priority to building as soon as possible very effective, continuously on-station, wide area defenses against missiles that rogue leaders can use to threaten even distant nations.

As was recommended by the Heritage Foundation's Team B—which I was privileged to lead, I believe the least expensive, most effective program would provide a global defense—first from the sea and then from space. A global defense could always be present—consequently it would avoid the difficulties of deployment in an

escalating crisis, such as the political constraints that delayed the deployment of Patriots to South Korea during its stand-off with North Korea a couple of years ago. All ground-based defenses will have this difficulty.

For under \$1 billion/year, the Navy's Aegis system—in which we have already invested about \$50 billion—can be rapidly upgraded to become an effective global defense. For \$2–3 billion, 650 interceptors can be deployed on 22 cruisers around the world—with the first on station as early as in the year 2000. Then, a cruiser in the Sea of Japan, if not dumbed down to meet perceived ABM Treaty constraints, could shoot down missiles launched from North Korea toward Japan—or the United States. Similarly, cruisers in the Mediterranean Sea could intercept missiles launched from North Africa and the Middle East toward Europe or the U.S. Missiles in the North Atlantic or North Pacific could defend the U.S. against missiles launched from almost anywhere in the world.

Of course, such a sea-based system would be improved with time—within the \$1 billion/year budget suggested above. The first improvement would be a more capable interceptor by the middle of the next decade to defend against more modern missiles.

As noted in the above discussion, boost-phase defenses will be necessary to defeat ballistic missiles that release their warheads early in their flight. I believe that this threat will likely develop faster than apparently is contemplated by the Clinton Administration, given its lackadaisical attitude toward programs to develop such defenses even against theater-range ballistic missiles.

Starting today from scratch with an investment of \$1–2 billion/year, deployment of a global space-based system could begin as early as in 2001. It could provide multiple intercept opportunities against ballistic missiles with ranges greater than a few hundred miles—in time, under a hundred miles, launched from anyplace on earth toward any other place. As pointed out by Larry Goldinuntz in a recent Strategic Review article (attached), such a space-based defense could be placed in orbits so that the U.S. could be defended against missiles launched from rogue states but not Russia—if the U.S. were to adopt the bizarre view that it wishes to remain entirely vulnerable to Russian missiles.

To tie my discussion on the costs of the ABM Treaty together in a graphic way, consider the second attached figure which is taken from the Heritage Team B report. Here is plotted total acquisition costs as a function of the defended area. The costs of not taking advantage of external sensors is shown explicitly for THAAD, and the cost is obviously much greater for the Navy Upper Tier. Without exploiting handoff data from external sensors, the Navy Upper Tier costs would increase more rapidly with defended area than does THAAD with an autonomous radar. Space-Based Interceptors (SBIs) and the Navy Upper Tier with external sensors are global defenses and clearly the best buy. But to gain these benefits, something must be done about the ABM Treaty.

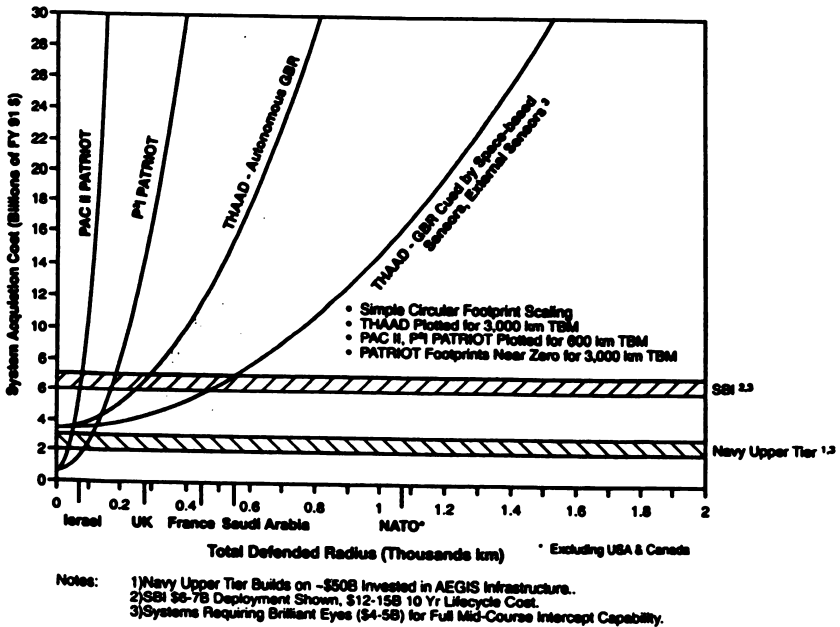
For my part, I believe that the ABM Treaty is a relic of the Cold War and that its adverse restraints on our ability to defend Americans at home and abroad should be discarded—as amicably as possible, but also as soon as possible. I am satisfied that the threat to the United States is a present and growing danger, demanding an urgent response with the best and most affordable defenses available.

For five years in Geneva, I argued with the Soviets that we should move beyond confrontation and threats of mutual annihilation to cooperation—including on missile defenses. In 1992, in the same U.N. speech in which he proposed the deeper reductions that became START II, Russian President Boris Yeltsin proposed that SDI be redirected to take advantage of Russian technology and build a global defense for the world community. The Bush Administration made progress toward agreement on that agenda, but in the final analysis it failed to capitalize on Yeltsin's initiative. And the Clinton Administration did not continue that negotiating agenda—rather it called the ABM Treaty the “cornerstone of strategic stability” and has sought to “strengthen” it by making it an ABM Treaty as well.

This trend is, in my opinion, quite contrary to U.S. national interests. Indeed, it is even contrary to Russia's interests in the long run—if cooperation is truly Russia's objective. In any case, I urge that the U.S. clearly—unambiguously—state its intention to build the most effective, affordable defenses that current technology permits with or without Russia's cooperation. If Russia chooses to cooperate, we can work together to assure that the global defense serves our mutual interests. Otherwise, we should withdraw from the ABM Treaty as is permitted in Article XV.

Mr. Chairman, we should put behind us the era of dumbing down systems to be consistent with our perceptions of the constraints imposed by ambiguous Cold War treaty terms. And we should end America's total vulnerability to missile attack as soon as possible with the best defenses we can afford.

COST TO DEFEND LARGE AREAS FROM THE GROUND, SEA AND SPACE



[The other material referred to may be found in committee files.]

The CHAIRMAN. Thank you, sir. Mr. Graham.

STATEMENT OF HON. WILLIAM R. GRAHAM, FORMER DIRECTOR, WHITE HOUSE OFFICE OF SCIENCE AND TECHNOLOGY POLICY, AND SCIENCE ADVISER TO PRESIDENT REAGAN, WASHINGTON, DC

Mr. GRAHAM. Thank you, Chairman Helms.

I, too, will abridge my remarks from the written statement and will submit the full statement for the record. I recognize that former CIA Director Woolsey has testified to you earlier this week, so I will not dwell on the missile threat. However, I will cite one other reference on that issue.

On November 14, 1994, President Clinton issued Executive Order 12938, entitled "Proliferation of Weapons of Mass Destruction," which read, in part: "I, William J. Clinton, President of the United States of America, find that the proliferation of nuclear, biological, and chemical weapons and the means of delivering such weapons constitutes an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States, and hereby declare a national emergency to deal with that threat."

On November 9, 1995, President Clinton issued a Notice of Continuation of Emergency Regarding Weapons of Mass Destruction, and that state of national emergency is still in effect today.

I believe that these two Executive orders provide a clear and concise statement of the immediate danger posed to the United States and its interests by the proliferation of nuclear, biological, and chemical weapons and the means of delivering such weapons, which certainly include ballistic missiles.

Many in the threat assessment community discount the value of acquiring key technical personnel, information, and data, and they discount the possibility of modifying existing ballistic missiles to extend their range. However, this position ignores the way in which the United States itself advanced its ballistic missile objectives.

During 1945 and 1946, the United States conducted Operation Paper Clip in order to employ Dr. Werner von Braun and his team of German scientists and technicians, who were the same people who had been responsible for the German V-2 rocket program.

The transfer of these experts, along with their equipment, provided the United States with nearly instant ballistic missile capability. Under the HERMES Program, the United States soon began launching German V-2 rockets with the technical help and support of von Braun and his team. These early experiments help infuse German technical expertise into the U.S. Army and made our ballistic missile programs proceed at a rapid rate in the 1940's.

In the 1940's, designing and fabricating ballistic missiles was challenging; but with focus, determination, and national level support, it was done very rapidly, even though new types of inertial guidance instruments had to be developed, new rocket engines and missile structures fabricated, and new fuels produced.

By contrast, in the 1980's and 1990's, the West's schools—that is our schools—and universities teach advanced technology to students from all over the world. Missile designs are well understood, missile components are available on the world market, and whole missile systems can be bought and delivered, as has been done in the case of Soviet scuds to China, North Korean scuds to Iraq, Chinese M-11's to Pakistan, Chinese CSS-2's to Saudi Arabia, Chinese scuds to North Korea—and you can go on and on.

Since most of today's ballistic missiles are mobile, training and launching by customer nation crews can take place in the missile's country of origin, so that the first launch of a missile from a customer country may occur without advance warning.

North Korea is one of the smallest, poorest, countries on Earth, and one of the most isolated geopolitically. Yet it is able to produce and export ballistic missiles. If North Korea can accomplish this, there are few countries that cannot, Mr. Chairman.

Ballistic missiles do not need to have a long range to threaten the United States. In the 1950's, the United States launched several ballistic missiles from the deck of a ship and sent them to high altitudes where their nuclear weapon payloads were detonated.

Most of the population of the United States lives near the east or west coasts and, thus, is highly vulnerable to a ship-launched missile that could be covertly deployed in the merchant traffic several hundred miles at sea. The modifications to such a ship would not need to be obvious, and a few missile test launches could be performed in remote areas to avoid detection.

In view of the concerns I note above and that Ambassador Cooper has noted, and Ambassador Woolsey, there is no reason to believe that the United States cannot be threatened by a ballistic missile attack today, Mr. Chairman, both at home and abroad, by a determined adversary.

Mr. Chairman, I believe the ABM Treaty is a major problem facing the United States in the disguise of a solution to our national security.

Twenty-four years ago, the United States and the Soviet Union negotiated an offensive arms control treaty, SALT I, which was intended to limit the buildup of the Soviet ICBM force. In conjunction with that treaty, the two adversaries also negotiated the ABM Treaty, which was specifically intended to assure the continuing vulnerability of the people of the United States and the Soviet Union to ballistic missile attack.

The SALT I agreement, history shows, was a failure in limiting the Soviet ICBM force. The Soviets increased that force massively in both number and capability after the SALT I agreement went into effect. Reductions in the number of Soviet ICBM's did not occur until the end of the decade of the 1980's, well after President Reagan's Strategic Defense Initiative had been put into place.

However, in 1983, President Reagan did call for an end to U.S. vulnerability to ballistic missile attack and directed the strategic defense initiative be pursued. Since that time, the Strategic Defense Initiative and subsequent Ballistic Missile Defense Program have continually been undermined by the ABM Treaty.

Mr. Chairman, it is difficult to overstate how profound this undermining has been. Not only has the ABM Treaty prohibited the deployment of national missile defenses, it has led to the prohibition of funding for research and development on systems which might, if deployed, conflict with the ABM Treaty. Moreover, it has made Defense Department program managers unwilling even to propose missile defense systems and test programs that might, in some arcane, legalistic way, be viewed as conflicting with the largely ambiguous details of the ABM Treaty, even though the systems are designed expressly for purposes other than strategic missile defense, such as theater missile defense.

It is remarkable, indeed, that 24 years after the ABM Treaty was negotiated we are still discussing what it means. This is brought about, I believe, by the fact that these treaties are negotiated by diplomats whose main vehicle is ambiguity to obtain agreement. They are then interpreted by lawyers, who follow precedent and attempt to achieve precision in what every word means, something far from the diplomats' intention. The result is then given to engineers, who try to design a system that meets all of these diplomatic and legalistic constraints. Finally, if anything comes out at the end of the pipeline, it is given to the poor military services to attempt to operate and provide for the security of the country. I cannot imagine a worse process to protect the United States of America.

The ABM Treaty, of course, attempted to constrain the defense capabilities of only two parties, the United States and the Soviet Union. Since the dissolution of the Soviet Union, the administration has sought to broaden the treaty's participants to include several states of the former Soviet Union. Although presumably not

the conscious intention of the treaty's architects, it leaves the United States and its people today vulnerable to ballistic missiles fired from anywhere in the world. This includes ballistic missile attacks from China, Korea, Iran, Iraq, Libya, and any other hostile country, as well as from rogue missile commanders, terrorist groups, and accidental launches from any source.

The treaty's guarantee that the United States will not defend itself from ballistic missile attack can only act as a strong incentive for hostile countries and groups to develop long-range missiles armed with biological, chemical, or nuclear warheads.

Mr. Chairman, I would like to mention an Associated Press article in this morning's Washington Times, which reports that Russia's Armed Forces could mutiny this fall over low pay or any other problem caused by lack of funding, as national security chief Alexander Lebed warned in an interview. I mention this because it indicates how unstable the situation is in Russia. And, of course, this same military is the military that has control over the Soviet ballistic missile forces, both for its own territory and for the possible sale of those forces to others.

He goes on to say that not only Russian soldiers but even officers are in the hospital with malnourishment. It is difficult to believe that offers to buy ballistic missile systems from the former Soviet Union would not have some appeal to people who are literally starving to death from lack of funds and support in the Russian military.

The phenomenon we face today is in some ways alarmingly analogous to the efforts by Western nations, particularly the United States, to limit the development of armaments in the aftermath of World War I. In the 1920's, the disarmament movement resulted only in providing a strong incentive to those nations—Germany and Japan in particular—that clearly did not subscribe to disarmament theories, to develop the weapons necessary for long-range power projection.

Walter Lippman, in his book, "U.S. Foreign Policy: Shield of the Republic," summed up the Allied experiment in self-imposed vulnerability between the two world wars when he observed that the interwar "disarmament movement was, as the event has shown, tragically successful in disarming the nations that believed in disarmament. The net effect was to reduce them to almost disastrous impotence" in the face of overseas threats.

The ABM Treaty, Mr. Chairman, also is having a corrosive effect on the design and development of U.S. theater missile defenses. Even though the ABM Treaty does not address theater defense systems specifically, it has a strong influence upon U.S. efforts to develop such capabilities. This comes about, again, through the legalistic interpretations of the ABM Treaty, which attempt to establish a bright line distinction between theater ballistic missile defense capabilities and intercontinental ballistic missile defense capabilities.

Although labored attempts have been made to distinguish between these two capabilities, in fact no such distinction exists. All reasonably cost-effective theater missile defense systems, both nuclear and nonnuclear, will be able to defend some region of the Earth's surface against intercontinental ballistic missile attack.

The problem is not with the definition of theater versus intercontinental ballistic missile defense; the problem is the fundamental fallacy that theater missile defense systems are distinct and incapable of providing any defense against intercontinental ballistic missiles. It is a basic property of ballistic missile defense systems that constraints imposed to limit their ability to defend against longer range offensive missiles also limit their ability to defend against short-term range offensive missiles.

There is a fundamental contradiction in the logic of the treaty in this regard. You will find such ABM Treaty limitations greatly degrading the capabilities of even U.S. theater defense systems: THAAD being a case in point, which I have documented in the paper but will not describe here. But it follows the same line of Ambassador Cooper's statement about the serious limitation being imposed on THAAD because for reasons of ABM Treaty constraints, it is not being allowed to use any off-board sensing and, in particular, not space-based sensing, which itself is also being greatly slowed and limited because of ABM Treaty considerations, in my view.

You will probably not hear a lot from the administration about the limitations on theater systems that are derived from the ABM Treaty in terms of off-board sensing and the use of off-board sensing by the interceptors. But this, Mr. Chairman, is an absolutely key issue, and I believe any approach other than being completely candid about the imposition of these limitations in the name of the ABM Treaty would amount to an attempt to "smoke" a demarcation agreement by this committee and by the Senate and should be dealt with very, very firmly.

Efforts to force theater missile defense systems to have no ICBM defense capability will only result in the theater systems there being dumbed down to significantly less capability. Even then the distinction will be arbitrary. When approached on a rational basis, the attempt to create a distinction between theater missile defense systems and ICBM defense systems is a technological dead-end. The reality is that we can have either substantial defenses or substantial vulnerability. To date, the United States has been left substantially vulnerable.

Now it might be argued that, while the ABM Treaty imposes constraints on us, it is, after all, a treaty that is supposed to apply equally to the Soviets and now the Russians, and, therefore, they must face the same issues and the same limitations we face.

While this is the impression given in the form of the treaty, it is far from the truth in the treaty's consequences to date for the United States and Russia.

More than a decade before the ABM Treaty was negotiated, Mr. Chairman, the Soviet Union was fully committed to the development of the SA-5 "Tallinn" system, named by the U.S. for the city in Estonia where it was first seen by the United States. An intelligence analyst, William T. Lee, in his discussion in his monograph "Ballistic Missile Defense and Arms Control Follies," attached as an appendix to my testimony, states that the SA-5 was both a high altitude air defense system and a national ballistic missile defense system from the outset. Since this system is armed with nuclear warheads, Mr. Chairman, it does not require sophisticated hit-to-

kill fire control and guidance technology to defend against ballistic missiles.

Mr. Lee notes the significance of ballistic missile defense discussions held at the U.S.-U.S.S.R. summit meeting in Glassboro, NJ, in June 1967, as described by then-U.S.S.R. Ambassador to the United States Anatoly Dobrynin in his book, "In Confidence." During that meeting, the leadership of the Johnson administration attempted to persuade the Soviet leadership of the undesirability of either side building national missile defenses.

The U.S.S.R. Prime Minister Kosygin responded by pointing out that the Soviet missile defense systems around Moscow and Tallinn were designed to save lives of Soviet citizens. And, as noted by Mr. Lee, Dobrynin concludes, "Thus the Soviet Government did not recognize a historic opportunity and responded by continuing the ABM construction around Moscow and Tallinn."

In view of these comments, there can be no doubt that the SA-5 was part of the Soviet national missile defense capability from its initial deployment around 1967, and that the leadership of the Johnson administration was informed of this fact at that time.

In 1980, in conjunction with the modernization of the SA-5 system, the Soviets began deploying another defensive system designated by the United States as the SA-10, which was itself later upgraded and further deployed as the SA-12.

In an article in "Comparative Strategy," Mr. Lee notes that since the demise of the Soviet Union, "the Russians have consistently touted the tactical antiballistic missile capabilities of the SA-10 in foreign sales efforts, and in 1994 admitted that the SA-10 had been designed against the full threat spectrum from stealthy aircraft and cruise missiles through intercontinental ballistic missiles" in a Moscow publication.

Mr. Lee goes on to note that "by the time the Soviet Union collapsed, more than 10,000 dual purpose SAM/ABM interceptor missiles were deployed at the SA-5, 10, and 12 complexes" along with a national network of early warning and battle management radars, which Ambassador Cooper described in his discussion.

Why did the Russians do this? They have now openly admitted the obvious: that at least until Reykjavik, the Ministry of Defense controlled the Soviet Union's negotiating agenda for the purpose of, and I quote a Russian arms control negotiator, "preserving and strengthening Soviet military might which, in this case, included weakening the potential chief enemy, the United States, by negotiations." And the ABM Treaty—and I quote again—"was more a product of insufficient technological development in the Soviet Union vis-a-vis the United States than a product of strategic analysis."

A factual reading of the history of the ABM Treaty can leave little doubt that it was used by the Soviet Union to block the development of U.S. missile defenses while the Soviet Union carried out a massive missile offense and defense buildup. That buildup largely remains in place today.

Mr. Chairman, it is clear that the role of the U.S. military at its highest calling is to prevent war, maintain the peace, and leave the world in a form that is friendly to U.S. goals and purposes. For that reason, ballistic missile defense is particularly important.

The primary purpose of that defense, both national and theater, that is, national for the United States, which we usually call U.S. defense, and national for our friends and allies, which we call theater defense, is to discourage countries from developing offensive missiles and the chemical, biological, and nuclear warheads that make them capable of producing masses of casualties.

It is essential to recognize that countries are most susceptible to being discouraged from developing offensive missiles before they have made major national commitments to such programs, when they are still considering alternatives, and when they have maximum flexibility in their future course of action. Therefore, the best opportunity for avoiding offensive ballistic missile threats is squarely before the United States today—not tomorrow, not 15 years from now, not “3+3,” but today.

The problem is not to estimate the last possible time when the United States could deploy missile defenses. Historically, the United States has proven poor at making such intelligence estimates for many reasons. The report that Ambassador Woolsey commented on earlier in the week is yet another example of that.

The challenge before the United States is to deploy theater and national missile defenses as rapidly as possible to discourage potential proliferators from developing, building, buying, or otherwise obtaining offensive ballistic missiles, as well as to counter the many ballistic missile threats that already exist.

Most one-time skeptics of the need for theater missile defenses became supporters of those defenses after attacks on the United States and our allies caused loss of life in the war with Iraq. There can be little doubt that a ballistic missile attack on the United States would produce similar support for national missile defense. The question before the Congress is: must the United States wait until its homeland is attacked by ballistic missiles or before it deploys such missile defenses.

During the debate on the broad versus narrow interpretation of the ABM Treaty in the late 1980's, some Members of the Senate took the position that the treaty had to be forever interpreted by the United States as it was presented to the Senate at the time of ratification. This locked in the U.S. position on the treaty at that time.

Mr. Chairman, if that is good national policy—and even if it is not good national policy—then some provision must be made for addressing events that materially change the treaty or its consequences but take place or are learned by the Senate after the treaty is ratified. In such an event, which I believe we certainly have before us with the ABM Treaty, sound policy warrants that the treaty be resubmitted to the Senate Foreign Relations Committee for reconsideration, either at the initiative of the administration or, lacking that, Mr. Chairman, by the committee itself.

Thank you.

[The prepared statement of Mr. Graham follows:]

PREPARED STATEMENT OF MR. GRAHAM

THE BALLISTIC MISSILE THREAT

On November 14, 1994, President Clinton issued Executive Order 12938, “Proliferation of Weapons of Mass Destruction,” which read in part: “I, William J. Clin-

ton, President of the United States of America, find that the proliferation of nuclear, biological, and chemical weapons ('weapons of mass destruction') and of the means of delivering such weapons, constitutes an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States, and hereby declare a national emergency to deal with that threat."

On November 9, 1995, President Clinton issued a "Notice of Continuation of Emergency Regarding Weapons of Mass Destruction", which stated, in part: "Because the proliferation of weapons of mass destruction and the means of delivering them continues to pose an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States, the national emergency declared on November 14, 1994, must continue in effect beyond November 14, 1995."

These two Presidential Executive Orders provide a clear and concise statement of the immediate danger posed to the U.S. and its interests by "the proliferation of nuclear, biological, and chemical weapons *and the means of delivering such weapons.*" (Emphasis added). In view of the President's excellent characterization of the proliferation problem, the message he sent to Congress with the veto of the first 1996 Defense Authorization should be noted. It said, in part, "First, the bill requires deployment by 2003 of a costly missile defense system able to defend all fifty states from a long range missile threat that our intelligence community does not foresee in the coming decade." * * * The missile defense provisions would also jeopardize our current efforts to agree on an ABM/TMD demarcation with the Russian Federation."

President Clinton's 1996 Defense Authorization Bill veto statement, and more generally the terms of the administration's position on when the absence of need to deploy a national missile defense, reflect a fundamental tension in its views on the importance of ballistic missile defense.

The intelligence community bears some responsibility in the matter. A new National Intelligence Estimate reportedly projects no ballistic missile threat to the U.S. for 10-15 years. Yet in 1994, when Director of Central Intelligence John Deutch was the Deputy Secretary of Defense, he reported to Congress that a ballistic missile threat to U.S. territory could emerge by the end of the decade. That statement of Dr. Deutch is highly credible. In fact, the threat of ballistic missile attack against the U.S. and its allies already must be factored into responsible policy formulation. Since the U.S. values allied cooperation, deterring our allies can also deter the U.S. by indirect means. Russian threats against NATO expansion and Chinese threats over Taiwan are directed at U.S. allies as well as the U.S.

Many in the threat assessment community discount the value of acquiring key technical personnel, and the possibility of modifying existing ballistic missiles to extend their range. However, this position ignores the way in which the U.S. itself advanced its ballistic missile objectives. During 1945 and 1946, the U.S. conducted "Operation Paperclip" in order to employ Dr. Werner von Braun and his team of German scientists and technicians, who were the same people who had been responsible for the Germany's V-2 rocket program. The transfer of these experts, along with their equipment, provided the U.S. with nearly instant ballistic missile capability. Under the HERMES Project, the U.S. soon began launching German V-2 rockets with the technical help and support of von Braun and his team. These early experiments helped infuse German technical expertise into the U.S. Army.

A year later, the development of a two-stage vehicle based on the V-2 was begun. The so-called "BUMPER" vehicle went on to establish range, altitude and speed records. By the late 1950s, frustrated by difficulties in the Atlas program, General Bernard Schriever, a pioneer of U.S. ballistic missile deployment, ordered the modification of the existing THOR IRBM to include a second stage as a means to achieve a strategic range ability. The resulting THOR-ABLE configuration was ready within a year and a half. THOR-ABLE extended the range of the THOR from 1500 miles to approximately 5000 miles. Shortly thereafter, another configuration, the THOR-AGENA, was ready.

The lessons to be learned from the U.S. history of Ballistic missile advancement are straightforward. The acquisition of key technical experts can move a country rapidly forward in advancing ballistic missile capability. In addition, the range of existing systems can be rapidly increased by incorporating additional stages.

In the 1940s, designing and fabricating ballistic missiles was challenging, but with focus, determination, and national-level support it was done very rapidly, even though new types of inertial guidance instruments had to be developed, new rocket engines and missile structures fabricated, and new fuels produced. By contrast, in the 1980s and 90s, the West's schools and universities teach advanced technology to students from all over the world, missile designs are well understood, missile components are available on the world market, and whole missile systems can be bought and delivered, as in the case of the Soviet SCUDs to China, the North Korean SCUDs to Iraq, Chinese M-11s to Pakistan, Chinese CSS-2s to Saudi Arabia,

and so forth. Since most of today's ballistic missiles are mobile, training and launching by customer nation crews can take place in the missile's country of origin, so that the first launch of a missile from a customer country may occur without advance warning.

North Korea is one of the smallest, poorest countries on earth and one of the most isolated geopolitically. Yet it is able to produce and export ballistic missiles. If North Korea can accomplish this, there are few countries that cannot.

Ballistic missiles do not need to have a long range to threaten the United States. In the 1950s, the U.S. launched several ballistic missiles from the deck of a ship, and sent them to high altitudes where their nuclear weapon payloads were detonated. Most of the population of the U.S. lives near the East and West coasts, and thus is highly vulnerable to a ship-launched missile that could be covertly deployed in the merchant traffic several hundred miles at sea. The modifications to such a ship would not need to be obvious, and a few missile test launches could be performed in remote locations to avoid detection.

In view of the concerns discussed above, there is no reason to believe that the U.S. cannot be threatened by ballistic missile attack today at home and abroad by a determined adversary.

THE ABM TREATY: PROBLEM OR SOLUTION?

Twenty-three years ago, the U.S. and the Soviet Union negotiated an offensive arms control treaty—SALT I—which the U.S. intended to limit the build-up of the Soviet ICBM force. In conjunction with that treaty, the two adversaries also negotiated the ABM Treaty, which was specifically intended to assure the continuing vulnerability of the people of both the U.S. and Soviet Union to ballistic missile attack.

The SALT I Agreement was a failure in limiting the Soviet ICBM force: the Soviets increased that force massively in both number and capability after the SALT I Agreement went into effect. Reductions in the number of Soviet ICBMs did not actually occur until the end of the decade of the 1980s, well after President Reagan's Strategic Defense Initiative had been put in place.

In 1983, President Reagan called for an end to U.S. vulnerability to ballistic missile attack, and to that end directed that the Strategic Defense Initiative (SDI) be pursued. Since that time, the SDI and the subsequent Ballistic Missile Defense program have continually been undermined by the ABM Treaty.

It is difficult to overestimate how profound this undermining has been. Not only has the ABM Treaty prohibited the deployment of national missile defenses, it has led to the prohibition of funding for research and development on systems which might, if deployed, conflict with the ABM Treaty. Moreover, it has made Defense Department program managers unwilling even to propose missile defense systems and test programs which in some arcane, legalistic way might be viewed as conflicting with the largely ambiguous details of ABM Treaty—even though the systems are designed expressly for purposes other than strategic missile defense.

The ABM Treaty attempted to constrain the ballistic missile defense capabilities of only two parties: The United States and the Soviet Union. (Since the dissolution of the Soviet Union, the Administration has sought to broaden the Treaty's signatories to include several states of the former Soviet Union.) Although not the conscious intention of its architects, the Treaty leaves the U.S. and its people vulnerable to ballistic missiles fired from anywhere in the world. This includes ballistic missile attacks from China, Korea, Iran, Iraq, Libya, and any other hostile country, as well as from rogue missile commanders, terrorist groups, and accidental launches from any source. The Treaty's guarantee that the U.S. will not defend itself from ballistic missile attack can only act as a strong incentive for hostile countries and groups to develop long-range missiles armed with biological, chemical, or nuclear warheads.

This phenomenon is alarmingly analogous to the efforts by Western nations—and particularly the United States—to limit the development of armaments in the aftermath of World War I. The 1920s disarmament movement resulted only in providing a strong incentive to those nations—such as Germany and Japan—that clearly did not subscribe to disarmament theories to develop the weapons necessary for long-range power projection. Walter Lippman, in his book *U.S. Foreign Policy: Shield of the Republic*, summed up the Allied experiment in self-imposed vulnerability when he observed that the inter-war "disarmament movement was, as the event has shown, tragically successful in disarming the nations that believed in disarmament. The net effect was * * * to reduce them to almost disastrous impotence" in the face of overseas threats.

The ABM Treaty also is having a corrosive effect on the design and development of U.S. theater missile defenses. Even though the ABM Treaty does not address the-

ater defense systems specifically, it has a strong influence upon U.S. efforts to develop such capabilities. This comes about again through legalistic interpretations of the ABM Treaty, which attempt to establish a "bright line" distinction between theater ballistic missile defense capabilities and intercontinental ballistic missile (ICBM) defense capabilities. Although labored attempts are being made to distinguish between these two capabilities, in fact no such distinction exists. All reasonably cost-effective theater missile defense systems, both nuclear and non-nuclear, will be able to defend some region of the earth's surface against intercontinental ballistic missile attack. The problem is not with the definition of theater versus intercontinental ballistic missile defense, the problem is the fundamental fallacy that theater missile defense systems are distinct and incapable of providing any defense against intercontinental ballistic missiles. It is a basic property of ballistic missile defense systems that constraints imposed to limit their ability to defend against longer range offensive missiles also limit their ability to defend against shorter range offensive missiles.

There is a fundamental contradiction in the logic of the treaty. For example, in order to adhere to ABM treaty limitations as interpreted by the current administration, the THAAD development program is not allowed to development either the hardware or the software that would allow the THAAD system to use information obtained from any sensor other than the Ground Based Radar associated with the individual THAAD missile and the sensor on the missile itself.

Prohibiting the use of external sensor data imposes a very large performance penalty on the THAAD system. That performance penalty can be parameterized in terms of the area on the surface of the ground, or "footprint", that the THAAD can defend. The effect of the ABM treaty-related prohibition on the use of external sensors can be summarized on a graph by showing the ratio of the surface area that could be defended by a THAAD missile under no ABM treaty constraint (the kinematic limit of the THAAD missile) compared with the area that can be defended under the ABM treaty-related prohibition on external sensing that is now being imposed on the system design and implementation. That ratio is shown in the accompanying graph as a plot of the defended area ratio vs. offensive missile range for existing offensive theater ballistic missiles.

As the range and therefore the speed on an offensive ballistic missile increases, the effect of the ABM treaty limitation becomes greater, since there is less and less time for the radar to track the offensive ballistic missile, launch the THAAD missile, and direct it to intercept the incoming missile. When the incoming offensive ballistic missile has a range of about 1500 Km, the ratio of defended areas is about 10; when the range increases to 3000 Km, the ratio rises to about 35, and should reach 50 against offensive ballistic missiles whose range is in the vicinity of 4000 Km.

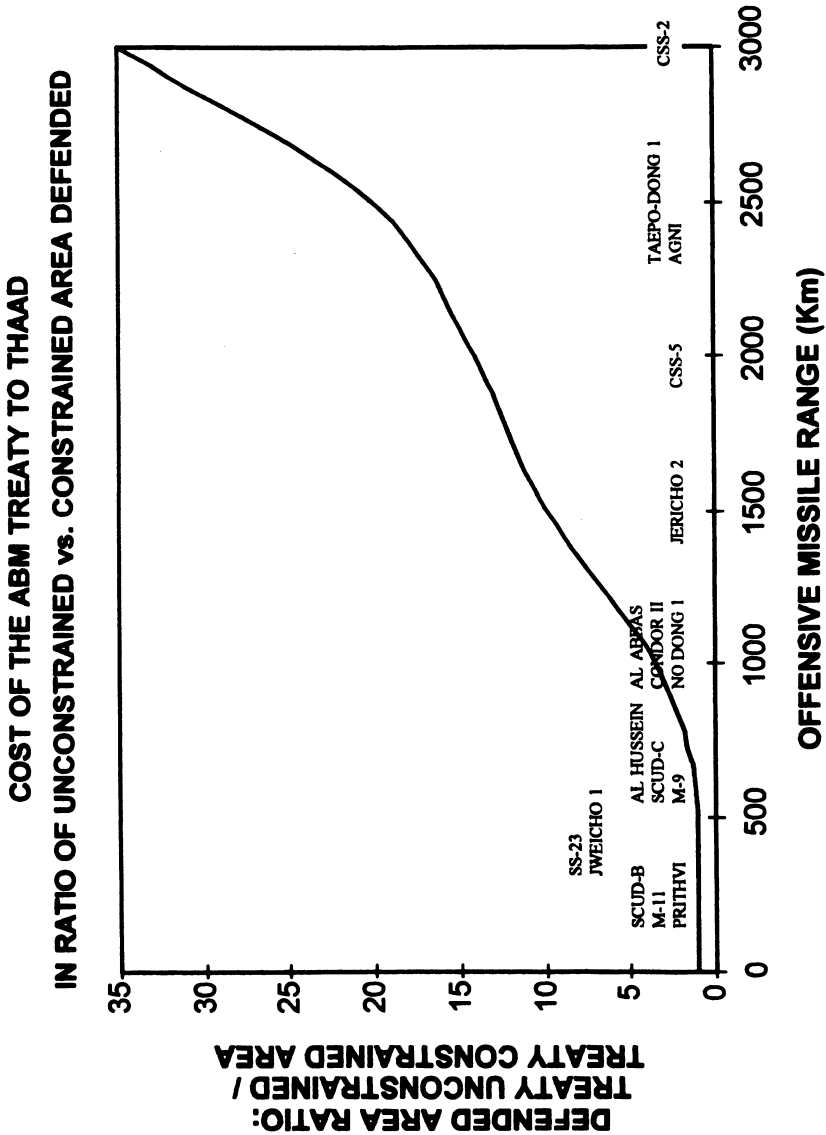
Of course, an ABM treaty-limited deployment of the THAAD system could defend the same area as the unconstrained system against a 1500 Km offensive ballistic missile if 10 times as many THAAD interceptor missiles and Ground Based Radars were deployed. Such a deployment would cost the country approximately ten times as much money. Therefore, the accompanying graph also shows the cost multiplier incurred by the imposition of the ABM treaty on the THAAD theater ballistic missile defense system. That cost multiplier is large against all but the shortest range offensive ballistic missiles.

It is important to understand that the high system performance penalty and cost of imposing ABM treaty constraints on ballistic missile defense systems are not limited to the THAAD system. Since the radar on the AEGIS system has a lower power-aperture product than the THAAD Ground Based Radar, and is therefore a shorter range sensor, the defended area ratio and associated cost will be even larger for the AEGIS-based ballistic missile defense system, and will become significant at even shorter offensive ballistic missile ranges than was the case for the THAAD system.

The efforts to force theater missile defense systems to have no ICBM defense capability will only result in their being "dumbed down" to significantly less capability, and even then the distinction will be arbitrary. When approached on a rational basis, the attempt to create a distinction between theater missile defense systems and ICBM defense systems is a technological dead end. The reality is that we can have either substantial defenses or substantial vulnerability. To date, the United States has been left substantially vulnerable.

DOES THE ABM TREATY ALSO OBSTRUCT RUSSIAN EFFORTS TO DEVELOP MISSILE DEFENSES?

The argument has been made by proponents of the ABM Treaty that while it may place unanticipated limitations on U.S. theater ballistic missile defenses as well as



intended limitations national missile defenses, the treaty applied equally to the Soviet Union in past years and still applies equally to the Russians today, and therefore whatever limitations it places on the U.S. are also placed on Russia. While this is the impression given in the form of the treaty, it is far from the truth in the Treaty's consequences to date for the U.S. and Russia.

More than a decade before the ABM Treaty was negotiated, the Soviet Union was fully committed to the development of the SA-5 "Tallinn" system (named for the city in Estonia where the system was first seen by the U.S.). As intelligence analyst William T. Lee discusses in his monograph *Ballistic Missile Defense and "Arms Control" Follies* (attached as an Appendix to this testimony), the SA-5 was both a high altitude air defense system and national ballistic missile defense system from the outset. (Since this system is armed with nuclear warheads, it does not require sophisti-

cated "hit-to-kill" fire control and guidance technology to defend against ballistic missiles.)

Mr. Lee notes the significance of ballistic missile defense discussions held at the U.S.-U.S.S.R. summit meeting at Glassboro, N.J., in June 1967 as described by then U.S.S.R. Ambassador to the U.S. Anatoly Dobrynin in his book *In Confidence*. During the meeting, the leadership of the Johnson Administration attempted to persuade the Soviet leadership of the undesirability of either side building national missile defenses. U.S.S.R. Prime Minister Kosygin responded by "pointing out the Soviet missile defense systems around Moscow and Tallinn were designed to save the lives of Soviet Citizens". As noted by Mr. Lee, Dobrynin concludes "Thus the Soviet Government did not recognize a historic opportunity and responded by continuing the ABM construction around Moscow and Tallinn." In view of these comments, there can be no doubt that the SA-5 was part of the Soviet National Missile Defense capability from its initial deployment around 1967 and that the leadership of the Johnson Administration was informed of this fact at that time.

In 1980, in conjunction with continued modernization of the SA-5 system, the Soviets began deploying another defensive system, designated by the U.S. as the SA-10, which was itself later upgraded and further deployed as the SA-12. In an article in *Comparative Strategy*, 15:251-259, 1966, Mr. Lee notes that since the demise of the Soviet Union, "the Russians have consistently touted the tactical anti-ballistic missile capabilities of the SA-10 in foreign sales efforts, and in 1994 admitted that the SA-10 had been designed against the full threat spectrum from stealthy aircraft and cruise missiles through intercontinental ballistic missiles" in a Moscow publication. Mr. Lee goes on to note that "by the time the Soviet Union collapsed, more than 10,000 dual purpose SAM/ABM interceptor missiles were deployed at SA-5/10 complexes" along with a national network of early warning and battle management radars.

A factual reading today of the history of the ABM Treaty can leave little doubt that it was used by the Soviet Union to block the development of U.S. missile defenses while the Soviet Union carried out a massive missile defense buildup. That buildup largely remains in place today.

WHAT SHOULD THE U.S. DO ABOUT THE ABM TREATY?

To understand the role of national missile defense, one must first understand the most important mission of the U.S. military. The primary mission of the military is not to fight wars, although the U.S. military trains constantly to be able, if necessary, to do just that. Its mission is not even to win wars, although this is certainly the objective in fighting them.

The single most important mission of the U.S. military is neither to fight nor win wars, but to resolve conflicting interests on terms favorable to the United States, while avoiding the need to resort to warfare. This primary mission is focused on supporting the goals of the U.S. and the other democracies by peaceful means.

Historically, the U.S. has been forced to go to war, with great loss of life and resources, not because its military capability was too strong, clear and certain; but when the U.S. military was weak, as it was during the era leading up to W.W.II, or when the U.S. was confused about its own national interests, as it was in the antecedents of the conflict with Korea and China, the war with Iraq, and most recently in the current administration's reported answers to Chinese questions on the probable U.S. response to an attack on Taiwan.

This same principle applies to the role of U.S. ballistic missile defense. The primary purpose of a ballistic missile defense, both national and theater—that is, national for the U.S., or national for our friends and allies—is to discourage countries from developing offensive ballistic missiles and the chemical, biological, or nuclear warheads that make them able to produce masses of casualties. It is essential to recognize that countries are most susceptible to being discouraged from developing offensive missiles before they have made major national commitments to such programs, when they are still considering the alternatives, and when they have maximum flexibility in their future course of action. Therefore, the best opportunity for avoiding offensive ballistic missile threats is squarely before the U.S. *today*—not tomorrow, not next year, not 15 years from now, but *today*.

The problem is not to estimate the last possible time when the U.S. could deploy missile defenses. Historically, the U.S. has proven poor at making such intelligence estimates for many reasons. The challenge before the U.S. is to deploy theater and national missile defenses as rapidly as possible to discourage potential proliferators from developing, building, buying, or otherwise obtaining offensive ballistic missiles, as well as to counter the many ballistic missile threats that already exist.

Most one-time skeptics of the need for theater missile defenses became supporters after attacks on the U.S. and our allies caused loss of life in the war with Iraq. There can be little doubt that a ballistic missile attack on the U.S. would produce similar support for national missile defense. The question before the Congress is: must the U.S. wait until it is attacked by ballistic missiles before it deploys such missile defenses?

During the debate on the broad vs. narrow interpretation of the ABM Treaty in the late 1980s, some members of the Senate took the position that the Treaty had to be forever interpreted by the U.S. as it was presented to the Senate at the time of its ratification. This "locked in" the U.S. position on the Treaty at that time. If that is good national policy, then some provision must be made for addressing events that materially change the Treaty or its consequences but take place or are learned by the Senate after the Treaty is ratified. In such event, sound policy warrants that the Treaty be resubmitted to the Senate Foreign Relations Committee for reconsideration, either at the initiative of the Administration or of the Committee itself.

Attachment

(William T. Lee, 25 September 1996)

BALLISTIC MISSILE DEFENSE AND "ARMS CONTROL" FOLLIES *

In the May 1996 Naval Institute *Proceedings* Lt. Gen. Charles G. Cooper' USMC (ret.) related how the Joint Chiefs went to President Johnson in November 1965 with a proposal to bring the Vietnam war to an early and successful conclusion by blockading North Vietnam and bombing Hanoi. After feigning consideration, President Johnson chewed the Chiefs out in a manner that would have made an old Marine DI envious, and then threw them out of his office. Vietnam went on to become our longest and most disasters war as scripted by Secretary of Defense Robert Strange McNamara and his "whiz kids".

Another fateful, but even less well known, decision was made a year later on ballistic missile defense of the United States. Like Vietnam, the consequences are very much with us today.

After Mr. McNamara became Secretary of Defense in 1961 he reportedly said that to deploy, or not to deploy, anti-ballistic missile (ABM) defenses against the Soviet threat would be the most important decision on his watch. In order to assist his expected decision on national ABM defense for the U.S., McNamara funded a number of study groups to analyze the strategic utility of U.S. national ABM defenses.

In 1961 U.S. intelligence began to acquire firm evidence that the Soviets probably had deployed only a few of their first generation ICBMs, the SS-6. The "missile gap" was conclusively negated by mid 1962.

For a number of years after this experience and the Cuba missile crisis, CIA and the majority of the U.S. intelligence community was convinced that the former Soviet Union (FSU) had settled for permanent inferiority in numbers of ICBMs and SLBMs, and certainly would not field the forces required to threaten the survivability of U.S. silo based ICBMs and hardened C3 facilities. However, even a few hundred ICBMs with megaton warheads posed an unprecedented threat to the U.S. population.

Meanwhile U.S. intelligence also had detected Soviet ABM programs, but collection was of poor quality and very incomplete. Assessments of the evidence were highly contentious until the late 1960s when CIA forged the dominant view that persists to this day.

The Soviets started construction on a dual purpose anti-aircraft/missile system (SAM/ABM) at Leningrad in 1960, but the U.S. did not discover it until 1963. By 1964 the U.S. detected construction of a much different ABM system at Moscow while statements by Soviet leaders and missiles displayed in military parades in Red Square indicated a strong Soviet interest in ABM defenses for the entire country.

The original Leningrad system was soon abandoned and replaced by another system, eventually designated the SA-5, which initially also was assessed to be a probable SAM/ABM. Appearance of the first SA-5 complex under construction near Tallinn in Estonia in 1963 took the U.S. by surprise; its development had not been

* Based on a forthcoming book, "The ABM Treaty Charade: A Study in Elite Illusions and De-lusions", this paper was prepared as an appendix to William R. Graham's testimony before the Senate Committee on Foreign Relations, 26 September 1996. Some portions of this paper also appeared in an early summary of the book printed in *Comparative Strategy*, Vol. 15, No. 3, 1996.

detected. Indeed the gaps in U.S. intelligence collection on design, development and testing of the SA-5 remain very wide even now.

However, in 1967 CIA decided that the SA-5 was purely an anti-aircraft system, and that the large phased array radars then under construction were for early warning of U.S. ballistic missile attack (and space track), but not for battle management, i.e. did not provide detailed target trajectory tracking data relative to an earth coordinate system to the SA-5 complexes.¹ Despite sporadic dissents by other members of the intelligence community and a major DIA challenge in 1982, CIA repeated its errors for the systems that appeared in the next two decades. CIA's erroneous assessments are the current dogma of U.S. policy makers.

In fact, in the 1950s the Soviets adopted a two track approach: ABM systems dedicated to the defense of Moscow, the apex of the Communist Party's nomenklatura; and dual purpose SAM/ABM systems—first the SA-5 then the SA-10—and large phased array battle management radars—first generation "Hen House" followed by second generation "LPAR"—for national ABM defense.² Moscow was defended by the best technology the Politburo had, the rest of the nation by the best it could afford.

Like the early FSU systems, the first U.S. ABM system, the NIKE-ZEUS, was derived from the NIKE-AJAX/HERCULES air defense systems widely deployed in the U.S. in the 1950s. In the early years U.S. and FSU ABM programs followed parallel courses in most respects. After 1962, however, the U.S. program took a much different turn, technically and politically.

Beginning in the late 1950s the U.S. investigated basic re-entry physics, decoys, advanced RV designs, and MIRV technologies under the Advanced Ballistic Re-entry System (ABRES) program. Despite being limited essentially to anti-aircraft technology, NIKE-ZEUS performed better than expected in this threat environment. But it shared the basic deficiencies of its FSU counterparts against large attacks, MIRVs, and a number of countermeasures.

Building on the ABRES experience, the NIKE-X system that emerged in 1963-64 was a revolutionary advance in ABM technologies combining a powerful, multi-aperture phased array radar (MAR), an IBM 360 type computer, and a high acceleration missile (SPRINT) for low altitude intercepts. NIKE-X was designed against MIRVs with high performance RVs, while the computer and the SPRINT interceptor took advantage of atmospheric filtering to discriminate precision engineered decoys and other countermeasures. The MAR radar combined battle management, target and interceptor tracking functions and was highly resistant to nuclear effects. The only high confidence way to overcome the NIKE-X system was to exhaust the stock of interceptors with real RVs.

Almost overnight NIKE-X gave the U.S. a 20 year lead in ABM technology. Neither the Moscow ABM system nor the SA-5 SAM/ABM with first generation battle management radars could cope with MIRVs. After the mid-1960s the Soviet lag in microelectronics began to widen and became the single most important technical weakness in the FSU's gigantic military forces. The Soviets proved much more adept at compensating for this weakness in strategic offensive than in strategic defensive forces.

The largest of the ABM study groups commissioned by McNamara in 1961-62 was managed by the Army, Lt. Gen. Cy Betts, then Assistant Chief of Staff for Research and Development. The Army study group consisted of inter-disciplinary teams from the Army's NIKE-X project office, Bell Laboratories, (the prime contractor for NIKE-AJAX/HERCULES/ZEUS and NIKE-X), Stanford Research Institute (SRI), the Re-Entry Systems Division of the General Electric Co., and the Boeing Co.

The scope of the Army's study group was comprehensive: NIKE-X deployment locations, schedules, and costs; battery and system effectiveness, national strategic objectives, and cost effectiveness in the light of possible/likely increases in both the size and technical sophistication of the FSU's strategic missile arsenal in response to U.S. ABM defenses.

At McNamara's direction, reducing U.S. population fatalities against Soviet threats generated in response to NIKE-X deployment was the measure of NIKE-X effectiveness. As defined by McNamara and his systems analysts, "mutual assured destruction" (MAD) required that both the U.S. and the FSU have the capability to kill 25 to 50 percent (or 50 to 120 million) of each others' population. By 1965 this became their definition of "strategic stability".

¹ NIE 11-3-67, "Soviet Strategic Air and Missile Defenses", pp. 1, 17.

² Documentation for this assessment is presented in my forthcoming book, "The ABM Treaty Charade: A Study in Elite Illusion and Delusion". A summary of the draft of the book appeared under this title in *Comparative Strategy*, Vol. 15, No. 3, July-September 1996, pp. 251-60.

Because FSU forces in the national intelligence estimates (NIEs) ca. 1964-67 were so puny, computer simulations of NIKE-X national deployments reduced expected damage from a Soviet attack to very low levels. McNamara's analysts then postulated the "greater than expected threat" with MIRVed systems and an arsenal many times larger than the NIE estimates in order to counter proposed NIKE-X deployments, thus to preserve the FSU's "assured destruction" capability to kill 25-50 percent of the U.S. population ("prompt fatalities").

McNamara's analysts assumed that the "greater than expected threat" would cost the Soviets very little so that the cost-exchange ratio was around 100 to 1 in favor of the offense, i.e. the Soviets could negate each \$100 the U.S. spent on ABM to defend U.S. cities with the equivalent of \$1 for additional FSU ICBMs to restore the status quo ante in population fatalities.

While at CIA in 1961-62 a colleague and I had predicted that the SS-9, SS-11 and a Fractional Orbital Bombardment System (FOBS) were under development, that deployment of the SS-9 and SS-11 would begin around 1965, and that some 150-200 SS-19 silos and roughly double that number of SS-11s would be deployed by mid 1968.³

We predicted the SS-9 as specifically designed to attack MM Launch Control Centers (LCCs), which initially were the "Achilles heel" of the MM system—100 LCCs controlled all 1,000 MM missiles. This forecast was based upon four basic elements: the counterforce priority in Soviet nuclear targeting strategy; modernization of the SS-7 to carry a much larger payload; improvement in accuracy—"circular error probable" (CEP) to about (0.5 nm or about 925 meters); and testing of nuclear warheads weighing around 10,000 lbs. with a yield of some 20-25 MT.⁴ When we put it all together the SS-9 fell out.

The SS-11 was predicted as an ICBM deployed exclusively in silos for survivability and designed to attack soft targets, which required much more modest missile accuracy and smaller warheads. The FOBS would circumvent the two U.S. ballistic missile early warning radars and hit SAC airfields before the bombers could take off.

Although officially submitted to the NIE drafters, these forecasts were not accepted.⁵ A special NIE on orbital bombardment systems in 1963 did not even reference the evidence that a FOBS was under development, although it did grant the Soviets the capability to develop such a system.⁶

From 1961-62 until well into the 1970s the NIEs typically depicted Soviet military doctrine and strategy as a mirror image of mutual "assured destruction" (MAD), arguing that the Soviets would not seek parity, much less superiority, in strategic ballistic missile forces. Thus: "We do not believe that the USSR aims at matching the US in numbers of intercontinental delivery vehicles. Recognition that the US would detect and match or overmatch such an effort, together with economic constraints, appears to have ruled out this option."⁷

After leaving CIA in 1964 I became head of the threat team responsible for forecasting Soviet responses to NIKE-X in SRI's Strategic Studies Center directed by R.B. Foster. In the 1960s that Center provided a unique environment to conduct far more comprehensive, inter-disciplinary analysis than was possible at CIA, to say nothing of other U.S. intelligence agencies.

The SRI threat analysis integrated Soviet nuclear war doctrine and strategy and objectives, long range (10-15 yr.) forecasts of Soviet strategic nuclear forces, and dollar costs of estimated Soviet responses to U.S. deployment of NIKE-X. GE and Boeing provided detailed engineering and cost analysis support. The other teams in the Army's group then integrated the threat analysis with the cost and effectiveness of various levels of NIKE-X deployments around 40 to 50 major U.S. cities.

The SRI threat team's forecasts were designed to bound the limits of FSU capabilities to respond to U.S. NIKE-X deployment over a 15 year period, i.e. to 1980. Given different assumptions about Soviet strategic objectives, we postulated a series of alternative future forces, each constrained by estimates of system development lead times, technologies, and overall budgets. The maximum response threats sub-

³The colleague was Frank Leonard who had transferred from CIA to NSA.

⁴SNIE 11-14-67, "The Soviet Strategic Military Posture", 1961-67", p. 6 reports the nuclear warhead weight and yield.

⁵See NIE 11-8-62, "Soviet Capabilities for Long Range Attack" and NIE 11-8-63, "Soviet Capabilities for Strategic Attack".

⁶NIE 11-9-63, "Soviet Capabilities and Intentions to Orbit Nuclear Weapons", p. 17.

⁷NIE 11-8-64, "Soviet Capabilities for Strategic Attack", p. 2.

For an extensive critique of NIE mirror imaging and other errors during this period, see the "Team B" report, "Intelligence Community Experiment in Competitive Analysis", December 1976, particularly pp. 9-16.

ject to these constraints exceeded the NIE estimates by more than an order of magnitude, and also went well beyond the limits of the "greater than expected threat".

The Army study group's team leaders from Bell, SRI, and the Army briefed McNamara twice a year on study progress. At the 1965 mid-year briefing on NIKE-X McNamara temporarily re-directed the study effort from defense against the FSU to a 20 year (1965-85) forecast of the Chinese Communist (PRC) strategic nuclear threat to the U.S., and the cost and effectiveness of deployments to counter it. That threat forecast, completed in under six weeks, concluded that the PRC would give priority to intermediate range missiles to strike targets around China's periphery, and was unlikely to field more than 50-100 ballistic missiles that could hit the U.S. by 1985.

When the Army group's team leaders briefed McNamara on this tasking in September 1965, he was highly complimentary of the analysis but deferred a decision on the Army's recommended NIKE-X deployment to counter the PRC threat. McNamara feared that approving light defenses against lesser threats could open the way to ABM defenses designed to counter the FSU threat.

In 1965-66 the SRI threat team reviewed the all source evidence on Soviet targeting strategy in a nuclear war with the U.S. and its NATO Allies. Clearly the Soviets had adopted a nuclear war fighting strategy, hence limiting damage to the FSU rather than maximizing population fatalities was the primary mission of Soviet strategic missile forces, whether targeted on Europe or the U.S. This meant first priority to counterforce strikes, i.e. destroying the enemy's delivery systems, nuclear weapons, and command-control on the ground.⁸

Experience already was bearing out the evidence from literary and other sources. By 1966 deployment of the SS-9 targeted on the MM launch control centers was well underway, as had been predicted 4-5 years earlier. Construction of both SS-9 and SS-11 silos was booming; by 1969 the Soviets would reach and probably surpass the original forecast for mid-68. FOBS development had been re-directed but some deployment was likely. However, as a result of redundant internetting of MM silos and a backup airborne launch control system, the LCCs no longer were the "achilles heel" of MM, so building one SS-9 for each MM silo was not a likely Soviet course. Attacking each individual MM silo required MIRVed systems.

The Soviets had demonstrated MIRV technology in two space shots in 1964, so I concluded that the Politburo probably already had approved engineering development of MIRVed systems.⁹ Counterforce systems probably would have first priority but MIRVs also would be designed for soft targets—military, industrial, transport and communications—as well in accordance with standard Soviet nuclear targeting strategy. The GE engineers designed the MIRV payloads, beginning with two successor systems to the SS-9, and Boeing did most of the threat cost work along with engineering studies of silo modification requirements.

The Army group's last major briefing to McNamara in the Fall of 1966, included three major new findings based on this research and experience. First, contrary to the NIEs, the Soviets had a nuclear war fighting, damage limiting strategy; hence they would target their missiles to destroy as many of our missiles and bombers as possible on the ground in order to reduce the threat to their own air and missile defenses.¹⁰

Second, contrary to the NIEs, the intelligence evidence indicated that the Politburo had approved engineering development of MIRV systems emphasizing counterforce rather than population targeting. The MIRVed successor to the SS-9 (eventually designated "SS-18") would open the "window of vulnerability" of MM silos (at 300 psi) by 1975, so that few MM could be expected to survive a Soviet attack by 1980. By the same token, allocating most of their ICBMs to counterforce attacks would reduce the number of warheads targeted on U.S. urban areas, hence NIKE-X defenses (and fall out shelters) would reduce U.S. population fatalities to

⁸In addition to the materials from the SECRET and TOP SECRET editions of the General Staff journal *Military Thought* provided by Col. Penkovsky (now de-classified), most essential aspects of Soviet nuclear targeting strategy were published openly, most notably in the book *Military Strategy* edited by Marshal (SU) V.D. Sokolovsky.

⁹William T. Lee and Richard F. Staar, *Soviet Military Policy Since World War II*, (Hoover Institute Press, Stanford CA, 1986), p. 63. For an extensive discussion of Soviet nuclear targeting strategy and analysis of the evolution Soviet capabilities to meet that strategy's damage limiting requirements, see chapter 8 of that study.

¹⁰The evidence for this strategy was in open Soviet literature and in the SECRET and TOP SECRET documents provided by Col. Penkovsky, but had been ignored by the NIEs. Much of this material now has been declassified so it now can be said that *Military Strategy* (three editions) edited by Marshal (SU) V.D. Sokolovsky was an unclassified synthesis of the highly classified documentary material provided by Penkovsky.

far less than McNamara's "assured destruction" minimum of some 50 million, even against an all out Soviet attack.

Third, NIKE-X would be cost-effective against a 15 year projection of the Soviet threat that, in retrospect, closely approximated the strategic ballistic missile arsenal actually deployed through 1980. The advances in NIKE-X technologies, combined with realistic costing of FSU missile responses, had brought the cost-exchange ratios down to approximate parity, ranging from 4:1 in favor of the offense to 4:1 in favor of the defense depending upon various initial assumptions.¹¹

Thus the Army team had demonstrated that NIKE-X would meet both of McNamara's criteria for national deployment: greatly reduced population fatalities against a massive Soviet arsenal; and, cost-effectiveness, but in the context of Soviet nuclear war fighting strategy, not the MAD mirror image of McNamara and the NIEs.

At the end of the briefing McNamara accepted the cost-exchange ratios as being no more than 4:1 in favor of the offense (down from 100:1), which made NIKE-X cost-effective by the standards he had prescribed.¹² However, in an emotional outburst during the briefing McNamara rejected the evidence that the Soviets put first priority on destroying MM silos in order to limit damage to the USSR, saying that as a Soviet Marshal he would target the entire arsenal on U.S. cities. Hence he refused to approve NIKE-X deployment to protect U.S. citizens from the FSU on the grounds of MAD theology—U.S. ABM defenses would be "destabilizing" by forcing the Soviets to respond with a massive MIRVed ICBM buildup.

The Joint Chiefs used a version of that 1966 NIKE-X briefing to ambush McNamara when they met with President Johnson at his ranch in December 1966, persuading Johnson to overrule McNamara and order deployment of U.S. national ABM, although not the defense against the FSU that the Chiefs proposed.¹³ While the Chief's briefing is not available, a memo for the record prepared by W.W. Rostow, then President Johnson's national security adviser, is.¹⁴

According to Mr. Rostow's memo, the Chiefs recommended NIKE-X deployment at 25 cities to save the lives of 30 to 50 million U.S. citizens, if attacked. McNamara opposed the Chiefs' proposal on the grounds of MAD theology and simplistic "action-reaction":

- it was "inconceivable" that the Soviets would react in any other way but to restore the *status quo ante*, i.e. 120 million U.S. population fatalities;
- both sides would spend a lot of money and end up where they started, but we would waste the most because offensive weapons were so much cheaper than ABM systems;
- the danger of war would not be reduced;
- the FSU had "been wrong in its nuclear defense policy for a decade" because everything spent on all types of defenses (air and missile) had been wasted.¹⁵

The Chiefs saw it quite differently:

- NIKE-X would save tens of millions of lives against a Soviet population attack, and that was a worthwhile objective;
- while they could not predict with confidence how the Soviets would react, all likely reactions had a substantial price and would divert funds from other military programs—no free lunches;
- the risk of nuclear attack would be reduced because the Soviets could not calculate, with high confidence, how well they could penetrate NIKE-X whether they attacked population or MM silos, or both;

¹¹ I was present at this briefing because of my role in developing these three arguments.

¹² McNamara's FY 1968–72 Defense program, p. 53, accepted the 4:1 cost exchange ratio—see Lee, "Arms Control Perceptions and Realities", *Comparative Strategy*, Vol. 12, No. 4, October–December 1993, pp. 415–436.

¹³ After the briefing to McNamara, R.B. Foster spent several weeks closeted in the Pentagon preparing the Chiefs' briefing. I supported that effort but did not see the final version nor, to the best of my knowledge, did Foster.

Some limited material on these events at the ranch in early December 1966 have been declassified at the Lyndon B. Johnson Library and are referenced by Patrick Glynn, *Closing Pandora's Box*, (Basic Books, 1992), p. 226 and footnote 43. That reference stimulated my acquisition of the documentary material discussed herein.

¹⁴ "Notes on Meeting with the President in Austin, Texas, December 6, 1966 with Secretary McNamara and the Joint Chiefs of Staff", dated 10 December 1966 (originally TOP SECRET, EYES ONLY FOR THE PRESIDENT). Present were President Johnson, Secretary McNamara, Deputy Secretary Vance, General Wheeler (Chairman, JCS), Admiral McDonald, Generals Johnson (USA), McConnell (USN), Greene (USMC), and W.W. Rostow.

¹⁵ Summarized from Rostow's memo; the quote is on p. 4.

- replacing single RVs with MIRVs substantially reduces the total nuclear yield in any given attack.¹⁶
- Soviet defense programs had not been entirely wasted because they had introduced many uncertainties into our planning and it already had cost a pretty penny to counter their air defenses.¹⁷

In sum, the Chiefs argued that no matter how the Soviets reacted to NIKE-X deployments, the U.S. strategic position vs. the FSU would be enhanced, to greater or lesser degree depending on the specific reaction, in several areas:

- limiting damage to our population, industry, and military establishment;
- introducing such uncertainties into Soviet calculations of the outcome of a nuclear exchange that an attack on the U.S. would be much less likely;
- demonstrating that we were not 1st strike minded; and
- providing the kind of strategic force advantage that had been so helpful in settling the Cuban missile crisis peacefully.¹⁸

The immediate upshot of the meeting was that McNamara agreed to deploy some kind of light defense while continuing ABM R&D on thick defenses. McNamara then moved quickly to undo the decision on three fronts: discredit NIKE-X effectiveness in terms of reducing population fatalities; ensure that NIKE-X deployment was watered down so as to be ineffective against a Soviet attack; and negotiate away U.S. ABM under the guise of “arms control”.

A team of McNamara’s systems analysts, headed by Ivan Selin, went to work on the computer to conjure up the “*greater than the greater than expected*” FSU threat, optimized to exhaust all interceptors in the maximum NIKE-X deployment and still have enough RVs to kill 120 million people (“prompt fatalities”). Selin and Co. simply used the computer to generate numbers that matched McNamara’s gut feelings on the one and only way the Soviets conceivably would react to U.S. ABM. Needless to say, there were no counterforce MIRVs in this threat; all the MM survived to attack the Soviet population.

In an all day meeting in the Pentagon toward the Spring of 1967, Selin’s systems analysts could not defend the cost and technology leadtime assumptions underlying the “*greater than greater than expected threat*,” but insisted that it was the basis for McNamara’s position that deployment of NIKE-X designed to counter the Soviet threat would only elicit a Soviet response to restore their “assured destruction” capability to kill 50 percent of the U.S. population, thus escalating the “arms race.”¹⁹

Meanwhile, in a move long prepared, in early 1967 LBJ offered SALT to the Politburo before deploying even a very limited version of NIKE-X.²⁰ At the close of the meeting at the ranch in December, 1966 he instructed to W.W. Rostow, his national security adviser, to obtain the views of several senior officials on probable Soviet reactions to U.S. ABM deployment. The LBJ Library has provided copies of the memos written by Ambassador Llewellyn E. Thompson, Deputy Undersecretary of State Foy D. Kohler, the acting Secretary of State, Nicholas de Katzenbach, Science Adviser Donald F. Hornig, and Rostow himself. CIA views were also solicited and summarized by Rostow, but the text of the CIA memo, evidently signed by Director Richard Helms, is not available.

All respondents agreed that the SA-5 (then still known as the “Tallinn” system) was just a SAM. None discussed the issue of the battle management radars. Rostow, de Katzenbach, and Helms (CIA) agreed McNamara that the Soviets would react by buying as many missiles as were required to restore their “assured destruction” capability, thus leaving both sides back where they had started but much the poorer withall. Thompson and Kohler argued that the Soviets would speed up their own ABM program before buying a lot more offensive missiles to overcome U.S. ABM. Kohler specifically doubted that the Soviets would “necessarily seek parity in offensive forces”. Thompson and Kohler also perceived that the Soviet reaction probably would be greatly constrained by economic factors. Hornig did not really address the response issue, except to say he doubted that it would be resource constrained.

None of the respondents perceived that the Soviets had adopted a nuclear war fighting, damage limiting strategy, emphasized counterforce targeting, were deploying the SS-9 for that specific purpose, and were engaged in a vast MIRV development program dominated by counterforce systems, or that the Politburo had adopted

¹⁶ This effect was known as virtual attrition and was indeed substantial. For example, an SS-18 with 10 RVs has an estimated total yield of some 5 MT, as compared to 18-25 MT for a single RV.

¹⁷ Ibid. These and most of the arguments in the next paragraph had been presented to McNamara at the briefing two or three months earlier.

¹⁸ Ibid.

¹⁹ I presented most of the intelligence, technology, cost, and leadtime analysis refuting the “*greater than the greater than expected threat*”.

²⁰ Smith, *Doubletalk*, p. 19; Freedman, *U.S. Intelligence*, p. 94.

preferential growth of military expenditures at the expense of consumption to pay for it all. All respondents agreed the time was ripe for negotiations that had good prospects of freezing both strategic offensive and defensive forces on both sides.

Most of the respondents may have been unaware, in whole or in large part, of the evidence available at the time on what the Soviets really were up to, but CIA may not plead ignorance on these issues. CIA files were loaded with evidence, classified and un-classified, on Soviet military doctrine, strategy, nuclear targeting, and economic priorities, and contained a good deal of evidence on the other issues as well. Rostow's summary of the CIA memo puts that organization in an indefensible position.

Former Soviet Ambassador Anatoly Dobrynin's memoirs reveal some of the history that led to LBJ's initiative in early 1967 to negotiate ABM limitations with the FSU: at lunch on 16 January 1964 William Foster, Director of ACDA and McNamara's "soul mate", proposed that the U.S. and FSU work out a "preliminary confidential arrangement" on ABMs, "the more so since President Johnson had not yet committed himself". Foster warned Dobrynin, "Don't talk about this in public, or I'll be called before the Un-American Activities Committee".²¹

Foster raised the subject with Dobrynin again several times through 1966. In December 1966 Llewellyn Thompson, U.S. Ambassador to Moscow, "confided" in Dobrynin that the U.S. was "alarmed over reports of the Soviet ABM system".²² Earlier Dobrynin stated, "By the middle of the decade, Soviet researchers were working on the design of the first ABM networks around Moscow and in the western part of the country near Tallinn in Estonia (emphasis added). A defense against missiles, specifically for the protection of civilians, was considered in Moscow as a legitimate matter and was not supposed to arouse suspicion abroad."²³

Evidently also around December 1966 McNamara unburdened himself on the ABM issue to Dobrynin as follows:

- U.S. ABM R&D was promising;
- many Pentagon "brass hats" were sold on it, and had recruited allies in Congress;
- it would be costly and in the last analysis not very effective because ABM defenses could be penetrated simply by adding more RVs (to the offense's arsenal to exhaust the defense's interceptors);
- "mutual renunciation seemed to be the best solution."²⁴

On April 11, 1967 McNamara invited Dobrynin to lunch at his home to convey the following:

- U.S. military doctrine was based on "assured destruction" with a second strike (i.e. in retaliation);
- Soviet military doctrine evidently was based on the same principle;
- both sides had assured destruction capabilities, the "balance of terror * * * mutual suicide * * * actually kept the peace";
- the U.S. strategic nuclear arsenal was much larger than "mutual assured destruction * * * MAD" required as a result of overreaction to the "missile gap" and the 1961 Berlin crisis;
- although the Soviet arsenal was much smaller, it was enough for MAD;
- ABM defenses were a new element in the equation but could be countered by increasing the offensive arsenal, which was cheaper;
- therefore, it was necessary to reach an agreement to limit ABMs, recognizing that it would not be quick or easy."²⁵

According to Dobrynin, this lunch set up the summit between Premier Kosygin, President Johnson, and McNamara at Glassboro, N.J. in June 1967. Johnson reportedly wanted the summit for two reasons: enlist Moscow's assistance in negotiating with Hanoi; and impress the Soviet Government with the dangers of proceeding with ABM defenses. Kosygin was instructed by the Politburo to listen but to make no commitments.²⁶ Glassboro, rather than New York or Washington, was chosen for mutual protocol reasons.

In the first round of discussion between the principals, Dobrynin says Johnson told Kosygin:

- he wanted to defer the decision on U.S. ABM and already had done so for three months;

²¹ Anatoly Dobrynin, *In Confidence*, (Time Books, Random House, N.Y., 1995), p. 149.

²² *Ibid.*

²³ *Ibid.*, p. 148.

²⁴ *Ibid.*, pp. 149–50.

²⁵ *Ibid.*, pp. 151–52.

²⁶ *Ibid.*, p. 162.

- announcement of U.S.-Soviet talks on the issue would get military and Congressional critics off his back and buy some time;
- he would like Kosygin to listen to McNamara's presentation. Kosygin replied that "Defense is moral, aggression is immoral" but agreed to hear McNamara out.²⁷

Dobrynin writes that two days earlier McNamara had told him he "would come prepared with latest American confidential scientific and military data demonstrating the essential futility of ABM systems", and that he wanted to limit the presentation to Johnson and Kosygin, and to keep it secret so that his critics would not jump him.²⁸

Johnson handled presentation of McNamara's briefing clumsily; in addition to Johnson and Kosygin, evidently Dobrynin, and perhaps others, were present. This caused McNamara to shuffle his classified briefing papers into a somewhat disjointed presentation. Kosygin told Dobrynin later that he found it "unconvincing" and was disappointed by it. Dobrynin reports that McNamara's main points were:

- a defensive race would only accelerate efforts by the offense to break through;
- ABM defenses would be "destabilizing" * * * to "the fragile nuclear deterrent between the two superpowers."²⁹

At dinner Kosygin responded to the briefing by "pointing out the Soviet *missile defense systems around Moscow and Tallinn* were designed to save the lives of Soviet citizens", so both sides should agree on limiting offenses first before negotiating defenses away (emphasis added).³⁰ But Kosygin reiterated that he did not have authority from the Politburo to begin negotiations then and there as the Americans proposed.

Dobrynin remarks, "Thus the Soviet Government did not recognize a historic opportunity and responded by *continuing ABM construction around Moscow and Tallinn*" (emphasis added).

To the best of my knowledge, reports of Kosygin's remarks lumping Moscow and Tallinn (the SA-5) together as ABM systems never reached DIA. Whether it was reported elsewhere I do not know. In any case, it did not deter McNamara from telling Congress six months later that U.S. intelligence, i.e. the CIA, was now confident that the system was only a SAM, not a dual purpose SAM/ABM although such systems could have some marginal ABM capabilities.³¹

When McNamara finally announced U.S. national ABM deployment in September 1967, he watered it down to the "SENTINEL" system that had been designed to counter the PRC threat from the 1965 study. Having been designed strictly as the most cost-effective defense against the limited PRC threat, SENTINEL was virtually ineffective against a large Soviet MIRVed force. Only the full NIKE-X system could greatly reduce casualties against the Soviet threat forecast in the 1966 study. Granted, the latter was expensive, some \$40 billion (ca. 1967 dollars) for full deployment (including 5 years operating costs) to protect major U.S. cities. But that was a fraction of the cost of the Vietnam War, without the after effects.

President Johnson and McNamara, however, discarded our 20 year ABM technology advantage over the Soviets in ABM capabilities for "arms control" negotiations. Much more than \$40 billion, and more than 50,000 U.S. killed in action, went to Vietnam to pay for a strategy that precluded winning that war.

Glassboro coincided with the crisis in the Soviet ABM program when they scaled back the Moscow ABM, decided to copy the NIKE-X to defend the Moscow nomenklatura from MIRVs, and were about to approve engineering development of their second generation dual purpose national SAM/ABM, the SA-10 and LPAR battle management radars. The Politburo and the General Staff realized that the proposed "arms control" talks were a Marxsend. By limiting U.S. ABM the Soviets could buy time while trying to regain the technical lead by developing directed energy systems under a national program adopted in 1965.

By February 1968, after McNamara told the world that the SA-5—per CIA's assessment—really was only a SAM, the Politburo was convinced that the American goose really was pleading to be plucked. So when SALT negotiations began after a brief mourning period for the demise of Czech "socialism with a human face" under the treads of Soviet tanks, the U.S. was surprised to find that the ABM Treaty was the Politburo's first priority.

²⁷ Ibid., p. 165.

²⁸ Ibid.

²⁹ Ibid., pp. 165-66.

³⁰ Ibid.

³¹ Freedman, *U.S. Intelligence*, p. 93, footnote No. 36, citing McNamara's FY 1969 Posture Statement, p. 62, dated January 1968.

Meanwhile in the U.S., widespread unrest over the Vietnam War that McNamara now says he didn't really support all along, combined with the prospect of U.S. national ABM, galvanized MAD advocates and anti-nuclear activists into a campaign that soon killed U.S. ABM entirely while the Soviets cultivated our self deception and tried to catch up and leapfrog us technologically.

However, because all the RV and guidance system technologies had been developed earlier under the ABRES program, the U.S. was able to begin fielding MIRV payloads some five years ahead of the Soviets even though the Politburo had funded Soviet MIRVs two or three years before Congress funded the U.S. systems.

Ironically, the Soviet force forecast that McNamara rejected in 1966 proved to be conservative, without the stimulation of U.S. national ABM. Flight testing of MIRVed Soviet ICBMs began in 1972-73 followed by deployment in 1975-76. All three of these new ICBMs, not just the SS-18, were designed for damage limiting, counterforce strikes, and by 1980 constituted some 90 percent of the total Soviet ICBM arsenal. To support its nuclear war fighting, damage limiting strategy the Politburo funded a larger and more formidable strategic nuclear arsenal than McNamara thought he would provoke by approving U.S. ABM defenses.

The counterforce arsenal that the Soviets actually deployed in 1975-80 was only 10-20 percent larger than my 1966 forecast. The "window of vulnerability" of U.S. land based strategic missiles opened on schedule, and became one of the major issues in U.S. strategic debates in the late 1970s and early 1980s. Furthermore, the total ICBM/SLBM warhead arsenal the Soviets negotiated and deployed under SALT was not significantly different than the 1966 forecast against which even McNamara admitted NIKE-X would be cost-effective.

Most importantly, SALT legalized Soviet acquisition of the strategic offensive missile arsenal required to achieve the damage objectives of their nuclear war fighting strategy. These forces represented the Soviet definition of sufficiency, so the entire SALT process did not limit the planned Soviet buildup. All the SALT agreements were so designed to accommodate Soviet strategic ballistic missile force objectives, and so full of loopholes, that extensive violations were not necessary. The U.S. failed to enforce those that did occur.

The ABM Treaty was quite a different matter; it had to be violated from the beginning. The infamous Krasnoyarsk radar was the sixth in the LPAR series, constructed in that location by a Politburo decision in deliberate violation of the ABM Treaty. However, the really serious Soviet violation was nationwide deployment of the dual purpose SA-5/10s and the battle management radars in violation of article 1 of the ABM Treaty.

When CIA concluded in 1967 that the SA-5 was just an anti-aircraft (SAM) system, and that the Hen House radars were just for early warning (and space tracking), a majority of the U.S. intelligence community joined the CIA choir. Subsequently CIA's analysis of the SA-5 and the Hen House radars was extended to the SA-10 and the LPARs. Once enshrined, CIA's erroneous analysis was not challenged even when "hard" evidence to the contrary appeared.³²

By the time the Empire collapsed, more than 10,000 dual purpose SAM/ABM interceptor missiles were deployed at SA-5/10 complexes. Yet the U.S. officially counts only the 100 interceptors of the "ABM X-3" system at Moscow, which are permitted by the ABM Treaty. ABM X-3 is a scaled up model of the NIKE-X system, vintage late 1960s, that it took the Russians 20 years to copy.

Even those who now are pushing hard to "defend America" from ballistic missile attacks want to reconcile it with the ABM Treaty, and are not willing to admit that the entire strategic "arms control" process was a farce, a middle class welfare program at best.³³

According to CIA estimates, when SALT began the Soviet military burden was down to 6-7 percent of GNP, and the Politburo was looking to the negotiations to reduce it further. "Arms control" advocates shared this view.

In fact, between the initial SALT talks in 1969 and Reykjavik in 1987, the military burden on the Soviet economy roughly doubled from 15-16 to about 30 percent (or more) of Soviet GNP. By that time another 15 percent of GNP was being wasted on collectivized agriculture, so at least 45 percent of Soviet GNP was being flushed down the drain for no economic return.

After failing to persuade President Reagan to give up SDI at Reykjavik in late 1986, the synergistic effect of the military and agricultural burdens forced Gorba-

³² I have a Freedom of Information action pending to release one body of the evidence on the Soviet dual purpose SAM/ABM programs.

³³ For an extensive analysis supporting this judgment, see Lee, "US-USSR Strategic Arms Control Agreements: Expectations and Reality", *Comparative Strategy*, Vol. 12, No. 4, October-December 1993.

chev to make concession after concession in all "arms control" negotiations. Years of Soviet intransigence and stalling evaporated as the INF, CFE, and START Treaties soon followed.

The Russians now have openly admitted the obvious, to all but those hooked on the "arms control" process: until Reykjavik the Ministry of Defense controlled the FSU negotiating agenda for the purpose of "preserving and strengthening Soviet military might, which, in this case, included weakening the potential chief enemy—the United States—by negotiations"; and the ABM Treaty "was more a product of insufficient technological development in the Soviet Union" vis-a-vis the U.S. than a "product of strategic analysis"³⁴

Fortunately for the West, by 1989 the FSU economy was collapsing from the combined cost of the FSU's nuclear war fighting doctrine and the failure of collectivized agriculture, exacerbated by ill advised economic "reforms", before Gorbachev's diplomatic campaign and "arms control" concessions could snatch victory from the jaws of defeat. The political collapse of the Evil Empire followed in 1991 and the Cold was over, at least for a while.

Unfortunately for the West, this causal nexus is not only virtually unknown but also is almost universally denied, not least of all by the CIA.

The most important national security task facing this country today is to protect both U.S. citizens and our military forces from hostile missiles (and aircraft). In addition to Russia's arsenal of thousands of weapons, China already has a few ICBMs and the capability to deploy many more. A number of other countries are likely to acquire at least a few long range missiles and aircraft in the next decade.

Poll after poll shows that most American citizens believe that we have some defenses against nuclear missile (and air) attack. While regrettable, such public ignorance is understandable. Over the past three decades, under both Democrats and Republicans, the U.S. has spent many trillions of dollars on defense against most all kinds of threats on a global scale. How could the Government have refused to defend the country against the most humongous military threat the nation has ever faced?

While a majority in the 104th Congress wants to defend the country against ballistic missiles, Mr. Clinton does not because he considers a Treaty that never was a valid contract with a state that no longer exists to be the "cornerstone" of national security policy. In addition to exacerbating past errors, the amendments to the ABM Treaty that the administration is negotiating not only will prevent the U.S. from acquiring the best ballistic missile defense our technology can provide to protect U.S. forces and our Allies abroad, but also will give both Russia and several other successor states to the Empire veto power over where and how we would employ any theatre (tactical) ABM that we may acquire.

As William R. Graham, former science adviser to President Reagan, has put it, the question really is not whether we deploy national ABM, but whether we do so before or after the first nuclear armed missile lands on American territory. For this thank Mr. McNamara, his system analysts, and all the high priests and acolytes of MAD.

In retrospect, the U.S. made three fundamental strategic errors in the Lyndon Johnson administration: adopting a strategy guaranteed to lose in Vietnam; rejecting national ABM for strategic "arms control" agreements that have failed totally; and attempting to finance the "Great Society" and the Vietnam war at the same time, thus setting the stage for more than two decades of deficit financing. Present generations already have paid a pretty price for these policies; future generations will pay more.

The CHAIRMAN. Thank you, Mr. Graham.

As you may know, there is already some legislation to that effect. I forget who introduced it, but I think his name is Helms. Mr. Mendelsohn.

STATEMENT OF JACK MENDELSON, DEPUTY DIRECTOR, ARMS CONTROL ASSOCIATION, WASHINGTON, DC

Mr. MENDELSON. Mr. Chairman and members of the committee. In response to your request, I appreciate the opportunity to present my views this morning on the critical issue of the ABM Treaty and

³⁴ A.G. Savelyev and N.N. Detinov, *The Big Five: Arms Control Decision Making in the Soviet Union*, (Praeger, 1995), pp. 17, 21.

ballistic missile defense. Based on your opening statement, Mr. Chairman, I can only gather you have been waiting eagerly to hear from some latter day Luddites. [General laughter]

Overall, I believe that maintaining the integrity of the ABM Treaty is essential for further strategic nuclear force reductions; that deployment of ballistic missile defenses against rogue state attacks is unnecessary at this time because no such threat exists; and that theater missile defenses should be deployed in a manner that does not undercut the confidence of the United States or Russia in their retaliatory forces.

Why should we limit ballistic missile defenses or why did we limit ballistic missile defenses?

The United States and the Soviet Union agreed 24 years ago in the Anti-Ballistic Missile Treaty to severely limit strategic ballistic missile defenses. The primary purpose of these limits was not to degrade U.S. security by inhibiting our ability to defend ourselves. The primary purpose was to enhance our security by limiting the buildup of Soviet strategic offensive forces and by facilitating their future reduction. That, I believe, is a key interest of the United States.

The ABM Treaty was a recognition of the fundamental reality that major reductions in strategic offensive forces, which I think we all agree are in our interest, are achievable only if ballistic missile defenses are limited and both sides retain confidence in their own deterrent forces and in their ability to retaliate after absorbing a first strike.

My point here, I think, is that the ABM Treaty is not an end, but it was a means to gain a key U.S. security goal.

This key conclusion is worth restating in a slightly different way. Large numbers of highly capable ballistic missile defense systems, strategic or tactical, are bound to interfere with efforts to shrink strategic offensive arsenals. As a matter of fact, Mr. Graham just spoke about the incipient threat of Soviet, now Russian, theater missile deployments, and the implication of his discussion was that they would interfere with the U.S. ability to manage the strategic relationship.

The substantial force reductions negotiated in START I and II, which will reduce the threat facing the United States from some 10,500 warheads to 3,500 warheads, were obtained because of the presence of the ABM Treaty and the virtual absence of ballistic missile defenses. In reality, Mr. Chairman, the ABM Treaty is a cheap and highly effective defense against strategic missiles, which has helped negate a considerable portion of the most significant threat facing the United States—a 70-percent reduction in the threat without deploying a defensive system.

Russian ratification and implementation of START II and any strategic force reductions which they may agree to in the future will almost certainly be contingent upon the continued viability of the ABM Treaty. This point was repeatedly stressed during discussions I had recently with members of the Russian Duma, with Yeltsin Government officials and Russian nongovernmental analysts, both here in Washington and just last week in Moscow.

I might add that the ABM Treaty is not only important to future reductions but directly impacts on current obligations under exist-

ing agreements. In this connection, Mr. Chairman, you will recall that in 1991, at the conclusion of the START I negotiations, the Soviet Union unilaterally declared that "this treaty may be effective and viable only under conditions of compliance with the ABM Treaty."

If I may just make a brief excursion from my printed statement, we need carefully to consider what is the nature, the true nature, of the U.S.-Russian strategic relationship. There have been several observations that this is not the cold war and that we do not represent a threat to one another. I agree with that.

On the other hand, we do not yet view Russia as we view the United Kingdom or Canada. I wish some day we might, but we do not now. I think we can see that in our own discussions in the government and nongovernmental arena. There is talk about "hedging," talk about reversion in Moscow to an authoritarian system. As long as there is this potential or this sense of a potential adversarial relationship, the insertion of missile defenses into that relationship will have only a provocative and not a protective effect. It is provocative in the sense that it will tend to keep strategic force levels high.

What about the rogue threat? The current rationale behind the revived pursuit of strategic ballistic missile defenses derives from concern over an attack by a rogue state or from accidental or unauthorized launches. These concerns I believe are largely unfounded.

At present, there is no rogue nation ballistic missile threat to the United States and, according to U.S. intelligence, as far back as 1993, for sure, a low probability that any will emerge in the next 15 years.

Of the 20-odd developing states possessing ballistic missiles, only three—India, Israel, and North Korea—have actually produced or flight tested missiles with ranges of more than 1,000 kilometers. North Korea, the only one of these three countries that can realistically be considered a potential adversary, is far from presenting a real threat at this time. It has conducted one partial range test of the Nodong missile and does not yet have an operational version after 7 years of development.

The balance of the developing world missile threat, fully 97 percent, according to the Defense Department, comes from ballistic missiles with ranges of less than 1,000 kilometers, far short of the ranges required to threaten the United States.

Even if a rogue nation did possess the combination of technical expertise, political will, and irresponsible leadership required to consider an attack against the United States, is it reasonable to assume that they would employ ballistic missiles to carry it out?

Given the fact that truly long-range ballistic missiles are expensive and technically difficult to design, develop, deploy, and conceal, these complex systems would be the least likely method such a state would use to attack or threaten the United States. Ships, aircraft, and, as we have seen, rented vans are a much more convenient and realistic delivery vehicle.

Furthermore, ballistic missile launches are readily and routinely detectable by satellite. Only if a rogue state actually wanted the United States to be able to determine precisely the origin of the attack and only if it desired an immediate and devastating response

would a ballistic missile be the weapon of choice for a strike on the United States.

Moving on to the issue of accidental and unauthorized launches from Russia or China, such occurrences are extremely unlikely. It is in China's and Russia's own self-interest to insure that such launches do not occur and, in the case of Russia, U.S. intelligence believes their control mechanisms are "very good."

In any case, ballistic missile defense are not the appropriate remedy for the threat of a potential failure in command and control arrangements. Operational arms control measures, such as reduced alert rates, separating warheads from delivery systems, and improved permissive action links, which, incidentally, we are putting on our submarines this year and in the next fiscal year, are a much more effective and direct way to deal with this concern.

Now let me discuss "what if?" What if a long-range ballistic missile threat to the United States from third countries, other than Russia or China, actually appears to be developing sometime in the future? I believe that would be an appropriate time to fully and rigorously debate the pros and cons of a ballistic missile defense, and that would be an appropriate time to make a decision to deploy ballistic missile defenses, based on an evaluation of the ability of the U.S.-Russian strategic relationship to support the insertion into it of missile defenses based on the effectiveness of non-BMD responses, that is, diplomatic, operational, and conventional military, and based on the cost of BMD deployments compared to the expected or prospective benefits.

The current administration's "3+3" position on national missile defense strikes the right balance. In 3 years or anytime thereafter, if a real world threat emerges, we can respond after a reasoned analysis of the strategic situation, the alternatives, and our resources. At present, we have neither the threat, nor the analysis, nor the debate.

The real issue, Mr. Chairman, I believe, is not when the threat will occur—5, 10, or 15 years from now—but, rather, how best to respond to it after we understand its true extent and nature.

Next is the issue of theater missile defenses. Since the fall of 1993, the United States and Russia, together with Belarus, Kazakstan, and Ukraine, have been discussing the establishment of a demarcation line between those strategic ballistic missile defense systems that are limited by the ABM Treaty and those theater missile defenses that are allowed. The parties completed an initial agreement last June which, apparently, will clear the way for the testing and deployment of lower velocity TMD systems, those with interceptor speeds of up to 3 kilometers per second.

The first phase agreement, however, does not address the status of those advanced systems such as high performance interceptors and space-based components with significant potential to shoot down strategic ballistic missile warheads. These advanced systems threaten to undermine simultaneously the ABM Treaty, confidence in retaliatory forces, and the START reduction process.

Russian concerns about high performance TMD systems mirror those of the United States. Again, I believe Mr. Graham alluded to these concerns, expressed during the ABM Treaty negotiations, that Soviet air defense systems much less capable than the TMD

systems currently under discussion, could, if upgraded, acquire strategic capability. This was a U.S. concern, and it is now a Russian concern. But it should be a concern of both sides if they are interested in continuing the strategic arms reduction process.

Resolution of the status of these advanced TMD systems remains at the heart of the START II ratification debate in Russia. Last year, for example, a study on START II ratification prepared for the Russian Duma recommended that "an accord on strategic and nonstrategic regional ABM systems should precede ratification of START II." The study also argued that a demarcation agreement must contain "precise quantitative limitations on deployment of nonstrategic ABM"—that is their phrase for theater missile defense—"systems."

The limited nature of the initial demarcation agreement has brought into clear focus the fundamental differences between the United States and Russian positions on the testing and deployment of highly capable TMD systems. At some point in the future, Mr. Chairman, I believe we will have to resolve these differences by applying meaningful qualitative, numerical, and geographic measures to these systems if strategic arms reductions are to be continued.

In conclusion, Mr. Chairman, I believe it would be contrary to U.S. interests to do away with the ABM Treaty because of the important role it plays in strategic force reductions.

I believe it would be contrary to U.S. interests to deploy ballistic missile defenses in the absence of any true rogue nation threat and without rigorous analysis and full debate of the optimal response should such a threat emerge.

Finally, I believe it would be contrary to U.S. interests to deploy high performance theater missile defenses in such a way as to undercut confidence in retaliatory forces and disrupt the strategic force reduction process.

Thus spake the Luddites.

[The prepared statement of Mr. Mendelsohn follows:]

PREPARED STATEMENT OF MR. MENDELSON

Mr. Chairman and members of the committee. In response to your request, I appreciate the opportunity to present my views this morning on the critical issue of the ABM Treaty and ballistic missile defenses. Overall, I believe that maintaining the integrity of the ABM Treaty is essential for further strategic force reductions, that deployment of ballistic missile defenses against "rogue" state attacks is unnecessary at this time because no such threat exists, and that theater missile defenses should be deployed in a manner that does not undercut the confidence of the U.S. or Russia in their retaliatory forces.

WHY LIMIT BALLISTIC MISSILE DEFENSES?

The United States and the Soviet Union agreed 24 years ago in the Anti-Ballistic Missile (ABM) Treaty to severely limit strategic ballistic missile defenses (BMD). The primary purpose of these limits was not to degrade U.S. security by inhibiting our ability to defend ourselves but to enhance our security by limiting the build-up of Soviet strategic offensive forces and facilitating their future reduction. The ABM Treaty was a recognition of the fundamental reality that major reductions in strategic offensive forces are achievable only if BMD is limited and both sides retain confidence in their own deterrent forces and in their ability to retaliate after absorbing a first strike.

This key conclusion is worth restating: *Large numbers of highly capable ballistic missile defense systems, strategic or tactical, are bound to interfere with efforts to shrink strategic offensive arsenals.* The substantial force reductions negotiated in START I and II, which will reduce the threat facing the U.S. from some 10,500 war-

heads to 3,500, were obtained because of the presence of the ABM Treaty and the (virtual) absence of ballistic missile defenses. In reality, the ABM Treaty is a cheap and highly effective defense which has helped negate a considerable portion of the most significant threat facing the United States.

Russian ratification and implementation of START II, and any strategic force reductions which they may agree to in the future, will almost certainly be contingent upon the continued viability of the ABM Treaty. This point was repeatedly stressed during discussions I had recently with members of the Duma, Yeltsin government officials and Russian non-governmental analysts both here in Washington and, just last week, in Moscow. I might add that the ABM Treaty is not only important to future reductions, but directly impacts on current obligations under existing agreements. In this connection, Mr. Chairman, you will recall that in 1991, at the conclusion of the START I negotiations, the Soviet Union unilaterally declared that "this treaty may be effective and viable only under conditions of compliance with the [ABM] Treaty."

THE "ROGUE" THREAT

The current rationale behind the revived pursuit of strategic ballistic missile defenses derives from concern over an attack by a "rogue" state or from accidental or unauthorized launches. These concerns are largely unfounded.

At present, there is no "rogue" nation ballistic missile threat to the United States and, according to U.S. intelligence, a low probability that any will emerge in the next 15 years. Of the 20-odd developing states possessing ballistic missiles only three—India, Israel and North Korea—have actually produced or flight-tested missiles with ranges of more than 1,000 kilometers. (North Korea, the only one of these three countries that can be considered a potential adversary, is far from presenting a real threat at this time. It has conducted one partial-range test of the Nodong missile and does not yet have an operational version after seven years of development.) The balance of the developing world missile "threat"—fully 97 percent, according to the Defense Department—comes from ballistic missiles with ranges of less than 1,000 kilometers, far short of the ranges required to threaten the U.S.

Even if a "rogue" nation did possess the combination of technical expertise, political will and irresponsible leadership required to consider an attack against the U.S., is it reasonable to assume that they would employ ballistic missiles carry it out? Given the fact that truly long-range ballistic missiles are expensive and technically difficult to design, develop, deploy and conceal, these complex systems would be the least likely method such a state would use to attack or threaten the United States. Ships, aircraft and—as we have seen—rented vans are a much more convenient and realistic delivery vehicle.

Furthermore, ballistic missile launches are readily and routinely detectable by satellite. Only if a "rogue" state actually wanted the U.S. to be able to determine precisely the origin of the attack, and only if it desired an immediate and devastating response, would a ballistic missile be the weapon of choice for a strike on the U.S.

Moving on to the issue of accidental or unauthorized launches from Russia or China, such occurrences are extremely unlikely: it is in China and Russia's own self-interest to ensure that such launches do not occur and, in the case of Russia, U.S. intelligence believes their control mechanisms are "very good." In any case, ballistic missile defenses are not the appropriate remedy for the threat of a potential failure in command and control arrangements. Operational arms control measures, such as reduced alert rates, separating warheads from delivery systems, and improved permissive action links (PALs), are a much more effective and direct way to deal with this concern.

WHAT IF?

What if a long-range ballistic missile threat to the U.S. from third countries (other than Russia or China) actually appears to be developing sometime in the future? That would be an appropriate time to fully and rigorously debate the pros and cons of a ballistic missile defense. And that would be an appropriate time to make a decision to deploy BMD based on an evaluation of the ability of the U.S.-Russian strategic relationship to support the insertion into it of missile defenses, the effectiveness of non-BMD responses (i.e., diplomatic, operational, and conventional military), and the cost of BMD deployments compared to the benefits.

The current Administration "3+3" position on national missile defenses strikes the right balance. In three years, or anytime thereafter, if a real-world threat emerges we can respond after a reasoned analysis of the strategic situation, the alternatives and our resources. At present we have neither the threat, nor the analysis, nor the debate. The real issue, Mr. Chairman, is not *when* the threat will occur—5, 10 or

15 years from now, but rather *how best to respond to it* after we understand its true extent and nature.

THEATER MISSILE DEFENSES

Since the fall of 1993, the U.S. and Russia—together with Belarus, Kazakhstan and Ukraine—have been discussing the establishment of a “demarcation” line between those strategic ballistic missile defense systems that are limited by the ABM Treaty and those theater missile defenses (TMD) that are allowed. The parties completed an initial agreement last June which apparently will clear the way for the testing and deployment of lower-velocity TMD systems (with interceptor speeds up to 3 kilometers per second.)

The first phase agreement, however, does not address the status of those advanced systems—high-performance interceptors and space-based components with significant potential to shoot down strategic ballistic missile warheads—which threaten to undermine simultaneously the ABM Treaty, confidence in retaliatory forces, and the START reduction process. Russian concerns about high-performance TMD systems mirror those of the U.S., expressed during the ABM Treaty negotiations, that Soviet air defense systems, much less capable than the TMD systems currently under discussion, could, if up-graded, acquire strategic capability.

Resolution of the status of these advanced TMD systems remains at the heart of the START II ratification debate in Russia. Last year, for example, a study on START II ratification prepared for the Russian Duma recommended that “an accord on strategic and nonstrategic (regional) ABM systems should precede ratification of START II.” The study also argued that a demarcation agreement must contain “precise quantitative limitations on deployment of nonstrategic ABM [i.e., TMD] systems.” (*Washington Times*, October 25, 1995, p. A1.)

The limited nature of the initial demarcation agreement has brought into clear focus the fundamental differences between the U.S. and Russian positions on the testing and deployment of highly capable TMD systems. At some point in the future, we will have to resolve these differences and apply meaningful qualitative, numerical and geographic measures to these systems if strategic arms reductions are to continue.

CONCLUSION

In sum, Mr. Chairman, I believe it would be contrary to U.S. interests to do away with the ABM Treaty because of the important role it plays in strategic force reductions. I believe it would be contrary to U.S. interests to deploy ballistic missile defenses in the absence of any “rogue” nation threat and without rigorous analysis and full debate of the optimal response should such a threat emerge. Finally, I believe it would be contrary to U.S. interests to deploy high-performance theater missile defenses in such a way as to undercut confidence in retaliatory forces and disrupt the strategic force reduction process.

The CHAIRMAN. Thank you very much.

I suggest that we have a 6 minute round. Again, I will say that the full text of these two hearings thus far will be printed and made available to several hundred people who are interested in it. But I think several million people ought to be interested in it.

Dr. Graham, North Korea, is it not so, is pretty far down the road toward having a missile, the Taepo Dong II? Is that correct?

Mr. GRAHAM. Yes.

The CHAIRMAN. Could that not strike at least two States of the Union, Hawaii and Alaska?

Mr. GRAHAM. Yes, Mr. Chairman. I'm sure Ambassador Woolsey mentioned on Monday that the scope of the latest CIA estimate was cast in such a way that, apparently, both Alaska and Hawaii were disenfranchised under the common defense clause of the Constitution and not considered for protection. But, in fact, North Korea, with that missile, when developed and completed—which, as we know from our own experience and the experience of others, could go essentially as rapidly as North Korea wish to take it—could directly threaten the U.S. with launches into Alaska and Hawaii.

Furthermore, the North Koreans have shown every willingness to sell missiles that they have developed and built to other countries of the world, such as Iran, which are certainly hostile to the United States. So, not only might we see it threatening our homeland, but we might also see it threaten our interests in other parts of the world and threaten our allies in Europe in a very rapid way.

The CHAIRMAN. Well, let's not forget China, either, in this formula.

Given the status of technology available today, if the United States engaged in a crash program, say, tomorrow, how long would it take to develop and deploy an operational national missile defense that could protect the American people entirely from, say, the Red China nuclear menace? By this I mean protect the United States from a future Chinese threat of up to 300 incoming warheads with no leakage.

I would like for any of the three of you to answer that.

Mr. GRAHAM. Mr. Chairman, having studied the subject of a rapid deployment as a part of the team led by Ambassador Cooper, which prepared the report that he has to his right, I can tell you that we should be able to deploy a system in two phases starting with an interceptor for the Upper Tier. High-altitude interceptors based in the Aegis cruisers, on which we already have made about a \$50 billion investment, and obtained on the order of 50 ships with radar that are now deployed, lack only the interceptor missile and the off-board sensing to make them extremely effective. The U.S. should then follow that with space-based interceptors, the continuation of the Brilliant Pebbles Program that Ambassador Cooper initiated when he was SDIO Director, which was terminated by the current administration. That could be done. Certainly the Aegis Upper Tier system could be deployed and placed to protect the United States and its allies based on its mobility in a time not greater than the time it took us to fight World War II, which was approximately 4 years.

The CHAIRMAN. Mr. Ambassador, the Clinton administration is talking about a ground-based national missile defense. They said it would cost \$3 billion to \$5 billion. Is that approximately what they said?

Ambassador COOPER. The Clinton administration?

The CHAIRMAN. Yes, sir.

Ambassador COOPER. I don't believe that is correct, Senator. I believe that they are pursuing a program right now which is much less expensive than that. It is the so-called 3+3 program, where they would do research for 3 years and deploy in another 3. I think that program they would advertise as costing \$4 billion to \$6 billion. It is a rapid deployment of existing technologies. If they were to exploit the Minuteman system, for example, which already has an existing infrastructure, I believe the Air Force numbers, and I think they have been confirmed elsewhere, would lead to a deployment at Grand Forks within 4 years, something like that, for on the order of \$4 billion or \$5 billion. The problem is the effectiveness of the system, and I personally believe it would leave Alaska and Hawaii hanging out as well.

The \$35 billion you referred to may be the Bush administration estimates for a complete ground-based system which, as you may

recall, we were mandated to produce by the Missile Defense Act of 1991. The focus was put on ground-based defenses and we were, in fact, dealing with a 200 RV threat at that time because the concern was a boatload of Russian missiles—and the number of RVs or missiles under the control of a single captain. At that time, that was up to 200 re-entry vehicles.

To try to do that entire job with ground-based defenses in the United States and protect all 48 States, I think the \$35 billion is probably still approximately correct.

The CHAIRMAN. But I said \$3 to \$5 billion.

Ambassador COOPER. \$3 to \$5 billion? I thought you said \$35 billion. I do believe that \$3 to \$5 billion is on the order of what the Clinton administration has been talking about. I don't believe those estimates are at all credible for a serious ground-based defense of the sort you asked about earlier.

The CHAIRMAN. Well, the CBO, Congressional Budget Office, declared that the deployment of a national missile defense would cost the taxpayers about \$60 billion.

Mr. MENDELSON. Mr. Chairman, I believe you asked us all to comment on the China question or did I mishear you?

The CHAIRMAN. Pardon me?

Mr. MENDELSON. I believe you asked us all to comment on the China question, or did I mishear?

The CHAIRMAN. Not yet. We are on a time limitation. I will get back to you on the next round.

Senator Pell.

Senator PELL. Thank you, Mr. Chairman.

What value would each of you ascribed to the ABM Treaty? I would like to hear from each of you on that. Is it of no value, of some value? Of what value? Dr. Cooper.

Ambassador COOPER. At this point, Senator Pell, I consider it a real drag on our ability to defend our interests, not only here in the United States but around the world. I fear that we will confront a future Saddam Hussein who will not be impressed at all with the arguments of deterrence and that sort of thing. And there have been a number who have told us, not only Hussein but Mu'ammar Qadhafi and other leaders, that the weapon of choice will be a ballistic missile and if they could strike Washington, they would. If they could strike Rome, they would. In the gulf war, Iraq was only able to strike Tel Aviv and they did.

And yet, we seem still to be cautious about defending our interests at home and abroad. Part of the reason, I believe, is an attachment, a theological attachment to the treaty.

I do not subscribe to the view that if we withdrew from the treaty, arms control would end. I spent 5 years, as you know, in Geneva. I heard all those arguments at that time, when we were pursuing the SDI Program, of how it was going to destroy arms control. I personally believe it was SDI that brought them back to the table, that it was SDI at Reykjavik that led to the commitments for deep reductions, and it was SDI that kept them on the track to, in fact, serious reductions of offensive forces. And, in the final analysis, as I said, Mr. Yeltsin accepted Ronald Reagan's agenda. He proposed deeper reductions and jointly building defenses—all in the same speech, at the United Nations 4 years ago.

Senator PELL. Thank you. Mr. Graham.

Mr. GRAHAM. Senator Pell, it has been said by the President that the ABM Treaty is the cornerstone of our national security policy. I believe it is in fact a large boulder tied as a relic, holding us back from what we should be doing to provide for our national security.

It is amazing to me that in the face of the failure of SALT I to provide any reduction in the Soviet forces, a continued buildup from that day to this and, in fact, a new development of several ballistic missile systems by the Soviets, and now, as we speak, by the Russians particularly in the face of no ballistic missile, no ICBM, or sub-launch missile development programs in the United States, that somehow the ABM Treaty can still be appealed to because of its great contributions to the reduction in strategic forces.

What reductions we have had from the Soviets in some areas could be viewed as recycling old systems, and perhaps they had a component of seriousness on their part during the brief time when President Reagan was able to put forward the SDI. But overall, the history of strategic force reduction on the part of the Soviets has been one of dismal failure, and I believe the ABM Treaty has contributed to that failure, and if it remains in place, it will continue to contribute to that failure.

Therefore I see a large, negative contribution to U.S. national security.

Senator PELL. Thank you. Mr. Mendelsohn.

Mr. MENDELSON. I believe I spoke to this in my statement, but I would like to reiterate my belief that the ABM Treaty is basically the element in the strategic relationship with Russia that has enabled us to move to significantly lower levels of threatening warheads on both sides. There has been, roughly, a 4,000-warhead reduction in the number of forces that face us from Russia and there is a promise of another 50 percent cut in those warheads. I believe that that process is directly related to the health, viability, and existence of a treaty which constrains defenses against those lowered numbers of warheads, which keeps the defenses themselves at low constrained levels.

I see a direct connection. I see an invaluable contribution to U.S. security.

Senator PELL. Thank you.

Along these same lines, there are a number of international regimes, such as the NPT, the Non-Proliferation Treaty, and the Missile Technology Control Regime, as well as sanctions against proliferation activities designed to stop the spread of nuclear warheads, especially nuclear materials and missiles. I was just curious what you would ascribe as the value to such regimes and related efforts, whether you think they have done much to deter proliferation.

Again, I would ask Dr. Cooper to start off.

Ambassador COOPER. Senator Pell, I am in favor of diplomacy and I think it is a useful arm of our national security efforts. But I do think that we overstate the value of these agreements.

The MTCR, for example, is a completely unverifiable and unenforceable agreement, and we know in the case of the Non-Proliferation Treaty and the monitoring regimes there that Saddam Hus-

sein in fact exploited those regimes to figure out how to hide a covert, massive program to develop nuclear weapons.

So I am in favor of these discussions and negotiations, but I do not believe that they alone protect our security interests.

Senator PELL. Thank you. My time is up.

Thank you, Mr. Chairman.

The CHAIRMAN. Senator Kerry.

Senator KERRY. Thank you, Mr. Chairman.

Dr. Cooper or Dr. Graham, can you tell me whether or not, in your judgment, the United States is better off with a verifiable agreement to reduce nuclear warheads to about 3,500 for both countries or are we better off with an open ended whatever-you-want-to-build number? Which is a better goal?

Dr. GRAHAM. Senator, with all due respect, I think the question is not complete. There are other constraints generally imposed when such deals are proposed.

Senator KERRY. Well, no.

Dr. GRAHAM. They often are arms control deals, and, let me tell you, these deals tend to be sold by their great limiting capability on our adversaries. But once they are sold—and I have been part of the arms control experts groups at U.S. summits and worked with the administration very closely on this, even the Reagan administration—what you find, not by President Reagan but certainly by the proponents in the administrations, then and now, is they come forward and say the treaty is now in danger; we must overlook all of these violations and noncompliance problems—

Senator KERRY. But you are not answering the question.

Dr. GRAHAM. [continuing]. Even which verification has established in order to sustain the treaty.

Senator KERRY. But you are not answering my question. You are filibustering. You are doing a great Senate thing. We do talk on.

I'm just asking a question: with which are you better off? It is a very simple question. Are you better off with 3,500 nuclear warheads per country, Russia and the United States, verifiable, or open ended, build the number you want? Which is better?

Dr. GRAHAM. With all deference, Senator, I think it depends on the other circumstances we face. I would not take the deal on that term alone.

Senator KERRY. Well, that's the deal we have. That's SALT II. SALT II is 3,500 verifiable, is it not?

Dr. GRAHAM. You mean START II.

Senator KERRY. Yes, START II. Excuse me. I'm sorry. START II, is that not the deal we have? START II is 3,500, verifiable—correct?

Dr. GRAHAM. I don't believe it's verifiable, no. It is a deal—

Senator KERRY. So you don't accept that it's verifiable?

Dr. GRAHAM. [continuing]. That we have supported and the Soviets, the Russians, have not to this point.

Senator KERRY. Correct, they have not ratified it yet. And the point is that they are telling us that if we go ahead and do what you want to do, they will not ratify it. So the choice is whether we are going to ratify 3,500 that the U.S. Senate and the Government of our country has judged is verifiable or whether we are going to

go ahead and do something that blows that away. That's the choice here.

Ambassador COOPER. Senator, may I respond?

Senator KERRY. Sure.

Ambassador COOPER. With all due respect, I believe that's a false choice. The 3,500 number that you are speaking of as the objective of SALT II has been placed in jeopardy by the Russian Duma and others for a whole host of reasons. They have talked about NATO expansion, they have talked about the unfairness of the agreement, they have talked about the cost and want to get us to pay for whatever it is that they would do—

Senator KERRY. But they don't question the number.

Ambassador COOPER [continuing]. And they have included the ABM Treaty on that list.

Senator KERRY. But they don't question the number, though. You see, they are poised to reduce warheads from 10,500. We came down under SALT I. Now we are poised to be able to go down under SALT II—or START.

Now for the first time in American history there is no Soviet or Russian missile pointed at the United States, correct?

Ambassador COOPER. I don't know, Senator. I hear that stated all the time. I don't know and I don't believe anyone else knows.

Mr. GRAHAM. And if I might interject, it is genuinely unverifiable and could be changed instantly, and is of absolutely no significance to U.S. national security whatsoever.

Senator KERRY. Well, do you believe, are you sitting here at this table today with the sense that there is some imposing, imminent threat from Russia to fire a missile at us? Do you believe that?

Ambassador COOPER. I don't believe that there is an imminent threat today, but I don't know about next week.

Mr. GRAHAM. And I have no idea, Senator.

Senator KERRY. Then let's continue down that road.

Mr. GRAHAM. I am concerned about Mr. Lebed warning that there may be a mutiny in the Soviet Armed Forces this fall, however, since I believe they control those nuclear arms pointed either at us or very quickly targetable at us.

Senator KERRY. Well, let's go down the road on this.

Your regime, as proposed, does not take care of a cruise missile, does it? SDI, SDIO, the new, modern concepts, Brilliant Pebbles, any of the variations, spaced-based laser, none of these takes care of a cruise missile, do they?

Ambassador COOPER. Well, as a matter of fact, Patriot is reasonably good against cruise missiles, as is Aegis.

Senator KERRY. But not when you're talking about the potential velocities we are talking about here.

Ambassador COOPER. Cruise missiles do not really go all that fast.

Senator KERRY. But they could come up with a new design.

Ambassador COOPER. If they go that fast, they fly high and then we could deal with them.

Senator KERRY. But couldn't they come up with a new design? I mean, if we build a system that is geared, supposedly, to stop them from doing something and they've told us if you build this, then all bets are off for reducing nuclear warheads, then how have

you made us safer against the potential threat of a missile launched from a submarine right off our coast—not intercontinental? Or how have you made us safer from the next threat of somebody bringing five suitcases to the Plaza Hotel in New York and assembling something in the city? How, truly, are we safer?

Ambassador COOPER. We would be safer because we would be providing a defense against the only means of attack to which we are currently giving a free ride.

We spend a lot of money every year on air defenses, which include defenses against cruise missiles. We spend a lot of money, and I gather we're going to spend a lot more, to counterterrorism, which deals with your suitcase bomb threat.

Why is it that we should give a free ride to the ballistic missile? Why should we make that the weapon of choice for terrorists, which is what we are doing? I don't understand the logic which for some theological reason says there is a real virtue in our vulnerability to ballistic missiles. If the missiles are cruise missiles, it is OK to defend against them. In fact, we have employed defenses against them since World War II.

Senator KERRY. Well, my time is up. I want to come back to that, but my time is up. We will continue this on the next round.

The CHAIRMAN. Very well.

Is it not a fact that the preamble of START II itself specifically provides for a cooperative U.S.-Russian global missile defense to protect both countries? Is my memory not good on that?

Ambassador COOPER. I don't believe it's in START II. There is probably preambular language that led toward discussions or was focused toward discussions of this sort.

The CHAIRMAN. I am advised it is the preamble of START II.

Ambassador COOPER. It is.

That was no doubt associated with the Ross-Mamedov talks that were going on in the latter days of the Bush administration in response to the proposal by Russian President Yeltsin to cooperate on a global defense.

Senator Kerry, I really want to emphasize this point. It was President Yeltsin's proposal. It was not our proposal at the United Nations. It was the proposal issued in concert with the proposal for deeper reductions to the 3,500 level that led to START II, and his proposal was that SDI be redirected to take advantage of Russian technology and that we work together to build a global protection system.

No doubt what you are referring to is preambular language that reflected the fact that we, in fact, were negotiating on that subject at that time.

The CHAIRMAN. Right.

Ambassador COOPER. Regrettably, in my judgment, we put the priority on the wrong subject—to come back to your point, sir. I believe if the Bush administration had placed the priority on following up on President Yeltsin's proposal for a global protection system, we would have had an agreement by the end of its term that would have changed qualitatively this strategic arrangement that we have with the Soviet Union—or with Russia. Unfortunately, the time ran out on us. We got the START II agreement. I think there

is serious question whether it ever will be ratified whatever we do on ballistic missile defenses—

The CHAIRMAN. I agree with that.

Ambassador COOPER [continuing]. For internal reasons, for matters of internal Russian reasons.

The CHAIRMAN. Right.

Ambassador COOPER. And we are still stuck with this theological debate because the Ross-Mamedov talks were dropped.

The CHAIRMAN. Mr. Mendelsohn, Richard Cooper of the National Intelligence Council testified before the House committee that the Chinese ICBM arsenal is likely pointing at the United States. This means that if Red China were to attack the United States today, they could wipe out dozens of our cities.

Now is Mr. Cooper off-base? Is my surmise wrong about destructive potential?

Mr. MENDELSON. Mr. Chairman, Mr. Cooper is not wrong. The Chinese have a small ICBM force with sufficient range to strike the United States. That force will undoubtedly grow over time.

This connects I think to an earlier question you asked, and that is, "Can't we deploy or how long will it take us to deploy a defense against 300 threatening Chinese warheads?" I think there will be some heated debate over how long that will take. There is no question that we could do it. But I think there are three or four factors that are related to the threat from China.

One is that in this mug's game there is no stable point. The Chinese have made it quite clear in connection with theater missile defenses that if we deploy those in the Pacific, they will increase their strategic forces to overcome the protection that we say we will afford our allies.

There is no question in my mind that if we deploy a strategic defense against Chinese missile attack, they will, over time—it won't be a crash program—simply increase the number of potential warheads aimed, that is, real warheads potentially aimed at the United States. So you don't have a stable point.

The CHAIRMAN. How many missiles aimed by China at the United States would it take to destroy Washington, for instance?

Mr. MENDELSON. Very few.

The CHAIRMAN. Yes.

Mr. MENDELSON. Very few.

The CHAIRMAN. But you're not worrying about that?

Mr. MENDELSON. May I just mention one other factor, and that is while we are deploying strategic defenses to protect against what we consider to be a small scale threat from the Chinese, the Russians will be looking at this program and saying that, "The Americans are deploying a national missile defense. We, Russians, have no interest in reducing our nuclear forces under the START II Treaty, so let's just stop." So we will, in effect, have added to the threat. Or, let's put it another way. We will have lost the opportunity to reduce the threat from Russia. So deploying defenses against China leaves us with two sets of threats, and the Chinese one will not be a stable point.

The CHAIRMAN. Mr. Cooper, do you have any comment on that?

Ambassador COOPER. Well, I believe that fundamentally we can stay ahead of the Chinese threat with defenses. I think we have

the technology to do that, and I think it would be a terrible mistake if we let ourselves get behind in this so-called offense/defense arms race with the Chinese.

Furthermore, I believe that if we are ahead with defenses, contrary to the arguments of the arms control community, we will find that there is less incentive for others to build offensive missiles. This is because they would say why bother at that point if, in fact, we have an effective defense against them.

This is particularly important, I think, with rogue states or Third World countries. But I believe it to be the case also with respect to China, and we can get into that part of the game without imposing any particular constraint on the arsenals of the former Soviet Union, the Russians—even at the 3,500 re-entry vehicle level that Senator Kerry was concerned about, because the defenses that we could deploy in the near-term could be overwhelmed by that level of force.

The CHAIRMAN. Thank you. Senator Pell.

Senator PELL. Thank you, Mr. Chairman.

I would like to complete getting the answer to my previous question.

Dr. Cooper had replied, but I don't think Mr. Graham had, and that is what value do you ascribe to the NPT and the Missile Technology Control Regime.

Mr. GRAHAM. Senator Pell, when they are applied to countries generally of good will and peaceful purpose, I believe they are very effective. When they are applied to countries who are not of good will and peaceful purpose in the world today, I believe they are deceptive and misleading because they provide a false sense of security that we have controlled something when, in fact, we have not.

About every 6 months we hear of a new case where the Chinese have violated one of these agreements, and then there is some explanation and threat of various sanctions. Finally, the Chinese promise not to do it again—at least not until the next 6 month period.

So I find them, unfortunately, reflecting Walter Lippman's experience between World War I and World War II, where they are wonderful at limiting countries of peaceful purpose but not very effective at limiting countries who have hostile and aggressive intent in the world today.

Senator PELL. Thank you. Mr. Mendelsohn.

Mr. MENDELSON. I think the so-called Nonproliferation Regime, the set of agreements that try to deal with the spread of weapons of mass destruction, is extraordinarily useful to U.S. security interests.

Of course, a treaty cannot stop a determined state from misbehaving. It is not really the purpose of the treaty. The purpose of the treaty is to create a framework and an atmosphere in which that kind of activity can then be dealt with on an international legal or military basis as a violation of an international norm.

I think that is extremely important to the United States, to have established and working for it a set of norms that reflects our interests and allows us to act on those interests.

I believe, however, the treaties have been more useful than simply in establishing international norms. A case in example is our

use of the NPT to bring North Korea back from the nuclear brink. That was a very useful instrument to have for support of our policies.

In addition, this regime of treaties was very helpful in bringing South Africa back from being a nuclear state to a nonnuclear state. It basically chose to join the NPT and knew that in order to do that, to become a respected member of the international community, it would have to dispose of its six and a half—the seventh one was not totally functional—nuclear weapons.

So I see a very, very important and useful element in this interlocking net of treaties to deal with weapons of mass destruction.

Senator PELL. Thank you.

I would like to touch on the question of costs and would start with Mr. Mendelsohn.

What do you visualize would be the cost of moving down the administration's proposal?

Mr. MENDELSON. If I could just ask, which of the proposals—the "3+3" or the national missile defense proposal?

Senator PELL. I would think the national missile defense proposal.

Mr. MENDELSON. I honestly cannot give an answer. Any answer is subject to the upward revisions that inevitably take place.

I know that we have spent in the last 10 to 12 years roughly \$100 billion in the budget in pursuit of national missile defenses. I believe that we can expect major expenses in the future. The CBO estimates were up to \$30 billion.

In any case, all those estimates tend to be driven up by inflationary costs and by unexpected technical obstacles. Also, to come back to a point I made earlier, we really don't know if we embark on this path the scope of the deployment that we intend to put out.

I know that the Air Force has argued that it can, for a very reasonable price, convert a few existing missiles, offensive missiles, into ABM systems. So you have a range of estimates, anywhere from \$5 billion to \$30 billion, and I think the range itself indicates the lack of value in these estimates since we don't have enough data.

Senator PELL. Thank you. My time is about to expire. Mr. Graham and then Ambassador Cooper, would you respond?

Mr. GRAHAM. Thank you, Senator Pell.

I agree with Mr. Mendelsohn that the administration has not yet defined its system concept to the point that a cost can be given to it. However, in terms of the "3+3," at least the strongest option I believe now being pursued is for a single site ABM defense. And, while that may come in in the few billion dollar range, it will certainly be ineffective against sub-launched and ship-launched ballistic missiles and will be essentially ineffective in defending Alaska or Hawaii.

Therefore, perhaps a more interesting way to think of it in terms of cost effectiveness will be that the effectiveness will be very low for whatever cost is incurred.

Senator PELL. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Senator Kerry.

Senator KERRY. Thank you, Mr. Chairman.

Let me come back, if I can, Ambassador Cooper, to your statement that you felt the proposition I was offering you ignored terrorism. I don't see that "3+3" ignores terrorism at all. It seems to me that it is encompassing all of the possibilities—accidental strike, a real strike, terrorism—but it is approaching the coverage in a way that does not threaten the ABM regime.

Now what is it about "3+3" that you feel leaves us so exposed and what is the specific threat that you see us exposed to that it does not adequately provide for given the timeframe that most experts suggest any of those potential threats could be implemented in?

Ambassador COOPER. Well, when I was commenting on the subject of terrorism, I was pointing out that we are spending a lot of money on defending against cruise missiles, defending against a suitcase bomb, and so on, and that I thought it was appropriate to invest in defenses against ballistic missiles rather than leaving them as a weapons of choice.

Senator KERRY. But doesn't "3+3" do that?

Ambassador COOPER. Now in that context, "3+3" may do something if in 3 years you decide to build something. But, there is no commitment now to build any defense in the "3+3" plan. It is a program to research for 3 years at a level of effort—I don't remember the amount of money, a half billion dollars or something like that per year—and then in 3 years time to be prepared to deploy in another 3 years should the threat then be clear.

Senator KERRY. Isn't that smart both fiscally and in terms of weighing the policy impacts?

Ambassador COOPER. It sounds smart, sir. But I, in all honesty, do not think it is smart. I say that from the perspective of having been on the spot under direction from the U.S. Congress to build a defense.

I mean, the Missile Defense Act of 1991 directed me to go do that and it told me how to do it.

Senator KERRY. But you can build a defense under the ABM Treaty.

Ambassador COOPER. That's the first site.

Senator KERRY. But you can build one.

Ambassador COOPER. You can build one site.

Senator KERRY. There is nothing to restrain you whatsoever—

Ambassador COOPER. That's correct.

Senator KERRY [continuing]. Adequately to protect the interests of the United States within the framework of the ABM Treaty, and if we determine—first you've got to determine the technology. First you've got to develop the ability to do this. That's at least a 3-year business.

Ambassador COOPER. No, sir. That is part of my dispute with you. I say the technology is in hand today and in 3 years you will know no more than you know now when it comes to what you need to know about providing a meaningful defense.

Second, a single site will not provide an effective defense for this country.

Senator KERRY. I understand that. I understand that. But I would assume that, other than an accidental launch, you would agree with me that anybody who has gone to the extent of develop-

ing a deliverable antiballistic missile threat to the United States is not going to target Alaska or Hawaii. They've got lots better targets than that if they are really going to shoot at us, correct?

Ambassador COOPER. I have no idea what they would target, sir. I suspect they would target what they could target.

Senator KERRY. Well, could you imagine—I mean, come on, you are an experienced person. Can you possibly tell me that if you've got a couple—I mean, this stretches the imagination, frankly.

Ambassador COOPER. My belief is that Saddam Hussein shot at what he could shoot at with the missiles and the range that he had. And if he had had a missile that could have reached Rome, he might have shot at Rome, or he might at least have threatened to do so and then we would have had great difficulty in putting together a coalition.

Senator KERRY. Do you have any doubt, if the United States saw him developing a ballistic missile capacity, that that would not be eliminated preemptively?

Ambassador COOPER. Yes, sir, I have doubts that we would do that.

Senator KERRY. You do?

Ambassador COOPER. Yes, sir.

Senator KERRY. You don't think Israel would be the first country to worry about that before we would?

Ambassador COOPER. I'm sure Israel was worried about it and they were attacked with ballistic missiles. I'm sure it came as no surprise to them that Saddam Hussein had ballistic missiles since he used them in Iraq's war with Iran.

Mr. GRAHAM. Senator, a fact might help you here. Saddam Hussein was developing a longer range ballistic missile with a multi-booster first stage before the gulf war and no preemptive or other strike was waged to take out that capacity.

The United States and, for that matter, our Western allies, are extremely adverse to conducting preemptive attacks anywhere.

Senator KERRY. I understand that. But you know as well as I do that Israel took a preemptive strike against Iraq's nuclear power capacity, and I am quite certain that if there was an other than scud missile capacity developed, the world would be deeply concerned about it.

But the issue here I think is really one of measuring cost and effect against current threat. It seems to me I am not saying we should not develop an ability. I do not think the administration is saying that. But it is at what rate, at what pace, and with what consequences that we ought to weigh it.

I mean, if we are talking about rapid deployment, which would destroy our ability to continue to keep the equilibrium we have struggled for so long to achieve with respect to nuclear warhead reduction, you are asking the American taxpayer to invest extraordinary amounts of money in something that at this point gives them no guaranteed certainty of return and ultimately may make things worse.

Is that true or not, Mr. Mendelsohn? What do you think?

Mr. MENDELSON. I think that is absolutely right.

Ambassador COOPER. May I respond to that, please?

The CHAIRMAN. I'm going to give 5 minutes of my time to Senator Kerry so that he can finish up his questions.

Senator KERRY. I have to run along in a moment, unfortunately, but thank you, Mr. Chairman.

Ambassador COOPER. Let me try this one more time.

As I understand our difference with the administration, it is not over whether or not there is a threat. It is over when the threat should be responded to, when it gets to the point where we should respond.

Secretary Perry has publicly stated that we should be prepared to defend against tens of missiles. Now you mentioned, Senator Helms, 300. I don't know what the right number is. But 300 re-entry vehicles—as I told you we were designing a system once to deal with 200. I do know something about that subject.

Tens of missiles I will accept. Your "3+3" is not responsive to tens of missiles. I'm sorry. Go ask the administration. They have to tell you that it will not deal with tens of missiles.

So they are spending a little bit of money on something that they will call defense, and it is, in part, all you can do, presumably, under the terms of the ABM Treaty. But I would argue that it is wasted money and, in the final analysis, going down that path will cost us more money than building much better defenses that technology makes available to us today and that we can have quickly.

Senator KERRY. Well, we spent billions in the 1980's. We've already spent billions.

Ambassador COOPER. We spent billions on research. We spent billions on a whole host of things. We spent \$50 billion on Aegis cruisers.

Senator KERRY. Why is that any different. Is that continuing down the exact same path?

Ambassador COOPER. Why not spend \$2 billion or \$3 billion to put interceptors on ships that we already paid \$50 billion for and are already deployed to defend the country?

Senator KERRY. Let me have Mr. Mendelsohn respond to that, if I can.

Mr. MENDELSON. I just wanted to add one thing and that is, as I said in my presentation, it is not a question; the real issue is not when. The real issue is whether there is threat, what is the nature of the threat, and how should we respond.

I would just like to read one sentence from a letter from the Joint Chiefs of Staff earlier this year, in January, as a result of the Joint Requirements Oversight Council view of the ballistic missile threat. They said, very simply: "The JROC believes that with the current and projected ballistic missile threat, which shows Russia and China as the only countries able to field a threat against the U.S. homeland, the funding level for national missile defense should be no more than \$500 million a year."

So, clearly, the military are not as concerned about this as some of the people in this room.

Mr. GRAHAM. Senator Kerry, might I add that statement is a very strong reflection of the intelligence estimate which is not the responsibility of the military but of the intelligence community, which you heard Ambassador Woolsey discuss on Tuesday. There is no way the JCS can come up with a reasonable program if they

have as their guidance an unreasonable estimate of what the threat is. And that is the situation that we face today.

Senator KERRY. But, you know what really is being fought over here in my judgment? There is no one who could convince me that the 3-year pace is such that it leaves us at risk. There is just no imminent threat of a nature that the 3-year pace of the "3+3" is not satisfactory to allow us to cover our options.

The real issue here is whether people are going to shed something they have long objected to, called the ABM Treaty, which they have always felt is constraining. I think that is what is at stake here.

Now in my judgment, as we look back over the years of the arms race, we have historically been the ones to push the envelope—with one major exception, I think, and that was Sputnik.

But if you go through the history of the A-bomb, then the hydrogen bomb, then the long-range bombers, then the submarines, and so forth, that history tracks us, generally speaking, as being the first. We were the first to MIRV. And every time we have done one of those firsts, our action has created a reaction, inevitably.

Now here we are, about to solicit voluntarily a new action, and they are telling us what the reaction will be. The reaction will be they will not ratify START II. The reaction will be we will not continue to reduce nuclear warheads. And I would further suggest the reaction would be, if I were sitting in China or Russia, that I'd say gee whiz, you know, if the United States is doing this and they can now knock down any missile we have, we no longer have a reliable deterrent, which means they have, in effect, developed a sort of first-strike capacity. They are now more threatening to us than they have been to this point in time with this system. Therefore, we must build a similar system, and, in fact, maybe we ought to go further and know that we can penetrate their system.

So then we get into the mutual arms race of mutual penetration of the antisystem, and you are off going back to where we've been for 50 years. How is that better?

Ambassador COOPER. Again, it is not the world that I am familiar with, Senator. If I am not mistaken, the Russians deployed the first defense. I think the world would be a safer place now if we had gotten into a defensive systems arms race and limited the offensive side rather than what we did.

Senator KERRY. But don't you agree? You've done a lot of this and you are a smart man about it. Don't you agree that defense can become offense?

Ambassador COOPER. I believe that technology can be used for both offensive and defensive purposes.

Senator KERRY. It's very hard if you're sitting on the other side to know for certain what the full extent of some defensive platform might be with respect to offense. And if you have a space-based laser capacity that has knocked down at boost phase, you've got the capacity to hit anything you want on the ground. That is not just defense. That is strike.

Ambassador COOPER. Well, you have physics that gets in the way on some of that.

Senator KERRY. But that is what you folks have been marketing. The CHAIRMAN. Excuse me for a moment.

The Senator's time is up.

Mr. Mendelsohn, I would like for you to have 2 minutes for anything additional you would like to say, followed by Mr. Graham, followed by the Ambassador.

Mr. MENDELSON. Thank you very much, Mr. Chairman.

I think I would like to conclude by simply restating the fact that I believe quite strongly that the ABM Treaty is what has provided the basis for us to move ahead on major strategic force reductions, and that in some way abandoning, undercutting, or undermining that treaty will not be in U.S. interests. As a matter of fact, I would consider it a foolish act to abandon the opportunity of bringing down by a large measure the actual, existing, long-range threat that faces the United States in exchange for preparations against a nonexistent or when it does exist highly limited threat that may come from Third World countries.

Second, I believe that if we move—and it seems likely that we will—down the path of deploying theater missile defenses, we want to be careful not to let those deployments interfere with our major interest, which is reducing the strategic threat that faces us. Thank you.

The CHAIRMAN. Thank you, sir. Mr. Graham.

Mr. GRAHAM. Thank you, Mr. Chairman.

The CHAIRMAN. Don't start his time yet. I do this on the ground that when I go and make a speech, while driving back I say why didn't I say so and so. I want you to be able not to have to say that.

Mr. GRAHAM. Thank you, Mr. Chairman. I am not sure 2 minutes will do it. But in any case, let me state in this time that somehow the discussion that says the ABM Treaty is in our interest and it's in our interest because it's a step in the process which maintains the viability of the Russian intercontinental ballistic missile force, and therefore assures that anytime whoever happens to be controlling that force can kill any number of U.S. citizens that person in control wishes to kill seems to me to be a fundamental perversion of U.S. national security.

Neither Russia nor anyone else, in my view, has a right to act to kill our citizens by the millions at its own whim, and we have every right to protect ourselves from such an action. That is the intention of the ballistic missile defense.

The idea that no matter what we do, they will always build more was grasped by the Soviets early on when they discovered that the United States had a flawed strategic concept with respect to limiting ballistic missile defenses, and they have played it for all it's worth. I think we have seen this morning that they still have disciplines in that argument within the U.S. Government and the associations that deal with arms control. But it is a fundamental fallacy and one that we should not perpetuate.

We should provide for our defense. We can do that. There is not an unlimited capability in either Russia or China to continue to build systems threatening to us, and should they wish to live in a peaceful world, they have no need to threaten us with ballistic missiles in any case.

I am absolutely sure from my experience in and out of government that the United States would be only too willing to remove

its ballistic missiles in the face of an opportunity to do so, and, in fact, we may do it anyway. Thank you.

The CHAIRMAN. Ambassador Cooper.

Ambassador COOPER. Thank you, Mr. Chairman.

I am not sure what to say because you challenged me. I am going to be driving home thinking I wish I'd said that. [General laughter]

First of all, I want to make the point that the technology is here and now. It is available. It can be employed to defend the country. This choice that we are making is a political choice. It is not a technology choice. It is not a management choice. Let's be absolutely clear about that.

Second, the costs are not enormous, particularly if you do the smart things with the technologies. Specifically, I indicated in my written testimony that for under a billion dollars a year the Navy programs can be improved to the point where by the end of this decade we have defenses beginning to be deployed around the world to defend our troops overseas and Americans at home as well.

That is not an enormous investment. For \$1 billion to \$2 billion a year, you can build space defenses, beginning with the interceptors and then moving to lasers in the future. The sum of those two is less than 1 percent, unless I missed something, of the defense budget. That will not break the bank, and it will provide layered defense beginning early in the next decade, which I think can stay well ahead of what any rogue state can do for sure, and I believe China as well.

Furthermore, and finally, I believe if we do this responsibly, as the demandeurs in discussions with the Russians—and I have some experience in that regard in that I spent 5 years in that role—we can have the reductions and we can have defenses, too. And they can be deployed in a way that protects Russia's interests as well as our own.

The CHAIRMAN. Gentlemen, this has been a most enlightening morning and none of the three of you has any reason to have any regret when you are driving home. You have made your cases well.

Speaking on behalf of most of the members of this committee, most of whom are not here, I thank you for coming.

Let me reiterate that you will no doubt be receiving some written questions from Senators who could not be here today. There are other committee meetings and that sort of thing.

Thank you for coming and have a good trip.

[Whereupon, at 12:13 p.m., the committee adjourned, to reconvene subject to the call of the Chair.]

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