AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

S. HRG. 107–110

THE ADMINISTRATION'S MISSILE DEFENSE PROGRAM AND THE ABM TREATY

HEARING

BEFORE THE

COMMITTEE ON FOREIGN RELATIONS UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

FIRST SESSION

JULY 24, 2001

Printed for the use of the Committee on Foreign Relations

Available via the World Wide Web: http://www.access.gpo.gov/congress/senate

U.S. GOVERNMENT PRINTING OFFICE
74–505 DTP WASHINGTON : 2001

COMMITTEE ON FOREIGN RELATIONS

JOSEPH R. BIDEN, JR., Delaware, *Chairman*

PAUL S. SARBANES, Maryland
CHRISTOPHER J. DODD, Connecticut
JOHN F. KERRY, Massachusetts
RUSSELL D. FEINGOLD, Wisconsin
PAUL D. WELLSTONE, Minnesota
BARBARA BOXER, California
ROBERT G. TORRICELLI, New Jersey
BILL NELSON, Florida
JOHN D. ROCKEFELLER IV, West Virginia

JESSE HELMS, North Carolina
RICHARD G. LUGAR, Indiana
CHUCK HAGEL, Nebraska
GORDON H. SMITH, Oregon
BILL FRIST, Tennessee
LINCOLN D. CHAFEE, Rhode Island
GEORGE ALLEN, Virginia
SAM BROWNBACK, Kansas
MICHAEL B. ENZI, Wyoming

EDWIN K. HALL, *Staff Director*
PATRICIA A. MCNERNEY, *Republican Staff Director*

CONTENTS

	Page
Allen, Hon. George, U.S. Senator from Virginia, prepared statement	36
Biden, Hon. Joseph R., Jr., U.S. Senator from Delaware, prepared statement	5
Interim Russian-American Nuclear Security Advisory Council [RANSAC] Report	47
Summary of FY 2002 Budget Requests—Selected Defense Nuclear Nonproliferation Programs	49
Director Operational Test and Evaluation Report in Support of National Missile Defense Deployment Readiness Review—10 August 2000	66
Responses of Hon. John R. Bolton to additional questions for the record	167
Bolton, Hon. John R., Under Secretary of State for Arms Control and International Security, Department of State, Washington, DC	11
Prepared statement	14
Dodd, Hon. Christopher J., U.S. Senator from Connecticut, prepared statement	69
Enzi, Hon. Michael B., U.S. Senator from Wyoming, prepared statement	71
Response of Hon. John R. Bolton to an additional question for the record	168
Feingold, Hon. Russell D., U.S. Senator from Wisconsin, prepared statement	70
Feith, Hon. Douglas J., Under Secretary of Defense for Policy, Department of Defense, Washington, DC	16
Prepared statement	17
Helms, Hon. Jesse, U.S. Senator from North Carolina, prepared statement	10
Kadish, Lt. Gen. Ronald T., Director, Ballistic Missile Defense Organization, Department of Defense, Washington, DC	23
Quotes Supportive of U.S. Missile Defense Plans, submitted by Senator Chuck Hagel	39

AFTERNOON SESSION

Cornwall, Dr. John M., professor of physics, University of California Los Angeles and professor of Science and Policy Analysis, RAND Corporation Graduate School, Los Angeles, CA	72
Prepared statement	76
Cutler, Hon. Lloyd N., senior counsel, Wilmer, Cutler & Pickering, Washington, DC	92
Prepared statement	94
Perry, Hon. William J., Berberian professor and senior fellow, Institute for International Studies, Stanford University, Stanford, CA	85
Prepared statement	88
Rhinelander, Hon. John B., senior counsel, Shaw Pittman, Washington, DC	134
Prepared statement	139
Smith, Hon. David J., President, Global Horizons, Inc., Washington, DC	111
Prepared statement	116
Schneider, Hon. William, Jr., chairman, Defense Science Board, adjunct fellow, Hudson Institute, Washington, DC	164
Turner, Dr. Robert F., associate director, Center for National Security, University of Virginia School of Law, Charlottesville, VA	143
Prepared statement	148
Woolsey, Hon. R. James, partner, Shea & Gardner, Washington, DC	104
Prepared statement	108

THE ADMINISTRATION'S MISSILE DEFENSE PROGRAM AND THE ABM TREATY

TUESDAY, JULY 24, 2001

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

The committee met, pursuant to notice, at 10:05 a.m. in room SD–419, Dirksen Senate Office Building, Hon. Joseph R. Biden, Jr. (chairman of the committee) presiding.

Present: Senators Biden, Kerry, Feingold, Boxer, Torricelli, Bill Nelson, Helms, Gordon Smith, Hagel, Chafee, and Allen.

The CHAIRMAN. The committee will come to order. Mr. Chairman, I have a slightly longer than usual opening statement, but before I begin I just want you to know, as I told you in the elevator, gentlemen, they say that imitation is the sincerest form of flattery, and for years the chairman, Senator Helms, has been referred to by the liberal press as Dr. No.

I want you to know, Mr. Chairman, today in the lead editorial of the Wall Street Journal I have made it. Biden is Dr. No. It took me less than a month, and I just wanted you to know I am flattered to be in your company, for different reasons I might add, but flattered to be in your company.

Today, the Senate Foreign Relations Committee begins a series of hearings in which we plan on examining the threats and perils to our national security, and how we can best respond to them. I am putting up a chart here from the Defense Department—it is about a year old—that indicates the threats that we face, the likelihood of facing them, and the impact of the threat were it to come to fruition.

These threats include strategic missile attack, a rogue state missile attack with a weapon of mass destruction, information operations—information warfare attacks going after our entire information system, our computers, et cetera—terrorist attacks abroad, regional conflicts, peacekeeping operations, the war on drugs, and humanitarian crises. We need to know not only how we can best respond to these threats, but what should be our priority in responding to them as a Congress and as a Nation.

We begin today by examining one of these threats, an attack by an ICBM missile, a threat that, as you know, the Pentagon says is the least probable to occur, although if it occurs would be, obviously, devastating.

First, let us state the Bush administration rationale as to why this threat should get the highest priority and the most money by a factor of 10 or 12 or 15, whatever it turns out to be.

One, the Bush administration argues the world has changed, that it is time to jettison the immoral doctrine of mutual assured destruction. Two, that deterrence does not work, particularly against rogue states, for we know that leaders in countries like Iran, Iraq, and North Korea would go ahead and use such a weapon if it suited them, notwithstanding the fact they knew they would be immediately destroyed by retaliatory attack by the United States.

Third, that America is immediately vulnerable, because rogue nations, i.e., one rogue nation in particular, will soon have the capability, having developed a long-range ICBM and the ability to tip it with a biological, chemical, or even, theoretically, a nuclear weapon, to strike the United States. And fourth, therefore, even though no reasonable prospect of any system in the near future can guarantee our defense against such an attack, the Bush administration would have us move forward with tests that, and I am going to ask you about this today, may require us to walk away from the ABM Treaty and perhaps start a new arms race.

There are some basic questions. What are we proposing to do? Why are we doing it? Why are we proposing to do it? Will what we propose to do violate the ABM Treaty and when? What makes such an action worth the possible downside of sparking a massive new arms race by walking away from a treaty that has kept the peace for 30 years, and what is the new strategic framework the President is proposing to replace the old strategic framework? And does that new framework envision amending the ABM Treaty or abandoning and replacing the ABM Treaty? What is the administration's missile defense plan?

The idea of missile defense is not new. We have tried to develop this since the 1950's. President Bush wants to develop a missile defense to accomplish the following objectives, according to what he has said:

No. 1, defend U.S. territory from a limited long-range ballistic missile attack by a rogue state.

No. 2, defend our allies and U.S. forces deployed abroad; and

No. 3, defend the United States from an accidental launch of even the most sophisticated Russian intercontinental ballistic missile.

These are all ambitious and worthwhile goals, but as the witnesses will tell us, they require three different architectures and vastly different amounts of money to develop them, somewhere between $60 to $100 billion, and perhaps even up to half a trillion or more, depending on which system we are going to develop.

President Bush's broad outline leaves intact the concept of mutual assured destruction, or MAD, that is retaliatory deterrence, as our primary defense against nuclear attack. I am glad to see that one of our witnesses today, Under Secretary of State John Bolton, has acknowledged this in his testimony. It is the point I have been making for months to those who have asserted that the President's missile defense program will move us beyond MAD. It does no such thing.

Each of the President's directives requires very different systems. Each will likely pose unique political, legal, and technological hurdles, and before spending the taxpayer's money to conduct tests

that will require us to walk away from the ABM Treaty, we must know exactly what the administration has planned.

In two hearings before the Armed Services Committee earlier this month, Deputy Secretary of Defense Paul Wolfowitz and Lt. Gen. Ronald Kadish, who is here with us today, and is the Director of the Ballistic Missile Defense Organization, were not able, or possibly unwilling, to provide any details on how the administration intends to spend the $8 billion requested for missile defense and whether or not spending that money will drive us out of the ABM Treaty within a matter of months.

Secretary Wolfowitz said, "we have not yet chosen the systems architecture to deploy." General Kadish has been commendably blunt in his testimony, pointing out the administration's missile defense program does not define the specific architecture yet. It does not commit to procurement programs for a full layered defense. There is no commitment to specific dates for production and deployment, other than for lower tier terminal defense elements.

General, I hope you continue to be blunt with us today. I hope you will also help us get a better handle on the commitments the administration can make. Perhaps the administration does not know what its missile defense program will look like. It has also been unable to answer a very simple but critical question: When will it violate the Anti-Ballistic Missile Treaty?

I find it amazing that we are about to undertake a testing program that will potentially put us up against the ABM Treaty constraints within a matter of months, and we do not know whether or not those tests, which are planned within the next couple of months, will actually violate the ABM Treaty.

General, I hope you will continue, as I said, to be blunt. Secretary Powell has said we need an understanding, an agreement, a treaty, something with the Russians that allows us to move forward with our missile defense program, but he has not given us any indication of what would be agreed to, how long it may take to reach an agreement, or when the talks may begin.

Now, I understand from today's press reports on the meeting in Genoa that the President has indicated that Dr. Condoleeza Rice will be going to Russia to begin just such talks. Yet the question remains, and it was a subject of several editorials today, if in the meantime, while those discussions are taking place, will President Bush continue to move forward with testing plans that will move us up against and/or cause us to break out of the ABM Treaty before those negotiations are complete?

Secretary Wolfowitz tried to answer these questions in his testimony before the Senate Armed Services Committee. In his testimony he said, "our program, must at some point, and increasingly over time, encounter the restraints imposed by the ABM Treaty." He initially objected to Senator Levin's assertion that the administration had informed the world that the program, "would likely conflict with the ABM Treaty in a matter of months, not years." Secretary Wolfowitz said the administration's plans would only, "bump up against," our obligations under the treaty.

Presented with a copy of the administration's own press release on the issue, which clearly refers to the pending conflict with the ABM Treaty, Secretary Wolfowitz conceded that conflict was pos-

sible, but denied the administration had made any determination that its program would violate the ABM Treaty.

My question is, how can the administration not know whether the test it obviously has to have planned by now, if it is going to occur in the next couple of months, has the probability of violating the ABM Treaty?

Frankly, I marvel at the audacity of a request for $8 billion to conduct unspecified research and development on programs which may or may not violate the treaty, from which the administration may or may not withdraw within 6 months before an unspecified date, but sometime soon assuming, of course, that one believes the ABM Treaty is in force in the first place, which is another question which the administration seems reluctant to give us a firm answer on. It is like the song from West Side Story, 'Sometime, Somewhere, Somehow."

In short, we need an answer to the basic question, what is the administration proposing to do? It is one thing for the President to, as he is constitutionally permitted after consultation with us, to walk away from a 30-year-old treaty. It is quite another thing to ask us to appropriate $8 billion, which may be the very money used to fund tests which may be the very tests that cause us to break out of the ABM Treaty.

The threat has variously been described as a crude missile threat by a rogue state. We do not know what we are doing on missile defense. It is understandable how it is hard to say why we are doing it. The administration has tried valiantly to lay out a number of threats for the American people to consider. The approach seems to be to throw out any number of menaces, all of which are potentially real, and hope that at least one will prove persuasive.

The threat has variously been described as a crude missile threat from North Korea, Iraq, or Iran, the risk of an accidental launch of a sophisticated Russian ICBM, or of the danger posed by missiles which might menace U.S. forces deployed on the Korean Peninsula, or some other hot spot around the world.

It seems to me that answering the "why" question on missile defense requires a discussion not only of the threats, but how real they are, how damaging to U.S. interests they are, how immediate they are, and also the alternatives available to meet those threats. Are we doing all we can to safeguard loose nukes and other weapons of mass destruction in the former Soviet Union? Are we funding our cooperative threat reduction programs with Russia adequately so that rogue nations and/or terrorists do not acquire the actual weapons or the expertise to build these weapons through Russian scientists to pose these threats to us? Have we seriously explored a diplomatic solution to North Korea's development of and export of long-range missiles?

For if there were no immediate possibility of North Korea having the capacity to launch a long-range missile to strike the United States, there would be no need to initiate a test program that in the minds of some experts is of questionable utility and costs billions of dollars.

At the end of the day, will the administration's missile defense program make us more or less secure? That seems to me to be the operative question. Will the benefits outweigh the costs?

The global response to any U.S. missile defense plan will depend on how well we lay the necessary diplomatic groundwork. Will our European allies support our initiative, and if so, at what cost? For the moment, most are deeply skeptical, and strongly oppose any initiative which would jettison the existing arms control framework.

Can we negotiate modifications of the ABM Treaty or side agreements with the Russians to accommodate our missile defense plan? The President, certainly, as I said, is within his power to withdraw from the ABM Treaty after consultation, but I do not want to be complicit in that without knowing what we are doing exactly. The Senate, which ratified the ABM Treaty, must be consulted prior to any decision to withdraw, and that means not just informed, but consulted, and be clearly told what will replace the treaty that could make this country more secure than we are now.

Can China be convinced not to expand its nuclear arsenal from 18 intercontinental ballistic missiles to 180 or more? This is crucial to avoid an arms race in Asia that could even lead some of our allies to potentially go nuclear. Does anyone doubt that, if we abandon the ABM Treaty, whatever modernization programs China planned, they will do more, and that India will respond in kind, and Pakistan will respond to India. How long will it be before a new generation of Japanese leaders, sitting there faced with an Asia with new sophisticated nuclear weapons, maybe say the nuclear umbrella that the United States is providing is not sufficient.

One of the things the greatest generation in the world did, in my view, is provide us with a world where Germany and Japan were not nuclear States.

So we come back to the question, what does the administration really propose doing? Why are they doing it? Will what they propose to do violate the ABM Treaty, and when, and are these proposals worth the downside risks and the costs?

It seems to me we have to get some answers to these questions. The Congress and the American people have a right to know what is actually being proposed, and whether the actions taken by the administration will make our people more or less secure.

[The prepared statement of Senator Biden follows:]

PREPARED STATEMENT OF HON. JOSEPH R. BIDEN, JR.

NATIONAL MISSILE DEFENSE: WHERE ARE WE GOING?

Today, the Senate Foreign Relations Committee begins a series of hearings examining threats to our national security and how we can best respond to them. These threats include:

- Strategic Missile Attack
- Rogue Missile/WMD Attack
- INFO OPS/INFO War Attacks
- Terrorist Attacks Abroad
- Regional Conflicts
- Peacekeeping Operations
- War on Drugs
- Humanitarian Crises

And not only how we can best respond to them. But what should be our priority.

We begin today by examining one of those threats, attack by ICBM, a threat that the Pentagon says has the least probability of occurrence.

Today's hearing examines the administration's proposed response to this threat.

First let's state the Bush rationale for why this threat should get the highest priority.

1. The world has changed.
2. Deterrence doesn't work.
3. America is immediately vulnerable because rogue nations will soon have the capability to strike with ICBM's with biological and chemical weapons.
4. Therefore even though no reasonable prospect for a system to guarantee defense, the Bush administration would have us move forward with tests that would require us to walk away from the ABM Treaty and start a new arms race.

Some basic questions:

- What are you proposing to do?
- Why are you doing it?
- Will what you propose violate the ABM Treaty?
- What makes such action worth the downside risk of sparking a massive new nuclear arms race by walking away from a treaty that has helped keep the peace for thirty years?
- What is the new strategic framework the President is proposing that replaces the old one of ABM and arms control?
- What is the administration's missile defense plan?

The idea of missile defense is not new. We've tried to develop this since the 1950's.

President Bush wants to develop missile defenses to accomplish the following objectives:

- Defend U.S. territory from limited long-range ballistic missile attacks by "rogue states;"
- Defend our allies and U.S. forces deployed abroad; and
- Defend the U.S. from an accidental launch of even a sophisticated Russian intercontinental ballistic missile.

These are ambitious goals requiring three different architectures and vastly different amounts of money—from $100 billion to half a trillion dollars.

President Bush's broad outline leaves intact the concepts of mutually assured destruction (MAD) and retaliatory deterrence as our primary defense against nuclear attack.

I am glad to see that one of our witnesses today, Under Secretary of State John Bolton, has acknowledged this in his testimony—it is a point I have been making for months to those who have asserted that the President's missile defense program will move us "beyond MAD."

Each of the President's objectives requires very different defensive systems. Each will likely pose unique political, legal, and technological hurdles.

Before spending the taxpayers' money to conduct tests that would require us to walk away from the ABM Treaty, we must know what exactly the administration has planned.

In two hearings before the Senate Armed Services Committee earlier this month, Deputy Secretary of Defense Paul Wolfowitz and Lieutenant General Ronald Kadish, Director of the Ballistic Missile Defense Organization, were not able, or were unwilling, to provide many details on how the administration intends to spend the $8 billion requested for missile defense.

Secretary Wolfowitz said, "We have not yet chosen the system architecture to deploy."

General Kadish was commendably blunt in his testimony, pointing out that the administration's missile defense program, ". . . does not define the specific architecture yet. It does not commit to a procurement program for a full, layered defense. There is no commitment to specific dates for production and deployment, other than for lower-tier terminal defense elements."

General, I hope you will continue to be blunt with us today. I hope you will also help us get a better handle on what commitments the administration *can* make.

Perhaps because the administration doesn't know what its missile defense program will look like, it has also been unable to answer a very simple, but very critical, question: *When* will it violate the Anti-Ballistic Missile Treaty?

Secretary of State Powell has said, "We need an understanding, an agreement, a treaty, *something* with the Russians that allows us to move forward with our missile defense programs." [emphasis added].

But President Bush now says, "I have told President Putin that time matters; that I want to reach an accord sooner, rather than later . . . I would rather others come with us, but I feel so strongly and passionately on the subject about how to keep the peace in the 21st century that we'll move beyond if need be."

Secretary Wolfowitz tried to answer the "when" question in his testimony before the Armed Services Committee. In his prepared testimony he said, "it [our program] must at some point, and increasingly over time, encounter the constraints imposed by the ABM Treaty." [emphasis added].

He initially objected to Senator Levin's assertion that the administration had informed the world that its program would likely "conflict" with the ABM Treaty in a matter of months, not years. Secretary Wolfowitz said the administration's plans would only "bump up against" our obligations under the treaty.

Presented with a copy of the administration's own press release on the issue, which clearly refers to a pending "conflict" with the ABM Treaty, Secretary Wolfowitz conceded that conflict was possible, but denied the administration had made any determination that its programs would violate the ABM Treaty. How can the administration not know whether the tests it has planned within the next few months would violate the ABM Treaty?

Frankly, I marvel at the audacity of a request for $8 billion to conduct unspecified research and development on programs which may or may not violate a treaty from which the administration may or may not withdraw six months before an unspecified date—but sometime soon—assuming, of course, that one believes the ABM Treaty is in force in the first place, which is another question to which the administration seems reluctant to give a straight answer.

It's like the song from West Side Story—"Sometime, Somewhere, Somehow!"

In short, we need an answer to the basic question, what is the administration proposing to do? It is one thing for the President to walk away from a 30-year-old treaty without knowing what strategic framework will replace it. It is quite another to ask Congress to be complicit by approving $8 billion for unclear objectives.

The second basic question is, why is the administration spending this additional $8 billion?

Without knowing what we are doing on missile defense, it is understandably hard to say why we are doing it. The administration has tried valiantly to lay out a number of threats for the American people to consider. The approach appears to be to throw out any number of menaces and hope that at least one will prove persuasive.

The threat has variously been described as a crude "rogue missile threat" from North Korea, Iraq, or Iran, the risk of an accidental launch of a sophisticated Russian ICBM, or the danger posed by missiles which might menace U.S. forces deployed on the Korean Peninsula or to some other hotspot around the world.

It seems to me that answering the "why" question requires a discussion not only of the threats—how real are they, how damaging to U.S. interests, how immediate—but also the alternatives available to us to meet the threats.

Are we doing all we can to safeguard "loose nukes" and other weapons of mass destruction in the former Soviet Union? Are we funding our cooperative threat reduction programs with Russia adequately so that rogue nations or terrorists do not acquire actual weapons or expertise from Russian scientists?

Have we seriously explored a diplomatic solution to end North Korea's development and export of long-range missiles, for if there were no immediate possibility of North Korea developing a true ICBM based on their Nodong missile, there would be no need to initiate a test scenario of questionable utility and great cost.

I think all our nonproliferation programs are vital to meeting the real threats that are out there today or on the horizon. Threats that the Joint Chiefs of Staff have said are more likely than an attack by a long-range ballistic missile! I worry that funds devoted to missile defense, or the recent tax cut, are hurting our ability to meet these more current and realistic threats. And I worry that a narrow-minded pursuit of missile defense, without having any notion of what missile defense to develop could derail both our programs in Russia, as well as our negotiations with North Korea.

Is what the administration appears to be proposing worth the downside risks?

At the end of the day, will the administration's missile defense program make us more, or less, secure? Will the benefits outweigh the costs?

The global response to any U.S. missile defense plan will depend on how well we lay the necessary diplomatic groundwork. Will our European and Asian allies support our initiative? For the moment, most are deeply skeptical, and strongly oppose any initiative which would jettison the existing arms control framework.

Can we negotiate modifications to the ABM Treaty or side agreements with Russia to accommodate our missile defense plans? The President is certainly within his power to withdraw from the ABM Treaty, but I do not want to be complicit in that.

The Senate, which ratified the ABM Treaty, must be consulted prior to any decision to withdraw, and be clearly told what will replace the treaty that could make this country more secure in the future.

Can China be convinced not to expand its nuclear arsenal from 18 intercontinental ballistic missiles to 180 missiles, or more? That is crucial to avoiding an arms race in Asia that could even lead some of our allies to go nuclear.

So we come back to our basic questions:

- What are you proposing to do?
- Why are you doing it?
- Will what you propose violate the ABM Treaty?
- What makes such action worth the downside risk of sparking a massive new nuclear arms race by walking away from a treaty that has helped keep the peace for thirty years?
- What is the new strategic framework the President is proposing that replaces the old one of ABM and arms control?

We must get some answers to these questions.

The Congress and the American people have a right to know what is really being proposed, and whether actions taken by this administration will make our people more or less secure?

The CHAIRMAN. And now I would yield to the Senator from North Carolina.

Senator HELMS. Mr. Chairman, I thank you. I scarcely know where to begin. In the first place, the ABM Treaty, in the opinion of a lot of us, is nonexistent. I pleaded with the former President of the United States in writing and in person to send the treaty up to us if he had any doubt about that. He never did.

Now, only the Soviet Union and the United States—and the Soviet Union does not exist today, so my position on that, I will say to the chairman respectfully, and he is my friend, the treaty does not exist. As for much of the other situation that he described, I asked for and received a briefing confidentially on the ABM, and on missile defense, and I cannot discuss that, but I wish that the distinguished chairman had been able to be there.

Now then, Mr. Chairman, I was hopeful that we might have met the administration's request to delay this hearing for a few days, given the fact that the President is still overseas working on foreign policy matters, and he has sent his National Security Advisor to Moscow to consult with Russian leaders regarding U.S. plans for a missile defense system, which obviously is the subject of today's hearing.

Now, that said, missile defense is in my judgment the most important security issue facing this country today. Ten days ago, a very successful missile test proved that missile defenses are not a dream, that Ronald Reagan was not foolish, but clearly it is the basis for the future security of this country one way or another. That is going to be demonstrated, I suspect, even to the distinguished chairman, but it has not been to date, obviously.

It is necessary for the United States to dispense with the 1972 Anti-Ballistic Missile Treaty in order to proceed, I suppose, with the deploying of a missile defense system, and there are compelling reasons for doing so. The cold war is over, and it is long overdue for both the United States and Russia to stop clinging to anachronistic strategies like mutually assured destruction, with its deliberate vulnerability to missile attack. The ABM Treaty was a part of that now-outdated and dangerous strategy, and we must now

turn away from what used to be and look at the world for what it is now.

The truth is, the United States for nearly a decade has been extending a hand of friendship to Russia. We want nothing more than to see Russia become a democratically governed country with a strong free market economy, and while Russia's Government is still autocratic and undemocratic, and its war on the Chechnyan people is an abomination, nevertheless the world is now a long way from the days when the Soviet Union wrapped its tentacles virtually around this world.

Now, there is no reason today for the Russians to insist on maintaining an ability to launch nuclear missiles at undefended cities in the United States of America. Russian generals who mistakenly rail against U.S. missile defense plans on the grounds that such a system will jeopardize the credibility of Russia's offensive nuclear deterrent are like the ABM Treaty itself, relics of a bygone era.

Moscow must update its strategic thinking to reflect the fact that there is today a far different relationship with Russia than the United States has ever had before with the Soviet Union. Indeed, if Russia is willing to acquiesce in the deployment of missile defenses, there may be an unprecedented opportunity for both the United States and Russia to make significant reductions in our respective nuclear arsenals.

Adding missile defenses to the strategic equation will enable the Bush administration to achieve substantial flexibility in shaping a smaller, more modern nuclear force, and another obvious justification for moving beyond the ABM is the very clear technological feasibility of deploying a national missile defense.

Everybody, or somebody, or many people pooh-poohed Ronald Reagan time and time again, but Ronald Reagan stands proven today by the events of recent days. In 1972, such a defense was admittedly little more than theoretical. However, since that time the technology for shooting down incoming warheads has matured, and after countless successful tests, including the one a few days ago, there is no longer any question about the missile defense being workable, so Ronald Reagan's dream of a global missile shield is now within our reach, and I am among those looking forward to the time when every nation acknowledges that ballistic missiles are crude and ineffectual relics of the past, and the day is finally arriving when the American people will no longer be threatened by nuclear or biological missile attack.

Yes, it is true that hostile regimes in North Korea, Iran, Iraq, Libya and Syria have been on weapons-buying sprees, and you know whom they are purchasing them from. That is another story. In addition to missiles, these regimes are working on deadly chemical, biological or nuclear warheads, but you do not hear much about that. Secretary of Defense Donald Rumsfeld warned about this as far back as 1997.

In addition to the threat from Russia and China, the United States may very well soon face a hostile tyrant wielding an intercontinental range missile. North Korea's test of the Tapoe Dong–1 missile, and Iran's progress on the Shahab–3 missile, both suggest that such a time may be close at hand, therefore, the third reason for deploying a national missile defense is because we no

longer live in a world with just two nuclear powers. Rather, we are living in a world of rapidly proliferating missile and warhead technologies.

So in this multi-nuclear world, when leaders such as Saddam Hussein seek the ability to blackmail the United States, the concept of deliberate vulnerability which we have today is far worse than reckless. It is an open invitation to nations to obtain ballistic missiles to exploit the failure of the United States to defend the American people, and that, I think, is why we must develop missile defenses, because that, Mr. Chairman, in my judgment will make North Korea and Iranian ballistic missiles a waste of time and money for them, and Russia need have no fear of being left behind, because the administration has offered publicly to cooperate on a defense system that is global, truly and undeniably, in its coverage.

We have offered Russia early warning information, pre-launch and post-launch notification regimes, and a joint satellite program. Most importantly, President Bush has offered to consult closely with President Putin on every aspect of this issue. These are not arms control negotiations between adversaries. These are intended to be consultations between countries that are working diligently on better relations. These overtures show clearly that the United States is serious about working with Russia if Russia will work with us.

Mr. Chairman, I thank you very much.

[The prepared statement of Senator Helms follows:]

PREPARED STATEMENT OF HON. JESSE HELMS

Mr. Chairman, I was hopeful that we might have met the administration's request to delay this hearing for a few days, given that the President is still overseas working on important foreign policy matters, and has sent his National Security Advisor to Moscow to consult with Russian officials regarding U.S. plans for a missile defense system the subject of today's hearing.

That said, missile defense, is in my judgment, the most important security issue facing our country today. Ten days ago a very successful missile test again proved that missile defenses are not a dream, but clearly the basis for the future security of America.

It is, however, necessary, for the United States to dispense with the 1972 Anti-Ballistic Missile Treaty in order to proceed with the deploying a missile defense system. There are compelling reasons for doing so:

The Cold War is over. It is long overdue for both the United States and Russia to stop clinging to anachronistic strategies like "mutually-assured destruction," with its deliberate vulnerability to missile attack. The ABM Treaty was a part of that now outdated and dangerous strategy. We must now turn away from what "used to be" and look at the world as it is now.

The truth is, the United States, for nearly a decade, has been extending a hand of friendship to Russia. We want nothing more than to see Russia become a democratically-governed country with a strong, free market economy. While Russia's government is still autocratic and undemocratic, and its war on the Chechen people is an abomination, nevertheless the world is now a long way from the days when the Soviet Union wrapped its tentacles virtually around the globe.

There is no reason today for the Russians to insist on maintaining an ability to launch nuclear missiles at undefended American cities. Russian generals who mistakenly rail against U.S. missile defense plans on the grounds that such a system will jeopardize the "credibility" of Russia's offensive nuclear deterrent are—like the ABM Treaty itself—relics of a bygone era. Moscow must update its strategic thinking to reflect the fact that there is, today, a far different relationship with Russia than the U.S. ever had with the Soviet Union.

Indeed, if Russia is willing to acquiesce in the deployment of missile defenses, there may be an unprecedented opportunity for both the United States and Russia to make significant reductions in their nuclear arsenals. Adding missile defenses to

the strategic equation will enable the Bush administration to achieve substantial flexibility in shaping a smaller, more modern nuclear force.

Another obvious justification for moving beyond the ABM Treaty is the very clear technological feasibility of deploying a national missile defense. In 1972, such a defense was little more than theoretical. However, since that time, the technology for shooting down incoming warheads has matured. After countless, successful tests—including the one ten days ago—there no longer is any question about missile defense being workable.

So, Ronald Reagan's dream of a global missile shield is now within our reach, and I am among those looking forward to the time when every nation acknowledges that ballistic missiles are crude and ineffectual relics of the past.

The day is finally arriving when the American people will no longer be threatened by nuclear or biological missile attack.

Yes, it is true that hostile regimes in North Korea, Iran, Iraq, Libya and Syria have been on weapons-buying sprees. In addition to missiles, these regimes are working on deadly chemical, biological, or nuclear warheads. Secretary of Defense Donald Rumsfeld warned about this in 1997. In addition to the threat from Russia and China, the United States may soon face a hostile tyrant wielding an intercontinental range missile. North Korea's test of the Taepo Dong 1 missile, and Iran's progress on the Shahab–3 missile, both suggest that such a time may be close at hand.

Therefore, the third reason for deploying a national missile defense is because we no longer live in a world with just two nuclear powers. Rather, we are living in a world of rapidly proliferating missile and warhead technologies.

So, in this "multi-nuclear" world, when leaders such as Saddam Hussein seek the ability to blackmail the United States, the concept of deliberate vulnerability—which we have today—is far worse than reckless. It is an open invitation to nations to obtain ballistic missiles to exploit the failure of the United States to defend the American people. That is why we must develop missile defenses—because that, Mr. Chairman, will make North Korean and Iranian ballistic missiles a waste of time and money.

Russia need have no fear of being left behind, because the administration has offered to cooperate on a defense system that is truly global in coverage. We have offered Russia early warning information, pre-launch and post-launch notification regimes, and a joint satellite program. Most importantly, President Bush has offered to consult closely with President Putin on every aspect of this issue.

These are not "arms control" negotiations between adversaries. These are intended to be consultations between countries who are working diligently on better relations. These overtures show clearly that the United States is serious about working with Russia, if Russia will work with us.

The CHAIRMAN. Thank you very much. In the interest of time we will put any opening statement of any witness on the panel in the record at this time, if they so choose, and I would invite the witnesses to make any statements they wish, starting with Secretary Bolton, if you will.

STATEMENT OF HON. JOHN R. BOLTON, UNDER SECRETARY OF STATE FOR ARMS CONTROL AND INTERNATIONAL SECURITY, DEPARTMENT OF STATE, WASHINGTON, DC

Mr. BOLTON. Thank you, Mr. Chairman, members of the committee. It is my pleasure to discuss the administration's missile defense plans and the ABM Treaty.

Today's hearing follows on the heels of the President's meeting with President Putin in Genoa. One of President Bush's primary objectives in that meeting was to take a further step in our efforts to persuade President Putin to join us in creating a new strategic framework for dealing with the security threats we now face, while moving us toward a cooperative relationship with Russia and away from the adversarial legacy of the cold war.

This objective was accomplished. The President has reached an understanding that the world has changed, and they would imme-

diately begin intensive consultations on missile defenses and offensive systems. This interrelationship between offenses and defenses is not a new idea, but directly follows from what President Bush has been saying. His May 1 speech made clear his vision that a new strategic framework would embody a new concept of deterrence that included limited defenses and reduced reliance on offensive nuclear weapons. We are hopeful the intensive consultations that have now been agreed to will lead quickly to an agreement on a new strategic framework.

In the President's view, that framework needs to move beyond the ABM Treaty. For sometime, we have been saying there are two fundamental problems with this treaty. First, the treaty severely limits the kind of development and testing needed for the most effective missile defense systems to defend the American populace, our troops deployed abroad, and our allies from the threats of rogue states and accidental launches.

The treaty, after all, was negotiated with the specific intention of severely limiting missile defenses and prohibiting homeland defense against long-range ballistic missiles. Consequently, we do not believe seeking line-out amendments of the treaty to try to get the flexibility to conduct this or next year's test program is viable. Rather, we need to accept that the treaty is fundamentally in conflict with the administration's approach toward the development of missile defenses.

To develop the most effective missile defenses, our approach must not prejudge the mix of technical solutions that will provide effective defenses for us and our allies. This is the approach described by the President in his May 1 speech, and has been detailed in recent testimony by Deputy Secretary of Defense Wolfowitz and General Kadish before the Senate and House Armed Services Committees.

The second fundamental problem with the ABM Treaty is that it is no longer appropriate for the future relationship we want with Russia. We need to define a new strategic framework more appropriate to great powers that are no longer enemies. The cold war is over. We need to move away from the remnants of a relationship that was one of ideological conflict and hostility with the Soviet Union, where our relations were adversarial, and our main concern was to contain the imperial tendencies of Communist ideology. We need to escape from the inertia that has kept the concept of mutual assured destruction at the center of our strategic relationship with Russia. This focus is counterproductive and incompatible with the idea of developing a more cooperative, constructive relationship.

We are not talking about doing away with the realities of nuclear deterrence against new threats, but recognizing the obvious fact that deterrence can be strengthened by a combination of offensive and defensive capabilities, and that our relationship with Russia should be increasingly defined not by deterrence but by cooperation.

The defenses we seek to deploy would be limited in nature, able to intercept handfuls of missiles, not thousands. Our defenses would not be able to negate Russia's strategic missile capability, even at much lower Russian force levels. We are talking about supplementing retaliatory deterrence against small threats with ef-

fective defenses, and we are talking about accelerating the transformation of our security relationship with Russia into one in which cold war calculations of retaliatory deterrence are increasingly irrelevant to the reality of cooperation and partnership.

Since the end of the cold war, we have made some modest changes to our force structure to lower overall numbers, reduce alert levels, and adjust our deterrence requirements, but the size and character of each side's nuclear forces are still not commensurate with the improvements that have taken place in the U.S.-Russian political relationship with the end of the cold war.

We are making progress. We are cooperating well with Russia in stemming the flow of drugs and terrorism from Afghanistan. As Minsk group cochairs the U.S. and Russia are actively involved with Azerbaijan and Armenia in finding a solution to the problem of Nagorno-Karabak. We welcome Russia's cooperation and contributions on these and other issues. They are constructive, and tie Russia to the international community, and they have led to increased bilateral understanding between us.

We have, however, an even larger set of important relations that we should engage in with the Russians. We need to work, for example, toward broad economic cooperation, and we need better cooperation on security matters of common interest. The Russians also face problems if the proliferation of weapons of mass destruction and ballistic missile technologies continue in countries potentially hostile to Russia. At the National Defense University, the President spoke of missile defense as one area of potential real opportunities for cooperation.

Cooperative relationships should also be premised on openness, mutual confidence, and the removal of uncertainties. Greater transparency and confidence-building measures can help address some of the current concerns, for example, over the nature and scope of U.S. missile defense programs.

Moreover, the President has made clear his desire to maintain the lowest possible number of nuclear weapons consistent with our national security needs, including our obligations to our allies. Our nuclear posture review continues, with decisions expected later this year, and Presidents Bush and Putin jointly recognize the interrelationship of offensive forces with issues of defense.

Thus, the ideas I have discussed could all be elements of a new strategic framework with Russia, one that represents a clean break from the past, and especially the adversarial legacy of the cold war, of which the ABM Treaty is a part. What we do not want to do is become bogged down in negotiations that could extend indefinitely, formal agreements of hundreds of pages that count every warhead and pound of throw weight are characteristic of agreements negotiated by distrustful adversaries. That is not the kind of relationship we want with Russia.

Our discussions are ongoing. President Bush has now met twice with President Putin. Secretary Powell has had six meetings this year with Foreign Minister Ivanov, and will meet with him again this week in Hanoi, possibly even today. Secretary Rumsfeld held productive talks with Defense Minister Sergey Ivanov at NATO last month. Condi Rice will be flying to Moscow tomorrow to set up

the schedule and agenda for the intensive ministerial level consultations President Bush and President Putin agreed to in Genoa.

We do not have a precise timetable, but we have made clear that the constraints of the ABM Treaty are a problem for us. The President has stated that we are going to have to move forward. At the moment, our goal is to set in motion high-level consultations to see whether we can quickly agree on the outlines of a new strategic framework. Our extensive engagement with the Russians should make clear that we want to move forward cooperatively. We believe these discussions can be successful.

The support of this committee and the Congress for the President's fiscal year 2002 missile defense program and the need to move beyond the ABM Treaty to establish a new strategic framework would make an important contribution to our prospects for success. As I noted, however, we need to move forward expeditiously.

In his testimony before the Senate Armed Services Committee last Tuesday, Deputy Secretary Wolfowitz stated that the Defense Department has established a process that will identify treaty issues raised by the administration's missile defense program at the earliest possible moment. Specifically, he stated that DOD's compliance review group has been directed to identify ABM Treaty issues within 10 working days of receiving the plans for new development or treaty events.

We are sure that interagency involvement will help develop final administration positions on these questions. Make no mistake, however, as Secretary Powell said in his confirmation hearing regarding moving forward with our missile defense programs, "the only way we can eventually move forward to that goal is to see the ABM Treaty modified, or eliminated, or changed in some fundamental way."

Our objective is to reach an understanding with Russia by the time our development program comes into conflict with the provisions of the ABM Treaty. I believe there is increasing evidence that Russia is ready to explore cooperative solutions and reach agreement on a new strategic framework. The administration intends to do its utmost to reach this outcome. As the President said Sunday in Genoa, "I know we will work to an accord—to see if we cannot reach an accord about both the new strategic framework for defensive weapons, as well as the need to reduce offensive weapons in order to make the world more peaceful." I urge the understanding and support of this committee in that effort.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Bolton follows:]

PREPARED STATEMENT OF HON. JOHN R. BOLTON

Mr. Chairman, and members of the Committee, it is my pleasure to appear before you today to discuss the Administration's missile defense plans and the ABM Treaty.

Today's hearing follows on the heels of the President's meeting with President Putin in Genoa. One of President Bush's primary objectives in that meeting was to take a further step in our efforts to persuade President Putin to join us in creating a new strategic framework for dealing with the security threats that we now face, while moving us toward a cooperative relationship with Russia and away from the adversarial legacy of the Cold War. This objective was accomplished. The Presidents

reached an understanding that the world has changed, and they would immediately begin intensive consultations on missile defenses and offensive systems.

This interrelationship between offenses and defenses is not a new idea, but directly follows from what President Bush has been saying. His May 1 speech made clear his vision that a new strategic framework would embody a new concept of deterrence that included limited defenses and reduced reliance on offensive nuclear weapons. We are hopeful that the intensive consultations that have now been agreed to will lead quickly to agreement on a new strategic framework.

In the President's view, that framework needs to move beyond the ABM Treaty. For some time, we have been saying that there are two fundamental problems with this treaty.

First, the Treaty severely limits the kind of development and testing needed for the most effective missile defense systems to defend the American populace, our troops deployed abroad, and our Allies from the threats of rogue states and accidental launches. The Treaty, after all, was negotiated with the specific intention of severely limiting missile defenses and prohibiting homeland defense against long-range ballistic missiles. Consequently, we do not believe seeking line-in, line-out amendments of the Treaty to try to get the flexibility to conduct this or next year's test program is viable. Rather, we need to accept that the Treaty is fundamentally in conflict with the Administration's approach to the development of missile defenses. To develop the most effective missile defenses our approach must not prejudge the mix of technical solutions that will provide effective defenses for us and our allies. This is the approach described by the President in his May 1 speech and has been detailed in recent testimony by Deputy Secretary of Defense Wolfowitz and General Kadish before the Senate and House Armed Services Committees.

The second fundamental problem with the ABM Treaty is that it is no longer appropriate to the future relationship we want with Russia. We need to define a new strategic framework more appropriate to great powers that are no longer enemies. The Cold War is over. We need to move away from the remnants of a relationship that was one of ideological conflict and hostility with the Soviet Union, where our relations were adversarial, and our main concern was to contain the imperial tendencies of communist ideology.

We need to escape from the inertia that has kept the concept of mutual assured destruction as the centerpiece of our strategic relationship with Russia. This focus is counterproductive and incompatible with the idea of developing a more cooperative, constructive relationship.

We are not talking about doing away with the realities of nuclear deterrence against new threats, but of recognizing the obvious fact that deterrence can be strengthened by a combination of offensive and defensive capabilities, and that our relationship with Russia should be increasingly defined not by deterrence but by cooperation. The defenses we seek to deploy would be limited in nature, able to intercept handfuls of missiles, not thousands. Our defenses would not be able to negate Russia's strategic missile capability, even at much lower Russian force levels. We are talking about supplementing retaliatory deterrence against small threats with effective defenses; and we are talking about accelerating the transformation of our security relationship with Russia into one in which Cold War calculations of retaliatory deterrence are increasingly irrelevant to the reality of cooperation and partnership.

Since the end of the Cold War we have made some modest changes to our force structure to lower overall numbers, reduce alert levels, and adjust our deterrence requirements, but the size and character of each side's nuclear forces are still not commensurate with the improvements that have taken place in the U.S.-Russian political relationship with the end of the Cold War. We are making progress. We are cooperating well with Russia in stemming the flow of drugs and terrorism from Afghanistan. As Minsk group co-chairs, the U.S. and Russia are actively involved with Azerbaijan and Armenia in finding a solution to the problem of Nagorno-Karabakh. We welcome Russia's cooperation and contributions on these and other issues; they are constructive, they tie Russia to the international community, and they have led to increased bilateral understanding between us.

We have, however, an even larger set of important relations that we should engage in with the Russians. We need to work, for example, toward broad economic cooperation, and we need better cooperation on security matters of common interest. The Russians also face problems if the proliferation of weapons of mass destruction and ballistic missiles technologies continue in countries potentially hostile to Russia. At the National Defense University, the President spoke of missile defense as one area of potential real opportunities for cooperation. A cooperative relationship should also be premised on openness, mutual confidence, and the removal of uncertainties. Greater transparency and confidence-building measures can help to ad-

dress some of the current concerns, for example, over the nature and scope of U.S. missile defense programs.

Moreover, the President has made clear his desire to maintain the lowest possible number of nuclear weapons consistent with our national security needs, including our obligations to our allies. Our nuclear posture review continues with decisions expected later this year; and Presidents Bush and Putin jointly recognized the interrelationship of offensive forces and reductions with issues of defense.

Thus, the ideas I have discussed could all be elements of a new strategic framework with Russia, one that represents a clean break from the past, and especially the adversarial legacy of the Cold War of which the ABM Treaty is a part. What we don't want to do is become bogged down in negotiations that could extend indefinitely. Formal agreements of hundreds of pages that count every warhead and pound of throw-weight are characteristic of agreements negotiated by distrustful adversaries. That is not the kind of relationship we want with Russia.

Our discussions with Russia are ongoing. President Bush has now met twice with President Putin. Secretary Powell has had six meetings this year with Foreign Minister Ivanov and will meet with him again this week in Hanoi. Secretary Rumsfeld held productive talks with Defense Minister Sergey Ivanov at NATO last month. Condi Rice will be flying to Moscow tomorrow to set up the schedule and agenda for the intensive Ministerial-level consultations Presidents Bush and Putin agreed to in Genoa. We do not have a precise timetable, but we have made clear that the constraints of the ABM Treaty are a problem for us, and the President has stated that we are going to have to move forward. At the moment our goal is to set in motion high-level consultations to see whether we can quickly agree on the outlines of a new strategic framework.

Our extensive engagement with the Russians should make clear that we want to move forward cooperatively. We believe these discussions can be successful. The support of this Committee, and the Congress, for the President's FY 2002 missile defense program and the need to move beyond the ABM Treaty to establish a new strategic framework would make an important contribution to our prospects for success.

As I noted, however, we need to move forward expeditiously. In his testimony before the Senate Armed Services Committee last Tuesday, Deputy Secretary Wolfowitz stated that the Defense Department had established a process that will identify Treaty issues raised by the Administration's missile defense program at the earliest possible moment. Specifically, he stated that DOD's Compliance Review Group (CRG) has been directed to identify ABM Treaty issues within 10 working days of receiving the plans for new development or treaty events. We are sure that interagency involvement will help develop final Administration positions on these questions. Make no mistake, however, as Secretary Powell said in his confirmation hearing regarding moving forward with our missile defense programs ". . . the only way we can eventually move forward to that goal is to see the ABM Treaty modified or eliminated or changed in some fundamental way . . .".

Our objective is to reach an understanding with Russia by the time our development program comes into conflict with the provisions of the ABM Treaty. I believe there is increasing evidence that Russia is ready to explore cooperative solutions and reach agreement on a new strategic framework. The Administration intends to do its utmost to reach this outcome. As the President said Sunday in Genoa, "I know we'll work to an accord—to see if we can't reach an accord about both a new strategic framework for defensive weapons as well as the need to reduce offensive weapons in order to make the world more peaceful." I urge the understanding and support of this Committee in that effort.

Thank you.

The CHAIRMAN. Thank you very much, Mr. Secretary.

Now, we will hear from Hon. Douglas Feith, Under Secretary of Defense for Policy, Department of Defense.

STATEMENT OF HON. DOUGLAS J. FEITH, UNDER SECRETARY OF DEFENSE FOR POLICY, DEPARTMENT OF DEFENSE, WASHINGTON, DC

Mr. FEITH. Thank you, Mr. Chairman. Mr. Chairman, Senator Helms and members of the committee, it is an honor to appear before you. The subject of this hearing is important and sensitive right now, with the President having just met with President Putin

and with National Security Advisor Rice on her way, as Secretary Bolton has said, to Moscow to help organize the dialog that Secretary of State Powell will be conducting with the Russian Foreign Minister, Igor Ivanov, and Secretary of Defense Rumsfeld will be conducting, with the Russian Minister of Defense, Sergey Ivanov.

As you know, Mr. Chairman, I have been in my position at the Defense Department for only 1 week, but I shall do my best to answer your questions. I have a written opening statement that, with your permission, I will submit for the record.

The CHAIRMAN. Without objection, your entire statement will be placed in the record.

Mr. FEITH. I propose to forego an oral opening statement. General Kadish, the Director of the Ballistic Missile Defense Organization, has a short video that I hope the committee will now permit him to show to you and narrate.

[The prepared statement of Mr. Feith follows:]

PREPARED STATEMENT OF HON. DOUGLAS J. FEITH

INTRODUCTION

Mr. Chairman, Members of the Committee, thank you for this opportunity to testify on missile defense and the ABM Treaty.

Imagine, if you will, the following scenario: A rogue state with a vastly inferior military, but armed with ballistic missiles and weapons of mass destruction, commits an act of aggression against a neighboring country. As President Bush sends U.S. forces into theater to respond, the country's genocidal dictator threatens our allies and deployed forces with ballistic missile attack. Suddenly, almost without warning, missiles rain down on our troops, and pound into the densely populated residential neighborhoods of allied capitals. Panic breaks out. Sirens wail, as rescue crews in protective gear race to search the rubble for bodies and rush the injured to hospitals. Reporters, mumbling through their gas masks, attempt to describe the destruction, as pictures of the carnage are instantaneously broadcast across the world.

Mr. Chairman, the scene I have described is not science fiction. It is not a future conflict scenario dreamed up by creative Pentagon planners. It is a description of events that took place ten years ago—during the Persian Gulf War.

This year marks the 10th anniversary of the first U.S. combat casualties from a ballistic missile attack. In the waning days of Desert Storm, a single SCUD missile hit a U.S. military barracks in Dhahran, killing 28 of our soldiers and wounding 99. Thirteen of those killed came from a single small town in Pennsylvania called Greensburg. For American forces, it was the single worst engagement of the Gulf War. For thirteen families in Greensburg, it was the single worst day of their lives.

Today, ten years later, it is appropriate to ask how much better able are we to meet a threat that was already real and serious ten years ago—and has become even more so today? The answer, sadly, is hardly any better. Despite this tragic experience, here we are, a decade later, still virtually not yet able to defend against ballistic missile attacks, even from relatively primitive SCUD ballistic missiles.

Today, our capacity to shoot down a SCUD missile is not much improved from 1991. We are still a year or two away from initial deployment of the PAC-3—our answer to the SCUD, and an effective one—and many years from full deployment. Today our forces in the Persian Gulf and Korea—and the civilian populations they defend—have almost no means of protection against North Korean ballistic missiles armed with both chemical and conventional warheads. With no missile defenses, an attack by North Korea could result in tens or even hundreds of thousands of casualties.

To those who wonder why so many of the regimes hostile to the United States—many of them desperately poor—are investing such enormous sums of money to acquire ballistic missiles, I suggest this possible answer: They know we don't have any defenses.

It cannot have escaped their notice that the only weapons that really permitted Saddam Hussein to make American forces bleed during the Gulf War—the only weapons that allowed him to take the war into the territory of his adversaries and murder innocent women and children—were ballistic missiles.

We underestimated the ballistic missile threat ten years ago—and today, a decade later, we are underestimating it still.

Mr. Chairman, the time has come to lift our heads from the sand and deal with some unpleasant but indisputable facts: The short-range missile threat to our friends, allies, and deployed forces arrived a decade ago; the intermediate-range missile threat is now here; and the long-range threat to American cities is just over the horizon—a matter of years, not decades, away—and our people and territory are defenseless.

Why? The answer has four letters: A-B-M-T.

For the past decade, our government has not taken seriously the challenge of developing defenses against missiles. We have not adequately funded it, we have not believed in it, and we have given the ABM Treaty priority over it. That is not how America behaves when we are serious about a problem. It is not how we put a man on the Moon in just 10 years. It is not how we developed the Polaris program or intercontinental ballistic missiles in even less time.

The time to get serious is long past. Today, the number of countries pursuing nuclear, chemical and biological weapons is growing. The number of countries pursuing advanced conventional weapons is growing. The number of countries pursuing ballistic missile technology is growing. The number of missiles on the face of the Earth is growing.

Consider these facts:

- In 1972, when the ABM Treaty was signed, the number of countries pursuing biological weapons was unknown; today there are at least thirteen.
- In 1972, ten countries had known chemical weapons programs; today there are sixteen (four countries ended theirs, but 10 more jumped in to replace them;)
- In 1972, we knew of only five countries that had nuclear weapons programs; today we know of twelve;
- In 1972, we knew of a total of nine countries that had ballistic missiles; today we know of twenty-eight, and in just the last five years more than 1,000 missiles of all ranges have been produced.
- And those are only the cases that we know of. There are dangerous capabilities being developed at this very moment that we do not know about, and which we may not know about for years—perhaps only after they are deployed.

For example, in 1998 North Korea surprised the world with its launch of a Taepo Dong 1 missile over Japan, with a previously unknown third stage. The intelligence community tells us this launch demonstrated a North Korean capability to deliver a small payload to the United States. North Korea is currently developing the Taepo Dong 2 missile, which will be able to strike even deeper into U.S. territory and carry an even larger weapons payload.

Other unfriendly regimes, like Iran, Syria, and Libya, are also developing missiles of increasing range and sophistication. A number of these countries are less than five years away from being able to deploy such capabilities. And these regimes are collaborating with each other, sharing technology and know-how.

The countries pursuing these capabilities are doing so because they believe they will enhance their power and influence; because they believe that if they can hold the American people at risk, they can prevent us from projecting force to stop acts of aggression, and deter us from defending our interests around the world.

If we do not build defenses against these weapons now, hostile powers will soon have—or may already have—the ability to strike U.S. and allied cities with nuclear, chemical or biological weapons. They will have the power to hold our people hostage to blackmail and terror. They may secure, in their estimation, the capability to prevent us from forming international coalitions to challenge their acts of aggression and force us into a truly isolationist posture. And they would not even have to use the weapons in their possession to affect our behavior and achieve their ends.

But we cannot be sure they would not use these weapons in a crisis. If Saddam Hussein had the ability to strike a Western capital with a nuclear weapon, would he really be deterred by the prospect of a U.S. nuclear strike that would kill millions of Iraqis? Is he that concerned about his people? And would we really want our only option in such a crisis to be destroying Baghdad and its people? A policy of intentional vulnerability is not a strategy to deal with the dangers of this new century.

While we have been debating the existence of the threat for nearly a decade, other countries have been busily acquiring, developing and proliferating missile technology. We can afford to debate the threat no longer. We are in a race against time—and we are starting from behind. Thanks in no small part to the constraints of the antiquated ABM Treaty, we have wasted the better part of a decade. We cannot afford to waste another one.

DEVELOPMENT AND TESTING

President Bush has declared his intention to develop and deploy defenses capable of protecting the American people, our friends, allies and forces around the world from limited ballistic missile attack. The 2002 amended budget requests $8.3 billion for missile defense.

We intend to develop defenses, capable of defending against limited missile attacks from a rogue state or from an accidental or unauthorized launch. We intend to develop layered defenses, capable of intercepting missiles of any range at every stage of flight—boost, mid-course, and terminal.

We have designed a program to develop and deploy as soon as is appropriate. Developing a proper layered defense will take time. It requires more aggressive exploration of key technologies, particularly those that have been constrained by the ABM Treaty. So we plan to build incrementally, deploying capabilities as the technology is proven ready, and then adding new capabilities over time as they become mature.

We have designed the program so that, in an emergency, we might, if appropriate, deploy test assets to defend against a rapidly emerging threat. This has been done a number of times before with other military capabilities, both in the Gulf War and in Kosovo. But barring such an emergency, we need to consider the operational deployment of test assets very carefully—because such deployments can be disruptive, and can set back normal development programs.

However, we have not yet chosen a systems architecture to deploy. We are not in a position to do so because so many promising technologies were not pursued in the past. The program we inherited was designed not for maximum effectiveness, but to remain within the constraints of the ABM Treaty. As a result, development and testing programs for defense against long-range threats were limited to ground-based components—ignoring air, sea and space-based capabilities with enormous potential.

In order to accelerate the program, we must first broaden the search for effective technologies before we can move forward toward deployment. We must dust off technologies that were shelved, consider new ones, and bring them all into the development and testing process.

To do this, we have designed a flexible and strengthened research, development, testing and evaluation program to examine the widest possible range of promising technologies, of which there are many. We will expand our program to add tests of technologies and basing modes, including land, air, sea and space-based capabilities that had been previously disregarded or inadequately explored.

Notwithstanding the delays of the past decade, the capability to defend America is within our grasp. The technology of 2001 is not the technology of 1981, or, for that matter, 1991—the year we suffered our first losses to ballistic missile attack by a rogue state.

On 14 July, we conducted a successful test intercept of an intercontinental ballistic missile over the Pacific Ocean. This successful test is another step forward on the long road to developing and deploying effective defenses to protect the American people from limited ballistic missile attacks. It underscores the point that today, ballistic missile defense is no longer a problem of invention—it is a challenge of engineering. It is a challenge America is up to.

ABM TREATY

To build on the success of this test, we will need successive tests that push the envelope even further, that are even more operationally realistic, and to begin testing the many promising technologies were not pursued in the past, but which have enormous potential to enhance our security.

This inevitably means that our testing and development program will eventually encounter the constraints imposed by the ABM Treaty. We are seeking to build defenses to defend the American people. The ABM Treaty's very purpose is to prohibit us from developing such defenses.

Our program is designed to develop the most capable possible defense for our country, our allies and our deployed forces at the earliest feasible time. We will not conduct tests solely for the purpose of exceeding the constraints of treaty—but neither will we design our program to avoid doing so.

However, this administration does not intend to violate the ABM Treaty; we intend to move beyond it. We are working to do so on two parallel tracks: First, we are pursuing the accelerated research, development and testing program I have described. And second, we are engaged in discussions with Russia on a new security framework that reflects the fact that the Cold War is over and that the U.S. and

Russia are not enemies. We are moving forward on both of these tracks simultaneously, and we feel the prospects for success in both cases are promising.

To succeed we need your help in both areas:

First, we need Congress' support to fully fund the President's budget request for further development and testing of missile defense. The ability to defend the American people from ballistic missile attack is clearly within our grasp. But we cannot do so unless the President has Congress' support to expand and accelerate the testing and development program. The 14 July test shows the potential for success is there. Let us not fail because we did not adequately fund the necessary testing, or because we artificially restricted the exploration of every possible technology.

Second, we need Congress' support for President Bush's efforts to achieve an understanding with Russia on ballistic missile defense. The President is working to build a new security relationship between the U.S. and Russia whose foundation does not rest on the prospect of the mutual annihilation of our respective populations that was the basis of the old U.S.-Soviet relations. That is not a healthy basis for U.S.-Russian relations in the 21st century.

This past weekend, on the sidelines of the G-8 Summit in Genoa, Presidents Bush and Putin met for a second time. At the meeting, they agreed to move forward with discussions on the development of a new strategic framework. Following up on that meeting, National Security Advisor Condi Rice is scheduled to visit Russia this week to work out the framework for these discussions.

Secretary Rumsfeld and Secretary Powell are also engaged in discussions with their Russian counterparts. Secretary Rumsfeld had a productive dialogue at NATO last month with Russian Defense Minister Sergei Ivanov. Indeed, after their meeting, Minister Ivanov declared his agreement with Secretary Rumsfeld that "there are not only more threats facing us now in the 21st century, but they are multifaceted, much more so than they were in the past."

So our discussions with Russia are underway, and we have no reason to believe that they will fail. The question of whether we will violate the ABM Treaty in 2002 presumes they will fail. But there is no reason to assume we will fail; and if we succeed, the ABM Treaty will no longer be an obstacle to protecting the American people, our allies and deployed forces from ballistic missile attack.

We hope and expect to have reached an understanding with Russia by the time our development program bumps up against the constraints of the ABM Treaty. But President Bush has also made clear that a 30 year-old treaty designed to preserve the nuclear balance of terror during the Cold War must not be allowed to prevent us from taking steps to protect our people, our forces and our allies. We would prefer a cooperative outcome, and we are optimistic that such an outcome is possible. But we must achieve release from the constraints of the ABM Treaty.

Congress can have a significant impact on the outcome of our discussions with Russia. If Congress shows the same resolve as the President to proceed seriously with development and testing of defenses to protect our people, our friends and allies, and our forces around the world, it will significantly enhance the prospects for a cooperative outcome.

Conversely, Congress should not give Russia the mistaken impression that they can somehow exercise a veto over our development of missile defenses. The unintended consequence of such action could be to rule out a cooperative solution, and leave the President no choice but to walk away from the treaty unilaterally—an outcome none of us surely wants.

As I stated earlier, the current planned testing program is not designed with the constraints of the ABM Treaty in mind; neither has it been designed for the purpose of exceeding those constraints. However, as the program develops and the various testing activities mature, one or more aspects will inevitably bump up against treaty restrictions and limitations. Such an event is likely to occur in months rather than in years. It is not possible to know with certainty whether it will occur in the coming year. This uncertainty is in part the result of inevitable uncertainty of all research and development programs. Many of the early issues will involve legal complexities, which we will fully resolve through the treaty compliance review group.

For example, the test bed currently scheduled to begin construction in April 2002 is designed to permit the testing of a ground-based mid-course capability under realistic operational conditions. There will also be opportunities, while we are testing the Aegis mid-course system, to test the ability of Aegis ship-based radars to track long-range ballistic missiles. There will also be opportunities to combine the data from radars used in mid-course tests with the radars used to track short-range missiles. Will these tests exceed the limits of the treaty? In each case, there will be those who argue on all three sides of the coin.

We have established a process for resolving these difficult issues at the earliest possible moment. The Department's ABM Compliance Review Group has been di-

rected to identify ABM Treaty issues within 10 working days of receiving the plans for new development or treaty events. That process is already underway. The Secretary and I will be informed of whether the planned test bed, use of AEGIS systems in future Integrated Flight Tests, or concurrent operation of ABM and air defense radars in next February's tests are significant treaty problems. This process will permit us to take them into account as early as possible as we pursue our negotiations with Russia on a new strategic framework.

By the time a planned development activity does encounter ABM Treaty constraints, we fully hope and intend to have reached an understanding with Russia. We would expect to identify such issues six months in advance. By that time, we will either have reached an understanding with Russia, in which case the question would be moot, or we would be left with two less than optimal choices: to allow an obsolete treaty to prevent us from defending America, or to withdraw from the treaty unilaterally, which we have every legal right to do.

However, even in the latter circumstance, we should continue our efforts to reach an understanding with Russia. But our goal is to reach an understanding with Russia well before that time. Such an understanding is in both countries' interests. The end of the Cold War has fundamentally transformed our relationship. We ask for your support as we continue to work towards a cooperative solution.

If we agree that a cooperative outcome is preferable to a unilateral withdrawal from the ABM Treaty, then we need Congress' full support for missile defense research and testing. We look forward to working with the Committee to build on the recent successful test, and to ensure that we can defend the American people, our friends and allies, and our deployed forces, from limited ballistic missile attacks.

NEW DETERRENCE FRAMEWORK

We are optimistic about the prospects of reaching an understanding with Russia, because reaching a new security framework is in both of our nations' interests. The Cold War is over. The Soviet Union is gone. Russia is not our enemy. We are no longer locked in a posture of Cold War ideological antagonism. Yet the ABM Treaty codifies a Cold War relationship that is no longer relevant to the 21st century.

The missile defenses we deploy will be precisely that—defenses. They will threaten no one. They will, however, deter those who would threaten us with ballistic missile attack. We do not consider Russia such a country. Americans do not lie awake at night worrying about a massive Russian first strike, the way they worried about a Soviet first strike during the Cold War.

Our missile defenses will be no threat to Russia. Their purpose will be to protect against limited missile attacks from an increasing number of possible sources—but not against the thousands of missiles in Russia's arsenal.

Further, they will be just one part of the larger, 21st century deterrence framework we are working to build. During the Cold War, our aim was to deter one adversary from using an arsenal of existing weapons against us. In the 21st century, our challenge is not only to deter multiple potential adversaries from using existing weapons, but to dissuade them from developing dangerous new capabilities in the first place.

This requires a different approach to deterrence. Just as we intend to build "layered defenses" to deal with missile threats at different stages, we also need a strategy of "layered deterrence" in which we develop a mix of capabilities—both offensive and defensive—which can deter and dissuade a variety of emerging threats at different stages.

Such a strategy would aim to dissuade countries from pursuing dangerous capabilities in the first place, by developing and deploying U.S. capabilities that reduce their incentives to compete; to discourage them from investing further in existing dangerous capabilities that have emerged, but are not yet a significant threat; and to deter them from using dangerous capabilities once they have emerged to threaten us all, with the threat of devastating response.

Just as America's overwhelming naval power discourages potential adversaries from investing in building competing navies to threaten freedom of the seas—because, in the end, they would spend a fortune and not accomplish their strategic objectives—we should develop a range of new capabilities that, by their very existence, dissuade and discourage potential adversaries from investing in other hostile capabilities.

Missile defense is one example. It has received significant attention because it is new—but it is just one element of a new deterrence framework that includes several mutually-reinforcing layers of deterrence, including diplomacy, arms control, counter-terrorism, counter-proliferation and smaller but effective offensive nuclear forces.

WHAT THE PROGRAM IS NOT

We have discussed what the program is; we must also discuss what the program is not.

- *It is not an effort to build an impenetrable shield around the United States.* This is not Star Wars. We have a much more limited objective to deploy effective defenses against limited missile attack. Indeed the change in the threat—from the thousands of missiles in the Soviet arsenal to handfuls of limited missile attacks—makes deployment of effective defenses more realistic than ever before.
- *It is not a threat to anyone.* It will be a problem only for those rogue states that wish to threaten our people, our allies or our deployed forces, with ballistic missile attacks.
- *It will not undermine arms control or spark an arms race.* If anything, building effective defenses will reduce the value of ballistic missiles, and thus remove incentives for their development and proliferation. Since they will have virtually no effect on Russia's capabilities, there is no incentive for Russia to spend scarce resources to try to overcome them. And China is already engaged in a rapid modernization of its missile capabilities, and will continue this modernization whether or not we build missile defenses. To the contrary, the Russians and the Chinese will be able to see that we are reducing our offensive nuclear forces substantially and there is no need for them to build up theirs. In this budget proposal alone, with Peacekeeper, Trident, and B–1 reductions, we will be reducing START-countable warheads by over 1,000. We plan to reduce our nuclear forces no matter what Russia decides to do, but we believe it is in their best interest to follow the same path.
- *It is not a "scarecrow" defense.* We intend to build and deploy effective defenses at the earliest possible moment. Those defenses will grow more and more effective over time, as we deploy an increasingly sophisticated mix of capabilities that provide "layered defenses" against all ranges of missiles at all stages of flight. The more capable the better, but the defenses don't have to be perfect to save lives and reduce casualties. As imperfect as the PAC-2 system was during the Gulf War, there wasn't a single ally or commander who didn't clamor for more.

Will our defenses be 100% effective? Mr. Chairman, no defense is 100% effective. Notwithstanding the billions we spend on counter-terrorism, we failed to stop terrorist attacks on the Khobar Towers, our embassies in Kenya and Tanzania, or the World Trade Center. Yet I know of no one who has suggested that we stop spending money on counter-terrorism because we have no perfect defense. Moreover, defenses won't need to be 100% effective to make a significant contribution to deterrence.

- *It will not cost the taxpayers hundreds of billions of dollars.* The money we propose to spend on missile defense is comparable to other major defense development programs, and comparable to other elements of our security strategy. We are proposing $8.3 billion for missile defense in 2002. That is still a large amount, but the consequences of the failure could be enormous.
- *It does not divert attention and resources from other, more pressing threats.* Some have argued that we should not spend money on missile defense, because the real threat comes from terrorist using suitcase bombs. That is like arguing that you should not lock your front door because a burglar can break in through your window. Both threats are real—but for the last decade, work on countering the terrorist threat has proceeded aggressively, while work on ballistic missile defense has been hamstrung by an obsolete theory. We are correcting that.

As we move forward with accelerated testing and development, Mr. Chairman, there will certainly be bumps along the way. We expect there to be test failures. There is not a single major technological development in human history that did not begin with a process of trial and error and many of our most successful weapons developments have been marked by testing failures:

- The Corona satellite program, which produced the first overhead reconnaissance satellites, suffered 11 straight test failures.
- The Thor Able and Thor Agena launch programs failed four out of five times.
- The Atlas Agena launches failed 5 out of 8 times.
- The Scout launches failed 4 out of 6 times.
- The Polaris failed in 66 out of 123 flights.

Mr. Chairman, from these failures came some of the most effective capabilities ever fielded. Failure is how we learn. If a program never suffers test failures, it means someone is not taking enough risks and pushing the envelope. Intelligent

risk taking is critical to any advanced development program—and it will be critical to the development of effective ballistic missile defenses.

CONCLUSION

Mr. Chairman, let me conclude where I began. This threat is not fictional. It is not limited. It is not remote. And it is not going to disappear if one or another troublesome regime disappears.

- If there were a war in Korea tomorrow, our best intelligence estimates are that North Korea missiles would wreak havoc on population centers and our deployed forces in South Korea, even if armed only with conventional weapons, and North Korea now poses a significant threat to Japan as well.
- And we know that it is a matter of time before Iran develops nuclear weapons, and may soon have the capacity to strike Israel and some NATO allies.

Think about what kind of hearings we would be having three or four years from now if Iran demonstrates intermediate-range capability to strike Israel or U.S. troops deployed in the Gulf—or if North Korea demonstrates the capability to strike the U.S. with long-range nuclear missiles. I, for one, don't want to have to come before this Committee and explain why we ignored the coming threat, and didn't do everything we could to meet it.

This is not a partisan issue. We do not now know whether the President who first faces a crisis with a rogue state capable of striking Los Angeles, Detroit or New York with nuclear, chemical or biological weapons will be a Republican or a Democrat. But we do know that individual will be an American. And that is how we too must proceed—not as Republicans, or Democrats, but as Americans.

Let future generations who look back at this period not see partisan bickering, but statesmen who rose above party to make sure America and its allies and deployed forces were protected against this real emerging threat.

Thank you very much.

The CHAIRMAN. General Kadish.

STATEMENT OF LT. GEN. RONALD T. KADISH, DIRECTOR, BALLISTIC MISSILE DEFENSE ORGANIZATION, DEPARTMENT OF DEFENSE, WASHINGTON, DC

General KADISH. Mr. Chairman, members of the committee, it is a pleasure to appear my first time in front of you, and we thought it would be a good idea if we could show you some visual evidence of our progress in the basic technology that we are using for missile defense, and show you that I believe we are moving now from the idea that it is a question of invention to the idea that it is a very tough engineering problem that we are facing ahead of us.

Now, we certainly had our successes, and we have had our failures, some of them very high profile, but what I would like to do today is show you that the basic technology of what we call hit-to-kill is now beginning to gain confidence in the technical community, and this hit-to-kill idea is that there is no explosives on board our kill vehicles, and the destructive mechanism against the warheads of the missiles that are incoming is nothing more than pure kinetic energy. In other words, we hit it at very high speed.

Now, that requires great accuracy, and it requires a lot of integrated activities working together, and that is our challenge, so making this hit-to-kill work in all phases of the threat, missile flight from boost to midcourse and then to terminal is a major challenge and what I would like to show you is the progress we have made.

I will start out with short-range missiles, where we intercept them in the atmosphere with Patriot 3. Then I will show you more long-range missiles, intermediate missiles intercepted by the THAAD program a couple of years ago that is now in further devel-

opment, and that is done at the edge of space, and then I will show you the last two successes out of the four attempts for our long-range missiles against ICBM's that we just had our latest test here on 14 July, and I can show you moving up that ladder, what we have been able to accomplish, and the intercepts you will see, I would like to emphasize, is no explosive power except the sheer energy of hitting that warhead in a space about this big [indicating], so would you roll the film, please? It is about 4 minutes.

We will start out with the Patriot 3. This is in the atmosphere against short-range missiles. You can see it maneuvering, and as it gets close to the target you will see some white puffs of smoke come out of the side of the missile, which very accurately aims it at the incoming warhead that is coming in at high speed, and you will see that here momentarily as it is maneuvering. There it goes, and that is an accurate hit. Patriot has only missed once in our test program, so we have a pretty good record in the atmosphere against short-range missiles.

Now against the intermediate-range missiles, long-range missiles, THAAD, we have had a lot of problems, but in the final two flights we were able to demonstrate that we could do the same thing at the edge of space against faster missiles. You can see the turns it did on takeoff. Now, this is a THAAD missile maneuvering to hit the target, and this is slow motion. You can see the puffs of smoke from the engines getting very accurate into hitting that warhead, and that is pure kinetic energy, the actual speed of the missile, with no explosives.

Upcoming will be a faster look at more real time of that particular intercept, and this was done at White Sands Missile Range, and you can see this intercept from Albuquerque, not much left of that warhead, and that is what it looked like from a distance.

Now, the next series will show you that last intercept as the kill vehicle was maneuvering to come in and hit the warhead. You will see an infrared picture of this warhead come up and you can get a sense of how accurate we were with the last frame of telemetry that we got before it hit.

Now, I would like to go to the long-range missile defense. We have certainly had our failures here, but this was the first test that was done in October 1999. This is a target rising out of Vandenberg Air Force Base. It is a Minuteman II missile headed toward the Kwajelein Islands, 5,000 miles away. This is the intercept here at Kwajelein Island, designed to take off and intercept it. It is a prototype, the first time we tried it, and you can see it lifting in order to intercept it in outer space.

The intercept takes place about 140 miles into space at a closing velocity between 4½ to 5 miles per second, and this is a slow motion infrared picture of that intercept, and here is a visual you can track the kill vehicle from the left into the target, again a very accurate hit, no explosives.

Now, the test we did on the 14th, a week ago this past Saturday, is the next series I would like to show you, and I will start with the interceptor, again a long-range repeat exactly of the last two attempts, two of which failed, so you can see the repeatability here. It looks the same from a launch perspective, and you can see the maneuvering of the rocket to attain altitude with kill vehicle on

top, and then as the kill vehicle is released and goes in for the intercept I will show you the radar plots, and the visual that we got here is a visual of the intercept.

Here is a radar plot with the kill vehicle coming in from the left and the confirmation of the kill, and this is a final real time shot, and that is the end of the film clip.

So the point is that despite the difficulty we have had developing this technology, and the failures we have had, we have learned from them, but we have got a long way to go in perfecting these types of systems, but it is a pretty good start, and sometimes we do not see the successes matched with the failures, and this is more of a glass half-full approach than it is a glass half-empty.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much. Very impressive.

Are you finished?

Mr. FEITH. Yes.

The CHAIRMAN. We will limit ourselves—I think if we do 7 minutes we will not get through anything. We will limit ourselves to 10 minutes, and we will hold everyone, including me, strictly accountable to that, and let me begin by saying that you ought to be commended, general, as should the entire Defense Department. It is an impressive display of capability, planning, and technology.

You use the phrase, hit-to-kill, which we just saw on the screen, and note we are beginning to gain confidence in the system. I think that is an accurate and honest way to characterize it, which is very different than what some people, not you, not the Defense Department, and not the administration, are suggesting, and that is that our test shows that we have a missile defense system in place now. This does not show we have a missile defense system, does it?

General KADISH. No, Mr. Chairman, it does not.

The CHAIRMAN. Let me begin, if I may, with you, Mr. Feith. Deputy Secretary Wolfowitz raised with the Senate Armed Services Committee three planned activities that may conflict with the ABM treaty. One was the construction of a missile defense test bed in Alaska, and the others were actual test activities, the use of the Aegis SPY–1 radar to track a missile defense target immediately after it is launched from Vandenberg Air Force Base, and the use of an ABM radar at Kwajelein to track each target in a theater missile defense test this coming February.

Now, which of these activities, if you can tell us, would, in fact, actually conflict with ABM?

Mr. FEITH. Mr. Chairman, the review of that question is underway. There is a compliance review group at the Pentagon that is responsible for assessing whether activities within the Ballistic Missile Defense Program can be conducted within the terms of the ABM Treaty, and there is an initial review that this compliance review group does on an expedited basis within a 10-day period.

When the Ballistic Missile Defense Organization brings an issue to the group's attention, the group within 10 days assesses whether the treaty compliance issue is above the threshold that warrants a further, more detailed review, and as I understand it this initial review is going to be completed on Monday for the activities you just mentioned.

The CHAIRMAN. Well, is it appropriate for us to assume that you will have an answer to that question before you conduct the test?

Mr. FEITH. Yes.

The CHAIRMAN. Now, John Rhinelander will point out in his testimony that the planned test bed facility at Fort Greely may be permissible under article IV of the ABM Treaty so long as the total number of ABM launchers at all U.S. test ranges does not exceed 15, and if the additional test range is consistent with the rest of the treaty, including article I.

Now, given the existing and planned launchers at White Sands and Kwajelein testing ranges, do you have enough head room under the ABM Treaty for your plans in Alaska? Do you understand what I am asking?

Mr. FEITH. Perhaps you could repeat that.

The CHAIRMAN. As I understand it, Mr. Rhinelander is going to make the case that article IV of the ABM Treaty would not be violated as long as the total number of ABM launchers at all U.S. test ranges does not exceed 15. Now, given the fact that you have ABM launchers at White Sands and at Kwajelein testing ranges, do you have enough head room to stay under 15 as you move forward with your plans in Alaska without having this element of your plan violate the ABM Treaty?

Mr. FEITH. Mr. Chairman, as I understand it, on the issue of the numbers, the answer is yes. There are other treaty compliance issues related to the test bed.

The CHAIRMAN. I just wanted to make sure that on this issue, that single issue——

General KADISH. Mr. Chairman, it might require some destruction of silos that exist, but certainly we could stay within the compliance with the treaty.

The CHAIRMAN. I appreciate that, general, thank you.

Now, how can we structure the deployment of U.S. missile defenses in such a manner as to provide—and I would ask this to Mr. Bolton or Mr. Feith—real assurance to the Russians that whatever system that we are building does not pose a threat to their nuclear deterrence?

Mr. FEITH. Mr. Chairman, the system that we are building is designed to protect against a limited threat. The Russians know this, and if there is any doubt, we will certainly address it, I am confident, to their satisfaction in the dialog that is underway and will be continuing in the coming months. They know that nothing we are doing in this program is going to be undermining Russian security. That really is not an issue. That program does not represent a military problem for Russia.

The CHAIRMAN. Well, how does that square with the assertion that we are building a system that would defend against an accidental launch as well? Can this system, general, that is being envisioned deal with a limited threat from a rogue nation and defend against an accidental launch anywhere in the world?

General KADISH. Well, Senator, we do not have a system yet. As we stated earlier in our discussion in previous committees, the architectural decisions and the specifics of what system would actually be deployed or produced for long-range missile defense has not been decided.

The CHAIRMAN. So we are a ways off?

General KADISH. We are a ways off on that, and the RDT&E program that is proposed for fiscal year 2002 and beyond is designed for us to gain rapid confidence in building such an architecture with the robust testing we have, and so to answer that question now is somewhat premature, but certainly that would be one of our objectives.

The CHAIRMAN. The reason I asked the question is, because there is an assertion made by Senator Helms and many others that we are right on the cusp of being able to put in place a missile defense system. Yet we have not even decided what system, have we?

General KADISH. That is correct, Mr. Chairman, but that does not mean we could not move rapidly.

The CHAIRMAN. Well, let me ask you this question. Wouldn't it take a lot more capability and confidence to be able to protect against an accidental launch of a sophisticated SS–18 out of the Soviet Union, or an accidental launch of another sophisticated Soviet weapon that, unlike the test you have shown here, have real countermeasures on them, that have significant decoys with them, that are capable of being independently targeted? Would that not require a whole other degree of sophistication?

General KADISH. The primary reason for the defensive systems architecture would be a limited attack against what we call rogue states now, so any residual capability would be accidental launch at this point, but those decisions have not been taken. The primary objective is against the Third World-type launches.

The CHAIRMAN. I am not asking about the decision being taken. I am asking about the technology in hand to be able to, in the near term, develop such a system. I have been briefed by you and many others, and the intelligence community. I have spent hundreds of hours trying to master this.

I know of no one who has suggested that you have on the shelf anything that could reasonably be taken off in the near term and be tested that would be able to intercept a sophisticated missile that was accidentally launched from the Soviet Union. Is there any technology on the table in the near term, meaning next year, two, three, four, or five years from now, that has that capability? I know of none. I would like to know if there is.

Mr. FEITH. Mr. Chairman, you are quite right that there are some purposes that are harder to achieve within this program than others, but to go back to your original question about the concerns that the Russians might have about our undermining their capabilities and their security, I think it is important to emphasize that the U.S. ability to intercept a Russian missile that was launched by accident, or in an unauthorized fashion, does not at all affect or damage Russian security. And I think it is important also to point out that if Russia had a similar capability to intercept an accidental or unauthorized launch, that would not undermine U.S. security.

The CHAIRMAN. My time is up. I will come back if there is time.

Senator Helms.

Senator HELMS. General, we are well on our way, are we not, with developing this?

General KADISH. Yes, Senator, I believe we are. We have made substantial progress.

Senator HELMS. I cannot discuss what I have heard in briefings up on the fourth floor of the Capitol, but of course you are not going to do it tomorrow afternoon, or next month, but you are well on your way, am I right?

General KADISH. Yes, Senator, I believe so.

Senator HELMS. Thank you.

Now, Secretary Bolton, first of all I congratulate you. You are doing a good job down there. I knew you would.

Yesterday, Condi Rice, the National Security Advisor, described President Bush's agreement with President Putin as stating, and I am quoting here, "we do not see the need for a treaty regime here," and she further pointed out that, "the arms control treaties of the past between the United States and the Soviet Union reflected a highly abnormal relationship between the two adversaries."

Now, for the record, I agree with Condi Rice. Given the President's desire to create a new tone in U.S.-Russian relations, it would seem unwise to perpetuate this cold war treaty approach. Am I off-base on that? Do you agree?

Mr. BOLTON. Absolutely, Senator. If I might just read for the record, if I could, the joint statement that President Bush and President Putin issued in Genoa, this is really a remarkable document. They said, "We agree that major changes in the world require concrete discussions of both offensive and defensive systems. We already have some strong and tangible points of agreement. We will shortly begin intensive consultations in the interrelated subjects of offensive and defensive systems."

Now, that is, I think, really a very important first step. Nobody knows where these consultations will come out, to be sure, but we want to start out on the optimistic side, hoping that these consultations, through these discussions we can come to a more normal relationship with Russia.

Senator HELMS. Well, I am alarmed, and I wonder if you are, by the speed with which North Korea and Iran and others are developing ballistic missiles, and they are getting so much foreign assistance that the U.S. intelligence community now—and I do not think I am violating any secret information—the U.S. intelligence community now is warning us that they probably will deploy ICBM's within the next few years. Is that your understanding?

Mr. BOLTON. That is some of the estimates. Sadly, a lot of this, as you know, is highly classified and we really cannot discuss it publicly, but it is on the basis of that information that much of our planning and much of our development and hopes for missile defenses are based.

Senator HELMS. Well, in any case, Secretary Bolton, given that missile defenses cannot be deployed overnight, and we all know that, and admit it, how much time does the administration have in consultation with the Russians to be safe about this thing?

Mr. BOLTON. Well, as I indicated in my statement, I think the President has emphasized yesterday these are not going to be traditional arms control negotiations, with small armies of negotiators inhabiting the best hotels in Geneva for months and years at a

time. The President described it, I think, quite well yesterday. He said, time is of the essence, and that while we hope, expect, are optimistic for cooperation with the Russians, the President is determined to have an effective missile defense system. We can do it together, that would be great, but if we cannot, we will do it ourselves.

Senator HELMS. Let me go back to Condi Rice's statement of yesterday. She said, "the United States is prepared to engage in," and I am quoting now, "consultations at the ministerial level on arms control negotiations," and there is a decided difference. The President has also warned that the United States is prepared to proceed with missile defense testing if Russia cannot be brought around to a new way of thinking. That is my understanding. Is that yours?

Mr. BOLTON. Yes, and I think that the emphasis that she has placed in her interviews of these consultations being at the ministerial level, that is to say, Secretary of State to Minister of Foreign Affairs, Secretary of Defense to Minister of Defense, shows both the intention and the optimism that I think both Presidents have that they will try and proceed at the very highest levels as expeditiously as possible.

Senator HELMS. Well, of course, I ask this question to make clear that I do not want anybody to assume that the Bush administration is going to give Russia a de facto veto over U.S. missile defenses, and we are not going to allow Russia to delay the deployment of missile defenses by dragging out complex arms control negotiations.

Mr. BOLTON. Yes. We are short on Pollyannas in the Bush administration. It is our full intention to engage as robustly and as expeditiously and as sincerely as we can, but ultimately, as the President has said, it is his intention to move forward with Congress to have an effective missile defense system. We hope that the Russians will see this as part of the new strategic framework in a cooperative mode that is in both of our interests, but we will move ahead on our own if need be.

Senator HELMS. General, I enjoyed and appreciated your testimony this morning. I appreciate all three of you, as a matter of fact. Now, I hear the critics, some of whom are my very best friends, say that missile defense is not feasible, we cannot get it in time to do anything, and I guess I am amazed by the skepticism, given the successful defense test, missile defense, on what was it, July 14, and all of the other successes the missile defense programs have had.

Now, here again, I am having to be careful, because I do not want to talk about information that we got under an agreement to keep it secret, but do you believe that an effective missile defense is technologically feasible?

General KADISH. Senator, we certainly have moved the problem of missile defense from invention, which is very difficult, into one of engineering, and in that sense we are making tremendous progress, but the testing we have done to date is part of a longer journey to pull these things together, but we have made substantial progress.

Senator HELMS. I think that is the safest statement you can make.

Now, this committee has heard from time to time various witnesses, it seems to me, who have dreamed of ways to defeat a missile defense, but many of these same good folks and their friends seem to think that just because they are able to draw a countermeasure on a piece of paper, a country such as North Korea or Iran will be able to deploy such a system next week, or pretty quick. Have you thought about countermeasure problems? Have you developed a program to ensure that U.S. missile defenses will be able to defeat enemy countermeasures?

General KADISH. Yes, Senator. The countermeasure problem is a difficult one for any defense, but countermeasures are part of military system development, even disregarding a missile defense problem, but there are a few things to consider about countermeasures in our current program.

First, we do have an active countermeasure program to develop our systems to handle those. The development of the countermeasures themselves by our adversaries is not a trivial problem. Some would like to make that a trivial problem, and postulate that they could be easily overwhelming of our systems, so even though they are difficult to make, the integration of them is even more difficult, in my opinion.

But even having said that, the approach that we are taking with the robust countermeasure program in the midcourse systems that we have been describing will also be supplemented by the fact that we are attempting this RDT&E program to look at a layered defense system, and a layered defense system attacks in the boostphase, in the midcourse phase, and potentially in the terminal phase, and it, in and of itself, as a layered system, should we be able to build it as we envision, would be a counter-countermeasure.

In other words, the countermeasures that work in boost do not work in the midcourse, and the countermeasures that work in the midcourse do not work in boost-phase, and so that if we are able to take attacking shots at each one of those phases, and multiple shots within those phases, it is a much more effective defense, and in the end the countermeasure problem is diminished.

Senator HELMS. Mr. Chairman, my time is almost over. Well, it is over as a matter of fact.

The CHAIRMAN. Thank you very much. The Senator from Massachusetts, Senator Kerry.

Senator KERRY. Thank you, Mr. Chairman, and thank you for having this important hearing, or set of hearings, and thank you, gentlemen, for being here.

I want to try to establish a little bit of baseline here, if I can in this discussion, because I am deeply concerned about the level of rhetoric that accompanied some of the discussion, and may raise expectations, and certainly contributes to misunderstanding by some people of what we are dealing with here.

I embrace and support, as do many of my colleagues, the concept of a limited, transparent, hopefully mutually arrived-at or deployed defense system. I think that makes sense, particularly for the low grade potential threat, and I emphasize low grade threat, of a rogue missile attack.

It is very hard to understand why a country like North Korea, or Iran, would purposefully send one missile, or two, our way, with

a trail inviting obliteration on their part, when they have so many other methods to injure this country. I know, general, that within the Pentagon that is low on the threat analysis compared to some of the things we are aware of, in terms of terrorism and other activities that threaten us. But that said, I believe we should pursue this, we should pursue the technology, and no country should have a veto.

But I heard here even this morning rhetoric saying we must stop clinging to outdated concepts of mutual assured destruction, and even the President has embraced very broad rhetoric about the new architecture.

Now, it seems to me that if, indeed, the system is limited, and we ought to get this on the table and try to understand it right up front, if the system is limited, as you say it is going to be, and, indeed, we have tried to proceed in cooperation with the Russians and Chinese, and therefore all we are targeting are, in fact, rogue missiles, or an accidental launch, or unauthorized launch, it is absolutely inconceivable that we have, in fact, moved away from mutual assured destruction [MAD], because all adversaries who hold nuclear weapons that could be fired at us will still have sufficient numbers of warheads that they will overwhelm the limited system you are contemplating deploying. Is that accurate?

Mr. FEITH. Senator, I do not believe it is accurate.

Senator KERRY. Well, tell me how, in mere absolute, nuclear warfare terms, it is not accurate.

If you have a limited system that can only shoot down a limited number of missiles, and someone possesses more warheads than you have missiles that can shoot down, can they not destroy you?

Mr. FEITH. The concept of mutual assured destruction was a governing theory during the cold war between the United States and the Soviet Union.

Senator KERRY. It is not a governing theory. It is a reality today of the existing warheads between our countries. We have about 7,000. They are going down, hopefully, to 3,500. The whole theory of nuclear weapons is that after you have struck, they can strike you back, and you can strike back, and you both destroy each other. That is mutual assured destruction. Now, that still exists today, does it not?

Mr. FEITH. Senator, I would say that that entire concept of mutual assured destruction is related integrally to the hostile relationship that existed between the United States and the Soviet Union. The United States and Russia now do not have a relationship that is hostile in that way.

Senator KERRY. I am not talking about the state of today's political relationship. I am talking about the physical relationship of weapons that we have. The numbers of weapons and their deployment is based on the concept of mutual assured destruction.

Mr. FEITH. I think, Senator, you have put your finger on an enormously important point, which is that the concept of deterrence, or even mutual assured destruction, in the view of some of us is not a numerical or mechanical matter. Rather, it is tied to the idea of hostility of the type that would cause one country to want to destroy the other.

Senator KERRY. But that can change, Mr. Secretary. I mean, that changes with time. The whole purpose is not to sit there and look somebody in the eyes and say, I trust you. It is to have a system in place that guarantees the Nation physical security.

Now, Secretary Powell does not agree with you. Secretary Powell was here before this committee, and I asked him that question, and I said, so in other words, we would not be doing away with it, mutual assured destruction. He said, "we cannot entirely do away with what has been known as mutual assured destruction." Some would argue—now, I mean, you cannot do away with it, and if you deploy a limited system, as you are contemplating deploying, you still cannot do away with it.

The reason the Russians object to this, and the reason the Chinese are apoplectic about their 23 missiles, perhaps being completely rendered useless by a defensive system is because they know it alters the balance, and so my question is, similar to what Senator Biden was saying. If you are going to deploy a system that has the capacity to deal with accidental launch, you would have to have a system that is capable of shooting down a missile from anywhere at any time at any point. That is, in effect, the kind of larger shield that has always upset a potential adversary.

I am not saying a sure bet adversary, but someone who does not hand to the United States of America a veto over their moves in any context whatsoever.

Now, how do you avoid the potential of breakout? In terms of defense, if you have developed a defense that has the ability, just as we feared for 50 years, the potential of offensive breakout, how do you prevent the capacity of defensive breakout from taking place and so rendering completely out of balance the entire military equation in which other countries make a determination about their security and their level of threat and their relationship in the world?

Mr. FEITH. Senator, you have raised a range of very interesting questions. One that is particularly important to address is this notion that we have a relationship of mutual assured destruction with China, which is implied in your question. It is not the case, and I think it is important that we do not import that into our thinking about U.S.-China relations, and in particular the nuclear issues in that relationship. We should not import into our thinking about China the cold war concepts of mutual assured destruction that applied between the United States and the Soviet Union.

Senator KERRY. Mr. Secretary, life changes. Things happen. Countries do not trust each other. I mean, here we are, you are saying on the one hand that MAD is dead because Russia does not intend to shoot at us, but you are saying we have to build this system because North Korea, even though it may not have the intent, has the capability. I mean, you are building on pure capability without intent, but you are using intent to rationalize the fact that you think mutual assured destruction is not there.

I cannot plan on that. I do not know what is going to happen in 20 years. I do not know what kind of Russia you will have in 20 years, but if they have not proceeded to agree to START II because we are building a system unilaterally, let me tell you something,

you are stuck with mutual assured destruction, as Secretary Powell said. Do you disagree with Secretary Powell?

Mr. FEITH. I disagree with the idea that intent is not relevant, and we do, in fact——

Senator KERRY. Well then, you have just negated your own argument on Russia, if intent is not relevant.

Mr. FEITH. No, Senator. We do not worry about a nuclear balance with the United Kingdom or with France because those countries do not intend us harm. We do not focus on their capability and say, "We need missile defense because the French or the British have missiles and nuclear weapons."

When we look at the North Koreans, when we look at Iraq, when we look at other countries that, in fact, have hostile intent against the United States, and missile programs and weapons of mass destruction programs, that is when we say, "this is a serious problem," because those capabilities that they are developing are combined with hostile intent.

Senator KERRY. Well, we are going to have to come back to this, but how you measure the hostile intent of one or two missiles is hard to measure against the theory of mutual assured destruction, which remains a reality. When we have 3,500 missiles, and they would be obliterated overnight, it is hard to make that calculation of intent in a realistic way, and I would like to pursue it later.

The CHAIRMAN. I find it fascinating, this administration's romance with Russia, and the certainty of Russia's actions. That is interesting.

Anyway, I would yield to Senator Allen.

Senator ALLEN. I do want to associate myself with the remarks and thoughts and sentiments that were expressed earlier by Senator Helms.

In the midst of all of this discussion, Mr. Chairman, there have been some assertions about various other concerns and attacks and threats to the United States and to our people and our forces, and I do think cyber terrorism is a threat, a very real threat. Terrorists using rented vehicles, or suitcase bombs, are also a threat. Biological attacks or chemical attacks I fear are unfortunately a very real threat.

I think that we need to make sure that our defense forces, our intelligence forces are integrated law enforcement, whether that is State, local, or national, all need to be involved in trying to detect and hopefully thwart any such attacks, and we need to be able to respond and react and recover in the event that any such attacks would occur.

I also think we need to have a defense against weapons of mass destruction and missile technology. I do not think any of these are exclusive. You have to be facing multifaceted threats from a variety of ways of doing it, and obviously delivered by missile technology.

Senator Kerry's cross-examination, and we cannot necessarily determine the future, means that you need to have a multifaceted approach to the future, in my view. It argues for the point that we have to prepare for all eventualities, some that are seen now, some that may be foreseen, and others that may arise that we cannot even contemplate, and none of this is going to happen overnight,

with all of the structuring of the engineering and the scientific research and the testing that will go forward.

The thing that I find interesting about this hearing is that this is not a hearing of first impression for the U.S. Senate. In 1999, the Senate passed by a vote of 97 to 3 language which clearly states, and I would like to say this for the record, since it seems to be forgotten at times, quote, "it is a policy of the United States to deploy as soon as technologically possible an effective national missile defense system capable of defending the territory of the United States against limited ballistic missile attacks, whether accidental, unauthorized or deliberate."

This law said nothing about taking into consideration international reactions, or the need to preserve the ABM Treaty, and yet some want to either ignore this law altogether by delaying the administration's missile defense plan, or reinterpreting its very clear language, so I just want to put that on the record, so everyone knows what the law of the land is right now, although it may change, but I certainly would not want it to.

I have a great deal of interest in the naval, the sea-based approach, and I do not know whether I should address this to Mr. Feith or General Kadish, but the report in December of 2000 talked about and concluded that a ship-based missile system, coupled with a planned national missile defense system with land and space-based sensors could provide an effective complement to the ground-based interceptors, and whichever one of you feel more comfortable, I would like to have you explain, or share with us about the integration of the naval forces and systems with regard to the concept of a national missile defense system.

General KADISH. Senator, the RDT&E program that is before the Congress now aggressively pursues a sea-based option in terms of missile defense. We are looking at it not only in the midcourse, but also in the boost-phase as a hedge against some of our other technologies, but I would like to emphasize the difficulties with sea-based midcourse at the same difficulties we face with the ground-based system as well, because it is the same countermeasure problem, same problem we have in space, hit-to-kill, all those types of technologies face the sea-based option as well, and we need to aggressively pursue how we implement those and see whether or not they add to our layered defense capability. That is part of the program.

Senator ALLEN. How would you, general, find what is the value of the sea-based system over the ground-based, or air-based.

General KADISH. The values tend to be complimentary, whereas a land-based system of any sort, but especially missile defense, is available for fixed site, relatively stable threat scenario available 24 hours a day, 7 days a week, any day of the year.

The mobility of the sea-based system, however, provides us a degree of flexibility not only to move the engagement envelope toward the ascent phase, in the midcourse, but also to protect geography. That mobility would lend itself toward—in other words, a fixed site is a fixed site, but a mobile site can go where we need it, and so it provides an element of flexibility that we do not currently have with a ground-based system.

Senator ALLEN. In sort of your thinking of eventualities that we cannot contemplate right now, I would like to ask you, can you see a situation where the sea-based system would be of assistance to us, whereas the fixed land-based system in an eventuality of threat or altercation or war would be of greater assistance?

General KADISH. There are certainly scenarios where one is favored over the other, but on balance, in a layered system, they are all complementary, and that is what we are trying to figure out now with our development program.

Senator ALLEN. Let me ask you this. In a real-life matter where we were under attack from missiles, and that was just about 10 years ago in the gulf war, our Armed Forces were subject to missile attack, as were the people of the State of Israel, actually having their own country being subjected to missile attack, and generally taking them, although getting hit by them, and maybe trying to knock some of them down, and these were the SCUD missile attacks from Iraq.

Could you extrapolate from that scenario where our troops, and people who were really not involved in that war in Israel, were being subjected to missile attack, and could you extrapolate how a missile defense system could change or improve our defense of our armed service personnel, also the United States, or also our allies that may be also subjected to these attacks, and how would this missile defense help us in that regard?

General KADISH. Well, Senator, to the degree that we are able to protect our deployed forces, it is obvious how that helps us, and at the same time of protecting our deployed forces, we could protect our allies or defend territory partial to our allies, that is a major improvement over what we had 10 years ago, and certainly even what we have today, because even with our best efforts the Patriot 3 that I showed you in that film earlier is still a year or two away from major deployment quantities, so it is a major deployment to our war-fighting capability to protect our troops from missiles.

Senator ALLEN. Well, the Patriot is for short-range?

General KADISH. That is correct.

Senator ALLEN. Do we have anything for intermediate range?

General KADISH. Not now.

Senator ALLEN. From, say the Middle East, would Europe be considered intermediate range?

General KADISH. I believe so. This geography problem is tough and interesting at the same time, because when you say Europe, I could say that about two-thirds of Europe is intermediate range, and the rest of Europe is long-range, so we have got a mix, and that is where we have got this problem with layering defenses against all ranges. You cannot protect one range of missiles and ignore the other range.

For instance, if we only have protection against short-range missiles, then the countermeasure to that is to have faster, longer-range missiles, and if you are protecting a given set of territory, you would want protection against all of them, because in the end the long-range missiles could be used for short range by being faster in reentry, so it is a very complicated question, but an oversimplified answer to you is, it depends on what territory you are talking about.

Senator ALLEN. Well, in the scenario, say there is certain countries in the Middle East that are having expansive or threatening actions, could they threaten our allies, say, if you continue in your activities, maybe they could not launch a missile to the United States from Baghdad or somewhere in Iraq or Iran, but they could hit Paris, or they could hit London, or they could hit Frankfurt.

Do you envision, if it is technologically feasible, the national missile defense system being able, or it is just a missile defense system, again utilizing some of the naval base flexibility, being able to protect our allies in Europe in those particular cities? Let us be specific.

General KADISH. I do, and I am able to envision that. The Secretary has asked us and was very specific in the RDT&E approach to look at protecting the United States, our allies, and friends, and deployed forces, and so that is certainly the major charge we have in our approach to missile defense at this time.

Senator ALLEN. Thank you, general, and gentlemen.

[A prepared statement of Senator Allen follows:]

PREPARED STATEMENT OF HON. GEORGE ALLEN

WASHINGTON, DC.—United States Senator George Allen, a member of the Senate Foreign Relations Committee, today released the following statement on the use of a National Missile Defense System, the subject of a committee hearing:

"With the proliferation of missile technology and nuclear weapons of mass destruction, I continue to believe that, as soon as it is technologically feasible, the U.S. should deploy a system that will help keep Americans safe from missile attacks, whether from a major adversary or from a rogue nation. I am encouraged by the recent successful anti-missile defense test this month. I look forward to a 'new reality' modified treaty that will allow us to deploy an air, sea and land-based defense.

"In the 21st century, America faces new threats, new battlefields and new weapons, and age-old disputes—the world is still a dangerous place. As leaders of this great nation, we must understand that the challenges and threats of this century are far different from those experienced in wars and conflicts of the past century.

"There is a basic, inescapable and gripping truth about the freedom we cherish. We must make sure that our country continues to be strong enough to defend its security and its interests whenever they are threatened.

"Therefore, the U.S. must address threats from cyberterrorists, terrorists using rental vehicles or suitcase bombs, and biological attacks. We need multifaceted assistance from our intelligence, armed forces and law enforcement agencies and early detection to thwart attacks as well as preparing for defense and recovery if such attacks occur. Also, we should have a defense against weapons of mass destruction."

The CHAIRMAN. Point of clarification, Senator. Were you asking whether or not the theater missile defense system was enhanced by the test that was conducted last week intercepting a missile in mid-flight in the outer atmosphere? Was that your question?

Senator ALLEN. No, that was not—my question was beyond that.

The CHAIRMAN. Thank you very much.

Senator Torricelli.

Senator TORRICELLI. Thank you, Mr. Chairman.

Mr. Chairman, it appears to me that a situation is evolving where the United States is likely to achieve enormous technological success, but simultaneously to produce tremendous political divisions. The tragedy of this all is that it is entirely unnecessary.

As the administration is envisioning a multi-tiered missile defense it could have simultaneously envisioned a tiered strategy, politically, for dealing with missile defense that under the best of designs, with the optimum performance, the system envisioned is

only going to deal with rogue nations, those with limited numbers of offensive weapons, or mistaken launches.

I have never heard the administration describe or pronounce its intentions or even envision anything that would deal with something of a scale of Russian offensive weapons. Therefore, rather than having begun this effort in the Bush administration by undermining the ABM Treaty, or unnecessarily attack the reality of mutual assured destruction, this plan could have been announced not as a repudiation of the ABM Treaty but simply the need for a modest modification.

Where each nation is now allowed to have a single defensive site, that could have been transformed to a single site defending its entire territory, with limited numbers of defensive interceptors.

We have now divided ourselves from our allies, potentially placed ourselves in an adversarial position with the Russians, when ironically we have common interests. The United States is no more vulnerable to a launch by Iraq, Iran, or North Korea than Europe or Russia. Indeed, we are probably less vulnerable, given our advantage of geography, but we manage to separate ourselves.

A political defeat can become the product of an enormous technological success, and as these divisions with our allies and the Russians are unnecessary, so are divisions in this Congress. There is the perception in this Nation that the Bush administration, like the Reagan administration, is the creator of missile defense. The effort to secure missile defense began in the Bush administration no more than it began in the Reagan administration. Jimmy Carter began this technological search.

This was not imposed on a Democratic Congress. Most of the resources for missile defense research emanated from a Democratic Congress. There is no reason here for division, but the foolish and unnecessary retreat from a generation of arms control, the engaging of our allies in common strategy which do not even conflict with your technological objectives. Now, I do not quarrel with your assessment of the North Koreans. Like some of my colleagues, I have been to North Korea. There is no question in my mind, North Korea represents a real and present danger for the United States.

It is not a question of whether the North Koreans are going to have a capability to reach the United States with offensive intercontinental missiles. it's only a question of when, and unlike some nations, a diplomatic solution reaching an agreement with North Koreans cannot be seen as permanent, but only temporary, and never trustworthy.

The Nation must obtain some limited missile defense, but this returns us to Senator Kerry's point. We are not going to achieve that defense that can deal with Russian offensive capabilities. Therefore, we must marry a limited missile defense that deals with the North Koreas and Iraqs with the reality of a Russian situation, while not prompting them to attempt to overwhelm a system which we could not deal with even under current circumstances with missile defense.

I would only urge the administration not only to avoid the divisions with our allies that comes from the current political posture, but divisions in this Congress that are similarly unnecessary. We ironically all have the same objective, internationally and inter-

nally, but we are being needlessly divided. There is nothing within your research program that must threaten this international regime of arms control, and an ABM Treaty which can be much more easily modified than abandoned.

Ironically, it appears to me Mr. Putin may have recognized this, and may save the administration from itself, but that does not mean we cannot all still return to the same point of departure.

In any case, I would invite your comment.

Mr. BOLTON. Well, perhaps I can start off, I disagree in the first instance that we are divided from our allies. Just yesterday, for example, the newly elected leader of Italy gave an extremely enthusiastic defense of the President's missile defense program. We have had extensive consultations with not only our NATO allies, but with specific friends and allies as well, and we have received very warm responses to the extent to which we have tried to explain the nature of the threat that we see.

We have tried to explain the thinking that we have been undertaking in the development of missile defense, and to try and explain how we hope that this will benefit friends and allies around the world, and I think there is a growing acceptance in Europe and in the Pacific that our analysis of the threat is pretty much on target, that they understand better the nature of the development and testing that we are undertaking, and that they look forward to our discussions with the Russians and further consultations.

I think it would be a mistake to think that the sort of new strategic framework we are talking about with the Russians can be developed with them in a heartbeat, or that the allies themselves necessarily would accept these new ideas that we are putting forward. The consultations have been extensive. Right now, I would say, Senator, with the American embassies around the world and the materials we have sent to them, and the discussion they are undertaking, I think it is fair to say consultations are basically a 24–7 proposition, and will continue to be so.

I think it is also important that we pay homage where homage is due. This is a very well-written treaty, designed to prevent a defense of the territory of our country. That is what it says in article I, section 2, and it says very specifically that each party undertakes not to develop tests or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based, and so it is not possible to have a defense of our territory even against rogue nation launches and accidental launches under the constraints of this treaty as written.

Senator TORRICELLI. Let me respond. First, perhaps only the two of us are gratified to see the Prime Minister of Italy speaks for our allies and characterizes European opinion. I believe that, many people in New Jersey believe it, but it generally would not be accepted, and as representing the NATO alliance it is the height of illusion to believe that public opinion in Europe, or largely our allies around the world, believe in this administration's approach to the ABM Treaty. We can disagree, but we can at least, sir, deal with each other honestly——

Mr. BOLTON. I think I am, Senator, and consultations are going on, and we are making great progress.

Senator TORRICELLI. The way this works is, the time belongs to me, and I would be happy to yield and have you respond, but just because we are honest does not mean our allies are not always right, but we can certainly characterize properly where they stand. Opposition to our views now internationally is enormous.

Part of our problem here is reconciling it. My opinion, what I am expressing to you on the ABM Treaty, is that I am sharing your judgment that the ABM Treaty clearly needs to be changed. When it was written, the notion of rogue states, the character of an Iraq or North Korea possessing weapons with this technological capability clearly was not envisioned. It was not seen as possible in the near term.

We have now lived to see that reality. The treaty was written to govern extraordinarily different circumstances, but that does not mean the continuing reality of a Russia with thousands of warheads for which we cannot mount defenses under any technological scenario cannot be married, in the same treaty, with the reality of a North Korea which is about to possess that capability. One does not have to abandon the one strategy in order to develop the other.

That is not only my concern. I think that is what we are hearing from Europe, because to cede you the point, I think they increasingly are recognizing in Europe that there is a vulnerability. This is a reality. I simply think this could have been done with more subtlety, and we are in a needless confrontation.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Senator Hagel.

Senator HAGEL. Mr. Chairman, thank you.

First let me congratulate the panel and also the President of the United States. I think the accomplishments and the leadership shown by the President during his trip to Europe were rather significant.

In picking up on what my colleague from New Jersey was talking about, the question whether we are at odds with our allies in Europe on missile defense, I have, Mr. Chairman, a list that I would like to enter into the record of recent, over the last 45 days, statements made by the leaders of the Czech Republic, Hungary, Italy, of course, the U.K., Poland, Romania, Spain, Slovakia, Australia, Japan, Georgia, and others.

[The list referred to by Senator Hagel follows:]

QUOTES SUPPORTIVE OF U.S. MISSILE DEFENSE PLANS

Australia.—Foreign Minister Downer (June 1, 2001): "We've said to the Americans that we are understanding of their concerns about the proliferation of missile systems . . . if a rogue state were to fire a missile at the United States, would an appropriate response be for the United States to destroy all of the people in that country? And I think, understandably, the Americans are saying that may be a slight over-reaction. And if that is all that their current deterrence arrangements provide for, then I think it's understandable that they should want to look for more sophisticated and more effective, and at the end of the day, more humane ways of dealing with these problems."

Foreign Minister Downer (May 12, 2001): "We've just made it clear to them that . . . we completely understand what they're saying on the need for a missile defense system . . . The more people understand what is being talked about here, the more they think it makes sense."

Czech Republic.—President Havel (June 13, 2001): ". . . the new world we are entering cannot be based on multually assured destruction. An increasingly important role should be played by defense systems. We are a defensive alliance."

Georgia.—President Shevardnadze (June 26, 2001): "Now proliferation is a fact. Several states have such weapons, and many others are very close to possessing the bomb. I therefore believe that there are good reasons for examining the need to create anti-missile systems . . . let us suppose that such systems are created: when that happens, there will be no more reason for anyone to have nuclear weapons. An antimissile system does not harm anyone, whereas nuclear weapons represent the threat of an elimination of the whole of mankind."

Hungary.—Prime Minister Orban (May 29, 2001): "The logic of the Cold War, which was based on mutual vulnerability, has lost its legitimacy. The alliance has the right and duty to defend itself."

Prime Minister Orban (May 29, 2001): "The logic of the Cold War, mutual deterrence, would not give a reply to the problems of the future. It is important that North America and Europe should work jointly on solutions demanded by the new realities."

Italy.—Prime Minister Berlusconi (June 13, 2001): "We agree that it is necessary for a new, innovative approach in our policies towards these new threats."

Defense Minister Martino (June 11, 2001): "[Missile defense] would not be directed against the Russian Federation today; the aim is to protect us from unpredictable moves by other countries. It is in the interests of peace, of all of us."

Defense Secretary General Admiral Giampaolo (June 14, 2001): "Russia and the U.S. are no longer opponents, while there are new players on the world scene, there are countries that possess deadly ballistic systems with intentions unknown to us. They are unpredictable. The ABM Treaty no longer works against these new dangers . . . Now we must move on to a new concept, that of an offensive-defensive mix. If there is a potential hotheaded adversary, I must make him understand that he cannot strike me . . . [with] a missile defense system capable of protecting against limited missile attacks from irrational countries. The U.S. is very responsibly discussing this with its allies, with Russia, and also with China."

Japan.—Prime Minister Koizumi (June 7, 2001): "This is very significant research because it might render totally meaningless the possession of nuclear weapons and ballistic missiles."

Prime Minister Koizurni (June 6, 2001): "If the system being considered by the United States is established, it could completely change ideas about security. It could render nuclear weapons meaningless. That is why I think it is worth studying, and the Japanese Government understands why the United States is conducting such research."

NATO.—Secretary General Lord Robertson (June 20, 2001): ". . . keeping NATO ahead of the game—looking at the hurdles coming up in front of us, not the one behind—means looking at the existing and emerging challenges. The vulnerability exposed by the proliferation of weapons of mass destruction and their means of delivery. And the disaggregation of the security threats we face—from yesterday's monolithic and massive Soviet Union, to today's multiple actors who can present a potential threat, using flexible and highly destructive WMD and missile capabilities . . . we do need to think about military responses as well. Missile defense is and should be the subject of deep reflection and consultation in NATO. We have an obligation to protect our societies. And we must ensure that our own military capabilities remain relatively less vulnerable, so that they remain effective in all situations,"

Poland.—President Kwasniewski (June 13, 2001): "[The U.S. missile defense plan is a] visionary, courageous, and logical idea."

President Kwasniewski (June 15, 2001): "When it comes to the missile defense system, following the presentation of President Bush's opinion in Brussels, the case seems very clear. The United States wishes to build this system—not exclusively safeguarding its own interests, but to reinforce a general world security . . . And I think this is a very rightful and very appropriate position."

Defense Minister Komorowski (May 27, 2001): "Poland has looked upon U.S. declarations on the necessity of establishing a missile defense system with understanding from the very start. We . . . see the modification of the project to provide for a "protective shield" for European allies as a step in the right direction. This can only enhance defense capabilities but also strengthen the unity of NATO. The territory of Poland and the Polish defense system may become a key element of an allied missile defense structure."

Secretary of the National Security Council Siwiec (May 18, 2001): "The ABM Treaty . . . stands in the way of building a flew security system. The debate on the missile shield is not unlike protests of steam engine users against the inventors of rocket engines . . .."

Romania.—Defense Minister Pascu (June 12, 2001); Romariia understands the U.S. desire for protection from missile attack and would have "no objection at all" even if the U.S. proceeded unilaterally. Regarding those in Europe that dismiss the threat of missile attack, Pascu said "It is a real danger. To some, it is not because they don't want it [missile defense] done."

Slovakia.—Prime Minister Mikulas (June 8, 2001): "We have always perceived the United States as the protector of democratic principles in the world and we understand the alliance (NATO) as a defense community. So we consider the missile defense project to be a new means of collective defense . . ., a security umbrella for this democratic society and therefore in general we support this project."

Spain.—President Aznar (June 12, 2001): Regarding the U.S. missile defense initiative, "What I'm surprised by is the fact that there are people who, from the start, disqualified this initiative, and in that way, they are also disqualifying the deterrence that has existed so far and probably they would also disqualify any other kind of initiative. But what we're dealing with here is an attempt to provide greater security for everyone."

Defense Minister Trillo (May 23, 2001): "The [U.S.] missile initiative . . . is neither an aggressive initiative—it is a defensive one—nor a nuclear escalation, but rather, on the contrary, a means of deterrence of the buildup of nuclear weaponry."

United Kingdom.—Prime Minister Blair's Spokesman (July 18, 2001): "There is a shared analysis of the problem. The Prime Minister understands the concerns that the U.S. administration has from a different threat post the Cold War. He is concerned at the spread of weapons of mass destruction and missile technology just as the Americans are."

Prime Minister Blair (July 19, 2001): ". . . I want to say this and say it clearly, that I think President Bush is right to raise the issue of the proliferation of weapons of mass destruction and say that that needs new and imaginative solutions, because it's a huge threat facing the whole of the world. Secondly, I think that that has got to . . . encompass defensive systems and offensive systems . . . And the third thing is that we welcome very much the approach that President Bush and the administration have taken to consulting allies, and also making it clear that they wish to have a dialogue and a partnership with Russia about this issue."

Senator HAGEL. These represent quite complimentary statements about this President's leadership, and about missile defense, and most importantly in my mind, the idea behind what we are trying to accomplish.

Much of the rhetoric gets lost here in trying to dissect paragraph 3 of subsection 6 of some document, and we lose sight of the fact that what this is about very simply is trying to make this world a safer place, so when I hear talk about, we are upsetting the Russians and our European allies, that rhetoric does not square with the facts.

And I think more to the point, the agreement that the President made with the President of Russia, which will result in our National Security Advisor going to Russia tomorrow to sit down with her counterparts, I think speaks for itself. The political rhetoric notwithstanding, there are differences of opinion on this, but let us deal with the facts as they are.

Speaking of facts, my friend from Virginia noted Public Law 106–38. That is the National Missile Defense Act of 1999. That is the act that Senator Allen referred to that the U.S. Senate passed, and President Clinton signed, which puts the U.S. Senate on record, and he read from that to go forward with a national missile defense system when technologically possible.

Now, part of this debate is perplexing to me, and many things are perplexing to me, but it is rather schizophrenic, inconsistent, contradictory to say on the one hand 97 to 3, with the President of the United States signing this, that we are going to go forward and build a missile defense system, but wait a minute, do not test, do not research, do not do anything that might interfere with other obligations out there, but yes, we are on record, and it is a public law directing the general and the Pentagon to go get that done, but yet we say, no, no, wait, we are not sure we can do that.

We should unwind that schizophrenia in this debate and decide, now, maybe we should have another vote on this. Maybe we should put this back to the Senate and see where everybody stands. This was just 2 years ago, but I am one Senator who proudly voted for this, is a strong supporter of missile defense, and would proudly vote again just as I voted 2 years ago.

The fact is here that I do not know—and maybe, general, you could enlighten this panel with this question. I do not know of one technology in the history of mankind that has not been developed through a series of tests and failures in those tests, and yes, that requires some resources, does it not?

Speaking of resources, what, in your best estimate, general, might be the cost of a missile defense system that we are trying to implement here over the next few years?

Now, I heard my friend the chairman say that the bottom of that, I think, if I heard him right, $60 billion. It could go into the hundreds of billions. Now, I have never heard it referenced as a floor at $60 billion, but I would be interested in your numbers.

General KADISH. Well, Senator, that is a little bit of an awkward question for me right now.

Senator HAGEL. Of course it is.

General KADISH. It is going to be very expensive.

Senator HAGEL. Is the chairman right? Are we talking hundreds of billions and a floor of $60 billion? You are the general.

General KADISH. The problem I have is that we have not defined the architecture, as I pointed out earlier, sufficient to give a cost estimate, but I would ask people to look when we do this and put cost estimates on the table, to look at affordability, because I can tell you, it is going to be expensive.

Senator HAGEL. What does that mean?

General KADISH. The issue is, many billions of dollars.

Senator HAGEL. What is many billions, hundreds of billions? What is it?

General KADISH. In my judgment, no.

Senator HAGEL. Well, you are here for your judgment, general, so see if we can bracket this a little tighter. This is in your best interests, general. We could put up a sign to say that if you have not caught it yet, but it is in your best interest.

General KADISH. If I was able to be precise, I could be very comfortable answering that question, but at this point in time the precision in what we are about to do is difficult for me to say it is going to be $100 billion, $60 billion, $20 billion.

I can tell you what our previous estimates were, that the very limited system that we were proposing under the last administration we believed had a price tag somewhere between $23 and $30

billion for that system. As you add more capability to it, it obviously will get more expensive, but over the life of this system we are in that type of a ballpark, but I could be here telling you next month or a year from now a very different number, depending on the decisions that were taken on what to build, and/or what has succeeded.

Another point I would make is that we are asking for $8 billion next year for research and development. That is a lot of money.

Senator HAGEL. Is this over a 15-year period, 10-year period? What is this time span?

General KADISH. The number I gave you of about $23 to $30 billion would be over about a 6-year timeframe to buy the system. Then you have another cost estimate of how much it is going to take to operate it over a 20 or 30 or 40-year timeframe, so that number can be very large based on those types of calculations, and so a system that would cost $10 or $12 billion to acquire might end up costing $40 billion over a 15 or 20-year lifetime to operate.

But next year we intend to spend $8 billion on a development program, should the Congress appropriate the money.

Senator HAGEL. Thank you.

Secretary Bolton, what would you say the objective of Secretary Rice's national security trip to Russia is?

Mr. BOLTON. Her principal objective is to meet with President Putin, with Defense Minister Ivanov, her counterpart, Mr. Rushaylo and others to begin to set up a schedule in the pace and the subject of the ministerial level consultation that President Bush and President Putin agreed to, and as I mentioned earlier, I think it is very important for the scope and the pace of these discussions that they are being conducted at that very high level to show the importance that both Presidents place on them.

Senator HAGEL. Let me get to some of the recent discussion here regarding layered deterrence, layered defense. First, would you all agree that most likely we will never come up with a completely impenetrable system, that there will be weaknesses in any system, just as there are weaknesses, as far as I know, in any defense system we have? Do you all agree or not agree with that?

Mr. FEITH. I agree. It is not the intention of the program.

Senator HAGEL. I am not asking the intention, but I am asking the reality of a defense system. Any technology, any defense technology, is it 100-percent foolproof, nobody can get through it?

Mr. BOLTON. No human invention is perfect.

Senator HAGEL. So we will have flaws, right?

General KADISH. Yes, Senator.

Senator HAGEL. So is not the point of layered deterrence, layered defense being part of that layered deterrence, working with all nations of the world on nonproliferation issues, working with governments influencing their behavior on all fronts, economic trade, environment, as well as national security technologies that are all part of the total deterrence effort?

Mr. BOLTON. I think that is critical, because one of the things we have been trying to explain about the importance of a missile defense system is that we are looking at threats that were not contemplated during the cold war, or at the time of the drafting of the ABM Treaty, that it is, after the cold war, a more complex threat

environment that we face, and therefore that our defenses and our capabilities have to be more varied, and take into account that these threats can come from a variety of different places, which—and I am sorry Senator Torricelli has left, but one thing one with his idea of just having one missile site that would defend the entire country is that that just does not take into account where the various hostile missiles might come from, so that this complexity is required by the changed circumstances that we face in the world at the end of the cold war.

Senator HAGEL. Thank you. Mr. Chairman, thank you.

The CHAIRMAN. For the record, I would say to my friend where I got those numbers was—the point the general made, initially they said $15 to $20 billion, and that was for 6 years, but if you are going to operate it, and I am assuming you are going to operate it if you develop it, the next estimate they came along with was $60 billion for 20 years. That is where I got it.

Now, assuming they are not going to operate it, then it only costs about $15 to $20 billion, but I assume they would operate it.

We have already spent—and I voted for, and since you have been here have voted for it, since the late seventies in current dollars about $100 billion so far in research, which I support. I support that, but I do not want you to think that I am making these numbers up out of thin air.

And the reason I raised the question about 100 percent effectiveness is that I am not suggesting that any system they are designing, even with redundancy, is going to guarantee 100 percent success. You have Secretary Rumsfeld saying, and I quote, "I think if one looks at any complicated system you will find that it does not work perfectly 100 percent of the time. It may be .9, it may be .7 success. That is plenty."

Now, just so you know, if you have a .7 success of hitting a missile, a country that fires two missiles at you, has a 50-percent chance that one is going to hit, and back when you and I, during our years of growing up, there used to be a bumper sticker that said, "One nuclear weapon can ruin your day." So I think we have just got to put this in perspective. I was not trying to be smart. That is where I got the numbers.

The numbers relating to a $1/2 trillion are the numbers you go back and dig up on an enormous system that in fact can protect against an accidental launch. If you protect against an accidental launch, it means you have to protect against any missile fired from anywhere. Therefore, you must have the most sophisticated system in place to intercept the most sophisticated missile, which goes far beyond the capability of a rogue state, and that is just a wild estimate, because no one has any idea how to do that. But anyway, that is how I came up with those numbers.

I would yield to my friend from Rhode Island.

Senator CHAFEE. Thank you, Mr. Chairman. In your opening statement, you asked whether the pursuit of national missile defense would make the United States more or less secure. That was an interesting question. I think pertinent to that is the tone of the administration as well as comments from our allies. In addition, we saw the colored picture from the meeting between President Putin and President Jiang from the People's Republic of China, and the

Russian press commenting about unity against American unilateralism. I think this meeting is all the more important in the question of whether our pursuit of missile defense makes the United States more or less secure?

So the tone of how the administration goes forward is very important. In that respect, Mr. Bolton, what exactly do you mean by we are short of Pollyannas? What exactly does that mean?

Mr. BOLTON. Well, I think we are a pretty hard-headed realistic group of people, if I may say so. I do not think that we have any illusions about the difficulties of transforming the strategic relationship with Russia, nor do I think we have any illusions about the difficult relations possibly ahead with the People's Republic of China. I don't think we are operating under any illusions. I think we understand that there is a lot of cold war thinking remaining in Moscow, and there is a lot of thinking that needs to be addressed in Beijing as well, and that really is the thrust of what I was trying to say. I might just say if I could on the Putin-Jiang Zemin agreement, I really think there is less there than meets the eye, but I acknowledge that this question of how the United States deals with both the PRC and with Russia is something that we should devote considerable time and attention to.

Secretary Powell will be in Beijing, and we will be discussing this missile defense and the new strategic framework with the Chinese leadership, among other things. That is why one of the initial consultation teams we sent out after the President's Ft. McNair speech was to China, and we anticipate considerable additional consultations with them as well.

Senator CHAFEE. Well, I think there is certainly support for missile defense among the American public, as evidenced by the Cochran bill that passed the Senate by a 97 to 3 vote. But I will also say with regard to Senator Torricelli's comments, that we have to be very careful about dividing what already has some momentum, I think, with the public and here in Congress. Again, in respect to the tone and the aggressiveness and the unilateralism in which the administration is going forward.

Mr. BOLTON. May I just say in response to that, we really have had, we have tried in as many ways as we could, particularly with friends and allies to address their concerns. We have sent multiple teams to capitals I think in virtually every meeting that Secretary Powell has had with his counterparts, the subject has either come up or certainly could have come up. It is something that we have been addressing at the most senior levels of the government. Secretary Rumsfeld has been working over time on it, and I think that the effort and inclusiveness and I think symbolized by the agreement to have high-level intense consultations that President Bush and President Putin reached in Genoa is indicative of the seriousness with which we are undertaking this effort, meet the objectives that you indicate.

Senator CHAFEE. Thank you.

The CHAIRMAN. Any further questions?

Senator CHAFEE. No, sir.

The CHAIRMAN. We will do a second round if we can now. I think the number is classified, and obviously if it is, I don't expect you to respond, but as I understand it, even with multiple attempts,

that is firing more than one kill vehicle at an incoming missile, that the limited system that began to be developed in the last administration and that apparently is not necessarily the same system, but has the same objective to deal with the limited nuclear strike, even with multiple kill vehicles being fired at a single warhead, the plan, the planning requirement is not to have 100 percent kill capability for incoming missiles, is that right? And I am not asking you what the number is, but it is less than 100 percent, is not it?

General KADISH. No system we contemplate is going to be 100 percent effective, but it will be very good.

The CHAIRMAN. Now, Mr. Secretary, you said you have no illusions. You are a pretty hard-headed bunch of folks about what is under way here. I assume you have no illusions about the lesser degree of difficulty of a nation like North Korea or Iran or Iraq delivering a weapon of mass destruction by other than an ICBM missile to strike the United States. You do not have any illusions about that, do you?

Mr. BOLTON. No. And I think our programs in that regard are important and could just as easily be strengthened as those we are working on on missile defense. I don't think anybody underestimates that risk.

The CHAIRMAN. Now, along those lines, if either of the two Secretaries would be willing to respond, for the missile defense test bed in Alaska as I understand it, the request is for $8 billion—a small portion of the defense budget. But the fact is that most of that budget is already spoken for in Defense. If you look at the truly discretionary spending in the Defense budget, you have proposed a $3 billion increase, your proposed increase of $3 billion is a lot of money. Vice Admiral Dennis McGinn, the Navy's top requirement advocate, said last month, "whatever national missile defense costs, we have expended that part of our national treasure against a very, very narrow part of the threat, a threat that is very unambiguous in determining what its origin was, a threat that would perhaps be dealt with by assurances that we will destroy any regime that uses it." He goes on to say, this is "a very, very high opportunity cost and we need to think carefully through this problem and assess what the relative importance of the various vectors of threats coming to our Nation are before we go down that path."

Now, I think the admiral was on to something. Last year the Joint Chiefs gave the Armed Services Committee the chart that I mentioned earlier. This chart from the Joint Chiefs shows an attack on the United States using long-range ballistic missiles as potentially the most damaging attack we could experience, but also the least likely. By contrast, such threats as terrorist attacks or major regional conflicts, are more likely to occur, and while many may not be quite as devastating as a missile attack, they could involve nuclear, chemical and biological weapons.

In addition, 2 years ago, our own Intelligence Committee warned that a short-range or cruise missile can be "more reliable" than ICBM's that have not completed rigorous testing and validation programs. The intelligence community added that "countries or nonstate actors," which we fancy as terrorists, could pursue nonmissile delivery options, most of which are less expensive than de-

veloping and producing ICBM's and can be covertly developed." This is, and I am quoting, "and the source of the weapon could be masked in an attempt to evade retaliation probably would be more reliable than ICBM's that have not completed rigorous testing and validation," still quoting, "and probably would be more accurate than emerging ICBM's over the next 15 years." Continuing to quote, "probably would be more effective in disseminating biological warfare agents and ballistic missiles. These delivery options would avoid missile defenses." Now, I have a couple of questions.

First, how can we defend against those threats today? Tell me how we defend against a cruise missile launched off our shore from a ship today or any of the other things that we have spoken of here? And I would begin with you, either the general or Mr. Feith.

Mr. FEITH. Senator, it is true that there are non-missile options available to countries that might consider using weapons of mass destruction against the United States, and as Secretary Bolton said, this is something the administration considers to be a serious threat. And our intelligence community says these are more reliable than ICBM's, and probably would be more accurate. That is what our intelligence community says.

Reliability has to do with a number of factors. There are programs to defend the United States against somebody who would try to smuggle a weapon of mass destruction into the United States. And that is part of our defense effort. It is not unimportant.

The CHAIRMAN. What are those programs? Can you be specific?

Mr. FEITH. Well, there are a range, having to do with controlling the borders and intelligence. I believe the expenditure for that type of activity is in the neighborhood of $11 billion a year.

The CHAIRMAN. And being cut, being cut by this administration.

Mr. FEITH. I am not aware that it is being cut.

The CHAIRMAN. I will submit for the record my evidence, for why I assert that, but go ahead.

Mr. FEITH. Those are serious threats.

[The information referred to by Senator Biden follows:]

INTERIM RUSSIAN-AMERICAN NUCLEAR SECURITY ADVISORY COUNCIL [RANSAC] REPORT:

PROPOSED FEDERAL BUDGET CUTS FOR NUCLEAR SECURITY EFFORTS IN RUSSIA

Based on authoritative budget documents, it is clear that the Department of Energy (DOE) programs are scheduled to be cut back significantly in key areas. Overall, the top-line budget request for DOE nuclear nonproliferation programs in FY 2002 will be $801 million, or about $73 million below the FY 2001 (current year) appropriated level of $874. This is an overall 8.4% reduction. When compared to the request from DOE to the Office of Management and Budget (OMB) during the last months of the Clinton administration, the cut is even more significant. The Clinton era OMB request for FY 2002 was rumored to be approximately $1.2 billion. If this information is accurate, then the cut from the projected Clinton budget is closer to 33%.

Authoritative information on the budget requests for the State Department is not available, though Colin Powell did testify that the nonproliferation programs in the State Department would be receiving an increase in the upcoming budget year. Information on the Department of Defense Cooperative Threat Reduction program budget requests is also unavailable at this time, though there have been rumors of reductions.

Attached to this overview is a chart of the major FY 2002 DOE nuclear nonproliferation budget requests, which have not yet been released by the Bush administration.

Several programs that have been targeted for elimination or significant cuts include:

- Nuclear Cities Initiative (NCI). This is the only U.S. government program specifically focused on decreasing Russian nuclear weapon production capability and creating alternative employment opportunities in MinAtom's closed nuclear weapons cities. In FY 2001, $26.6 million is appropriated for the program. For FY 2002, DOE had sought a request of $30 million. The new Bush budget requests only $6.6 million, a 75% reduction from the current year. This is the lowest level of funding ever proposed for this program and it will be extremely difficult to sustain this program at $6.6 million. Prior to this year, the program's lowest appropriation was $7.5 million in FY 2000. In particular, the budget eliminates a $10 million line item to facilitate closure of warhead production plants.
- Material Protection, Control and Accounting (MPC&A). This is the primary U.S. program to improve the security of Russia's fissile material, accelerate consolidation of this material at fewer sites, and to work with the Russian Navy in the protection of its nuclear materials. In FY 2001, approximately $169 million is allocated to the MPC&A program. The program sought a request of approximately $226 million for FY 2002. The Bush budget request will be $139 million—a $30 million (18%) cut from the current level. The major cuts come in the improvement of security at Mayak, which is a major fissile material storage facility, the part of the program designed to sustain the security improvements after they are installed, and the Russian Navy program.
- Plutonium disposition activities in the United States and Russia. Under this program, 34 metric tons of plutonium is to be eliminated by both the U.S. and Russia, Last year, after a long delay, a U.S.-Russian agreement on this subject was signed. The budget for plutonium disposition in FY 2001 was about $189 million. Approximately $450 million had been requested in the Clinton FY 2002 budget for overall fissile material disposition (roughly a $225 million increase from FY 2001), including approximately $45 million for activities to assist Russian plutonium disposal. However, the Bush administration request provides only $20 million for the Russian component (or about a $21 million reduction from the current funding level). While the FY 2002 Bush request does increase the fissile materials disposition budget overall, the amounts fall short of what is needed to move the program with Russia forward significantly and to convince Russia and other G-8 countries of the U.S. commitment to eliminate plutonium stocks.
- Non-Proliferation Verification R&D. This is essentially national laboratory research money for verification technologies and not particularly of interest to the Russians, but it is still important. In FY 2001 the appropriated level was $245 million. In the proposed Bush budget it is $208 million, a 15% cut.
- New fissile material security programs. In FY 2001, funding was provided for several new DOE programs as part of a "Long-term Nonproliferation Program for Russia." The FY 2002 budget would eliminate funding for these new activities, including the following:
  - Creation of a Russian plutonium registry. The United States currently does not know the total Russian plutonium inventory. This program was a small effort to facilitate an accurate accounting. For FY 2001, $500,000 is provided to assist Russia in developing an unclassified database of its entire plutonium stockpile. In the Bush administration budget it is eliminated as a program.
  - Ending civil plutonium separation. The plutonium separated from non-military spent fuel is stored at the Mayak production complex. Russia's civil plutonium stockpile is currently around 30 metric tons and it increases each year as more plutonium is separated from Soviet designed reactors. The goal of this program was to incentivize Russia to stop producing this material. In FY 2001, $15 million was provided for this effort. The current Bush administration request is $0.

SUMMARY OF FY 2002 BUDGET REQUESTS

SELECTED DEFENSE NUCLEAR NONPROLIFERATION PROGRAMS
U.S. DOE/NATIONAL NUCLEAR SECURITY ADMINISTRATION
[Dollars in thousands]

Nonproliferation and Verification R&D (NN-20)

Program	FY 2000	FY 2001	FY 2002	Delta	% Change
Nonproliferation and Verification R&D	212,842	244,515	208,102	–36,413	–14.9%

Selected Arms Control Programs (NN-40)

Program	FY 2000	FY 2001	FY 2002	Delta	% Change
Nuclear Cities Initiative (NCI)	7,500	16,616	6,616	–10,000	–80.2%
Serial Production Facility Closure (NCI)	0	10,000	0	–10,000	–100%
Subtotal NCI	7,500	26,616	6,616	–20,000	–75.1%
Initiatives for Proliferation Prevention (IPP)	20,716	24,143	22,143	–2,000	–8.3%
Plutonium Registry	0	500	0	–500	–100.0%
Kazakhstan Spent Fuel Project	15,459	15,926	9,615	–6,311	–39.6%
Spent Fuel Storage/Repository	0	2,385	2,385	0	0.0%
Separated Civilian Plutonium Management	0	14,799	0	–14,799	–100%

International Materials Protection, Control, and Accounting (MPC&A) (NN-50)

Program	FY 2000	FY 2001	FY 2002	Delta	% Change
MPC&A: Navy Complex	56,698	58,551	38,000	–20,551	–35.1%
MPC&A: Navy Upgrades	0	19,000	0	–19,000	–100.0%
MPC&A: MINATOM Complex	20,375	24,416	35,300	+10,884	+44.5%
MPC&A: Mayak	0	5,000	0	–5,000	–100.0%
MPC&A: Materials Consolidation and Civilian Sites	32,868	31,521	40,000	+8,479	+26.9%
MPC&A: National Programs and Sustainability	28,094	25,019	22,000	–3,018	–12.1%
MPC&A Multilateral and Emergency Coordination	700	5,200	3,500	–2,700	–43.5%
Total, MPC&A	138,735	168,707	138,800	–30,907	–18.2%

Fissile Materials Disposition (NN-60)

Program	FY 2000	FY 2001	FY 2002	Delta	% Change
I. U.S. Fissile Materials Disposition (Operations):					
U.S. plutonium disposition	133,259	90,216	92,000	+1,784	+2.0%
U.S. uranium disposition	0	9,955	26,000	+18,045	+161.2%
Supporting technologies (includes some uranium-related disposition technologies)	0	14,692	26,089	+11,397	+77.6%
Subtotal, U.S. Program (Operating)	133,259	114,863	144,089	+29,226	+25.4%
Subtotal, U.S. Program (Operating), less uranium disposition activities	133,259	98,902	112,089	+13,187	+13.3%
II. U.S. Fissile Materials Disposition (Construction):					
U.S. Program (Construction), including uranium-related facilities	31,126	69,778	104,000	+34,222	+49.0%

Program	FY 2000	FY 2001	FY 2002	Delta	% Change
U.S. Program (Construction), less uranium disposition facilities	31,126	48,892	80,000	+31,108	+63.6%
Total U.S. Fissile Materials Disposition Program	164,385	184,641	248,089	+63,448	+34.4%
Total, U.S. Fisslle Materials Disposition Program, less HEU disposition projects	164,385	147,794	192,089	+44,295	+30.0%
III. Russian Plutonium Disposition:					
Russian Surplus Plutonium Disposition facilities	3,111	16,650	42,000	+25,350	152.3%
Advanced Reactor Development	5,000	9,847	1,000	–8,847	–89.8%
U.S. Oversight of Russian Activities	21,834	30,010	19,000	–11,010	–36.7%
Subtotal, Russian Plutonium Disposition	29,945	56,507	62,000	+5,493	+9.7%
Less use of prior year balances	.....	–15,000	–42,000	–27,000	–180%
Total, Russian Plutonium Disposition	29,945	41,507	20,000	–21,507	–51.8%
Grand Total, Fissile Materials Disposition	194,330	226,148	268,089	+41,941	+18.5%
Grand Total, Fissile Materials Disposition, less HEU disposition	194,330	189,301	212,089	+22,788	+12.0%

The CHAIRMAN. Do you think these are more or less likely threats than an ICBM attack?

Mr. FEITH. I infer from the fact that countries like North Korea and Iraq are making heavy investments of their scarce resources into missile programs that those countries believe that it is useful to them to have the capability to deliver weapons of mass destruction by missiles.

The CHAIRMAN. Let us assume that is true, and it doesn't have to do with prestige, but let us assume that is true. Is it more or less likely?

Mr. FEITH. I must say, I find it difficult to think of the issue in quite those terms, as if we have enough knowledge to have a worthwhile calculation of probabilities in this area.

The CHAIRMAN. I assure you, we do have enough knowledge. I assure you we do have enough knowledge to assess those capabilities.

Mr. FEITH. To assess whether a country like Iraq would consider firing, if it had the capability of firing a missile at the United States?

The CHAIRMAN. Yes. Whether it is capable of firing a missile at the United States versus whether it is capable of using biological agents smuggled into the United States, which is more likely? Which do they have the greater capacity to do, whether Iraq has that capacity, whether or not it has, forget intent, the capacity. We do have that capability unless we are wasting all of our money on our intelligence here and our intelligence is all dead wrong. I mean, I have been briefed month after month after month on this.

We do understand that it is a hell of a lot easier and possible for someone to have a knapsack full of sarin gas and cross from Vancouver to Seattle, Washington, and do great damage. We do know that it is a lot easier to take anthrax across the line. We do know all of those things.

Mr. FEITH. In the cases you talked about, it is not clear to me what that says about the importance of defending the United States against ballistic missiles when we know that hostile countries with weapons of mass destruction programs are investing in ballistic missile capabilities.

The CHAIRMAN. I will give you an example of what it means and my time is up and I will come back again. We do know many countries have the ability to launch within the theater, for example, a SCUD missile, and I might note for the record, had every opportunity if I am not mistaken, Mr. Bolton, to put a chemical or biological weapon on top of those SCUD missiles. I find it fascinating that he, Saddam Hussein, during this period, did not do that. That he fired the SCUD's without putting it on those missiles. I assume it is because George senior said if you do, we will blow you away, but maybe not. Maybe deterrence doesn't work with him, but he had the capability and did not use it. I find it kind of fascinating at any rate. I end my question where we are here.

We know that it is easier for nations to deal with less complicated means of delivery than an ICBM, and we do not have that capacity now. We have not fully developed our theater missile defenses yet. It seems to me that would be a higher priority than spending the money we are going to spend on developing a national missile defense. That is my only point, not whether we should jettison one versus the other, but what are our priorities in terms of the limited dollars we have?

Mr. FEITH. Well, we are and have been for years working on the capacity to intercept shorter range missiles, and as the general said, there are some programs that are relatively close to deployment that can address the threat of SCUDs, for example. But we have no capability now, to handle the longer range missile threat, and will not for some years, as hard as we are planning to work on this.

The CHAIRMAN. Is there one now? Is there a threat?

Mr. FEITH. But as Senator Helms was, I think correctly, saying earlier, this is a threat that is growing in intensity. There are significant investments being made by a number of countries very hostile to us in their missile capabilities and in particular, long-range missile capabilities. We certainly do not want to be in a position where they get to their intercontinental range missile capabilities long before we get to our effective defenses.

The CHAIRMAN. My time is up. I will yield.

General KADISH. Senator, if I might on the $8 billion we are requesting for next year for the test data activity in Alaska, most of that $8 billion goes for shorter range missile defense.

The CHAIRMAN. But is it roughly $3 billion for Alaska?

General KADISH. That is correct. I think we have about $3 billion out of the $8 billion for the ground-based system, but I want to make sure that not all $8 billion goes there.

The CHAIRMAN. I thought I said that, but if I did not, the record is clear. The Senator from North Carolina.

Senator HELMS. Thank you, Mr. Chairman. As a matter of personal privilege, I think it is fairly well-known that I am devoted to this committee, its history contains so many great Senators and so many great decisions have been made by this committee important to our Nation, and I do not want ever to—it could be a mistake by me and if I do make a mistake, I want to be called on it. I hope we can always be rude to nobody. Now, earlier, Mr. Bolton, Secretary Bolton was cutoff in the middle of a sentence with a comment that: I own this time and you cannot answer the question, and I would ask unanimous consent that 3 minutes be given to Mr. Bolton to state the answer that he was about to make.

The CHAIRMAN. Without objection.

Mr. BOLTON. Thank you, Senator. I wanted to point out to Senator Torricelli that in fact the drift of sentiment in Europe, I think, has been in the direction of support for the administration's missile defense program. As I think I outlined at several points in the testimony, we have consulted very extensively with the Europeans, and others, other friends and allies around the world, and I think it is certainly, it is far from over in the sense that not every NATO leader has expressed unconditional support for the missile defense program, but I think attitudes over the past 3 or 4 months, particularly, they have been changing.

And I think that is important for the Senate to consider as it looks at the role that missile defense will play as part of our international strategic structure. It is, I think, an element of American leadership to be very frank about it, that when we have new technologies like this, we have to introduce them. We have the burden of persuading the allies. We have the burden of moving them in our direction. That is not an easy task. Leadership never is, but I think President Bush has been directing an extraordinarily effective diplomatic campaign, and I think that his success in his most recent European visit and the support that European leaders have been giving to missile defense and to our analysis of the problem, which is ultimately to come to a political conclusion, is really very important and represents a significant diplomatic campaign for the United States and one that is bearing fruit. Thank you.

Senator HELMS. I thank you, Mr. Secretary. Now, Mr. Secretary, I believe you said you have been 10 days on the job. Is that what you said?

Mr. FEITH. Perhaps even a little less.

Senator HELMS. You have done well. I do have a question for you. It relates to one of the criticisms of the administration's missile defense plans. It is being said that the plans will provoke a massive Chinese buildup in its nuclear arsenal. I have heard that repeatedly. I regard it as nonsensical because Communist China has already engaged in a nuclear buildup. Communist China is building more accurate ICBM's to point at American cities. China is making its nuclear missiles more mobile and survivable. It is already doing all the things which missile defense critics claim will happen if the administration proceeds with this program.

Now, given that the United States has not yet deployed any missile defenses, do you agree perhaps that other factors must be driving this Chinese buildup instead of what the critics are saying?

Mr. FEITH. Senator, I agree that one cannot attribute the modernization of the Chinese nuclear force or the increase in the size of that force that is underway to the Bush administration's missile defense program. The proof that it is not proper to attribute it, is that this modernization program of the Chinese antedates the Bush administration. It goes back a number of years.

We are fulfilling the President's commitment to eliminate unneeded offensive nuclear weapons. The fact is that the United States is now reducing its own offensive nuclear forces. We are doing so substantially and we are doing so unilaterally, right away, without waiting for any opportunity to use unneeded nuclear forces as bargaining chips in a negotiation.

That we are doing so should, in combination with the dialog that we are having with the Chinese, help explain and demonstrate to the Chinese that nothing that we are doing could justify their developing a large nuclear force. So I think it is wrong when critics say that our missile defense plans are the reason that the Chinese are developing their forces.

Senator HELMS. General, I would like for you to share something with me, your opinion. If you remember in September 1999, I believe it was, the CIA said, and I am quoting, "by 2015, Russia will maintain as many nuclear weapons on ballistic missiles as its economy will allow, but well short of START I or START II limitations." Now, my question is if Russia's economy is the driving force behind the size of its nuclear deterrents, would you agree that Russia under the present circumstances there is unlikely and probably unable to respond to U.S. missile defenses with a massive nuclear buildup?

General KADISH. Well, Senator, that is out of my line as a developer. I worry every day about how to build these things, and I would defer to the others.

Senator HELMS. I would like any or both of the other two witnesses to comment.

Mr. FEITH. I think, Senator, that is a correct point. The financial constraints on the Russian nuclear forces are significant, and those financial constraints, according to all the estimates within the U.S. Government, are going to lead to a large diminution in the size of Russian forces, in any event.

Senator HELMS. One other question, Mr. Chairman. Article XV of the ABM Treaty which we have been discussing gives the United States the right to withdraw from the treaty if the United States decides "extraordinary circumstances related to the subject matter of this treaty have jeopardized its supreme interest."

Now, since ratification of the ABM Treaty in 1972, and that is a long time ago, the Soviet Union has collapsed, and there are a lot of people, and I am one of them, who feel that since the Soviet Union doesn't exist any more, and since that is the sole signatory other than us, that the treaty falls on its own weight, but since the ratification of the ABM Treaty, let us look at what's happened. The number of countries with nuclear weapons has doubled since 1972. The number of countries with ballistic missile programs has tri-

pled. Hostile unpredictable regimes in Iran, Iraq, Libya, Syria, North Korea, as we have said over and over this morning all are working with chemical or biological weapons and on missiles.

China is engaging in a massive buildup of its short-range, medium-range, and intercontinental-range missiles and may triple or quadruple the number of nuclear warheads pointed at the United States of America, and our cities. So my question to each of you, or all three of you or any one of you who wants to tackle that question, do you agree that the United States is well within its legal right to say that our supreme interest, our supreme interest of the United States of America and the American people have been jeopardized by extraordinary circumstances and thereby justify our withdrawing from the ABM Treaty?

Mr. BOLTON. Senator, for all the reasons you stated, I don't think there is any question that the President would be perfectly within his rights under article XV to give notice of withdrawal. It is his hope, as I said earlier, that we can work cooperatively with the Russians to move beyond the treaty. And that is a central part of the ministerial level discussions that will begin, but in terms of the right of the United States under article XV to withdraw, I think the case is clearly made if we choose to exercise it.

Senator HELMS. My time is up, Mr. Chairman. Thank you very much.

The CHAIRMAN. A couple of housekeeping matters. For the record, No. 1, I don't think that Senator Torricelli was rude. I thought inadvertently, at least the Secretary was interrupting Senator Torricelli, but that is a matter for anyone to interpret. Number 2, when we come back, we are going to finish this panel. We have other questions. We will begin and we will come back at 2:15 when we finish with this panel, which ought to be in the next 15 minutes or so with Messrs. Perry, Cutler, Woolsey, and Smith, and then we will go to the third panel, and when we come back at 2:15 to continue this. Everyone is on notice, this hearing is for the entire day. I appreciate the forbearance of the witnesses, and I might add, Mr. Chairman, when I mentioned China, according to press reports, accounts of our own intelligence community said, in 1999, that development of U.S. missile defense would lead to a tenfold increase of their BM or ICBM warheads versus a much smaller increase if we did not proceed in that way. This is not an analysis by missile defense critics but by our intelligence community. The key point is China. Yes. China is modernizing its arsenal, and will do so no matter what we do, but the U.S. intelligence community agrees that our actions on NMD will affect the number of Chinese missiles, will affect whether they resume nuclear testing, and will affect if they MIRV their missiles, and that is from our intelligence community, not from us, so we are not trying to make these things up. I would yield to the Senator from Massachusetts.

Senator KERRY. Thank you very much, Senator. I want to come back to an area, and let me just comment. One of the Senators inquired about the Cochran amendment, and I think clearly people who voted for that, myself included, interpreted——

The CHAIRMAN. Would the Senator yield? I think that was a voice vote. We all stated what our vote was.

Senator HAGEL. No. It was on the record. 97 to 3.

Senator KERRY. There was a record vote. I remember the debate very well because I was working with Senator Levin on a component of it, but in our statements and in everybody's vote, because the language, and I have it right here. It is very short, there was a clear understanding we each had as to what effective meant when we talked about an effective national missile system with its capability as we described it, but equally importantly, we declared in section III the policy to seek continued negotiated reductions with the Russians that were contemplated in the ABM Treaty and of course, since that is the law of the land, none of us contemplated we would break the law of the land in order to commit deployments. It also contemplated we would be doing the necessary engagement with the Russians in order to amend the ABM Treaty.

Now, that is a difference of interpretation, but let it be clear that many of those votes I dare say wanted to respect the law of the land, and not proceed willy nilly, but I want to come back. Secretary Bolton, maybe you and I can try to establish this. I think this baseline is so important because it really underscores what I think is some fuzzy thinking and some wishful thinking with respect to the world we are going to find ourselves in as we go down this road.

Currently, the United States has about 7,300 strategic nuclear warheads. Russia has about 6,100. The 1991 START I treaty limits each country to roughly 6,000 deployed warheads. START II brings that down to 3,500. Now, initial talks with Russia during the Clinton administration on START III focused on getting down to 2,000 to 2,500, but let us make sure the record is clear, that there are serious roadblocks preventing the United States from reducing our nuclear arsenal to START II levels or below, and starting in fiscal year 1998, the Defense Department authorization bill included a clause prohibiting the reduction of strategic nuclear delivery systems to those below the START I treaty, and the fiscal year 2001 this year's Defense authorization bill conditioned the lifting of this ban on the completion of a new Nuclear Posture Review, which is under way. In addition, the Pentagon has had its own reasons for opposing further warhead cuts. As Bruce Blair argues, the strategic target list, the SIOP grew from 2,500 sites in 1995 to 3,000 sites in the year 2000. Notwithstanding the sort of emergence of a new relationship we have talked about with Russia.

Now general, I do not know anybody in the Pentagon who is talking about going below 1,500 warheads, am I correct? And most people are stuck at about 2,500. Is that accurate?

General KADISH. I would defer to Secretary Feith on that. I am not in that business at this time.

Senator KERRY. Fair enough.

Mr. FEITH. Senator, the Nuclear Posture Review is under way, and I can't comment on that until we complete the review.

Senator KERRY. But up until this point in time, as we sit here today, no one has put on the table a reduction below 1,500 nuclear warheads that we would keep and Russia would keep, is that correct?

Secretary Bolton, is that correct?

Mr. BOLTON. I am not participating in the nuclear posture review. I can't answer that.

Senator KERRY. I am not asking about the Nuclear Posture Review. I am asking about the state of plate today the Nuclear Posture Review hasn't come out yet. I mean, is it impossible for you to share with me what is a matter of public record today? Do you know anybody who has recommended going below 1,500 warheads?

Mr. FEITH. I do not know anybody in the administration who has recommended, who has made it a public statement saying that we should go below 1,500.

Senator KERRY. Now, assuming that Russia were to keep 1,500 or more or in that vicinity, is the defense, missile defense system that you are contemplating building going to be capable of shooting down 1,500 warheads?

Mr. FEITH. No.

Senator KERRY. And if it is not capable of shooting down 1,500 warheads, aren't you still stuck with mutual assured destruction?

Mr. BOLTON. If you are asking the question whether the capability of mutual assured destruction still exists, the answer, of course, is yes, it does.

Senator KERRY. That is what we are stuck with, correct?

Mr. BOLTON. That is the point that Secretary Powell was addressing in response to the question you indicated earlier.

Senator KERRY. It took us a long time to get there, but gentlemen, the point is if that reality is in place, even if you are measuring intent, and I respect the fact I hope we forever live with Russia that may be a member of NATO that may never revert to what it was, and maybe that will alter people's perceptions about how many nuclear warheads we have to keep in that new world. China, after all, has felt quite safe with somewhere in the vicinity of 23, but the point is if you change a country's perception of its safety, based on its own perception, by virtue of your defense, and they are not as secure in what the long-term relationship might be with you, aren't you also then inviting them to alter the balance of power in order to secure a greater level of safety as they may perceive it?

Mr. BOLTON. If I may address that, the question of what the Russian perception is of our missile defense program is, of course, a very important one. If their perception is inaccurate in the sense that they do not appreciate what we have said, that the system is designed to protect against, that is to say, handfuls of missiles launched by rogue states or accidental launches, if they do not share or appreciate that perception, it is then our task to disabuse them of their misperception because I do not believe that we should base our defense policies on the acceptance of somebody else's misperception of the facts.

Senator KERRY. In the long run, that would be true, Mr. Secretary, and I would agree with you. Ultimately I said they should not have a veto, but you would have to exhaust a remarkable number of so to speak administrative remedies to get to the point where you really feel you have not been able to bring them along, in other words. I am in favor of building a limited system, but I am in favor of doing it if there is sufficient transparency, and mutuality so that they cannot misunderstand what its capacities are, and if you proceed effectively enough in the negotiating and sharing process, one would hope that you are going to bring them along in a way that would also amend the ABM Treaty so you could have a mutuality

of process here that doesn't run up against any barriers, but if we proceed unilaterally with what we are considering doing, building five silos soon, I understand under a new budget, we in fact may send the wrong messages that invite the wrong counter reaction. Is not that in fact a possibility?

Mr. BOLTON. Well, maybe a possibility, sure, but part of our diplomacy and part of what Secretary Powell and Secretary Rumsfeld have undertaken, I believe, with a significant measure of success so far, is trying to explain that indeed our building missile defense capabilities to protect ourselves against launches from states like North Korea or Iran in fact do not and cannot at any realistically foreseeable future be a threat to the Russian first or second strike capability.

Senator KERRY. That works well for Russia, Mr. Secretary, but it doesn't work so well for China. And let me just finish the question and I will give you ample chance to answer, because I want to have it be a dialog, but the problem is that the Chinese have a completely different number of missiles which they have been satisfied to make judgments about their security for 40 years plus. And with Taiwan, and some of the issues that have been raised recently about sharing defense with Japan, the equation changes quite significantly for China unless they are also sharing in that process. Is that not a fair assessment?

Mr. BOLTON. Well, may I finish addressing the Russian point first, because I think that it obviously, has to be the first priority since they are the other party to the ABM Treaty, and that is the purpose of the consultations we have had to date and the purpose of the ministerial level and intensive consultations we hope will follow. I think that we need to pursue that further. Obviously one cannot, I am certainly not going to predict success at this early stage, but part of the process of the consultations with the Russians, I think will have important spillover benefits with the Chinese as well. And I believe that when Secretary Powell is in Beijing in a couple of days, that that will be part of his discussions. Quite clearly, the level of Chinese ICBM capability is different from the Russian level. And the extent of the capabilities of our missile defense system will look different to them than they do to the Russians. I acknowledge that we have got a lot of work to do with the Chinese, and I think that that is going to be a very intensive focus of our diplomacy, and as I say, it is one of the major issues that Secretary Powell is raising in a few days.

Senator KERRY. Well, I appreciate the degree to which you are reaching out to Russia. I think it is absolutely critical in this process to be transparent, and I think you may be able to move to some limited deployment concept under that construct. It is difficult, however, to imagine how you do an accidental launch system that doesn't run roughshod up against this concept of breakout that I raised. I mean, if you are the Chinese looking at this and you are reduced to sort of feeling well, the Russians seem to be going along and they say it is limited, but all of a sudden once you have the technical capacity which I certainly hope we could develop and I am impressed by what we are doing, but if you have got that technical capacity significantly developed and you then have deployed a so-called limited system and you are Chinese and outside of it

still, you have to be seriously concerned about the potential for U.S. breakout at any time, where once we have got the developed technology and developed capacity, could you break it out much more broadly, overwhelm their 23 missile system and significantly alter their perception of what kind of hand they are playing as a rising power on the planet. One of the five permanent members of the Security Council with huge interest with respect to the South China Sea, Southeast Asia and indeed Japan and the Koreas and Taiwan, so how do you guarantee them the lack of a breakout problem?

Mr. BOLTON. Well, I think there are two separate breakout questions, one with respect to the Russians, and that is a question that goes very much to both intentions and capabilities, and I think we have said in both of those categories we have not the intention and we do not expect to have the capability for a breakout against the extent of their strategic rocket forces and what they would be able to do, so I think in that sense in both the objective and the subjective area, if you will, I think that is something that we can make progress on with them.

Senator KERRY. Would that depend upon a fairly vigorous verification structure in terms of deployment? I mean, intrusive verification?

Mr. BOLTON. I think it is hard to say at this point exactly how that would be done. That is part of what we have to explore, although in the case of the United States, we are so transparent that it would be hard for them not to know, I think, pretty much what we are doing on a fairly real-time basis. I think the question of China, though, is a question not simply of its ICBM capability, that is to say not simply a question of its capability of reaching the continental United States, but a question of its short and intermediate range missiles that might reach Taiwan, South Korea, and Japan as well. I think that, and it is that complexity, that added forced question that adds to the difficulty of dealing with the Chinese. As I say, I hope I am not being——

Senator KERRY. I agree with that and I do not disagree with what you just said, which is why I strongly advocated last year that I think the major focus ought to be on the boost-phase, and almost an extension of the THAAD program which I know is in the budget now, and I think that is a very important piece of it. I think that does make a lot of sense, and the more you can push it to that kind of structure, I think the more acceptable it might be able to become. Obviously, that is more difficult with respect to accidental launch. But certainly with respect to rogue. That may be the best way to approach that, and the least offensive in terms of these kinds of issues we are raising. Mr. Chairman, thank you.

The CHAIRMAN. Thank you very much. You wanted to say something?

Mr. FEITH. If I may, Mr. Chairman, I would like to note that comments that Senator Torricelli made and Senator Kerry made, and you, Mr. Chairman, have made highlight that there actually is, on this very important subject, agreement on a number of elements. It is more stimulating to focus on disagreements, but I think it is worth pausing a moment to reflect on some of the points made that establish common ground on both sides of the aisle, and

with the administration. There seems to be general support for the idea of a limited missile defense. There is concern for Russia's view in making sure that as we proceed with the development of missile defenses we have the important relationship with Russia in mind, and the issue of international stability in mind, and that nothing be done that is reckless in that regard.

There is a general agreement that working cooperatively with Russia is desirable, but letting the Russians have a veto over whether we proceed with missile defenses would not be acceptable to anybody here. There is an interest in promoting transparency in our relations with Russia and cooperation and reduction of force levels and many of the goals that have traditionally been attributed to the arms control process. The administration is intent on achieving these through this dialog with Russia. In fact, the fact that we are not in an adversarial relationship with Russia means that some of the things that were accomplished through the cold war arms control process can be taken a further step.

At the center of this debate are concerns about how our progressing with missile defense plans will affect the Russians and whether it will drive them to enormous buildups or to actions that would destabilize the relationship. It is a proper concern and it's one that the administration shares. There is a difference in view as to how likely it is that the Russians will respond in a negative hostile unconstructive fashion to what we are doing. The President has taken some important steps that give us grounds for at least some optimism that this dialog can be managed to allow us to proceed with a missile defense system that meets these essential criteria. I think there is bipartisan support for that, without getting into the kinds of difficulties that you, Mr. Chairman, and some your colleagues have expressed concern about.

So I think that there really is a possibility of moving forward in a harmonious fashion. I say that in light of Senator Torricelli's point about keeping the focus on harmony and minimizing divisiveness. There is some basis, I think, for optimism on that point.

The CHAIRMAN. Well, Mr. Secretary, let me respond. I appreciate your commentary, and I think much of what you say is true. Let me just speak for me. The bottom line for me is, at the end of the day, with whatever we pay for, that whatever the general develops and that the administration decides to deploy at the end of the day, are we more or less secure?

If as a consequence of deploying a limited system, we only have the ability to get 90, 95, or 99.5 percent of a handful or several handfuls of missiles that are fired at us by rogue states, if as a result of that we generate a new arms race in Asia, if the result of that Japan ends up being a nuclear power, the Korean Peninsula is nuclearized, and India and Pakistan respond to China, et cetera then that is not a safer world for me. And for me, count me out. If in fact it is arrived at through mutual negotiation, where it does not have the ill effects, that is worse than the positive effect we get, then sign me on. And further, is this the best way to spend our limited resources that now are not available as a consequence of the action that was taken by the Congress and the President relative to the tax cut? Is this the way to spend our money—we may argue whether it is tens of billions or hundreds of billions, but it

is at least tens of billions. At least tens of billions. And that is why this is the first in a series of hearings on the entire spectrum of threats on which I hope you will cooperate with us. The entire threat analysis and where we expend our dollars, limited now that we have eliminated the surplus. And I might add, I do not want to get anybody in trouble, but I have spoken with three of the five Joint Chiefs who are not enamored with the bulk of this additional money being spent on a national missile defense relative to the conventional forces budget. You know the Joint Chiefs are going to be coming and saying we need somewhere between $200 and $500 billion over the next 10 years for our wish list. Just the joint strike fighter costs $220 billion, so this is a relative deal as well. Where do we put our resources? And I want to point out the other thing I find interesting, which is a change in the attitude here, and I appreciate it. It is that we have embraced Russia now in a way that I never envisioned Bill Clinton embracing Russia, and I am not talking about looking into his eyes and seeing his soul.

I think that is a useful thing for a President to do. I really am not taking issue with that, I really am not. It seems to have had the desired effect of helping the relationship, so I am not criticizing that, but it is amazing to me how the Defense Department is so secure about Russia's intentions after 28 years of being here. I have been lectured and told a number of times, "Senator, you are a young man," when I was 30 years old. "We must look at capability not intentions, capability, not intentions." There is not a Defense planner in the United States of America who if told the following: "Russia, after a first strike against the United States has the potential to have residual defense capability that would be able to handle a significant portion of what we could fire back, that they would in fact envision the possibility of a first strike." You are sitting there as a Russian planner. You sit and say a first strike with a reduced number of weapons by the United States, and we know we wouldn't strike first, but a first strike by the United States of America with an American capacity, if it is achieved, of being able to intercept any accidental launch, which means you have a worldwide layered system, can put the United States in the position that someone could contemplate that the retaliatory capability would be so diminished, that it may be worth their effort. That is what Russian planners do. That is in my experience, and it used to be anyway up until a month ago, what defense planners do in the United States e.g., the worst case scenario. And when you are disabusing the Chinese, Mr. Secretary, also disabuse some of your allies in the Senate. Disabuse some of the Senators who stand on the floor and say this is about defending against China. I will get you the quotes from very bright, very intelligent, very supportive national missile defense Republican Senators. So the disabusing is not just to start in Beijing, but the disabusing should start here. We send confusing signals.

And in international relations, it is a funny thing. Words matter. Words matter. I yield to the Senator.

Senator KERRY. Can I just make one brief comment? Would you yield just for a moment? I appreciate it, Senator. Just two things very quickly.

One, I hope as we go along, No. 1, I liked your summary pretty much, except that I would add to it the fact that we have to also measure what kind of threat this might augment from an Iran or an Iraq if you have built it or from a North Korea. If you do go ahead and deploy the system, does it then drive them into other sectors where in fact you get back to being more exposed than you meant to be? That is No. 1.

Number 2, I hope we will get away from this grandiose notion about this new framework that changes the concept of mutually assured destruction. I hate it, but I think we are stuck with it. And I think that if you are limited in the way you are talking about being limited and you are still going to have 2,500 warheads or 1,500 pointed at each other, potentially pointed at each other available to be pointed, depending upon the stage of relations, we are stuck with that relation ultimately, and as a military planner, that is ultimately what the generals and admirals are going to sit in the Pentagon and figure in as they think about war gaming what a particular conflict may lead to. That those could again be pointed, and that is where the progression of each person's react and act goes to.

A time comment. There was a time when we were looking at other far less expensive ways of "defending" against unauthorized and accidental launch. Rogue is a different issue. Rogue is rogue. But it seems to me if our newfound relationship with Russia is indeed what you say it is, so much so that you see a different equation, could we not have a far more intrusive joint protocol which would almost make impossible unauthorized launch a level of security with joint keys. I mean, if the relationship indeed is what you say it is, if this is a party potentially to NATO ultimately, one could envision that happening. And with respect to the accidental launch, we used to talk about global permissive action links [GPALs]. Now, it seems to me that missile defense is a pretty expensive way to take care of an accidental launch. If it is indeed accidental, a technician ought to be able to push a button on the panel and blow the thing up before it gets anywhere. And yes, we have that technological capacity. That is a lot cheaper than building and deploying a system all over the globe that creates this incredible change of balance. Just push a button and the thing blows up like you blow up a test missile when you are firing it and it goes awry and you do not want it to go into a populated area. So maybe we ought to be a little more creative and think about how to protect ourselves for far less money against unauthorized and accidental launch and deal with the rogue, which could be done in a very simple nonthreatening way to China, Russia, and the rest of the world.

The CHAIRMAN. I hate to do this, Senator, but I am a rogue for letting you, having let you go on.

Senator HAGEL. Mr. Chairman, thank you. And again, I want to thank our witnesses again this morning for coming up here. Understand that it had been under some considerable strain when you have got your National Security Advisor on her way out of town to followup on President Bush and President Putin's agreement. Secretary Powell is out of town, but as you all know, you have been around here, it is life in the fast lane, so thank you for coming up

here. And I think your testimony was on point. All three of you. And I for one, as a member of this committee, appreciate it. The Chairman and I were talking a couple of minutes ago about the nuclear theorist, nuclear theology, and we tend to drift into those kinds of universes when we talk about these things, and we lose sight of the reality of what missile defense or indeed any defense capability is about.

It is about real consequences, and it was noted this morning that 10 years ago, the Americans in Desert Storm were on the receiving end of one of these missiles, and just for the record, to enlighten our committee, there were 28 Americans killed, and 99 wounded in that SCUD attack 10 years ago. It was a missile sent into our barracks in Dhahran, and that is what we are talking about here this morning. That is reality. That is not theory. That is not theology. That is reality.

And going back to the point of this debate, the point of what the President is trying to do and the point of what the Congress did 2 years ago and the point of Chairman Biden's hearings is to get us focused on making the world a safer place so that we do not blow each other up—which certainly we have the capability of doing. And all the rest of it is important, but it is not as critical and to the point as preventing that accidental or intentional effort by someone to do damage and destroy, and use a nuclear bomb, which we have had little experience with is devastating. We all accept that, but when we talk about the possibility of, would North Korea or Iraq or any rogue nation really dare obliterating their country knowing full well that we are sitting there with 7,000 nuclear weapons. Are they crazy? We should factor into that not just the unpredictability and the uncertainty of this but the blackmail dynamic of this. Now, let us go back 10 years again. And if Mr. Saddam Hussein would have had the capability to deliver and maybe he did, a nuclear weapon or biological weapon. And he made the bargain with us.

You give me Kuwait, or I will in fact take out one of those cities, and all the other pieces in this, maybe not an American city, by the way, maybe Paris, general, if you were asked that question, but those are the eventualities we are looking at here over the next 20 years. So when we talk about just the precision dynamic of defense here, and would Saddam Hussein or any other irresponsible leader in the world today really risk this? He might. He might. This is not only a defense issue. This is the deterrent issue.

Now, let me ask the question that as far as I know has not been asked. If we are not able to make progress with the Russians, and we are not able to come to an agreement with the Russians on abrogating ABM or adjusting or amending ABM, and we go our separate ways then, each of you, I would appreciate answering this question: Do you think the President and the Congress should walk away from missile defense that in fact would give us no other option other than to violate the ABM Treaty or not do it? Secretary Bolton?

Mr. BOLTON. I think the President has made it very clear that his strongest hopes are that we can move cooperatively with the Russians, move forward together with them to move beyond the ABM Treaty, and that we intend to consult intensively to try and

do that, and we begin optimistically. But that if it does not succeed, he is prepared to exercise our withdrawal rights.

Senator HAGEL. You think that is a responsible action of any President of the United States to put the security of his country and allies first?

Mr. BOLTON. That is his highest constitutional obligation.

Senator HAGEL. Mr. Secretary.

Mr. FEITH. I agree with what Secretary Bolton just said, and I think it is also worth noting that no one in the administration, when there is discussion of moving beyond the ABM Treaty, is talking about violating the treaty. Within the treaty's terms, the parties are permitted to withdraw with notification.

Senator HAGEL. Yes. And that is an important point, so you think it would be the responsible action of any President to in fact, if we cannot get an agreement, to withdraw and in fact build that missile defense system?

Mr. FEITH. Yes, sir.

Senator HAGEL. General Kadish.

General KADISH. No further comment, Senator.

Senator HAGEL. I want to also revisit an issue that has been talked about considerably this morning, and that is, I think, a misperception that the United States is traveling this road in a unilateralist way, that somehow, we are staking out our position in missile defense and essentially the hell with the rest of the world. I don't think that is accurate for many reasons. I think we have explored some of the reasons this morning, but as I close, Mr. Chairman, I suspect everyone is ready for lunch, or certainly a break.

I would make this observation. In my opinion, I don't think there has been a nation on the face of this Earth in the history of mankind that has done more to preserve the peace of the world than the United States of America—certainly over the last 50 years. You can measure that by any means. Resources we have put into troops we have stationed in forward deployments all over the world, all the things that we do and we have done. We have made mistakes. Absolutely.

But to somehow suggest that the United States is taking a unilateral course basing our policy only on our own selfish self-interest is just wrong. And it is inaccurate. And that issue needs to be addressed, especially in light of some of the things that happened in Europe over the weekend, and it bothers me some that we are not talking about those things enough. And it seems that we in the Congress and other policymakers, certainly Americans, are very timid about addressing that issue. We do not want to appear arrogant. We do not want to appear self-centered, and that is appropriate. That is right. But at the same time, let us keep some balanced historical perspective here that in fact if we go forward, and I hope we do, and I believe we will, with the missile defense system, it will be in not only the interest of this country, of course, any sovereign nation will always respond to their best interests. They must.

But it will also be in the best interests of our allies. We can cooperate with Russia, with China, and the world, and I conclude, Mr. Chairman, with that comment because it doesn't often get any

play. Not only in a hearing like this, but in any forum do we have an opportunity to say those things and for the three of you as is the case with the chairman who has devoted 30 years of his life to wrestling with these imperfect complicated, tough issues, I thank you, Mr. Chairman.

The CHAIRMAN. Thank you. Let me say that I share the Senator's enthusiasm for the intentions of the United States, and I share his view that we do not often talk enough about our conduct and our intentions, but I remember when I was in grade school, when I would misbehave, the nuns would make me walk to the blackboard after school and write 500 times on the blackboard, "The road to hell is paved with good intentions."

The question is, is what we are proposing going to accomplish what we all assert we wish to have accomplished? All of this is premised upon the immediate, a limited defense. It is premised upon an assumption that I have yet to see anyone demonstrate, that has never been confirmed by actions in history. And that is that a nation state is not susceptible to deterrence. And therefore, because they are not susceptible to deterrence, we must move in order to build a system that is able to intercept anything they send our way because they are not susceptible to deterrence.

My friend from Nebraska, and he is my friend, he really is my friend. I have great respect for him. He pointed out, as is appropriate, that 10 years ago, a number of brave American soldiers stationed abroad were taken out by a missile, but that is not what this is about. This is about a weapon of mass destruction. We would not be doing this, for example, if in fact God came down and sat in the middle there and said, "By the way, North Korea will have a long-range capability of getting a missile to the United States that will only have a conventional weapon on it." I doubt whether we would be focusing this much on it if that were the case.

There is no question based upon the briefings I have gotten that our intelligence community thought that the Iraqis were capable of putting something other than a conventional warhead on top of a SCUD missile. That is why the Israelis ran around with gas masks on. It is interesting to me that the most certifiable rogue any of us can come up with since Hitler is the guy who sits in Iraq right now, a mad man, as we characterized him, a guy impervious to international concerns, a guy who is only interested in himself. He had the capacity to use a weapon of mass destruction. We know he had biological weapons. We know he had chemical weapons. He did not use them. I only raise that because with 500,000 forces heading down his way, he at least was under the impression we were not going to stop, even though we weren't certain what we were going to do, and he did not use them. He did not use them.

Now, I think that flies in the face, not absolutely, but it flies in the face of the assertion so blatantly made that we know these guys do not yield to deterrence. I find that a preposterous statement. Maybe they are less inclined to. I do not know the evidence yet of that. I have not seen any. When they had the capacity, thinking that they were about to be annihilated. I know I have heard some say he knew we were going to stop. Well, he knew something we did not know. He knew something we did not know at the time, and so I think it is worth for us, and I hope no one

is suggesting, and I know you are not, that we should not be examining the basic premise here, the basic premise and whether or not the allocation of our limited resources is best allocated in this way. This idea of blackmail. I remember, in the Clinton administration, the scenario was Kim Jong-il is going to wake up one morning and decide to take South Korea. It was actually proposed. It came out of the Department of Defense and other places. And he is going to pick up the phone and call the National Security Advisor or someone and say "we are coming." If your 30,000 troops engage or try to stop us, we are going to use a nuclear weapon or a weapon of mass destruction. We are going to fire it on you. And so the President is going to call his National Security Advisor and say "What do we have here"? "Well, we have an unlimited missile defense system." "Well, what options does it give me"? Well—at the time we were talking approximately 90 percent—so you can get the vast majority of the overwhelming number of the missiles coming our way.

The President says "OK, they fired 20, what do we get"? Well, based on the calculus as I remember coming from the Defense Department, three may get through. Now, the President has got an option, he says, "Oh, I am only going to lose San Francisco, Chicago, and Dallas. Go get them." I think the basic premise is preposterous. The basic premises are preposterous from my point of view. I do not know what option it would give me if I were President. Am I any less or more likely to give up Kuwait because I am going to lose only three cities instead of 10 cities? Or one city? I do not quite get this. And I do not quite understand why.

Deterrence no longer has the value that it has had in the past. But the administration witnesses, I acknowledge, and I am pleased as always, have been extremely forthcoming. I have additional questions and other members may that we will submit in writing to you.

[The questions and responses can be found on page 167.]

The CHAIRMAN. General Kadish, I have listened to and have been briefed by you a number of times. I mean this absolutely, I sincerely admire your professionalism. I admire the way you answer questions. You are right on point. You are on the button. You just say what you know and you stand by it, and I also admire the incredible breakthroughs you have made. Please do not misunderstand—none of us who are skeptical about replacing the system, that has been in place for a while, with a new system, which we do not know what it is, are any less mindful of or any less proud of or any less awed by what you have been able to accomplish. It is, as my kids would say when they were younger, it is awesome. Absolutely awesome. But you have been frank to state we are not in a position to deploy a national missile defense at this point, and so the idea when people talk about how this is a real world test is wrong; this test was not a real world. It is a necessary test to get to a real world test. But it is not a real world test. It is not a real world test, and I will not take the time now, but I will submit for the record the statements on countermeasures, and the statements and our own Defense Department's analysis of countermeasures and capabilities of other countries, and the ability of our

country to deal with those countermeasures. I would just submit them for the record.

[The information referred to follows:]

DIRECTOR OPERATIONAL TEST AND EVALUATION REPORT IN SUPPORT OF NATIONAL MISSILE DEFENSE DEPLOYMENT READINESS REVIEW—10 AUGUST 2000

VI. RECOMMENDATIONS

A. FLIGHT TESTING

1. Testing Complexity

Testing is currently designed to accommodate an aggressive pace of development. Flight testing, however, needs to aggressively increase in complexity to keep pace with NMD C1 development and to adequately stress design limits, particularly for the missile system.

- Target suites used in integrated flight tests need to incorporate challenging unsophisticated countermeasures that have the potential to be used against the NMD C1 system (e.g., tumbling RVs and non-spherical balloons). Use of the large balloon should be discontinued, as it does not mimic in any way the current test RV. True decoys that attempt to replicate RV signatures as well as balloon-type countermeasures that have been examined by the Countermeasures Hands-On Program (CHOP) need to be integrated into flight test target suites.
- Engagement times of day and solar position need to be planned to stress the acquisition and discrimination process by all of the sensor bands. Additionally, the effects of weather on radar, telemetry and satellite operations need to be tested either during intercept or risk reduction flight tests or other targets of opportunity. Radar discrimination, IFICS transmission/reception, and DSP/SBIRS launch detection may be operating at their technical limits, and heavy rain or dense cloud conditions may have significant effects on their performance.
- Category B engagements are engagements in which an interceptor is launched against a target cluster (based on radar track) before the threat RV is resolved and discriminated. Since such engagements are expected to be common during NMD missions, this capability will need to be demonstrated in an integrated flight test before IOC. Such engagements are currently not included in the defined test plan.
- Multiple engagements will be the expected norm in tactical situations, therefore, simulated extrapolation from 1-on-1 scenarios to M-on-N need to be validated through intercept flight testing. Multiple engagements of at least 2-on-2 scenarios need to be flight tested, as too many technical challenges to the system exist beyond merely the command and control software. Identifying the impact of the interaction of one kill vehicle to another and assessing the performance of ground tracking systems in M-on-N scenarios lead to several questions:
  - —How will an EKV respond to another EKV in its field of view, or multiple RVs in its field of view?
  - —How is the performance of an EKV seeker affected by a thrusting EKV or another EKV intercepting an object in its field of view?
  - —Can the X-Band radar simultaneously track multiple RVs that require different antenna orientations?
  - —Can the IFICS communicate with multiple KVs?
- Radar discrimination with limited *a priori* knowledge of the target complex needs to be flight tested prior to the FY01 radar decision. This type of test ("pop quiz" type) of flight test needs to be executed, at least during a risk reduction flight. This test should employ multiple decoys designed to mimic the RV radar signature but should not provide unrealistically detailed target or decoy information to the GBR-P radar prior to the engagement.

2. Testing Artificiality

Current test range limitations need to be removed to adequately test the NMD system.

- Use of the FPQ-14 range radar as the source of Weapon Task Plan data needs to be phased out. Target trajectories or radar surrogate locations need to be

changed to permit the organic NMD system to provide early radar cueing with the appropriate degree of position and velocity accuracy.

- Engagement geometries need to be devised that will provide higher speed engagement conditions for the EKV, as would be expected in the C1 timeframe with the tactical booster.

3. Operational Realism

Avoidable limitations to operational realism must be removed before conduct of IOT&E.

- Rehearsed engagements with *a priori* knowledge of target complex, target trajectory, and time of launch need to be discontinued during operational testing. Situations employing lack of *a priori* knowledge also need to be examined in DT to assure acquisition and discrimination algorithms are properly designed.
- The flight testing artificialities addressed above must be eliminated for IOT&E. Alternative intercept test scenarios must be devised that employ inbound or crossing targets rather than outbound relative to the Early Warning Radar. GPS and midcourse radar tracking using a transponder cannot be used by the NMD system to perform its mission. The Weapon Task Plan must be prepared based on organic NMD tracking systems. Option for higher speed intercepts must be investigated.
- Deployed element usage needs to be maximized for IOT&E. The X-Band Radar and/or Upgraded Early Warning Radar should be used. Deployed IFICS ground antennas and tactical communications should also be tested as part of the IOT&E.
- Multiple engagements must be accomplished during IOT&E. Furthermore, this type of engagement should be flown in IFTs before IOT&E to maximize the chance of success in IOT&E.

4. Spares

Plans for providing adequate spares should be developed, especially for targets where current target components can be as much as 30 years old.

- Adequate GBI booster spares need to be procured as a risk reduction effort, to preclude further schedule slip should a failure occur in preflight booster testing.
- NMD is currently employing what is referred to as a "rolling spare" concept for its targets. It can take up to six weeks to prepare for and reset the IFT launch date. A "hot span" approach for which an additional target is prepared at the target launch site would eliminate the need to stand down operations at the interceptor launch site in the event of a failed target launch. This could be more significant as flight testing becomes more complex or critical, such as in the small number of OT shots, when a failed target launch might be much more costly to the program. The delay to the target launch during IFT-5 is a strong example of this potential problem. If the last minute target problems could not have been corrected, IFT-5 would have slipped an additional month.

B. GROUND TESTING AND SIMULATION

1. Hardware-in-the-Loop (HWIL)

An innovative new approach needs to be taken towards NWIL testing of the EKV, so that potential design problems or discrimination challenges can be wrung out on the ground in lieu of expensive flight tests.

- HWIL development needs to focus on the EKV, since this is the most challenging technical area for NMD hit-to-kill. Funding and development needs to be accelerated or the required capability in this area will not be available to support C1 testing.
- The HWIL facility and test approach needs to be done at the highest level of EKV system integration achievable, so that all component interaction, from sensors to the divert systems, can be examined simultaneously.
- An innovative approach should be taken that provides an interactive scene generation capability that adapts to changes in EKV and target aspect angles.
- Scene generation should have the capability to challenge target acquisition by the EKV, discrimination and homing algorithms with anticipated or potential countermeasures.

2. Lethality

Current analysis of exoatmospheric lethality is limited to computer simulations and light gas gun tests.

- New techniques or facilities need to be developed to achieve higher speed intercepts on the ground in full scale to validate hydrocode simulations and ¼ scale light gas gun tests.
- Investments need to be made in the Holloman High Speed Test Track to permit lethality testing of medium to high fidelity representations of the kill vehicle to at least the low end of the range of potential intercept velocities.

3. Simulation

LIDS development has taken much longer than originally promised. Additionally, it is practically a hard-wired simulation that only the Boeing developers can modify. This precludes independent, Government sensitivity analysis and assessment.

- LIDS needs to evolve to a fully validated high fidelity simulation. It should be flexible enough to allow both DOT&E and Service Operational Test Agencies to examine subsystem drop-outs and graceful degradation or other areas of sensitivity or design margin analysis. There is currently no apparent plan by the LSI to do this.

C. PROGRAMMATIC ISSUES

1. Performance Criteria

Discrimination by the radar and weapon system (EKV) should be given more weight in performance criteria. All other aspects of the NMD performance requirements appear to be within the state of the art of technology. Discrimination by the EKV on the other hand will be the biggest challenge to achieving a hit-to-kill intercept. Decoys that provide a close representation of the RV or modify the RV signature have only been minimally investigated.

2. ORD Reliability Requirements

The NMD requirements for reliability, availability, and effectiveness are specified in the NMD ORD. When these requirements are allocated to the individual elements of the NMD system, the resulting reliability performance standards are unrealistically high as well as difficult to test. As the program develops, it may be necessary to re-examine the overall requirements for NMD reliability and availability.

3. Risk Reduction Efforts

The following programs can make significant contributions to risk reduction efforts if properly utilized.

- Minuteman Missile OPEVAL testing needs to continue to be leveraged, not only for IFT rehearsal, but also to look at the impact of countermeasures to ground radar systems.
- Ballistic Missile Critical Measurements Program tests need to be conducted to examine countermeasure signatures and discrimination algorithms.

4. Countermeasures Hands-On Program (CHOP)

BMDO sponsors a red team approach to the possible development of countermeasures. Operated at very modest funding levels, CHOP develops and demonstrates ROW countermeasures that could be challenging for U.S. missile defense systems. By charter, CHOP does not try to develop "sophisticated" countermeasures. However, the unsophisticated, ROW countermeasures they do develop are realistic and challenging and should be included as an integral part of the NMD flight testing and ground test HWIL simulation programs.

- The CHOP program needs to be supported for aggressively examining the potential of states of concern to develop more sophisticated countermeasures.
- The Defense Intelligence Agency (DIA) needs to begin tracking CHOP experiments. They should then investigate and bound the ability of states of concern to develop and apply the technologies that the CHOP teams use in their experiments to counter an NMD system. This information should then be fed back to CHOP management for planning and executing CHOP developments.

5. Operations in a Nuclear Environment (OPINE)

The NMD Program Office chartered a red team to look at OPINE testing and facility requirements for the EKV. The red team found the Raytheon-proposed test and parts screening program to be inadequate.

- OPINE testing needs to be conducted at the EKV system level in nuclear environments that replicate expected operational conditions, including expected flux levels.

- OPINE test facilities at Aberdeen Proving Ground and Arnold Engineering Development Center need to receive appropriate and timely funding to support EKV OPINE testing required to begin in FY02.

6. Hit to Kill

The NMD Program Office should investigate lethality enhancement options for dealing with potential countermeasures, using relatively simple techniques, that try to alter the effective RV size or shape in an attempt to foil discrimination and aimpoint selection.

The CHAIRMAN. Again, this is in no way to imply that we shouldn't move toward it is to imply that I hope the devil that when moving forward we do it in such a way that we do not artificially, ahead of what was the normal testing regime, and deliberately test to break out of the ABM Treaty when you get a very small bang for the buck in terms of what you will receive from that test relative to your goal. That is what some skeptics are wondering about, No. 1. Number 2, that we will be in a situation where, at the end of the day, we are very coldly calculating about what is realistic, hardheaded about what is likely to happen in terms of the efficacy of the technology we are trying to deploy, and cognizant of the results that may flow from the deployment of that technology with or without agreement or consultation with anyone else in the world.

And so again, this is just one of a series of hearings that will be held on assessing various threats, and I truly appreciate the time you have given us. We have trespassed on your patience a long time and did not give you a chance for a break here. And as I say, the time ran away from us here, but I appreciate your willingness to be here.

I misspoke earlier when I said we would be back at 2:15. I understand the rest of the committee was told that we will be back at 2:30, and it wasn't 2:15, so we will be back at 2:30. One of our witnesses who was on another panel has a time constraint, so we will have him join the next panel. Dr. Cornwall, he has a time constraint and we will let him join the next panel and he will be the first one to make a statement. He probably won't be able to stay for the whole panel. But again, thank you very much, gentlemen, and we are adjourned until 2:30.

[Whereupon, at 1:15 p.m., the committee adjourned, to reconvene at 2:30 p.m., the same day.]

ADDITIONAL STATEMENTS SUBMITTED FOR THE RECORD

PREPARED STATEMENT OF HON. CHRISTOPHER J. DODD

I would like to take a moment to congratulate the Chairman for holding a hearing on this very important issue that undoubtedly has profound implications for our national defense and global security. I apologize for being unable to attend the morning session due to a scheduling conflict. Please know that I will review the materials and statements in a careful and critical manner. I am appreciative of the witnesses who have taken the time to testify on this critically important matter of National Missile Defense. Amongst these witnesses are very senior players in the Clinton administration with a diverse and vast array of experience and expertise in all aspects of foreign policy generally and National Missile Defense specifically.

I know that there are deep concerns associated with the development of a National Missile Defense system. For the record, the idea of creating a guided missile system to intercept incoming hostile ballistic missiles is not new. Since the 1950s, the United States has been exploring, in one way or another, methods of con-

structing a missile defense system that is consistent with domestic priorities, defense and diplomatic concerns, arms control treaties, and reasonable costs. Historically, I have opposed the carte blanche deployment of a national missile defense system. Clearly, such factors as cost, effectiveness, and the arms control process must be taken into careful consideration.

The National Missile Defense Act of 1999, which had widespread, bipartisan support, required the deployment of a National Missile Defense system "as soon as technologically possible." However, there were two important provisions included in this legislation that seem to have been overlooked or forgotten during this debate. The first provision requires that the National Missile Defense program be subject to the annual authorization and appropriations process. Therefore, each year Congress can strike the appropriate balance between national missile defense and other priorities. The second provision made it clear that the United States remains devoted to nuclear arms control. For more than 50 years, arms control has been a central tenant of our national security, and any missile defense system must improve, not threaten, that security.

On May 1, 2001, in a speech to the National Defense University, President Bush announced his administration's strong commitment to the development and deployment of a national missile defense system. He also spoke of making changes to the 1972 Anti-Ballistic Missile Treaty or at some future point abrogating it entirely. I am concerned that such a move, if done unilaterally, would weaken, rather than strengthen our national security by alienating our allies, and forcing Russia to maintain a more capable nuclear deterrent than it might otherwise pursue. In addition, China might then choose to increase its own nuclear program, which would likely result in similar buildups in India and Pakistan.

Part of the uneasiness with this respect to this issue among many in Congress and our allies around the world is the Bush administration's failure, up to this point, to articulate what exactly its plan is with regard to National Missile Defense. I am, however, encouraged by recent steps taken by President Bush, specifically the President's meeting with Russian President Vladimir Putin last weekend at the Group of Eight summit in Genoa, Italy. It is my sincere hope that these talks can lay the foundation for progress on many issues of national and global security, including national missile defense and nuclear arms control, with our erstwhile rival. In my view, it is critically important to fashion cooperative agreements and constructively engage our allies in Europe and around the world with regard to the important issues relating to our national defense and global security. In order to allay legitimate concerns in the international community and to preserve global security, a delay of the deployment of a National Missile Defense system may indeed be warranted. While no foreign government should hold veto power over our pursuit of national security, we should seek the consideration of the global community when it is compatible with our national interests. The fruitful discussions at the Group of Eight summit in Genoa, Italy, may represent an important first step.

It is unclear when the technology will be available to field a reliable national missile defense system, and this technology may not be ready for some time. I believe we must prudently advance the research and testing of the system and learn from recent test successes as well as failures.

It is important to note that the Bush administration has made the behemoth $1.3 trillion tax cut its highest priority and has served as the centerpiece of the administration's domestic agenda. But, the implications of the tax cut will have profound effects on many other areas of concern—including funding for many critical priorities, the National Missile Defense program and the defense budget included. Regrettably, the tax cut threatens to siphon away needed investments in many areas, including funding in the research and development of new national defense programs, national missile defense and theater missile defense chiefly among them. It is my hope that we can continue to make progress in the development and testing of a National Missile Defense system within the confines of the 1972 ABM Treaty and with constructive engagement with our Allies in Europe, Russia, China, and the international community.

I look forward to hearing from witnesses today, and I will ask questions at the appropriate time.

PREPARED STATEMENT OF HON. RUSSELL D. FEINGOLD

Thank you, Mr. Chairman, and thank you for calling this important hearing.

Welcome, Secretary Feith, Secretary Bolton, and General Kadish.

While I did not oppose legislation authorizing development of a missile defense system, I have serious concerns about this particular proposal for a number of reasons. I am concerned about the cost of such a system, for which there is still no realistic estimate.

I am concerned about the provocative impact that this system could have on our relations with our friends and allies.

I am concerned about the impact that this system could have on the destructive ambitions of potential enemies who would seek to thwart it.

And I am concerned about the impact that this system could have on our relationship with Russia and on the careful balance of arms control we have achieved over the past 30 years.

Many observers argue that the deployment of even a limited missile defense system could spark another arms race that could plunge us into the uncertain depths of another cold war.

Thus, we should proceed cautiously, and we must do so within the limits of our ability to pay for such a system and we should do so within the framework of the Anti-Ballistic Missile Treaty.

The ABM Treaty has served our interests well for almost thirty years, and it is the foundation upon which our strategic relationship with Russia is built. To abandon this treaty now would be akin to removing the cornerstone upon which this carefully structured relationship rests.

PREPARED STATEMENT OF HON. MICHAEL B. ENZI

Thank you, Mr. Chairman. Thank you for holding this hearing today and I want to commend your active leadership in foreign relations and defense-related policy issues. Several of our congressional colleagues and many outside the government have shown strong interest in deploying a ballistic missile defense to protect the United States from attack. I strongly support National Missile Defense (NMD) and believe that the United States must amend or abrogate the ABM Treaty so that it can pursue a more robust defense.

While I understand my colleagues' concerns about NMD, I believe the United States must continue to develop such a system. To address the threats of the 21st century, we need a new concept of deterrence that includes both offensive and defensive forces. Today, the list of countries with weapons of mass destruction and ballistic missiles includes some of the world's least responsible nations. For example, North Korea and Iran are continuing to test more advanced ballistic missiles.

These nations seek weapons of mass destruction to intimidate their neighbors and to keep the United States and other responsible nations from helping allies and friends in strategic parts of the world. When rogue nations such as these gain access to this kind of technology, it illustrates just how important it is for us to protect our nation and our troops abroad. In the less predictable world of the 21st century, our challenge is to deter multiple potential adversaries not only from using weapons of mass destruction, but to dissuade them from acquiring weapons of mass destruction and missiles in the first place.

The ABM Treaty prohibits nationwide defense, but permits the United States to deploy up to 100 interceptors for long-range ballistic missiles at a single site. I have strong concerns that the ABM Treaty bans development, testing, and deployment of many of the most promising technologies and basing modes for strategic missile defense, like sea- and air-based defenses.

The United States has pursued the development and deployment of defenses against long-range ballistic missiles since the early 1950s. The Bush administration favors a more robust NMD program, that is likely to include land-, sea- and space-based assets. We need a robust development and testing program to determine what works. To criticize the Bush administration's approach on the effectiveness or cost grounds of the NMD now, before we have been able to pursue our development and testing program, is premature.

I support President Bush's willingness to work with Russia to craft a new strategic framework that reflects our nations' common interests and cooperation. I believe the new strategic framework should be premised on openness, mutual confidence, and real opportunities for cooperation, including the area of missile defense. This framework should allow both countries to share information so that each nation can improve its early warning capability and its capability to defend its people and territory. Furthermore, the framework should focus on cooperation to strengthen and enlarge bilateral and multilateral non- and counterproliferation measures.

Thank you again, Mr. Chairman, for holding this hearing today. I know it is unclear what direction missile defense will take in the future, but I welcome the witnesses and look forward to hearing their testimonies. I believe these NMD capabilities are not an alternative or substitute for traditional deterrence, but rather an essential means to enhance deterrence against the new threats of today, not those of the past.

AFTERNOON SESSION

The committee met, pursuant to notice, at 2:35 p.m. in room SD–419, Dirksen Senate Office Building, Hon. Joseph R. Biden, Jr. (chairman of the committee) presiding.

Present: Senators Biden, Kerry, Bill Nelson, Lugar, and Chafee.

The CHAIRMAN. The hearing will come to order. I thank the next panel for being here. On the panel is Hon. William J. Perry, Berberian professor and senior fellow, Institute for International Studies, Stanford University, better known to us as former Secretary of Defense; Hon. Lloyd N. Cutler, senior counsel, Wilmer, Cutler & Pickering, who has been involved in about every major negotiation, since I have been in the U.S. Senate, relating to strategic doctrine; Hon. R. James Woolsey, a partner at Shea & Gardner, but also former Director of the CIA and Defense Department official and a man of great knowledge, and a man who I have disagreed with lately, but I still love him; Hon. David J. Smith, president of Global Horizons, Inc.; Dr. John M. Cornwall, professor of physics, University of California Los Angeles, and professor of science and policy analysis, RAND Corporation Graduate School in Los Angeles. And with the indulgence of the panel he has—and he let us know well in advance—a plane he has to catch, and with the permission of the rest of the panel I would like to invite Dr. Cornwall to deliver his testimony first, and doctor, I may have a question for you right then and there, but if not, as long as you can stay, we would like you to. We understand that you may not be able to, and we will submit some questions in writing to you if that is appropriate.

With that, why don't we begin. More of my colleagues are coming, I should note for the panel. Each of the political parties has their luncheon caucus today and there is a lot we are caucusing about these days, so I think people will be dribbling in. It is not out of lack of interest. They are there out of a desire to know what the game plan is going to be between now and the August recess, and so doctor, let us begin with you.

STATEMENT OF DR. JOHN M. CORNWALL, PROFESSOR OF PHYSICS, UNIVERSITY OF CALIFORNIA LOS ANGELES AND PROFESSOR OF SCIENCE AND POLICY ANALYSIS, RAND CORP. GRADUATE SCHOOL, LOS ANGELES, CA

Dr. CORNWALL. Thank you. I appreciate your allowing me to speak out of turn here. I am going to speak to some of the technology issues which would have been raised, or which will be raised on the second panel, which will be third now, both on testing and deployment. As far as I can say as a technologist, I do not know whether the Russians might be willing to consider amending the treaty to allow us certain actions currently not permitted.

I am speaking as an individual. My opinions are not to be identified with those of any organization with which I am affiliated. I have served for many years as a member of the Jason group of academic consultants to the Government. I have been a member of the Defense Science Board, and I am currently a member of the Ballistic Missile Defense Organization white team, which referees interaction between a red team developing midcourse hit-to-kill countermeasures, and the blue team, which tries to counter countermeasures. That has just begun. I was a coauthor of a recent report called "Countermeasures," with the Union of Concerned Scientists, which made an unclassified physics-based evaluation of potential countermeasures which were plausibly available to hostile nations.

The CHAIRMAN. Excuse me. Can you all hear clearly in the back?

Dr. CORNWALL. As a Jason, I have led various studies sponsored by the Government concerning ballistic missile defense, and I was a member of the Defense Science Board that recommended the formation of a Skunk Works for countermeasures (now in existence at the Air Force Research Lab) called the Countermeasures Hands-on Program. However, this was all about 10 years ago. I now serve with the BMDO White Team, which has just begun, so I am speaking as someone who has learned about these recent matters from the newspapers, and who looks at them as a physicist, not as an expert informed in the details of the technology.

My understanding is that this committee is concerned with planned missile defense test activities in Alaska: Do they make technical sense, are they especially useful in proceeding to fielding a national missile defense system, will these activities bring the U.S. sooner rather than later into violation of the ABM Treaty?

On technical grounds, my answer is brief. I know of no compelling technical reasons why tests of hit-to kill interceptors and radars must be done in Alaska rather than on the usual test range from Vandenberg to Kwajalein. It is true the interception geometry is different, and the ranges are longer. You can bring other sensors into play to look at the engagement, but I have no reason to doubt that full and successful tests from Kwajalein would give us confidence in other engagement geometries.

We test all of our ICBM's from Vandenberg to Kwajalein, even though that, of course is not where they will be used, and we still have confidence in them. Moreover, weather and logistics conditions at Shemya and Kodiak are very different from those at Kwajalein. Testing may be precluded for many months of the year. Installing interceptor missiles will be difficult, possibly, and so we really have to have very good reasons indeed to go to Shemya and Kodiak just for testing.

The question is not just whether we should test midcourse hit-to-kill components in Alaska, but also to what extent this system is currently so laden with technical vulnerabilities from countermeasures and political vulnerabilities that a decision on deployment or a decision to abrogate the ABM Treaty should be deferred.

Let me recall the goal of the administration in testing and implementing an ABM system is to prevent the detonation of weapons of mass destruction, nuclear, biological, on the United States or its allies. An ABM system is one way to reach that goal, but I will not

be as pessimistic as Franz Kafka, who once said "there is a goal but no way," but one should ask whether in all cases the way of the ABM system is the right way to achieve the goal. My conclusion is that in two of five general cases the defensive ABM system might make sense and is worthy of further technological investigation. These cases are theater missile defense and boost-phase defense.

The other three ABM system components with question marks are midcourse hit-to-kill, space-based defense, and U.S.-based terminal defense. I will not discuss space-based defense and terminal defense here, although it is addressed in my statement. Even for boost-phase defense, where I argue that further investigation is warranted, it is far from clear that deployment of such a system is the final answer to threats we might face from rogue nations or from unauthorized or accidental launches from a nuclear power.

In the case of an accidental or unauthorized launch, it may be better to take effective cooperative measures with other nuclear powers to eliminate as far as technically possible the risk of such a launch. Perhaps the most effective steps we might take involve weaning the nuclear powers from an explicit or implicit posture of launch on warning by making it verifiably difficult and time-consuming to bring nuclear weapons to a state of launch readiness.

Now, very briefly, on theater missile defense. It began, as we know, in the gulf war. It did not work that well then. It has come a long way since then, and I have no reason to doubt that it will have an effectiveness which makes it worth pursuing. There are serious countermeasures to midcourse, and even terminal defense theater ballistic missile defense, but I think it is within the capability of the United States to hit an uncountermeasured theater ballistic missile now, and these theater missile defense efforts based on interceptors are, or can be made to be, compatible with the ABM Treaty as governed by the first agreed statement of the Standing Consultative Commission, so that is the first component that warrants further investigation.

In boost-phase defense, the idea is to strike the offensive missile before they have had a chance to deploy their reentry vehicles and countermeasures. It is the one defense which is effective against the threat of using a large number of small submunitions to dispense biological agents such as anthrax.

Boost-phase defense has two other things going for it. First, it is much harder to countermeasure, and it need not be a threat to Russia or China, because the range and the reach in time of these missiles is not sufficient to hit the Russian or Chinese missiles in boost-phase.

Sometimes one hears that boost-phase defense is going to be based on recycled theater missile defense missiles, but that is not so easy, because ICBM's travel more than twice as fast as the fastest interceptor velocity allowed under the first agreed statement. Speed is necessary not only to intercept the missile if you get close to it, but to get close to it in the first place, because you do not have very much time to act.

Boost-phase defense is a violation of the ABM Treaty as written, but as is well known (We have heard some discussion of that this morning.) President Putin has on several occasions declared his

willingness to discuss boost-phase defense, including a cooperative boost-phase defense developed with Russia. Presidents Putin and Bush discussed at Genoa the possibility of coupling missile defenses and further offenses arms reductions, so I think there is a good possibility that something could be brought to fruition there between Russia and the United States which might lead to boost-phase defense but which would not undermine the spirit of the treaty.

If I have another minute or so, I would like to speak about countermeasures to midcourse defense, because these are the things which make it so difficult to field. The Union of Concerned Scientists report spoke of these. Three of them seem to me to be the sort of things that a rogue nation could develop, or if necessary buy, if it really wanted to shoot an ICBM at us. I do not think they would, but if they did, the most important are anti-simulation countermeasures. Instead of trying to make a decoy look like a warhead, you try to make a warhead look like a decoy.

Perhaps the best of these is a shroud covering the reentry vehicle called a multilayer insulation shroud, which insulates the reentry vehicle [RV] effectively from the outside world both as far as its temperature and radar is concerned. Many lightweight shrouds with no RV's in them are dispensed at the same time, to make it impossible for the defense to tell which is which.

You can cool the shrouds if necessary to make it a stealth RV, one which is for all intents and purposes invisible to the infrared seekers of the space-based and kill vehicle assets and radar countermeasures as well, and many scientists see no technological obstacle even for rogue nations in constructing and deploying these countermeasures.

The fact that we may not have evidence of such construction and testing does not mean that these countermeasures are, in fact, not out there. This is one of the deepest, darkest secrets that a country who wishes to fool our defense will have.

The current BMDO red, white, and blue teams are making a dedicated effort to assess the true effectiveness of these midcourse countermeasures, and it is too early to make a final judgment. It is certainly premature to start deployment on a midcourse hit-to-kill system before the countermeasures problems are thoroughly investigated with tests of the best possible countermeasures, and that just has not happened to date.

So let me quickly summarize. It makes sense for the United States to continue its efforts in theater missile defense with due regard to the possible countermeasures that might be used with a relatively unsophisticated offensive missile system. It could make sense for the United States to explore boost-phase defense possibilities, provided it can be made clear to the Russians that such defenses have to be cooperative, and that the United States did not have in mind violating the spirit of the ABM Treaty, even though jointly agreed upon amendments might be required, but we must be honest about countermeasures to a midcourse hit-to-kill system, making sure that the very best efforts are made to build and test these countermeasures in realistic scenarios.

It seems to me that unilateral abrogation of the treaty is not the path the United States should take. There are potentially useful

steps toward missile defense which could be agreed to by both Russia and the United States, steps which would require amending the treaty but not abandoning it. The ABM Treaty might be outmoded in its technical reach, but the spirit of the treaty is certainly not outmoded, and we should take steps, as we did in 1972, to forestall offensive proliferation by limiting the scope of defensive systems.

This is particularly important for the Chinese, of course not signatories to the treaty, but still vitally interested, whose small deterrent threat would be seriously undermined by an effective defensive system.

Thank you very much.

[The prepared statement of Dr. Cornwall follows:]

PREPARED STATEMENT OF DR. JOHN M. CORNWALL

Thank you for the opportunity to speak before the Committee on issues related to the Administration's plans for ballistic missile defense and their relation to the ABM Treaty. I will speak to some of the technology issues which are raised by ballistic missile defense, both testing and deployment: whether certain apparently Treaty-violating actions are necessary for the development of U.S. missile defense technology; and whether it would seem likely that, at least on technological grounds, the Russians would be willing to consider amending the Treaty to allow certain actions not currently permitted. I speak here only as an individual and my opinions are not to be identified with those of any organization with which I am affiliated.

I have served for many years as a member of Jason, a group of academic consultants to the Government; I have been a member of the Defense Science Board; and I am currently a member of the BMDO White Team, which referees interactions between a Red Team developing National Missile Defense countermeasures concepts and a Blue Team which tries to counter the countermeasures. I was a co-author, along with several others, of a Union of Concerned Scientists report called "Countermeasures," which made an unclassified physics-based evaluation of potential countermeasures which were plausibly available to hostile nations to use against a hit-to-kill midcourse defense system. As a Jason, I have led various studies sponsored by the Government concerning ballistic missile defense, including a study on Brilliant Pebbles. As a member of the Defense Science Board. I have participated in similar studies, including one which recommended a countermeasures "Skunk Works" which would develop countermeasures efforts as a rogue nation might, using only unclassified descriptions of the defense to work from. This came to fruition as the Countermeasures Hands-On Program (CHOP), headquartered at the Air Force Research Laboratory.

In the time period from 1992 until my recent service (which is just beginning) on the BMDO White Team, I have not been involved in any government-sponsored studies on ballistic missile defense, and my testimony on current ballistic missile defense efforts is based solely on open source material.

My understanding is that this Committee is concerned with planned missile-defense test activities in Alaska: Do they make technical sense, and are they especially useful in proceeding to fielding a national missile defense system? Will these activities bring the U.S. "sooner rather than later" into violation of the ABM Treaty? My answer is brief: I know of no compelling technical reasons why tests of hit-to-kill interceptors and radars must be done at Shemya rather than on the usual test range from Vandenberg to Kwajalein. It is true that the interception geometry for tests is very different, the ranges are longer, and so forth, but I see no reason to doubt that full and successful tests from Kwajelein would give us confidence in other engagement geometries. Recall that, in testing our own ICBMs, we restrict ourselves to flights from Vandenberg to Kwajelein, which does not test our systems at full range or in geometries where locations of targets may be less precisely known, yet we still have confidence in these ICBMs wherever they might be targeted. Moreover, weather and logistic conditions at Shemya are very different from those at Kwajelein: testing may be precluded for many months of the year, and installing interceptor missiles will be difficult and costly. There would have to be very good reasons indeed to go to Shemya just for testing.

The question is not just whether we should test mid-course hit-to-kill components in Alaska, but also to what extent this system is currently so laden with technical vulnerabilities (from countermeasures) and political vulnerabilities that a decision on deployment, or a decision to abrogate the ABM Treaty, should be deferred.

The goal of the Administration in testing and implementing an ABM system is to prevent the detonation of weapons of mass destruction (nuclear or biological) on the United States (or its allies); an ABM system is one way in which that goal could, in principle at least, be reached. One need not be as pessimistic as Franz Kafka, who once said "There is a goal, but no way", but one should ask whether in all cases the way of the ABM system is the right way to achieve the goal. My conclusion is that in two of five general cases of ABM systems, a defensive system might make sense and is worthy of further technological investigation. These cases are:

1. Theater missile defense (TMD)
2. Boost-phase defense (BPD)

In three other cases, I believe that the combinations of technical risk (especially from offensive countermeasures), the potential threat to international amity (from. e.g., outright abrogation of the ABM Treaty, including deployment, or threatening the effectiveness of Russian and Chinese deterrence), or cost and technical complexity makes these ABM system components unattractive. As far as I know, everyone is in agreement that a missile defense system should not be a threat to deterrence between the nuclear powers—deterrence which has worked for fifty years. But Russia and China have worries that a mid-course defense system could not just violate the ABM Treaty, it could threaten the very basis for deterrence itself. The three ABM system components with question marks are:

3. Mid-course hit-to-kill (formerly termed National Missile Defense, or NMD)
4. Space-based defense (in the Reagan era, the Strategic Defense Initiative)
5. U.S.-based terminal defense

Even for BPD, where I argue that further investigation is warranted, it is far from clear that deployment of such a system is the final answer to the threats we might face from rogue nations, or from unauthorized or accidental launches from a nuclear power. Consider the scenario of a madman in power. who threatens to launch a few weapons of mass destruction against the U.S.—not with the aim of destroying us, but with an aim such as deterring us from some action against his interests, or simply hurting the U.S. badly. Would he use an ICBM, which effectively has its return address written on it, thereby inviting effective retaliation from the U.S.? Or would he use covert means of delivery, such as a short-range shipborne missile, or biological weapons carried by human agents? And in the case of an accidental or unauthorized launch, would it not be better to take effective cooperative measures with other nuclear powers to eliminate, as far as technically possible, the risk of such a launch? In this case, perhaps the most effective steps we might take involve weaning the nuclear powers from an explicit or implicit posture of launch on warning, by making it verifiably difficult and time-consuming to bring the nuclear missiles to a state of launch readiness.

THEATER MISSILE DEFENSE

TMD first came into use in the Gulf War, with Patriot missiles originally designed for air defense used against Iraqi Scuds as a terminal defense system, and with the Defense Support Program (DSP) satellites used for launch indication. Since then, the TMD program has ramified in several directions, including the Patriot upgrade to PAC-III; the THAAD missile for mid-course hit-to-kill intercept; two Navy mid-course missile types launched from Aegis cruisers; and the Airborne Laser (ABL). There is a mixed record of success and failure in TMD efforts of the last decade based on interceptor missiles, notably a string of six successful Patriot tests and a long string of THAAD test failures. There are serious countermeasures threats to mid-course and even terminal intercept defense of theater ballistic missiles (TBMs), but this issue aside (for the moment) it clearly should be within the capability of the United States to hit an uncountermeasured theater ballistic missile. Moreover, these TMD efforts based on interceptors are (or can be made to be) compatible with the ABM Treaty, as governed by the First Agreed Statement of the Standing Consultative Commission issued on September 26, 1997. However, no such agreement covers use of the Airborne Laser, even in a TMD mode.

Theater missile defense usually has two phases: Mid-course and terminal. (Of course, it would make a great deal of sense to have a boost-phase or even pre-boost-phase defense component as well.) The mid-course phase is subject to countermeasures of the type I discuss later on, and there are potential countermeasures to terminal defenses as well. In fact, some of these terminal countermeasures were used inadvertently by the Iraqis during the Gulf War. Their Scuds tended to fall apart on re-entry, producing a number of radar-confusing targets, and so unbalancing the warhead that it began to maneuver randomly as it encountered enough atmosphere to "fly"; the Patriot of the day could not keep up with these ma-

neuvers. However, terminal countermeasures are considerably more difficult than mid-course countermeasures (they must be dense and heavy, or they will immediately fall behind the warhead during re-entry, so there cannot be large numbers of them), and they are likely to be less threatening to a terminal defense system than are countermeasures to a mid-course hit-to-kill system.

BOOST-PHASE DEFENSE

In boost-phase defense the idea is to strike the offensive missiles before they have had a chance to deploy their re-entry vehicles and countermeasures. It is the one defense which is effective against the threat of using a large number of small submunitions to dispense biological agents such as anthrax.

Boost-phase defense has two other things going for it: First, it is much harder to countermeasure BPD. Second, it need not be a threat to the land-based missiles of either Russia or the People's Republic of China, because neither interceptor missiles nor the Airborne Laser have the reach to hit these countries' missiles in boost-phase. The BPD interceptor missiles should have a range sufficiently short so that it is clear to other nuclear powers that they are ineffective in a mid-course defense system. It is straightforward to do this verifiably. Indeed, it is likely that the high acceleration needed from a BPD interceptor will preclude these interceptors from having mid-course defense capabilities unless they are extremely large. Note that the effective range of boost-phase kill is not necessarily set by the interceptor missiles' range, but by the time that the offensive missiles take to complete boost-phase (less the time it takes to receive warning of launch and make the decision to exercise the defense). This time need not be anywhere as long as the five minutes it takes for large liquid-fueled ICBMs.

While the interceptor missiles may have a relatively short range, they cannot be recycled TMD missiles. Sometimes one hears that TMD technology is easily extended to boost-phase defense against ICBMs, using missiles launched from Navy ships stationed off rogue nation waters. But in fact, ICBMs travel considerably faster than TBMs at the end of boost-phase and more than twice as fast as the fastest interceptor velocity allowed under the First Agreed Statement to the ABM Treaty. And speed is necessary not only to match the ICBM's speed, but in order to get to that ICBM before boost-phase has ended.

BPD is a violation of the ABM Treaty as written. But, as is well-known, President Putin of Russia has on several occasions declared his willingness to discuss BPD, including a BPD cooperatively developed with Russia. Most recently, Presidents Putin and Bush discussed at Genoa the possibility of further bilateral meetings on missile defenses tied to offensive reductions. It may be that the U.S. and Russia might find it possible to amend the ABM Treaty to allow certain BPD activites, subject to such constraints as the interceptor missile range spoken of above.

One must not underestimate the logistic and operational difficulties of a boost-phase defense, relying in large part on ships which must, be on station at the right time. And in certain parts of the world, such as Iran, it is difficult if not impossible to station ships where needed.

MID-COURSE HIT-TO-KILL DEFENSE

This part of the system is subject to plausible countermeasures, but at the same time is very threatening to Russia and China because it (and space-based defenses) offers a serious threat to the deterrence capability of these nuclear powers should it be, or if it is perceived to be, effective. Some of the countermeasure threats have been detailed in the Union of Concerned Scientists report of which I was a co-author. They include:

1. Anti-simulation measures, in which a real warhead is disguised as a decoy. Of these, one of the most effective is a so-called multi-layer insulation shroud, of which lightweight decoys are made in the size and shape of the warhead, and which covers the warhead itself. This shroud, made of many very thin spaced layers of metallized plastic, completely conceals the thermal mass and temperature of the warhead as well as its radar features, making it appear just like the empty decoy shrouds both to the radar and to visible or infrared sensors.
2. Cooled shrouds enveloping the RV, which make its temperature so low that it is hard to detect by infrared sensors.
3. Radar countermeasures, including chaff and lightweight decoys (such as the multilayer insulation empty shrouds) for confusing the engagement radars.

Many scientists see no technological obstacle even for rogue nations in constructing, testing, and deploying countermeasures to a level which make it nearly impossible to discriminate a real warhead from a fake by means of radar, visible,

or infrared sensing. And it should be kept in mind that any nation intending to field countermeasures will take extraordinary efforts to keep the detail of the countermeasures secret, and absence of evidence of other nations' countermeasures programs must not be construed as evidence of absence. The current BMDO Red, White (of which I am a member), and Blue Teams are making a dedicated effort to address the true effectiveness of mid-course countermeasures, and it is too early to make a final judgment. But one thing is true: It is certainly premature to start deployment of a mid-course hit-to-kill defense before the countermeasures problems are thoroughly investigated with tests of the best possible countermeasures. To date, as BMDO emphasizes, while multiple objects have been flown in various flight tests, no attempt has been made to set a difficult discrimination problem for the defensive missiles. This should be done before a deployment decision is made.

If, for whatever reasons, the U.S. later does withdraw from trying to deploy a midcourse hit-to-kill defensive system, it does not mean that our investment in technology has been wasted. Advances in radar and missile technology will be useful in other arenas, possibly including TMD and BPD, and sensor platforms such as SBIRS can be very useful surveillance satellites for many missions.

SPACE-BASED DEFENSE SYSTEM

There is no reason to detail here the many obstacles of cost and technology which lie in the way of an effective space-based defense. In some ways it becomes harder to contemplate such defenses than it was in the Reagan era, since we are closer to understanding the real technological limitations of, *e.g.,* space-based lasers than we were fifteen years ago. And we will not have the one prerequisite required of space-based defenses then, which was the leverage gained by the possibility of attacking Soviet MIRVed missiles with up to ten warheads each in boost-phase; today, the threat missiles are mostly single-warhead. In addition to their vulnerability to some of the countermeasures previously mentioned, space-based systems are subject to the countermeasure of anti-satellite attack, easy enough for any opponent technogically good enough to build ICBMs, and these attacks would best be carried out not after a full defense constellation is in place (which might have good self-defense capabilities) but they would be begun as we begin deployment of the first space-based laser in space.

U.S.-BASED TERMINAL DEFENSE

The usual argument for terminal defense is that it is a component of a layered defense system, in which the defense gets more than one shot at the incoming warhead (for example, if the mid-course system has been fooled by decoys). This sort of defense was envisaged in the sixties and seventies, before the ABM Treaty: Short-range interceptors (then nuclear-tipped) which could defend specific cities or other targets. But, short of defending all cities in the U.S., how does one choose which cities to defend, or does one defend them all, incurring enormous costs? Terminal defenses do make sense for TMD, as part of a layered system which allows for another chance at an offensive missile in case the mid-course component of TMD fails. In TMD, the threatened area is smaller than the U.S., the targets less numerous, and the offensive missiles may be less sophisticated (since theater missiles may be as primitive as the Scuds used in the Gulf War).

SUMMARY

It makes sense for the U.S. to continue its efforts in theater missile defense, with due regard to the possible countermeasures that might be used with a relatively unsophisticated offensive missile system. Without making any judgments about the need for deployment, it could make sense for the U.S. to explore boost-phase defensive possibilities, provided that it could be made clear to the Russians that such defenses could be cooperative and that the U.S. did not have in mind violating the spirit of the ABM Treaty, even though jointly-agreed amendments might be required. But we must be honest about countermeasures to a mid-course hit-to-kill system, making sure that the very best efforts are made to build and test these countermeasures in realistic scenarios. It may well happen that a mid-course hit-to-kill system ends up being unattractive both because of the real risk of countermeasures and the perceived risk to the Russians and Chinese of ultimately thwarting their present deterrent forces, thereby starting another arms race.

I do not believe that it makes sense for the U.S. to continue the development of enormously expensive space-based defenses, threatening the Russian and Chinese deterrrence posture. And the costs of a U.S.-based terminal layer are likely to be so large as to be unacceptable.

It seems to me that outright unilateral abrogation of the Treaty is not the path the United States should take, and that there are potentially useful steps toward missile defense which could be agreed to by both Russia and the United States—steps which would require amending the Treaty, not abandoning it. The ABM Treaty may be outmoded in its technical reach, but the spirit of the Treaty is certainly not outmoded, and we should take steps, as we did in 1972, to forestall offensive proliferation by limiting the scope of defensive systems. This is particularly important for the Chinese (of course, not signatories to the Treaty, but still vitally interested) whose small deterrent threat would be seriously undermined by an effective defensive system.

Thank you for the opportunity to enter these remarks into the record.

The CHAIRMAN. Thank you very much, and in the meantime Senator Lugar has come in, and I will ask you just a few questions since you have to go. Then we will go to the rest of the panel for their statements.

A man you know, Phil Coyle, former Director of Operations, Testing and Evaluations, said, "the 1972 is not holding back designing and developing of a technology needed for national missile defense, nor is the treaty slowing the testing of an NMD system. Development of NMD will take a decade or more for technical and budgetary reasons, but not due to impediments caused by the ABM Treaty."

Now, some skeptics among us think that this administration is designing a testing regime with the express purpose of bumping up against and/or—the phrase was used in the Armed Services Committee—violating the ABM Treaty. Giving the rationale to violate the treaty they then come back to the Congress and say, you told us to test, you have either got to tell us to stop testing or violate the ABM Treaty.

Obviously, Phil Coyle says that is not the case. What is your view?

Dr. CORNWALL. I agree, we can test without violating the treaty long before we have to deploy and, in fact, the decision to deploy anything except the allowed theater missile defense, which we are now developing, is premature by a number of years.

The CHAIRMAN. Now, is it true that there is, what you just said, plenty of needed testing and development that you could do without coming into conflict with the ABM Treaty? There is a lot that has to be done for us to gain a level of confidence that any system could be deployed before we even have to make the decision to pull out of ABM, isn't that correct?

Dr. CORNWALL. Correct. Of course, we could if we wish to devise a test system which would violate the treaty, but it is possible to do it without violating the treaty, especially in the area of testing against countermeasures for midcourse defense systems.

The CHAIRMAN. Let me ask it another way. Would our research and testing program be stopped in its tracks if we deferred the test that would violate the ABM Treaty until it was negotiated?

Dr. CORNWALL. No.

The CHAIRMAN. One last question, and then I will yield to my colleague. The issue of boost-phase, given the great speeds attained by ballistic missiles, the window of opportunity, as you point out, for boost-phase interceptor systems to successful acquire and then destroy an ICBM is very short, no more than, I am told, 3 or 4 minutes, is that correct?

Dr. CORNWALL. It may be less than that, because first of all it takes time to get warning from the satellites that are looking for these things.

Another question which has to be addressed is how autonomous will the system be? Is there a human in the loop who has to make a decision? There is the question of the acceleration and the speed necessary for those missiles to cover probably several hundred kilometers to reach the boosters before they end their boost-phase, which for a modern solid fuel rocket can be as short as a minute.

The CHAIRMAN. Now, what has to be done to assure that the response time will be adequate? What do we have to develop in order to be in a position to deploy. I mean, what hurdles do we have to overcome in attempting to develop such a system that deals with the response time?

Dr. CORNWALL. We have to develop satellites which are newer, improved versions of the Defense Support Program satellites, which worked successfully in the gulf war in detecting missile launches, but had time lines such that we were unable to do anything about those launches in the boost-phase.

We have to develop high acceleration, hit-to-kill missiles, and in many cases these defenses will be mounted on ships, so we will have to develop the launch facilities and the radars necessary to support the engagement.

The CHAIRMAN. So, to say it another way, if we go the boost-phase route it is going to take at least several years to develop an airtight command and control network for such a system. Even if we had a boost-phase system we still have to have that. Even if we had the actual rocket with enough force, speed, and power, even if we had the satellites, we still need to develop a command and control system before we could deploy it with any confidence.

Dr. CORNWALL. That is true, and the satellites are by no means in orbit now. They are going to take some years to develop, so both the command and control system and the satellites are going to take some time.

The CHAIRMAN. Again, the reason I say this is there are some tests in the boost-phase, and/or deployment of the boost-phase, which would be in violation of ABM. So one of the things that is confusing the public and confusing the press and, quite frankly, confusing my colleagues is, how can the Defense Department today say they have to conduct certain tests which may bump up against the ABM Treaty, or violate the ABM Treaty, and at the same time other people say, wait a minute, you do not have to conduct those tests in the near term in order to have the ability to develop a system within the same timeframe. It is just what you choose, which end of the problem you try to solve first, and I just cite that as an example.

So you need a control network, an airtight command and control network for a boost-phase intercept system in order to be assured it works. You can now decide, well, we will put that to the last, and we will test those features of the system which will violate ABM first, even though we do not know whether we can get the other part done.

What I am trying to get at is, how does one explain—and I will ask that to the rest of the panel at some point after their testi-

mony—how do you explain this order of testing? In what order do you decide to test systems that are contemplated, because some tests that you undertake would violate ABM, yet you may have another couple of years of research with other tests that would not violate the ABM, and they need not proceed serially, isn't that correct?

Dr. CORNWALL. You can do the whole thing serially if you wish, in such a way that you leave treaty violations to the last. I am not advocating violating the treaty, you understand, but I think you could develop in parallel up to quite an advanced stage before you really had to violate the treaty, and given the Russians' interest, or apparent interest in cooperating on these matters, I would hope some agreement could be reached as you are doing this.

The CHAIRMAN. Well, I would hope so, too.

The last question I have is countermeasures. The impressive test that we saw on video. The last one being the most recent test of a midcourse interceptor, and it was impressive, but as I understand it there were three things flying around up there, one the bus, the other the warhead, and the other a decoy.

As I understand, the decoy was considerably larger by a factor of, I do not know, 10 or so, than the warhead. This was the countermeasure, and I understand we knew the telemetry, we knew exactly the course, and we knew where it was going to be, et cetera. How much of a real world test of what we are going to face—and I thought General Kadish was very straightforward about this—is that test? Having successfully completed that test, is it appropriate to say we are ready to roll now, that we now have technologically solved the problems for midcourse intercept, we are ready to go?

Dr. CORNWALL. As I believe General Kadish would be the first to admit, that was not a test of countermeasures. As you point out, the balloon was large and different from the RV in many respects. This is a test of an ability to distinguish objects, not to see how easily or difficult or how hard it is to fool you, and I believe the Ballistic Missile Defense Organization has not claimed that it tests against effective countermeasures.

The CHAIRMAN. They have not, but I think it is important to get in the record that they have not made that claim, and that, as the senior Senator from North Carolina indicated, that it is not quite accurate to say that this test proves—and I am paraphrasing—that we are ready to deploy.

I would yield to my colleague from Indiana.

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

Dr. Cornwall, in your testimony you list a number of different phases or types of missile defense. You conclude that only theater missile defense and boost-phase defense have realistic possibilities. Although you suggest there may be other ways of getting there, but that these two have some possibilities.

You suggest that midcourse, the space-based defense, and the U.S.-based terminal defense are flawed. You arrive at this conclusion by calculating international amity over the abrogation of the ABM Treaty, the U.S.-Chinese relationship, the effectiveness of countermeasures, and the cost associated with missile defense.

Now, with regard to the latter point, how would you recommend the Senate, and the American people think through the cost factor?

It is suggested that the cost will be very high, and everyone understands that, but so is our defense budget. Have experts calculated the costs associated with each type of missile defense or the impact on our economy or other things that cost implies? Do you have any estimates in that area?

Dr. CORNWALL. I do not have any figures, but I will say that a space-based defense is likely to be the most expensive by far, and the reason is a little bit ironic. Fifteen or 20 years ago we were considering space-based defenses for the first time. The Russians had 10,000 warheads on a far smaller number of missiles, because they were MIRV'd. The SST–18 had 10 warheads on one missile, so if you got that missile in boost-phase you got 10, and you had boost-phase leverage. That is what it was called.

We do not have boost-phase leverage any more. All of the ICBM's are single-warhead, and so you still have about as many missiles to destroy with the space-based defense as you did during the Star Wars era. That means you have a large absentee ratio, because the defense is in orbit you cannot have very many of them capable of striking those missiles which are being fired at one time, since some of the defenses are halfway across the world.

The costs of getting things in orbit have not decreased in the last 20 years. If anything, they have gone up a little bit. We have made technical advances in building lasers, but certainly not in building them any more cheaply than we used to, so space-based is going to be very expensive.

As for midcourse, we heard that General Kadish does not know how much it will cost, and if he does not, I certainly do not, but I think that some figure with a small number of hundreds of billions of dollars on it might be what it costs.

As for boost-phase defense, let me not underestimate the difficulty of fielding the ships. They will have to be on station with crews. You will have to have backups and replacements. There, I think the cost of developing the boost-phase defense will be far less than the cost of operating and maintaining it, but we are again talking tens of billions of dollars for development, I would guess.

Senator LUGAR. OK, you see some possibilities with boost-phase defenses, as I understand your argument, although you think there may be less expensive ways of doing it, and perhaps there are. That is one of the questions the country must weigh. Clearly, one reason why even some opponents of a full missile defense system have shown interest in boost-phase defenses is that it is seen as a way of isolating the single North Korean missile, or some other power that develops these.

We wish they would not develop long-range missiles to begin with, and then we would not have to spend the money defending against it, but nevertheless, in the real world, they are there. As opposed to going to war and simply annihilating the country or eliminating a whole area where the threat is located, we have decided that the better alternative is to take a defensive posture, expensive as it may be.

I am not certain how we ascertain the cost of boost-phase defenses. I am still learning the costs associated with other types of missile defense. I have listened carefully to discussions of a multilayered missile defense system and it is very difficult to see how

you develop that without violating the ABM Treaty. As a result you could make the point that the better part of honesty or valor here is simply to indicate to the rest of the world our intentions to develop a total missile defense system.

The ABM Treaty was not meant to deal with a world in which we are currently living. The best course of action, in terms of diplomacy may be for President Bush to say to President Putin that we are going to develop a system that breaks the ABM Treaty and ask what can we do together to change the treaty so we move along together.

I find the countermeasure issue to be an interesting one, and developed in good detail this morning, in General Kadish's testimony. It is difficult how missile defenses will defeat countermeasures or how much that capability may cost as a part of any overall system.

I appreciate your spelling this out so that we can frame in a way that reasonable people can begin to see how we arrive at our decisions. Ultimately, some will argue there is not that much of a threat to defend against. They claim we are looking for threats in order to develop a missile defense system. But on the other hand, you have a number of very sound Americans who have testified that there is a threat, and have reported it in great detail, and we have a responsibility to respond to that.

I thank you very much for your testimony. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Nelson.

Senator NELSON. Mr. Chairman, former chairman Senator Sam Nunn said that we ought to treat this issue, national missile defense, as technology, not theology, and I think that kind of summarizes my feelings.

I certainly believe in technology and the advance thereof, and it seems to me that it is just common sense that we can approach an issue like this as, let us continue robust research and development of these systems and see where they go and what is in the defense interest of the United States, while at the same time trying to pursue this, reaching out to our friends and allies and, indeed, adversaries and former adversaries.

That seems to me to be the logical way to pursue this defense question and this foreign policy question, and I would like to have any of you comment on that.

The CHAIRMAN. Senator, we have not heard from the panel yet. Maybe if you could hold that question, Dr. Cornwall has a plane to catch. If you have a specific question, address it to him.

Senator NELSON. I apologize.

The CHAIRMAN. Senator, do you have a specific question for Dr. Cornwall? Doctor, thank you very much for being here. I understand you might have to leave now to catch your plane. You are welcome to stay as long as you can.

Dr. CORNWALL. I can stay a little bit longer.

The CHAIRMAN. We would love to have you stay. Now, let us begin the testimony. Dr. Perry, why don't you begin.

STATEMENT OF HON. WILLIAM J. PERRY, BERBERIAN PROFESSOR AND SENIOR FELLOW, INSTITUTE FOR INTERNATIONAL STUDIES, STANFORD UNIVERSITY, STANFORD, CA

Dr. PERRY. Thank you, Mr. Chairman. Today in my mind without question the most dangerous threat to America's security is the proliferation of nuclear weapons. The supply is huge, the demand is large and growing, and the security control of the supply is becoming increasingly uncertain. As a result, my bottom line is, there is every likelihood that sooner rather than later this combination of forces will result in a catastrophic nuclear incident. There is also some likelihood that a catastrophic incident will involve biological weapons.

It is in this context we consider the emergence of an ICBM threat from Third World nations, but to put this in some perspective, I would observe that an ICBM does not pose a significant threat to the United States unless it has a nuclear warhead.

At the same time, nuclear weapons or biological weapons pose a serious threat to us, even if the hostile force does not have long-range ballistic missiles. Indeed, covert means of delivering are not only feasible, but they probably would be the only means of delivery for transnational groups operating either on their own or as agents of a hostile nation, and so our actions to deal with proliferation should be focused primarily on nuclear and biological weapons and secondarily on the means of delivery.

Now, given the seriousness of the threat and the level of catastrophe that we could suffer in an attack by nuclear and biological weapons, actions to mitigate these threats should be our first priority. Just as the threat of deterring a threat of nuclear attack was an overriding priority during the cold war.

Today, we have several lines of defense to deal with the proliferation problem. We can work to prevent proliferation. We can tailor our deterrence to make it more relevant to hostile Third World nations, and we can develop counterproliferation programs, that is, military programs to defeat the threat if prevention and deterrence fail.

Our first line of defense should be preventive defense and preventive diplomacy, actions to prevent proliferation. A characteristic of these programs is that they require cooperation from other nuclear powers. Put another way, no matter what actions the United States takes to prevent proliferation, these actions can easily be nullified if Russia, for example, decides to proliferate its nuclear technology, weapons, or fissile material.

The cooperation necessary to prevent proliferation can be manifested through treaties, through bilateral or multilateral agreements, and by cooperative programs such as the Nunn-Lugar program, but even if we sustain the present programs and fully implement its successes, we cannot count on prevention working under all conditions for all time, and thus it is prudent to have a second line of defense, deterrence.

Now, even if START I, START II, START III were to be fully implemented, the United States would still have a nuclear force capable of destroying any nation foolish enough to use nuclear weapons against us, but I want to make an additional point, which is our conventional military forces, especially our long-range, precision-

guided weapons such as Tomahawk, are also capable of a devastating response to any acts of aggression against the United States or its allies.

This is important in this context, because an aggressor might believe that we would be self-deterred from using our nuclear weapons, but we have several times demonstrated our willingness and our capability to use conventionally armed precision-guided weapons in truly devastating attacks. In short, the United States has a powerful and a credible deterrent force consisting of both nuclear and nonnuclear weapons, and this fact makes a nuclear attack on the United States very unlikely.

But what if both prevention and deterrence should fail? How should we prepare now for that remote contingency? A covert attack, a nuclear bomb in a truck or a small ship, for example, is the most immediate threat, and the best and about the only defense on that is to have an intelligence effort effective enough to give us some advance warning of the time and the place of the attack.

A surprise attack could also be launched from small aircraft or cruise missiles, perhaps based in freighters off our coast. It is clear that no high-confidence defense could be available against such an attack when the time and place of an attack were not known. Indeed, the Soviet Union in the sixties and seventies spent more than $100 billion trying to build such an air defense, involving thousands of surface-to-air missiles, to protect their nation against B–47's and B–52's.

In response to this massive effort, the Strategic Air Command simply modified their procedures, after which we estimated that the Soviet defense would stop at most 10 percent of our bombers. This estimate was given credibility in the seventies, when a German pilot flew his light civilian airplane from Germany and landed in Red Square without being intercepted by the massive Soviet air defense.

The United States in that same time period, after much debate, decided not to emulate the Soviets, so we never built the complex Nike-Ajax antiaircraft missiles that had been proposed to defend our cities, which in retrospect was a very good decision.

A third mode of attack would involve long-range ballastic missiles with nuclear warheads, and the defense against such an attack, of course, is under development. There has been much controversy about this system, particularly after several test failures.

Let me make my own view on this quite clear. While hitting the bullet with a bullet demands quite advanced technology, I believe that the United States will, before long, perhaps in another 5 to 10 tests, convincingly demonstrate that we have mastered it, so I believe the feasibility issues that have been raised as a result of test failures will soon be resolved. But, and this is an important but, in assessing the likely operational effectiveness of this system, we must take a realistic view of the degrading effects of realistic countermeasures, a problem that fundamentally limits the effectiveness of all air defense systems.

We have no operational history yet on missile defense systems, but we have 60 years of operating air defense sytems, and even the best air defense systems under operational conditions have never demonstrated the ability to shoot down more than 20 to 30 percent

of the attacking force. Indeed, under most operational conditions they have done much poorer than that.

The analogy of ballistic missile defense to air defense is far from perfect, and I would not want to apply uncritically historical records of air defense systems to ballistic missile defense systems, but on balance it is not easier to shoot down a ballistic missile than it is an airplane, and most importantly, it is clear that countermeasures will be at least as much of a problem, therefore one can find no historical basis for believing that any ballistic missile defense system under operational conditions will achieve the 80 or 90-percent levels of effectiveness that should be achievable in time on the test range.

We should also be realistic in assessing the likely cost of a missile defense system, and understanding that to some sense funding missile defense must compete with funding other military needs. During my period as Secretary of Defense, one of the most difficult jobs I had was setting the funding priorities for defense programs and then defending those priorities to the President and to the Congress.

My judgment when I was Secretary, and still today, is that while ballistic missile defense is an important program, I would place it at a lower priority than many programs that are key to maintaining military readiness, particularly the programs that provide for the quality of America's military forces and provide them with the best and most realistic training of any military force in the world.

These training programs are realistic, intense, and frequent, so they are also very costly, but I have no doubt that the results are worth the cost, so I would not want to reduce them. I would also place BMD at a lower priority than many of the programs designed to upgrade our conventional forces.

In particular, I believe we have an urgent need to replace our tactical fighter and bomber forces with new generation aircraft that have been developed over the past 10 years. This new generation of fighters and bombers embody technology, especially stealth and precision weapon delivery, that will ensure that America's military will enjoy air supremacy in any military conflict during the next several decades.

Desert Storm demonstrated that air supremacy leveraged all aspects of our military operations, allowing us to win quickly, decisively, and with minimal casualties. It also demonstrated that to the rest of the world, so it was a critical factor in deterring future wars. There is no doubt that these new programs will be very expensive, but again I am confident that the results are worth the cost.

In sum, then, I believe that the threat of nuclear proliferation is real and growing, and if not managed properly could quickly lead to catastrophic results. Thus, I see dealing with proliferation as one of our highest concerns. Let me summarize the four actions I think we can take to deal with this problem.

First we should assign a higher priority, devote more funding and dedicate a greater diplomatic effort to preventive defense and preventive diplomacy. What is required here is staying the course on the programs already established, increasing the funding level where appropriate, for example, on the Nunn-Lugar program, and

pursuing aggressively new opportunities to reduce the threat before it emerges. For example, in negotiating an agreement whereby North Korea abandons long-range missiles.

More generally, we must work hard to establish a cooperative anti-proliferation effort with Russia and China. This consultation is not done as a favor to Russia and China, but because we understand that if we proceed unilaterally, we will be giving up on a unique historical opportunity to prevent nuclear and biological weapons from emerging as threats.

Second, we should assign a higher priority and devote more funding to those intelligence efforts that show greatest promise for penetrating transnational groups planning terrorist attacks in the United States, and to those intelligence efforts that illuminate the nature of the proliferation threat.

Third, we should maintain a robust R&D program in missile defense. By robust, I do not mean a program that pursues every BMD concept proposed, but one sharply focused on how to deal with countermeasures. In particular, we need a much more aggressive program in testing and simulation to gain real understanding of the countermeasures threat, how best to deal with it, and how it fundamentally limits our effectiveness, and my emphasis here is on simulation followed by field testing.

Fourth, because we can never be sure that any missile defense system will be fully effective, we should establish a policy and the capability to support that policy that we, the United States, will attack the launch sites of any nation that threatens to attack the United States with nuclear or biological weapons. We have a variety of ways of conducting such an attack. For example, it likely could be effectively carried out with conventionally armed precision-guided weapons.

Let me close by observing that our future security depends fundamentally on actions we take today to prevent the proliferation of nuclear and biological weapons, and that the success of these actions depends fundamentally on the cooperation of the other nuclear powers.

Thank you.

[The prepared statement of Dr. Perry follows:]

PREPARED STATEMENT OF HON. WILLIAM J. PERRY

Today, the most dangerous threat to American security, indeed, to world security, is the proliferation of nuclear weapons. The technology for nuclear weapons is mature and increasingly available through the internet. The supply of nuclear weapons and fissile material is huge, measured in tens of thousands of weapons and many tons of fissile material, with the security controls for this huge supply becoming increasingly uncertain. And the demand for nuclear weapons by nations or transnational groups hostile to the United States is large and growing, with many of these groups having ready access to substantial financial resources. There is every likelihood that, sooner rather than later, this combination of forces will result in a catastrophic nuclear incident.

While the nuclear threat is here and now, the threat is growing that some of these same hostile groups will use biological weapons. The technology for biological weapons of mass destruction is becoming mature and is easier to apply than nuclear weapons. A large supply of such weapons was developed by the Soviet Union, some of which may still be available, and North Korea and Iraq have both had biological weapons programs. The demand for biological weapons is likely to be from transnational groups who intend to employ terrorist attacks against urban targets, which are especially vulnerable to such attacks.

Much attention has been given to the emergence of an ICBM threat to the United States. But to put this in some perspective, I observe that an ICBM does not pose a significant threat to the United States unless it has a nuclear warhead; at the same time, nuclear weapons or biological weapons pose a serious threat to us even if the hostile force does not have long-range ballistic missiles. These weapons can be delivered by trucks, satchels, small boats, or small airplanes. Indeed, covert means of delivery are not only feasible, they probably would be the only means of delivery for transnational groups, operating either on their own or as agents of a hostile nation. So our actions to deal with proliferation should be focused primarily on nuclear and biological weapons, and secondarily on the means of delivery.

Given the seriousness of the threat, and the level of catastrophe that we could suffer in an attack by nuclear or biological weapons, actions to mitigate these threats should be our first priority, just as deterring the threat of a nuclear attack was an overriding priority during the Cold War. Then we essentially depended on a single strategy, deterrence, and the primary goal of our defense programs was to ensure that deterrence was strong; in the language of the day, we wanted our deterrence to be unequivocal. Today, we have several lines of defense to deal with the proliferation problem. We can work to prevent proliferation, we can tailor our deterrence to make it more relevant to hostile third-world nations, and we can develop counter-proliferation programs—military programs to defeat the threat if prevention and deterrence fail.

Our first line of defense should be preventive defense and preventive diplomacy—actions to prevent proliferation. A characteristic of preventive programs is that they cannot succeed through unilateral actions of the United States. Their success requires cooperation from the other nuclear powers, especially Russia, and, to a lesser but still important degree, China. Put another way, no matter what actions the United States takes to prevent proliferation, these actions can easily be nullified if Russia, for example, decides to proliferate its nuclear technology, weapons, or fissile material. Russia's perception of its own national interests should be a major disincentive for them to proliferate. However, this internal disincentive may not be sufficient as evidenced by Russia's sales of commercial nuclear technology to Iran, in spite of the fact that such commercial technology can facilitate Iran's development of nuclear weapons.

The cooperation necessary to prevent proliferation can be manifested through treaties, such as the NPT and START (already in force), and CTBT, START 2 and START 3 (not yet implemented); through bilateral and multilateral agreements, such as the Trilateral Agreement (with Russia and Ukraine), the Agreed Framework (with North Korea) and the missile agreement under discussion with North Korea; and by cooperative programs, such as the Cooperative Threat Reduction Program (Nunn-Lugar), with Russia and other former Soviet states. Many of these programs have proven to be quite successful, and, if we build anthem, will help us prevent proliferation on into the future. But even if we sustain the present programs and fully implement their successors, we cannot count on prevention working under all conditions for all time. Thus we must consider our second line of defense—deterrence.

Even if START I, START II, and START III were to be fully implemented, the United States would still have a nuclear force capable of destroying any nation foolish enough to use nuclear weapons against us. In particular, a nuclear attack using ballistic missiles would be immediately backtracked to its place of origin and thus invite immediate retaliation. This fact is known by all, and serves as a powerful instrument of deterrence. But the United States also has the most powerful conventional military forces in the world. Our conventional military forces, especially our long-range precision-guided weapons (Tomahawk, e.g.), are also capable of a devastating response to any acts of aggression against the U.S. or its allies. This is important because an aggressor might believe that we would be self-deterred from using our nuclear weapons, but the United States has several times demonstrated its willingness and capability to use conventionally-armed precision-guided weapons in truly devastating attacks.

In short, the United States has a powerful and credible deterrence force consisting of both nuclear and non-nuclear weapons. This fact makes a nuclear attack on the United States very unlikely. But what if both prevention and deterrence should fail? While this possibility is remote, it is prudent to have some insurance to protect against it. So it is reasonable to ask what our response should be, and how should we prepare now for that contingency?

A covert attack (a nuclear bomb in a truck or small ship, e.g.) is the most immediate threat. The modality of attack would be similar to attacks that we have already experienced with high explosive bombs. The probable agent of such an attack would be a transnational terrorist group, acting on its own or on commission from

(and with support of) a hostile nation. Since a terrorist group would try to maintain secrecy as to the place and time of the attack, conventional defense tactics are largely irrelevant, since we cannot maintain terrorist alerts continuously for the entire nation. The best defense is to have an intelligence effort effective enough that it gives us some advance warning of the time and place. If that happens, there is a reasonable probability of aborting the attack and arresting the conspirators. While we could not count on this defense working, we have had more success with it than is commonly understood. In particular, at the time of Desert Storm, when we had ample strategic warning of intended attacks, our intelligence and counter-espionage effort had substantial tactical success in thwarting intended attacks.

A surprise attack could also be launched from small aircraft and/or cruise missiles, perhaps based in freighters off our coast. It is clear that no high-confidence defense could be available against such an attack when the time and place of the attack are not known. Indeed, the Soviet Union, in the 60s and 70s, spent more than $100 billion trying to build such an air defense, involving thousands of surface-to-air missiles, to protect their nation against our B-47s and B-52s. In response to this massive effort, the Strategic Air Command simply modified the bomber flight patterns to penetrate the Soviet Union at low altitudes, thereby underflying most of the Soviet defense radars. We estimated that the Soviet defense would stop at most 10% of our bombers. This estimate was given credibility in the 70s when a German pilot flew his light civilian plane from Germany and landed in Red Square without being intercepted by the massive Soviet air defense. The United States, after much debate, decided not to emulate the Soviets, so we never built the complex of Nike-Ajax anti-aircraft missiles that had been proposed to defend our cities.

A third mode of attack would involve long-range ballistic missiles with nuclear warheads, and a defense against such an attack is under development. The ground-based system, which is well along in development, attempts to intercept the incoming warheads in midcourse, essentially trying to "hit a bullet with a bullet". There has been much controversy about this system, particularly after several test failures. My own view is that while hitting a bullet with a bullet demands quite advanced technology, the United States will, before long (perhaps in another 5 to 10 tests) convincingly demonstrate that we have mastered it. So I believe that the feasibility issues that have been raised as a result of test failures will soon be resolved.

But in assessing the likely operational effectiveness of this system, we must take a realistic view of the degrading effects of realistic countermeasures. A wide variety of countermeasures are possible, and we are not likely to know which of these might actually be used against our system. However, we should expect countermeasures to be tailored to the specific nature of our BMD system (e.g., our use of infrared terminal guidance), since key characteristics of our BMD system are a matter of public record. This problem is not new; indeed, it is the classic problem which all air defense systems have—a problem that fundamentally limits the effectiveness (kill rate) of all air defense systems. We have no operational history yet on missile defense systems, but we do have 60 years of operating air defense systems. Even the best air defense systems, under operational conditions, have not demonstrated the ability to shoot down more than 20 or 30% of the attacking force; indeed, under most operational conditions, they have done much poorer than that. The analogy of ballistic missile defense to air defense is far from perfect, and I would not want to apply uncritically historical records of air defense systems to ballistic missile defense systems. But, on balance, it is not easier to shoot down a ballistic missile than it is an airplane, and, most importantly, it is clear that countermeasures will be at least as much of a problem. Therefore, one can find no historical basis for believing that any BMD system under operational conditions will achieve even close to the 80 or 90% levels of effectiveness than have been discussed, or that should we in time be able to demonstrate on the test range.

We should also be realistic in assessing the likely costs of a missile defense system, and understanding that, in some real sense, funding missile defense must compete with funding other military needs. During my period as Secretary of Defense, one of the most difficult jobs I had was setting the funding priorities for defense programs—and then defending those priorities to the President and the Congress! Even with savings achieved through reform of the defense acquisition system and with the closing of unneeded bases, the budget realities imposed by the state of the economy and the recent tax cut mean that the money for new defense programs will not be unlimited. Thus we will need to make careful choices about where we make new investments.

My judgment when I was Secretary, and still today, is that while BMD is an important program, I would place it at a lower priority than many programs that are key to maintaining military readiness, particularly the programs that provide for the quality of America's military forces and provide them with the best and most

realistic training of any military force in the world. These training programs are realistic, intense and frequent, so they are also very costly, but I have no doubt that the results are worth the cost, so I would not want to reduce them. I would also place BMD at a lower priority than programs now under development to upgrade our conventional forces. In particular, I believe that we have an urgent need to replace our tactical fighter and bomber forces with the new generation aircraft that have been developed over the last ten years. This new generation of fighters and bombers embody technology (especially stealth and precision weapon delivery) that will ensure that America's military will enjoy air supremacy in any military conflict during the next several decades. Desert Storm demonstrated that air supremacy leveraged all aspects of our military operations, allowing us to win quickly, decisively, and with minimal casualties. It also demonstrated that to the rest of the world, so maintaining this capability is a critical factor in deterring future wars. There is no doubt that these new programs will be very expensive, but, again, I am confident that the results are worth the cost.

In sum, then, I believe that the threat of nuclear proliferation is real and growing, and, if not managed properly, could lead to catastrophic results. Thus I see dealing with proliferation as one of our highest security concerns. What actions should we take, what programs should we support to respond to that concern?

1. We should assign a higher priority, devote more funding, and dedicate a greater diplomatic effort to preventive defense and preventive diplomacy. What is required is staying the course on the programs already established, increasing the funding level where appropriate (for example on the Nunn-Lugar program), and pursuing aggressively new opportunities to reduce the threat before it emerges (negotiating an agreement whereby North Korea abandons long-range missiles, e.g.). More generally, we must work hard to establish a cooperative anti-proliferation effort with Russia and China. I understand that this will not be easy, but it is clear that it will not even be possible if we elect to take unilateral actions on our strategic forces. Whatever we do on reducing strategic forces and deploying BMD systems must be done in serious consultation with Russia, and with some consideration of its impact on China. Our consultation is not done as a favor to Russia and China, or simply for the good feelings they generate. Rather we consult, and consult seriously, with a goal of achieving agreements on cooperative programs that will reduce the worldwide threat of proliferation (agreements like the Trilateral agreement and the Cooperative Threat Reduction). We pursue these agreements because we understand that if we proceed unilaterally, we will be giving up on a unique historical opportunity to prevent nuclear and biological weapons from emerging as threats. In the context of proliferation, discussions on BMD are important to the extent our BMD program is seen as an obstacle to such agreements; discussions on the level of strategic forces are important because they lead to such agreements (as the START treaty led to the Nunn-Lugar program).

2. We should assign a higher priority and devote more funding to those intelligence efforts that show greatest promise for penetrating transnational groups planning terrorist attacks in the U.S., and to those intelligence efforts that illuminate the nature of the proliferation threat. Perhaps this committee could get recommendations from the PFIAB on specific actions along those lines.

3. We should maintain a robust R&D program in missile defense. In my judgment, robust does not mean trying out every BMD concept ever proposed, but instead a program sharply focused on how to deal with a realistic countermeasure threat. In particular, we need a much more aggressive program in testing and simulation to gain a real understanding of the countermeasures threat, how best to deal with it, and how it fundamentally limits our effectiveness. We probably will never know what countermeasures our BMD system would have to face, but we should assume that they will be tailored to the system we are developing, as it is described in the public record. Therefore our counter-countermeasures design and the testing of that design should be against that realistic threat. Testing plays an important role in validating our counter-countermeasures design, but only very detailed and extensive simulations will allow us to "test" the system against the wide variety of realistic countermeasures and conditions that we could face. The field tests are the final stage, essentially to validate the results already proven in detailed and realistic simulations.

4. Because we can never be sure that any missile defense system will be fully effective, we should establish a policy (and the capability to support the policy) that we will attack the launch sites of any nation that threatens to attack the U.S. with nuclear or biological weapons. We have a variety of ways of con-

ducting such an attack. For example, it likely could be effectively carried out with conventionally-armed precision-guided weapons.

Let me close by observing that our future security depends fundamentally on actions we take today to prevent the proliferation of nuclear and biological weapons, and that the success of these actions depends fundamentally on the cooperation of the other nuclear powers. It is reasonable to prepare a defense against a ballistic missile attack, but we should not believe that we can fully defend the country against a reasonably determined attack, even after our BMD technology matures. So as we assess our course of action, we should carefully consider that if we proceed unilaterally to deploy a BMD, we could be inadvertently increasing the level of threat we face from proliferation. We should also carefully consider the opportunity cost of a BMD system relative to other very real and very important defense needs.

The CHAIRMAN. Thank you very much for a very succinct and compelling statement.

Mr. Cutler.

STATEMENT OF HON. LLOYD N. CUTLER, SENIOR COUNSEL, WILMER, CUTLER & PICKERING, WASHINGTON, DC

Mr. CUTLER. Thank you very much, Mr. Chairman, and Senator Lugar, for the invitation to testify again about the work of the Russian task force headed by Senator Baker and myself and its report card on the development of the Department of Energy's nonproliferation programs with Russia.

I was pleased to appear before your committee, Senator Baker and I, on May 28, 2001. We are a bipartisan Commission, but we filed a unanimous report. We include many of your former colleagues such as Senator Nunn, Senator Simpson, Senator McClure, Senator Boren, your colleague in the House, Lee Hamilton, and Susan Eisenhower.

My additional statement, which I submit for the record today, makes six points. First, the nonproliferation programs of the U.S. Government are a very good investment in our national security. Beginning with the Nunn-Lugar legislative initiative in 1991, the United States has established an impressive array of threat-reduction programs in the Departments of Defense, State, Commerce, and Energy to assist in dismantling Russia's nuclear and other weapons of mass destruction that Bill Perry referred to, and to improve significantly the physical security of such weapons and materials. I will concentrate on the importance and value of the Department of Energy programs, leaving the other Nunn-Lugar initiatives to others.

Second, the benefits of cooperation between the United States and Russia help both nations. An example of the mutual benefit to our security is an event that took place last year at the Kurchatov Institute in Moscow that I had the opportunity to visit. The collaboration between American and Russian experts to fix the flaw in the American-designed nuclear accounting software at that institute is paying a high national security return on our investment in nonproliferation programs.

Third, not all of the task force recommendations require increased funding. We have recommended an increase in both the budget and the pace of several specific programs. However, we have identified several bureaucratic reforms both in the United States and in Russia that would enable these programs to run more smoothly without costing more money.

For instance, the task force has recommended that the President formulate a strategic plan and create a high-level leadership position in the White House. Our role model for a job like that would be Senator Baker, if he were available, someone of the gravitas and the skill and the negotiating and persuasive ability to resolve the inevitable turf wars that exist when you have a program carried out by so many different agencies.

Fourth, the task force is very concerned, just as the Clinton administration and the Bush administration appear to be, about the continuing Russian supply of so-called dual-use weapons and technology to Iran. This issue has been raised between the two governments at the highest levels, first by President Clinton to President Putin, and now by President Bush as well with President Putin.

The task force is concerned that the continuing supply of this dual-use equipment and technology by Russia to Iran undermines the nascent trust that has developed between our two countries under the programs which require the cooperation Bill Perry described, and that the issue must be resolved.

Fifth, in Russia we are seeing changes at the top that are a hopeful sign, as the old guard like Mr. Adamov is replaced by new ministers who are more interested in supporting nonproliferation. Our task force is hopeful that our two countries will continue to work together in a growing and fully transparent partnership to reduce the risk to the security of both our nations.

Sixth, we are pleased to note that both the House and Senate appropriators have increased funding beyond the administration's original budget request for the nonproliferation programs carried on at the DOE, and we are encouraged that the 107th Congress remains committed to investing in programs that are such a good value to our national security.

In my personal view, the U.S. joint nonproliferation programs with Russia should have three prongs. Prong one is to secure weapons-grade fissile materials in the custody of the Ministry of Atomic Energy, and ultimately to dispose of them in a manner that prevents their reuse in nuclear or other weapons.

Prong two is to physically, and I emphasize the word physically, secure the existing nuclear weapons that are in storage in the custody of the Ministry of Defense. This has been a major program, I know, for Senator Lugar.

Prong three, which both the Clinton and Bush administrations appear to be moving in favor of, would be to safeguard the ICBM and other nuclear weapons sitting atop missiles poised for launch by de-alerting them and moving the missiles to storage, and by helping Russia to improve its own early warning systems.

This last prong, about the early warning systems, is particularly relevant in the light of such incidents as the May 11 fire at the Russian mission control center at Kourilovo, which temporarily disrupted communication between Russian space forces and their own early warning satellites. Loss of early warning capability in space could leave Russia vulnerable, in the event of a nuclear alert, to the danger of misinterpreting a benign event like the Norwegian sounding rocket incident in 1995, as an attack.

In addition, somewhat more than 70 percent of Russian satellites are now past their expected service lives, and the system is much

more prone to cause false alarms that could destabilize the international security environment. Russia's deteriorating early warning system poses a real threat to our own security and to that of other nations.

Finally, I want to comment on a program that was just getting started at the close of the Clinton administration and in the making of our task force report, and that is the request initiated on the Russian side for American assistance in disposing of the nuclear power plants in the Russian submarines that are being dismantled because of old age.I21That is a program which the Russians initiated, which has all kinds of benefits for the United States, Russia, and for the rest of the world. In Howard Baker's phrase, as you will recall, it was the United States and Russia who started the cold war, who developed these nuclear weapons that we now have, and it is our joint responsibility for the safety of not only our own population but that of the entire world to get rid of what we ourselves created as rapidly as possible.

With the submarine program, if it goes forward, there would be a great opportunity to share costs with other nations because of the serious environmental and other risks involved if this material is stolen, or if the vessels should sink of their own dead weight before the power plants are removed.

There is great concern, as you know, in Norway even about the fleet of dismantled overage vessels that exist, I suppose, almost 1,000 miles away in Murmansk. There is equal concern on the part of Japan, and even, no doubt, on the part of Alaska, and it should be on the part of the entire United States if the dismantled overage vessels in Vladivostok suffered a similar fate. For environmental reasons, if for no other reason, that would be a very valuable program for both sides to pursue.

Thank you.

[The prepared statement of Mr. Cutler follows:]

PREPARED STATEMENT OF HON. LLOYD N. CUTLER

Thank you very much, Chairman Biden, for the invitation to testify about the work of the Cutler-Baker "Russia Task Force," and its Report Card on the Department of Energy's Non-Proliferation Programs with Russia. I am very pleased to be here.

I was pleased to appeared before your committee on May 28, 2001, with my Co-Chairman, Senator Howard Baker to discuss the findings of Russia Task Force. We are a bipartisan, unanimous commission. Today, I hope to continue the very useful discussion we began that day about the Department of Energy's non-proliferation programs. My statement, which I submit for the record today, makes six points:

First, the non-proliferation programs of the United States government are a good investment in our national security. Beginning with the Nunn-Lugar legislative initiative of 1991, the United States has established an impressive array of threat reduction programs in the Departments of Defense, State, Commerce, and Energy to assist in dismantling Russian nuclear and other weapons of mass destruction and to improve significantly the security of such weapons and materials. I will describe the importance and value of the Department of Energy programs, discuss the work they do, and highlight the Task Force recommendations.

Second, the benefits of cooperation between the United States and Russia work both ways. I will illustrate the mutual benefit to our security with an event that took place last year at Kurchatov Institute in Moscow. The collaboration between American and Russian experts to fix a flaw in the nuclear accounting software at that Institute demonstrates that the good will and trust that has developed between our two countries pays a high national security return on our investment in non-proliferation programs.

Third, not all of the Task Force recommendations require increased funding. We have recommended an increase in both the budget and the pace of several specific programs. However, several bureaucratic reforms both in the United States and in Russia would enable these programs to run more smoothly without costing more money. As an important part of governmental reform, the Task Force recommends that the President formulate a strategic plan and appoint a high-level leadership position in the White House to improve coordination of all non-proliferation programs between the United States and Russia. Establishing this leadership position could be the most significant possible step toward achieving the other objectives—such as streamlining internal bureaucratic impediments, improving interagency coordination, and increasing Russian transparency and access—that do not require increased funding.

Fourth, the Task Force is concerned about the proliferation of weapons of mass destruction (WMD) technology to Iran. This concern has been raised between the two governments at the highest levels: Former President Clinton expressed his concern about proliferation to Iran with Russian President Putin. During the last Administration, officials at the highest levels pressed this issue with their Russian counterparts. In the new Administration, President Bush also expressed his concerns about Russian proliferation to Iran in his first meeting with President Putin. The Task Force is concerned that proliferation from Russia to Iran could undermine the nascent trust that has developed between the United States and Russia. The Task Force is concerned that further proliferation to Iran could jeopardize the success of our nonproliferation programs.

Fifth, in Russia, we are seeing changes at the top that are a hopeful sign. As the old guard is replaced by new ministers who are more interested in non-proliferation, I am hopeful that our two countries will continue to work together, as part of a growing and transparent partnership, to reduce the risk to both our nations' security.

Sixth, both the House and Senate Appropriators have increased funding beyond the Administration request for non-proliferation programs at the Department of Energy. I believe this is a good sign that the 107th Congress remains committed to investing in programs that are a good value to our nation's security. I would like to thank the House Appropriations Committee for seeking to support the recommendations of the Baker-Cutler "Russia Task Force" within the available funding.

In my personal view, the U.S. non-proliferation assistance programs should have three prongs. Prong one is to secure weapons-grade fissile materials in the custody of the Ministry of Atomic Energy, and ultimately disposing of them. Prong two is to secure nuclear weapons in storage in the custody of the Ministry of Defense. Prong three, which does not presently exist, would be to safeguard the nuclear weapons sitting atop missiles poised for launch by de-alerting them and moving the missiles to storage.

The last prong is particularly relevant in light of incidents such as the May 11 fire at the Russian mission control center at Kourilovo, which temporarily disrupted communication between Russian Space Forces and their early-warning satellites. Loss of early-warning capability in space could leave Russia vulnerable in the event of a nuclear alert to the danger of misinterpreting a benign event—like the Norwegian sounding rocket incident in 1995—as an attack. In addition, as more than 70 percent of Russian satellites have surpassed their expected service lives, there is concern that as the system degenerates it is more prone to cause false alarms that could destabilize the international security environment. Russia's deteriorating early-warning system poses a real threat to U.S. security, and thus, it is in the common interest of the United States and Russia to ensure that the other has access to reliable early-warning information.

I. DESCRIPTION OF THE DEPARTMENT OF ENERGY'S NON-PROLIFERATION PROGRAMS

In February 2000 Secretary of Energy Bill Richardson requested former Senate Majority Leader Howard Baker and me to co-chair a bipartisan task force to review DOE's nonproliferation programs in Russia. The Task Force was asked to "provide appraisals and recommendations to the Secretary of Energy regarding the policy priorities established by DOE to pursue cooperative nonproliferation and nuclear safety programs in Russia, with an eye to identifying crucial program areas that may not have been addressed in the past." The United States has a special responsibility in this area. As my co-chairman, Senator Howard Baker, so eloquently testified, the United States and Russia are the creators of the nuclear age; thus we have a special set of responsibilities to control and prevent the proliferation of weapons of mass destruction in order to minimize the risk to civilization. The Task Force aimed from

the outset to provide a set of concrete recommendations to help shape DOE's nonproliferation programs in Russia and make the world a safer place in the 21st century.

The Task Force reviewed seven of DOE's cooperative nonproliferation programs that fall into four broad categories: control of fissile materials; reduction of the amount of material; redirection of nuclear complex workers; and safety of material and people. The programs selected for review—each designed to address a specific aspect of the overall nonproliferation problem—have the common goals of reducing the danger posed by the proliferation of weapons material and eliminating the danger of scientists selling their weapons of mass destruction expertise to unauthorized third parties. Each program does only part of the job, but together these programs complement each other and the work of other U.S. agencies. The programs include:

- Material Protection, Control and Accounting Program (MPC&A);
- Highly Enriched Uranium (HEU) Purchase Agreement and Transparency Implementation Program;
- Russian Plutonium Disposition Program;
- Second Line of Defense (SLD) Program;
- Initiatives for Proliferation Prevention (IPP) Program;
- Nuclear Cities Initiative (NCI); and
- Nuclear Safety Cooperation.

A. Material Protection, Control and Accounting Program

The Material Protection, Control and Accounting (MPC&A) Program is one of the most mature of the U.S. Government threat reduction programs. Its purpose is to reduce rapidly the threat posed by unsecured Russian nuclear weapons-usable material. This program provides Russian nuclear facilities with modern safeguards, material accounting and physical protection systems; training for nuclear personnel in proper MPC&A techniques; assistance in developing a comprehensive and enduring regulatory basis for nuclear material security in Russia; and assistance in improving the physical protection of nuclear weapons-usable, materials in transit.

Even though the MPC&A Program was a primary focus of the Nunn-Lugar initiative, the sensitive issue of secrecy in the weapons complex initially prevented the development of a large-scale cooperative effort. That barrier was not overcome until 1994, when the Russians stopped objecting to cooperative work at sites actually handling plutonium or HEU. A laboratory-to-laboratory initiative was then established to complement the collaborative government work and both efforts moved forward. Initial funding came primarily from the Department of Defense, with MPC&A being fully transferred to DOE in FY 1996. The budget for MPC&A reached $136 million in FY 1999 and $145 million in FY 2000. Funding for this program grew to $173 million in FY 2001.

The MPC&A Program focuses on enhancing the security of materials at current locations, transferring material from insecure sites, and consolidating that material at sites where enhanced security systems are in place. Initially, MPC&A may apply what are known as "rapid upgrades," which provide an immediate increase in security and may include placing bricks in front of windows or installing portal monitors. Comprehensive long-term upgrades are implemented once rapid upgrades are completed. Security improvements have begun for approximately 80 percent of the current estimate of the Russian stockpile of nuclear weapons-usable material not contained in nuclear weapons.

Task Force Assessment of MPC&A

While the security of hundreds of tons of Russian material has been improved under the MPC&A Program, comprehensive security upgrades have covered only a modest fraction of the weapons-usable material. There is no program yet in place to provide the incentives, resources, and organizational arrangements for Russia to sustain high levels of security. In addition, disputes between the U.S. and Russia over access continue to stymie work at some sites with large quantities of material and undermine the broader atmosphere of cooperation. Also, a comprehensive testing and assessment program to ensure that the upgrades have been fully effective still awaits implementation.

B. Highly Enriched Uranium

Like the MPC&A Program, the Highly Enriched Uranium (HEU) Purchase Agreement is a mature program. The agreement, which authorizes the contract mechanism between the U.S. Enrichment Corporation (USEC) and the Russian Techsnabexport, was signed during the Moscow Summit of January 1994. It authorizes the U.S. purchase of 500 metric tons of HEU to be removed from former Soviet

nuclear weapons and converted to low enriched uranium (LEU) suitable for commercial fuel. At the time of the agreement, its total estimated value was $12 billion over 20 years. The agreement describes transparency measures that will be implemented to provide the necessary assurances that the U.S. Government's nuclear nonproliferation objectives are being fulfilled. The agreement specifies that the HEU is to be derived from dismantled nuclear weapons; that this same HEU material is to be processed and converted into LEU for delivery to USEC; and that this LEU is to be used to fabricate fuel elements for commercial power reactors. To date, more than 110 metric tons of HEU have been down-blended, in accordance with the agreement, and the resultant LEU has been delivered to the international market. The agreement continues through 2013, by which time the 500 metric tons of HEU that is expected to have been down-blended will total the amount of material that would have been found in 25,000 warheads.

The HEU agreement represents a challenge to the worldwide nuclear fuel market because it brings to market material representing 15 percent of world demand. Tensions between the commercial interests of entities in the nuclear fuel market, and the international security interest in rendering this fissile material impotent as rapidly as practicable, are inevitable. MinAtom Minister Adamov told the Task Force in July 2000 that Russia sees the HEU Purchase Agreement as an important and successful "swords into ploughshares project." The HEU agreement provides a financial incentive to dismantle thousands of nuclear warheads, renders the material in those warheads impotent, provides a valuable commercial product to the U.S., and provides hundreds of millions of dollars per year to Russia. These funds can be used to create thousands of non-weapons-related jobs for workers, who might otherwise be tempted to sell their expertise, and to provide a source of Russian funding for conversion and cleanup of its vast nuclear complex.

Task Force Assessment of the HEU Purchase Agreement

It is the Task Force's judgment, however, that this program still suffers from four key problems. First, the pace of implementation is unstable. Deliveries of LEU have been interrupted for months at a time. Second, the program, even when not interrupted, is too slow and the annual 30 metric tons currently being down-blended represent only one-fortieth of the Russian HEU stockpile. The program now utilizes only about half of the estimated blending capacity of Russian facilities. Third, the 500 metric tons under the agreement represents less than half of Russia's total HEU stockpile and was agreed upon long before the recent Russian decision to reduce drastically its nuclear forces. Finally, transparency measures for the program require a greater level of joint technical cooperation to ensure full implementation. Renewed efforts to address these issues, including extending the program beyond 500 metric tons, are critical.

C. Russian Plutonium Disposition

The mission of the Russian Plutonium Disposition Program is to reduce the inventory of surplus Russian weapons-usable plutonium in step with the U.S. plutonium disposition program. Since the end of the Cold War, significant quantities of plutonium have become surplus to defense needs, both in the United States and in Russia. Continued implementation of arms reduction agreements is expected to produce further weapons dismantlement and may increase stockpiles of these weapons-usable materials. These materials will continue to pose a security threat as long as they remain in forms that are usable directly in nuclear weapons.

The Russian Plutonium Disposition Program has only recently moved beyond joint technical studies in preparation for a large-scale program to reduce plutonium stockpiles. A framework agreement establishing U.S. and Russian commitments to dispose of 34 metric tons of excess weapons plutonium was signed in September 2000. The agreement provides a timeline for the design and construction of industrial-scale facilities to convert excess weapons plutonium to oxide, fabricate mixed oxide fuel, and carry out other functions under the program, including monitoring and inspections.

In July 1998, the United States and Russia signed a Scientific and Technical Cooperation Agreement to conduct tests and demonstrations of proposed plutonium disposition technologies. In FY 1999 the U.S. Congress appropriated $200 million for the program. An additional $200 million is being requested from Congress in FY 2000-2004. It is estimated, however, that approximately $2.1 billion will be required to dispose of this initial 34 metric tons of Russian plutonium, considerably more than current funding levels. Accordingly, the U.S. Government has made a commitment to seek the international financing needed to support plutonium disposition in Russia and to implement plutonium disposition activities in accordance with the bilateral agreement.

The U.S. and Russia are working together to develop disposition methods and technologies that are cost effective and environmentally sound. Further, the U.S. and Russia have developed a plutonium disposition roadmap—or logic flow—and an associated nominal schedule for Russian plutonium disposition. The two countries have a different view of the economic value of plutonium, however, and this has precluded a commercial arrangement similar to the HEU Purchase Agreement.

Task Force Assessment of the Plutonium Disposition Program:

In the opinion of the Task Force, the Russian Plutonium Disposition Program suffers from uncertainty regarding financing and the reactor capacity needed to burn the material at the same disposition rate as the U.S. program can achieve. It also lacks a well-established security regime to ensure that the program is carried out without creating new proliferation threats.

D. Second Line of Defense Program

The Second Line of Defense (SLD) Program, initiated in 1998, is one of the youngest and most modest of the programs related to nuclear materials. Like MPC&A, which is the "first line of defense," the SLD Program has established an effective working relationship with its Russian partner, the Russian Federation Customs Service.

The SLD Program is the first U.S.-Russian cooperative program to combat illicit trafficking of nuclear material and nuclear-related equipment across Russia's borders. It reinforces and enhances other U.S. Government programs, operated by the Defense Department, the Customs Service, the Federal Bureau of Investigation, the Department of State, and other agencies. The Department of Defense, for example, focuses on strengthening border controls among the now independent former Soviet countries. The SLD Program aims to reduce the threat of nuclear proliferation and terrorism through cooperative efforts with the Russian Government to strengthen its overall capacity to detect and deter illicit trafficking in nuclear materials at its borders. Nuclear weapons and the materials needed for their manufacture give off detectable emissions that are hard to conceal or disguise. Passive, non-intrusive monitors can detect the presence of these materials, allowing for innovative, technical solutions adaptable to the challenge of stolen materials.

The SLD Program equips select strategic border crossings and ports of entry with radiation detection equipment facilitating detection, deterrence, and interdiction of smuggling of nuclear material. The program seeks to further minimize the risk of illicit trafficking by deploying radiation detection equipment, establishing search and identification equipment and procedures, and developing response procedures and capabilities to deter future trafficking in nuclear materials.

Task Force Assessment of the Second Line of Defense (SLD) Program

In the Task Force's judgment, the SLD Program is moving forward too slowly and would benefit from a stable budget. In FY 2000 funding was limited to $6 million. DOE funding was $1 million, which was augmented by carryover funds from FY 1999, and an additional $5 million was provided from the Department of State's Nonproliferation and Disarmament Fund. Additional funds are desirable to support enhanced efforts to fully equip the most strategic Russian border crossings and to provide for a more comprehensive training program.

E. Initiatives for Proliferation Prevention Program

The Initiatives for Proliferation Prevention (IPP) Program has been in place since 1994 with a goal of bringing U.S. and Russian laboratory scientists and the U.S. private sector together to move technologies from concepts to sustainable businesses. Dramatic budget reductions at scientific institutes employing weapons scientists and the lack of meaningful alternative employment present a significant proliferation threat. Evidence indicates that nations of concern with active weapons acquisition programs have already solicited technical expertise from the scientists at these facilities. In its work to respond to this threat, the IPP Program complements the Nuclear Cities Initiative, the International Science and Technology Center (ISTC) Program, and the Civilian Research and Development Foundation.[1] The IPP Program seeks to reduce the risk of the proliferation of weapons of mass destruction expertise by identifying and developing sustainable, non-weapons-related work for these scientists, engineers, and technicians to prevent brain drain.

The IPP Program pairs scientists from DOE's national laboratories with their counterparts in Russia to develop projects with commercial potential. Inter-laboratory teams review proposed projects to ensure technical viability and, along with

[1] U.S. Government contributions to the latter two programs are managed by the State Department.

specialists from a variety of U.S. Government agencies, to ensure that they do not contribute to foreign military capabilities. The IPP Program uses a number of measures to ensure accountability of its project funds. IPP projects are performed under firm, fixed-price subcontracts from DOE's national laboratories. Payment is made only when a deliverable under the subcontract is completed.

Task Force Assessment of the Initiatives for Proliferation Prevention (IPP) Program

The IPP Program has improved its performance in recent years. Following years of inconsistent funding, Congress appropriated $22.5 million in FY 1999, and $24.5 million in FY 2001. An increasing number of projects are moving toward full commercialization, where U.S. Government funding will no longer be required. The number of actual weapons experts sustainably re-employed in commercial jobs, however, remains difficult to document. In the Task Force's judgment, it is important to recognize that funding for high-tech research and development, as IPP provides, can be only one element of a successful overall effort to redirect Russia's excess nuclear weapons expertise.

F. Nuclear Cities Initiative

The Nuclear Cities Initiative (NCI) was established by Secretary Richardson and MinAtom Minister Adamov with the signature of a Government-to-Government Agreement in September 1998. It is both a new way of addressing the problem of brain drain and an effort to work with Russia to shrink the size of the massive Russian nuclear weapons complex.

NCI's goals are two-fold: to assist Russia in its announced intention to reduce the size of its nuclear weapons complex; and to promote nonproliferation goals through redirecting the work of nuclear weapons scientists, engineers, and technicians in the closed nuclear cities to alternative, non-military scientific or commercial activities. Unlike the older programs such as IPP and ISTC, which focus on scientists still at work in weapons complex laboratories and facilities, NCI focuses on providing assistance to scientists as they lose their jobs in those very laboratories and facilities. The Russian Government has undertaken a massive downsizing and restructuring of the weapons complex, and requested, through NCI, the advice and assistance of the U.S. to accelerate this effort.

In FY 2000, Congress cut NCI's $15 million budget in half, asking DOE to demonstrate results before providing additional funding. In response, the program concentrated on concrete efforts in the focus cities of Sarov, Snezhinsk and Zheleznogorsk. In Sarov, for example, a detailed strategic plan was developed that included an Open Computing Center to foster software development work, and a manufacturing park in a section of the Avangard nuclear weapons plant newly opened for conversion and commercial development. This innovative project has facilitated the first cooperative efforts with foreign companies inside a former Russian weapons production facility and promises to accelerate the planned shutdown of weapons assembly and disassembly activities at the plant.

To carry out NCI in the closed cities, DOE has reached out to a number of U.S. Government programs and non-governmental organizations with experience in community building. These include the U.S. Agency for International Development, Department of State, Department of Commerce, W. Alton Jones Foundation, Soros Foundation, and others. NCI has also worked with the European Bank for Reconstruction and Development (EBRD) to bring a small business loan program to the nuclear cities.

NCI works in partnership with MinAtom, its institutes, and western companies to create opportunities for short-term contract employment and to create the municipal and telecommunications infrastructure necessary to attract and establish longer-term business opportunities. U.S.-Russian laboratory teams continue to develop strategic plans for the three focus cities. These strategic plans define the challenges faced in downsizing, outline infrastructure needs, prioritize potential projects, and identify solutions to be implemented in the near term.

Task Force Assessment of the Nuclear Cities Initiative (NCI) Program

In its second full year of operation, NCI now has moved from planning to implementation. Although measurable results have been modest thus far, it has established contacts and working relationships designed to foster the viable business environment needed to attract and sustain non-military investment in the initial three focus cities. It is a challenge of unprecedented proportions. Multilateral cooperation will continue to be encouraged, and a larger investment by the Russian Government is required. Over the long term, NCI envisions a transition to private commercial investment and Russian Government funding. In the meantime, careful attention should be given to defining criteria for success and developing an exit strategy for

this program. Congress has stipulated that $10 million of the FY 2001 budget may not be spent until DOE and MinAtom reach an agreement documenting MinAtom's commitment to close some of its nuclear weapons facilities. NCI plans to continue the work begun in the initial three cities and, depending upon the availability of resources and approval from Congress, to expand to all ten closed Russian nuclear cities.

G. Nuclear Safety Cooperation

The International Nuclear Safety Program predates the breakup of the Soviet Union. The Chernobyl accident in 1986 focused international attention on the safety of Soviet-designed nuclear reactors in the Soviet Union and Eastern Europe. In the early 1990s, U.S., European and Japanese specialists began to search for ways to enhance the safety of these reactors for the remainder of their operational life. It is in the international community's interest that the reactors be operated in the safest manner possible.

The International Nuclear Safety Program assists with the implementation of self-sustaining nuclear safety programs, consistent with international norms. DOE seeks to bolster Russia's responsibility for addressing safety issues, preventing accidents, and increasing Russian national funding for safety programs. DOE's program provides a modest investment in critical technologies that are urgently required to assure the safety of these nuclear power plants. Program activities provide opportunities not only for U.S. industry to contribute significantly to nuclear safety and nonproliferation efforts but also to engage in the economy of Russia and subsequent business ventures. A series of joint projects between the U.S. and Russian International Nuclear Safety Centers will be completed to assist other countries operating Soviet-designed reactors to develop and implement self-sustaining nuclear safety infrastructure and improvement programs capable of implementing internationally accepted safety practices. To improve the safety of Soviet-designed nuclear power plants, a series of specific safety upgrade projects will be completed at these plants.

Task Force Assessment of the Nuclear Safety Cooperation Program

This program has been successful in improving the safety of many Soviet-designed reactors. Various safety improvements were made to Chernobyl, for example, during its period of continued operation prior to its recent shutdown on December 15, 2000. There has been little progress, however, in convincing Russia to shut down its oldest and most unsafe reactors. Indeed, the Russian Government is actively considering extending the life of these reactors. There remain important questions concerning what fraction of the safety problem has been successfully addressed, what more needs to be done, and whether efforts to help Russia develop a long-term safety culture and regulatory system will be successful.

II. BENEFITS OF COOPERATION WORK BOTH WAYS

The goodwill and trust that has developed through years of American and Russian nuclear experts working together has already paid dividends. A recent example of the high return on the American investment in Russian nuclear security took place recently at the Kurchatov Institute in Moscow.

As part of the MPC&A program, the Department of Energy provided Kurchatov Institute, a renowned nuclear research center in Moscow, a simplified version of an accounting program developed by Microsoft that the Russian entity could adapt for its nuclear accounting needs. The computer accounting program was intended to supercede the hand-receipt paper system the Russians used to keep track of their nuclear stockpile in the past.

In April of 1998, a Russian scientist began to notice some problems existed with the Kurchatov Institute material accounting system. The Russians found that over time, as the computer program is used, some files become invisible and inaccessible to the nuclear accountants using the system, even though the data still exists, imbedded in the database. Some have suggested that any insider who understood the software potentially could exploit this flaw by tracking the "disappeared" files and then physically diverting, for a profit, the materials themselves.

After investigating the problem for many months, the Russians came to believe that it posed a grave danger and suspended further use of the software in Russia's accounting system. By their calculations, an enormous amount of Russia's nuclear material—the equivalent of many thousands of nuclear bombs—would disappear from their accounting records if Russia were to use the flawed U.S. software program for 10 years.

Then, in early 2000, they did something they didn't have to do: They warned the United States about the problem, believing that an analogous risk must exist in the

U.S. system. The Department of Energy has said that the accounting system software used at Kurchatov Institute is not the same system used at the DOE facilities, so there is no "analogous risk" of accounting error in the United States. But the warning from the Russian expert is a tangible example of how nuclear cooperation is a two-way street, with potential benefits on both sides.

By working with a technical staff member at Los Alamos National Laboratory, the Russian and American nuclear experts were able to solve the problem together. The American expert duplicated the problem found at Kurchatov Institute and recommended an upgrade. He then worked with Microsoft to show that a specific, but rarely used, sequence of commands caused the problem. On advice and input from Los Alamos, Microsoft developed an alternative method to account for nuclear inventory without encountering this error, and subsequently issued an official error notice on this problem. The experts at Los Alamos provided the alternative to Kurchatov Institute.

The importance of the goodwill and trust that had grown up between American and Russian nuclear experts over years of working together in this area is clear. As Bruce G. Blair wrote in an Op-Ed in the *Washington Post,* on July 11, 2001 ("Nukes: A Lesson From Russia"): "When the Russian scientists first discovered the computer flaw, the initial reaction in some high-level Moscow circles was to suspect an American Trojan horse, a bug planted deliberately to undermine Russian security. But trust overrode suspicion. The Russians concluded that the glitches were innocent errors, not devious traps." This cooperation surely represents a high return on the American investment in Russian nuclear security. "The lesson is that nuclear cooperation is a two-way street, is paying off, and deserves continuing support."

III. NOT ALL TASK FORCE RECOMMENDATIONS REQUIRE INCREASED FUNDING

Although the Task Force has recommended that the President accelerate the pace and increase funding for specific U.S. non-proliferation programs with Russia, we also made several recommendations that would not require increased funding.

Need to Improve Transparency and Access

The Task Force heard from many government and non-government program participants who experienced frustrating and often incomprehensible access problems during the course of doing business in Russia. For example, the team implementing transparency measures for the HEU agreement experienced repeated barriers to its efforts to adjust monitoring equipment at the Urals Electrochemical Plant, one of the main facilities blending down HEU to LEU. Only after months of negotiating, including at a high level, was the team allowed to visit the plant in order to make the necessary adjustments.

The nuclear weapons complex in each country is still a highly secret place but both countries recognize that high-level interlocutors cannot routinely be involved in the details of obtaining adequate access if a program is to be successful. The Russians have pointed out, however, that transparency and access matters are still far from routine in the Russian bureaucracy. The security services, who continue to be responsible for maintaining the secrecy and security of the complex, take their job very seriously. There are no procedures for foreigners to have routine access to weapons complex facilities, and individual requests are often treated as unique and burdensome. The result is often delay or denied access, which requires high-level intervention and often serves to interrupt a long-planned implementation trip.

Russian program managers have called for a high-level Russian Government decision establishing procedures to address the current necessity of routine transparency in and access to the nuclear weapons complex for legitimate foreign participants in these programs. Some have suggested that President Putin himself, given his former ties to the security services, will have to engage in order to resolve the issue. A decision at this level may be necessary.

The Task Force observed that direct physical access to the facilities might not always be necessary. For highly secret facilities, for example, the correct installation of security measures such as fences and closed circuit TV cameras might be confirmed by other means such as still and video photography using sealed and tamper-proof cameras. For large construction projects such as the central storage facilities in the Northern and Far Eastern naval fleets, overhead photography could be a viable option. As the Russians develop more routine procedures for direct access to facilities, such methods should also be developed as legitimate means of providing transparency.

Need to Improve Coordination and Support

At several levels, the Task Force observed that DOE programs need improved government-wide coordination and support for successful long-term implementation. In

particular, the urgent risk of proliferation of weapons of mass destruction demands the attention of the highest level of the U.S. Government. The advent of a new Administration provides an opportunity for enhanced focus on this issue in the White House.

Coordination within and among U.S. Government agencies is insufficient and must be improved. Although the Task Force focused on the DOE nonproliferation programs, the members heard from many interlocutors that the programs would be improved, as would the counterpart programs in other agencies, if there were more coordination at all levels among all the U.S. Government programs. There is clearly a benefit to greater synergies among agency programs. For example, DOE and DOD have begun planning for possible work on dismantling Russian general-purpose nuclear submarines. Should such a program get underway, DOD could be responsible for handling removal of the reactor core while DOE could take responsibility for disposition of the submarine nuclear fuel—missions that take advantage of the relative expertise in each agency.

The Task Force heard that even within DOE more effective cooperation would be beneficial, both for the nonproliferation programs and for other DOE missions. For example, effective technologies for nuclear waste cleanup and remediation are being developed under DOE nonproliferation programs such as the Nuclear Cities Initiative. Such technologies could also benefit cleanup efforts within the U.S. nuclear weapons complex but thus far links between NCI and other DOE programs have not yet been widely developed. Cooperation should be encouraged in all areas where appropriate.

The Task Force believes a high-level position in the White House is needed to coordinate policy and budget for threat reduction and nonproliferation programs across the U.S. Government. The Task Force discussed several models for such a position, including having an experienced senior person brought in as a Senior Director of the National Security Council and Special Advisor to the President, reporting through the National Security Advisor to the President. Alternatively, this individual might report directly to the President as a high-level policy "czar", or to the Vice President, who would assume direct responsibility for the programs on behalf of the President. The Task Force offers no opinion on the preferred approach, but underscores the importance of attention to this issue in the new Administration. Establishing this leadership position could be the most significant possible step toward achieving the other objectives—such as streamlining internal bureaucratic impediments, improving interagency coordination, and increasing Russian transparency and access—that do not require increased funding.

Need to Streamline the Department of Energy Bureaucracy

Beyond the need for high-level coordination, the Task Force observed impediments to DOE program implementation that should be addressed on an urgent basis. Many of these seem to revolve around restrictions on international travel stemming from both DOE internal regulations and procedures in other U.S. government agencies. These restrictions appear to have created unnecessary paperwork and bureaucratic impediments. They hinder DOE's ability to supervise work in the nonproliferation programs, maintain the pace of projects, and ensure that funds are used appropriately.

IV. CONCERN ABOUT PROLIFERATION TO IRAN

The Task Force is concerned about the proliferation of WMD technology to Iran. This concern has been raised between the two governments at the highest levels: Former President Clinton expressed his concern about proliferation to Iran with Russian President Putin. During the last Administration, officials at the highest levels pressed this issue with their Russian counterparts. In the new Administration, as recently as June, President Bush also expressed his concerns about proliferation to Iran in his first meeting with President Putin. The Task Force is concerned that proliferation from Russia to Iran could undermine the nascent trust that has developed between the United States and Russia. The Task Force is concerned that further proliferation to Iran could jeopardize the success of our non-proliferation programs.

An unclassified intelligence report to Congress on worldwide acquisition of weapons of mass destruction notes that "Iran remains one of the most active countries seeking to acquire weapons of mass destruction and advanced chemical weapons technology from abroad. In doing so, Tehran is attempting to develop an indigenous capability to produce various types of weapons, chemical, biological, and nuclear, and their delivery systems."

The Clinton Administration and now the Bush Administration have been working with Russian President Putin on the very important problem of containing the pro-

liferation of nuclear missile technologies to Iran from Russia. President Putin has committed to work hard to stem the flow of technology. But the Task Force believes that much work remains to be done.

From the outset, a major issue will be Russia's plans to supply as many as five nuclear reactors to Iran, creating an atomic energy industry in a country that is believed to support terrorism and seeking to develop nuclear weapons in secret. In addition, the scientific and technical know-how to build a bomb is useless without sufficient quantities of highly enriched uranium or plutonium, the "fissile material" at the heart of an atomic weapon. It has proven extraordinarily difficult for countries like Iran to generate enough material to make a bomb on their own. Western analysts say that the most likely sources are the stockpiles of Russia and other countries of the former Soviet Union.

Thus our government must insist that the Russian government exert its full authority to halt missile and missile technology transfers from Russia to Iran and others. Our government must also take those steps necessary to persuade the Russian government to act quickly and effectively on this problem.

V. DISMISSAL OF ADAMOV IS A GOOD SIGN FOR NON-PROLIFERATION POLICY IN RUSSIA

In Russia, we are seeing changes at the top that are a hopeful sign. As the old guard is replaced by new ministers who are more interested in non-proliferation, I am hopeful that our two countries will continue to work together, as part of a growing and transparent partnership, to reduce the risk to both our nations' security.

Russian President Putin's decision on March 28, 2001, to fire Yevgeny Adamov, the Minister of Atomic Energy, is a significant event in the area of nuclear non-proliferation. When he headed the Ministry of Atomic Energy, Adamov had expedited nuclear deals that ran counter to Russian national interests and international commitments. His dismissal is a good sign for those who are concerned about forming an appropriate international climate to ensure nonproliferation of nuclear weapons and dual-use technologies.

The new Minister of Atomic Energy, Alexander Rumyantsev, was formerly the Executive Director of the Kurchatov Research Institute. He faces the important task of ensuring that MinAtom upholds Russian's nonproliferation obligations, its national legislation, and the provisions of the 2000 National Security Concept.

VI. THE HOUSE AND SENATE APPROPRIATORS HAVE INCREASED FUNDING BEYOND THE ADMINISTRATION REQUEST FOR NON-PROLIFERATION PROGRAMS

Both the House and Senate Appropriators have increased funding beyond the Administration request for non-proliferation programs at the Department of Energy. In the House, the Appropriations Committee recommended a budget of $845.341 million, an increase of $71.641 million over the Administration request of $773.7 million for nuclear nonproliferation in FY 2002. In particular, the Committee recommended $190 million for the MPC&A program—an increase of $51.2 million over the Administration budget request, and $16.144 million more than the FY 2001 funding. The Committee also has recommended $10 million for the Nuclear Cities Initiative, $4 million above the Administration request.

In addition, the House report language endorsed the Russia Task Force's major recommendation that "the President, in consultation with Congress and in cooperation with the Russian federation, should quickly formulate a strategic plan to secure and/or neutralize in the next eight or ten years all nuclear weapons-usable material located in Russia and prevent the outflow from Russia of scientific expertise that could be used for nuclear or other weapons of mass destruction." And kindly concluded, "[w]ithin available funding, the Committee has sought to support the recommendations of this Task Force."

In the Senate, the Appropriators also have recommended a budget above the Administration request for nuclear non-proliferation. While the Senate bill is not yet public, I believe this increased funding is a good sign that the 107th Congress remains committed to investing in programs that are a good value to our nation's security.

VII. CONCLUSION

The Task Force recommended a strategic plan to secure and/or neutralize in the next eight to ten years all nuclear weapons-usable material located in Russia and to prevent the outflow from Russia of scientific expertise that could be used for nuclear or other weapons of mass destruction. I believe that it is quite feasible for the Russian Federation and the United States to carry out together an intensive, well-conceived and well-funded strategic plan over the next eight to ten years. If the strategic plan is conceived in full cooperation with the Russians, is adequately fi-

nanced, and carried out as part of a growing and transparent partnership, the Task Force believes that Russia should be positioned to take over any work remaining at the end of the eight to ten year period.

VIII. GLOSSARY OF PROGRAMS

BUDGET CHART OF DOE NONPROLIFERATION PROGRAMS WITH RUSSIA

Program ($ in millions)	FY 00	FY 01
MPC&A	$144.6	$173.9
Second Line of Defense	1.2	3.0
Plutonium Disposition	30.0	40.0
Nuclear Cities Initiative	7.5	27.5
Initiatives for Proliferation Prevention	22.5	24.5
HEU Purchase/Transparency	15.7	15.2
Nuclear Safety	15.0	20.0
Totals	$236.5	$304.1

APPROPRIATIONS COMMITTEES BUDGET PROPOSAL FOR DOE NONPROLIFERATION PROGRAMS WITH RUSSIA

Program ($ in millions)	FY 02 Admin.'s Request	FY 02 House Approps
MPC&A	$138.8	$190.0 (+51.2)
Second Line of Defense		4.0 (transferred from Arms Control program)
Plutonium Disposition (Russia only)	57.0	57.0
U.S. Plutonium Disposition	130.089	130.089
Nuclear Cities Initiative	6.0	10.0 (+4)
Initiatives for Proliferation Prevention	22.5	30.0
HEU Purchase/Transparency	13.95	13.95
Nuclear Safety	13.8	10.0 (−3.8)
Total for entire program	$773.7	$845.341

The CHAIRMAN. Thank you very much. Mr. Woolsey.

STATEMENT OF HON. R. JAMES WOOLSEY, PARTNER, SHEA & GARDNER, WASHINGTON, DC

Ambassador WOOLSEY. Thank you, Mr. Chairman. If it is appropriate, I will submit my statement and then just use it as notes to speak from.

The CHAIRMAN. Without objection, your statement will be placed in the record.

Ambassador WOOLSEY. It is an honor to be asked to testify before you today. On the first page I included some notes about my history of involvement on this issue. I will not bore the committee with the details of that, except I will stress that in the seventies and eighties I was a substantial supporter of the ABM Treaty, and after President Reagan's SDI speech in 1983 was substantially skeptical of SDI. Indeed, together with Messrs. Scowcroft and

Deutch I wrote a piece in the New York Times in late 1996 and early 1997 along those lines.

I think that for many of us in the seventies and eighties who emphasized the importance of offensive systems and were supporters of the ABM Treaty and somewhat skeptical of SDI, we had persuaded ourselves, in 1972 and after, that although we would have preferred that assured destruction not be mutual—that Russia, or the Soviet Union be the only country that was assured of destruction if it attacked—nonetheless the ABM Treaty of 1972 seemed to many of us to present the lesser of two evils, even though we had to give up in it the capacity for national ballistic missile defense. First, we were not convinced in 1972 and for much of the seventies and eighties that the technologies that were foreseeable for ballistic missile defenses, certainly in the early seventies, were going to spawn deployable ballistic missile defense systems that could reliably defend us against our major concern, which was an all-out Soviet attack. Very little else by way of threats was on anyone's mind, not rogue states, not really even China, which had an embryonic ICBM program, but for most of this period was actually working cooperatively with the United States against the Soviet Union.

Second, we felt that the massive Soviet lead in large ICBM's equipped with MIRV's, together with the Soviets' reasonably capable ballistic missile submarine force, put a large share of our own ICBM's and bombers at least theoretically at risk, and that led many others to become members in a sense of the you-need-both-a-belt-and-suspenders set. We wanted to ensure that even if U.S. offensive forces were heavily depleted by a Soviet attack, and Soviet defenses were upgraded, the U.S.'s ability to retaliate using submarine-launched missiles alone would be clear and sufficient.

We felt that keeping our allies reassured and being able to check Soviet recklessness in a crisis, most likely one in which the Soviets would be able to count on superiority of conventional forces in Europe, heavily depended on this clarity and on this sufficiency, and that limiting Soviet deployment of even less-than-perfect ABM defenses was extremely important to this end.

Now, that thinking seems rather dated now. To some it was not persuasive even in 1972. It came to be increasingly questioned by others after President Reagan's famous 1983 SDI speech. By the 1990's, I would submit, it became outdated in almost all its assumptions, due to the end of the cold war, due to the absence of any serious conventional force threat to Europe's security from Russia or otherwise, due to the deterioration of former Soviet radar and satellite warning systems, as Lloyd Cutler alluded to, and due to persistent work on both longer range ballistic missiles and weapons of mass destruction by rogue states such as North Korea, Iran, and Iraq.

Now, my point with respect to the ABM Treaty and its restrictions on the United States in today's world, and on Russia, I might add, is twofold. First, there is common ground possible now between those who have been on different sides of the ABM debate in the past: both those who have opposed the treaty for many years, often in company with support for the more ambitious forms of SDI, and those such as myself who supported the treaty during the same period and were skeptical of ambitious SDI.

I think we need to realize that what matters today are the decisions that now need to be made, not ancient jousts between SDI supporters and ABM Treaty supporters during the era before the fall of the Berlin Wall. We may both have been somewhat right and somewhat wrong. It does not matter. Together, we won the cold war. It is time, indeed it is past time, to go on to the next set of problems.

Now, second, if one focuses on the strategic realities of today, I would submit that there is no—no—strategic rationale for the ABM Treaty. The old rationale for our wanting to limit Soviet defenses as spelled out a minute ago does not apply to today's Russia, or to the Russia of the foreseeable future, even if it should turn somewhat more hostile to the United States than it is today.

Russia is not capable of threatening Europe with massive conventional forces, so it would have no advantage in a crisis on that continent if unforeseen difficulties arose there between Russia and NATO. Consequently, we do not need to rely in any day-to-day sense on our strategic offensive nuclear forces to protect our NATO allies from Russian conventional attack.

Moreover, Russian strategic nuclear forces do not threaten a substantial share of our nuclear deterrent. The deterrent that we do maintain is no longer heavily reliant on fixed land-based ICBM's that might be vulnerable to Russian attack. Hence, we have no reason to want to limit Russian defenses to ensure that our retaliatory forces would be able to penetrate Russian defenses.

Indeed, we should encourage Russian ballistic missile defenses and effective early warning systems so they do not—as Lloyd alluded to, and as they did temporarily in 1995—mistake such events as the launch of a harmless Norwegian scientific rocket for the possible launch of an American submarine-launched missile.

The only rationale, in my judgment, for the ABM Treaty today is one rooted in current foreign affairs concerns. The Russians do not want us to withdraw from it, so doing so would presumably upset them, and perhaps lead them to do other things that we do not want. For example, President Putin at one point threatened to deploy more Russian strategic warheads if the United States deployed ballistic missile defenses, although he seemed more accommodating on this point last weekend. But there is a limit to the degree to which we should let this sort of threat, if it recurs, influence us. Added numbers of Russian strategic warheads are not really of concern to us, since our deterrent is no longer principally based in ICBM's at fixed locations.

The Russians were willing in 1992, following President Yeltsin's two remarkable speeches in January of that year, to consider substantial revisions to the ABM Treaty and to discuss mutual work on ballistic missile defenses with us. Perhaps the discussion last weekend between President Bush and President Putin heralds another such period, and this Russian Government will prove as reasonable in the future as President Yeltsin was in 1992. I hope so.

But whether the Russians ultimately prove reasonable or not, it is still worth offering, in my view, to work with them in the way that we began in 1992 and then abandoned, unfortunately, in 1993. If that proves fruitless, there are ample legal and strategic grounds for either withdrawing from the treaty or, as I and others have ar-

gued, for asserting a legal case that this bilateral treaty did not survive the breakup of the Soviet Union, unless and until the U.S. Senate approves by a two-thirds vote the substitution of Russia, or Russia together with other states for the USSR.

I might add, Mr. Chairman, that although the Russians will say the opposite, I believe Mr. Lukin's statement of a day or so ago is emblematic of their real thinking, namely that they should work with the Americans, because otherwise the Americans will go ahead on their own and do what they want to. I believe that encouraging Russian cooperation is best implemented by our taking a clear and decisive position that we will proceed with ballistic missile defenses.

But however we set aside the treaty, whether it is by negotiating a new set of understandings with Russia, by withdrawing under the withdrawal clause, or simply by adopting the legal argument that the change in succession states—the substantial change affected by the succession of either Russia, or Russia plus the other three countries—will not be submitted to the Senate for a two-thirds vote.

However we do it, I do not believe that we can perpetually let our security vis-a-vis the likes of North Korea, Iran, Iraq, and other states that are developing ballistic missile and weapons of mass destruction be held hostage to Russia's not wanting us to have defenses.

Still less, Mr. Chairman, do I believe that the Senate should approve the expansion of the ABM Treaty, as is required by the Russian ratification of START II, to encompass Belarus, Ukraine, and Kazakhstan. That step was originally proposed by the Clinton administration, and then adopted by Russia. There is not even the most remote strategic rationale for this expansion of the treaty.

We do not have any reason to want to limit these countries' ballistic missile defenses, and we have every reason not to want, for example, the execrable dictator of Belarus, Mr. Lukashenko, to be able to veto our ability to be able to develop and deploy defenses against rogue states.

I would add, Mr. Chairman, I am in favor of trying to find ways to encourage Russia, North Korea and other states to stop their very troubling practices of participating in proliferation of technology and components for ballistic missiles and weapons of mass destruction. Sometimes, negotiations such as those of my old friend and co-witness today, Bill Perry, conducted with North Korea can be effective tools to this end.

Sometimes cooperative programs with Russia can also be effective, as the Nunn-Lugar program has been, and as the programs which Lloyd testified may well continue to be. But negotiations of cooperative programs cannot be our only tool, for two reasons. First, the growing threat from ballistic missiles and weapons of mass destruction is not limited to countries with whom we are sure to have success in negotiations and cooperative programs.

As we pointed out in the Rumsfeld Commission report in 1998, this genie is out of the bottle. Deputy Secretary of Defense Wolfowitz has recently testified that in 1972, when the ABM Treaty was signed, we did not know that other countries might have biological weapons programs. We knew of only five with nuclear

weapons programs and nine with ballistic missile programs. Today, there are 13 with biological weapons programs, 12 with nuclear weapons programs, and 28 with ballistic missile weapons programs.

Now, true, some of the ballistic missile programs are only at an early stage, but we have seen with North Korea how even a very poor country can make progress toward having missiles of intercontinental range. North Korea has no monopoly on this ability, and this problem will recur again and again and again as the years go on.

Our leverage in negotiations with North Korea or any other country whose ballistic missile programs we seek to limit will be enhanced in my view, not degraded, if our ballistic missile defense program is steadily making these other countries' offense missiles less and less certain of reaching their targets. I have been an advisor, delegate, or Ambassador and chief negotiator in five sets of arms control negotiations with the Soviet Union and other countries between 1969 and 1991. In my experience, in those negotiations and in a number of negotiations I have conducted as a private attorney, it is much easier to get an adversary to bargain away something that he sees is declining in value. To the degree that rogue states continue to see their ballistic missiles as virtually certain of reaching their targets, as they do today, they will be harder to persuade to limit or abandon these programs.

In short, Mr. Chairman, the world in which the ABM Treaty was an imperfect but in my view a reasonable accommodation to the strategic circumstances in which we found ourselves is gone with the wind. In the new world in which we live, we now require defenses I believe, for our security. And our treaty obligations, with due regard to the niceties of diplomacy, and the requirements of international law, must be adjusted to serve our strategic needs, not the other way around.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Woolsey follows:]

PREPARED STATEMENT OF HON. R. JAMES WOOLSEY

Mr. Chairman, Members of the Committee, it is an honor to be asked to testify before you today.

I would suggest to you that, in the circumstances of today, strong support for ballistic missile defense is a reasonable position—even if, indeed especially when, we are simultaneously seeking to limit proliferation through negotiations. I would add that I believe this is the case even for those who, like myself, have historically emphasized the central importance of offensive strategic weapons, have seen some value in certain arms control agreements, and did not initially welcome President Reagan's Strategic Defense Initiative. The circumstances have changed, and that calls for a substantial change in our assumptions and our policies.

In setting out my reasons, I plan today to update some points I made in testimony to this committee over two years ago and in that context I believe it would be informative to trouble you with a few biographical points. Thirty-two years ago this fall, as a captain in the U.S. Army, I was serving as an analyst of strategic programs in the Office of the Secretary of Defense, and in that capacity I was assigned as an advisor on the U.S. delegation to the first round of the SALT I talks in Helsinki. Thus I was a very junior participant in the initial negotiations that led, three years later, to the ABM Treaty. When the treaty was approved by the Senate in 1972 I was the General Counsel of the Senate Armed Services Committee and assisted Senator Stennis in the Committee's consideration of the treaty and the floor debate. Then for three years in the late 1970's, as Under Secretary of the Navy, I was heavily involved in the Navy's strategic force planning, some aspects of which were influenced by the existence of the treaty.

In 1983, I was a member of President Reagan's Commission on Strategic Forces, the Scowcroft Commission (and the principal draftsman of its report); we did not reject SDI when it was announced by the President during the middle of our deliberations, but it is fair to say that the Commission assigned SDI a decidedly secondary role to what we felt to be the nation's central strategic objective: maintaining a survivable and effective offensive deterrent. Following the Reykjavik summit of 1986, I was the co-author of an article in the New York Times Magazine that was highly critical of President Reagan's proposal there to ban all ballistic missiles and rely principally on SDI for our strategic protection. Messrs. Scowcroft, Deutch, and I wrote in the article:

> The official line has become a sort of strategic Manichaeanism: that there exist only the dawn of S.D.I. and the darkness of mutual assured destruction that went before it. The concept of careful and stable deterrence, with modernization of nuclear weapons to improve their survivability, some militarily useful work on defensive systems and moderate arms control, was abandoned.

One aspect of the approach to strategic issues summarized by this quotation, for many of us in the seventies and eighties, included adherence to the ABM Treaty. But for an important share of the treaty's supporters, acceptance of the treaty was not accompanied by any lapse into revery about the beauty of the concept of mutual assured destruction. It was very far from desirable, for many of us who supported the treaty then, that by agreeing not to deploy nationwide ballistic missile defenses we would thereby guarantee most Soviet missiles a free ride to American targets—quite a few of us never liked the mutual aspect of mutual assured destruction. But we persuaded ourselves then that, nonetheless, the treaty presented the lesser of two evils, for two reasons.

First, we were not convinced that the technologies foreseeable for ballistic missile defenses in the early seventies, or even through much of the eighties, were going to spawn deployable systems capable of defending reliably against our major concern—an all-out Soviet attack. Very little else with respect to threats was on anyone's mind. Thus we felt that the U.S. was not giving up something that was practically attainable when it signed on to the Treaty. Threats of lesser magnitude, other than the one that came to be posed by Chinese ICBM's, were not apparent in those years. (And for most of this period we were working cooperatively with China against the Soviet Union on a range of issues.)

Second, we felt that the massive Soviet lead in large ICBM's equipped with MIRV's, together with its reasonably capable ballistic missile submarine force, put a large share of our own ICBM's and bombers theoretically at risk if the Soviets should ever contemplate launching a first strike in the midst of some crisis. This forced us in our strategic planning to rely heavily on our own ballistic missile submarines as the only truly survivable part of the American nuclear deterrent. Soviet deployment of an early ABM system around Moscow, together with their extensive infrastructure of sophisticated radars and air defense interceptors throughout the country, led some of us to join the you-need-both-a-belt-and-suspenders set. We wanted to ensure that—even if U.S. offensive forces were heavily depleted by a Soviet attack and Soviet defenses were upgraded—the United States' ability to retaliate using submarine-launched missiles alone would be clear and sufficient. We felt that keeping our allies reassured and being able to check Soviet recklessness in a crisis—most likely one in which the Soviets would be able to count on superiority of conventional forces in Europe—heavily depended on this clarity and sufficiency, and that limiting Soviet deployment of even less-than-perfect ABM defenses was extremely important to this end.

This thinking seems dated now—to some it was not persuasive even in 1972—and it came to be increasingly questioned after President Reagan's famous 1983 SDI speech. By the nineties it became outdated in almost all of its assumptions due to the end of the cold war, the absence of any serious conventional force threat to Europe's security, the deterioration of the former Soviet radar and satellite warning systems, and persistent work on both longer-range ballistic missiles and on weapons of mass destruction by rogue states such as North Korea, Iran, and Iraq.

My point with respect to the ABM Treaty in today's world is really twofold.

First, there is common ground possible, today, between those who have been on different sides of the ABM Treaty debate in the past. Both those who have opposed the treaty for many years (often in company with early support of the more ambitious forms of SDI) and those, such as myself, who supported the treaty during the same period and were skeptical of ambitious SDI, need to realize that what matter, today, are the decisions that now need to be made, not ancient jousts between SDI supporters and ABM Treaty supporters during the era before the fall of the Berlin

wall. We may have both been somewhat right and somewhat wrong. It doesn't matter. Together we won the cold war. It's time, indeed past time, to go on to the next set of problems.

Second, if one focuses on the strategic realities of today, I would submit that there is no strategic rationale for the ABM Treaty.

The old rationale for our wanting to limit Soviet defenses, as spelled out above, does not apply to today's Russia or the Russia of the foreseeable future, even if that nation turns more hostile to the U.S. than it is today. Russia is not capable of threatening Europe with massive conventional forces, so it would have no advantage in a crisis on that continent if unforeseen difficulties arose there between Russia and NATO. Consequently we do not need to rely in any day-to-day sense on our strategic offensive nuclear forces to protect our NATO allies from Russian conventional attack. Moreover, Russian strategic nuclear forces do not threaten a substantial share of our nuclear deterrent: the deterrent that we do maintain is no longer heavily reliant on fixed land-based ICBM's that might be vulnerable to Russian attack, and hence we have no reason to want to limit Russian defenses to ensure that our retaliatory forces would be able to penetrate Russian defenses.

Indeed we should encourage Russian ballistic missile defenses and effective early warning systems so that they do not—as they did temporarily in 1995—mistake such events as the launch of a harmless Norwegian scientific rocket for the possible launch of an American submarine launched missile and even momentarily worry about whether they need to retaliate.

The only rationale for the ABM Treaty today is one rooted in current foreign relations concerns: the Russians do not want us to withdraw from it, so doing so would, presumably, upset them and perhaps lead them to do other things that we don't want. For example, President Putin at one point threatened to deploy more Russian strategic warheads if the U.S. deployed ballistic missile defenses (although he seemed more accommodating this past weekend). But there is a limit to the degree to which we should let this sort of threat, if it recurs, influence us. Added numbers of Russian strategic warheads are not really of concern to us, since our deterrent is no longer principally based in ICBMs at fixed locations.

The Russians were willing in 1992, following President Yeltsin's two remarkable speeches in January of that year, to consider substantial revisions to the ABM Treaty and to discuss mutual work on balistic missile defenses with us. Perhaps the discussion last weekend between President Bush and President Putin heralds another such period and this Russian government will prove as reasonable in the future as President Yeltsin was in 1992. But whether the Russians ultimately prove reasonable or not, it is still worth offering, in my view, to work with them in the way that we began in 1992 and abandoned in 1993. If that proves fruitless there are ample legal and strategic grounds for either withdrawing from the Treaty or, as I and others have argued, for asserting the legal case that this bilateral Treaty did not survive the break-up of the Soviet Union unless and until the U.S. Senate approves the substitution of Russia (or Russia together with other states) for the USSR. (Some have asserted that the Senate implicitly ceded its right to approve such a change to the executive branch. In my judgment this argument is about as weak, and as inimical to the Constitutional role of the Senate, as legal arguments ever get.)

But however we set aside the Treaty—by negotiating a new set of understandings with Russia, by withdrawal, or simply by adopting the sound legal argument that it is no longer in force and effect—we cannot perpetually let our security vis-a-vis the likes of North Korea, Iran, Iraq, and other states that are developing ballistic missiles and weapons of mass destruction be held hostage to Russia's not wanting us to have defenses.

I would add that, in my judgment, the Senate should not approve the expansion of the ABM Treaty to encompass Belarus, Ukraine, and Kazakstan—a step originally proposed by the Clinton Administration and then adopted by Russia. There is not even the most remote strategic rationale for this expansion. We don't have any reason to want to limit these countries' ballistic missile defenses and we have every reason not to want to want, e.g., the execrable dictator of Belarus, Mr. Lukashenko, to be able to veto our ability to develop and deploy defenses against rogue states.

I would add, Mr. Chairman, that I am in favor of trying to find ways to encourage Russia, North Korea, and other states to stop their very troubling practices of participating in the proliferation of technology, components, and systems—both for ballistic missiles and for weapons of mass destruction. Sometimes negotiations, such as those that my old friend and co-witness today, Bill Perry, conducted with North Korea, can be effective tools to this end. Sometimes cooperative programs with Russia can also be effective, as the Nunn-Lugar program has been.

But negotiations and cooperative programs cannot be our only tool for two reasons.

First, the growing threat from ballistic missiles and weapons of mass destructions is not limited to countries with whom we are sure to have success in negotiations and cooperative programs. As we pointed out in the Rumsfeld Commission Report in 1998, this genie is out of the bottle. As Deputy Secretary of Defense Wolfowitz has recently testified, in 1972 when the ABM Treaty was signed, we did not know the number of countries with biological weapons programs and we knew of only five with nuclear weapons programs and nine with ballistic missile programs. Today, he noted, there are thirteen with biological weapons programs, twelve with nuclear weapons programs, and twenty-eight with ballistic missile programs. True, some of the ballistic missile programs are only at an early stage, but we have seen with North Korea how even a very poor country can make progress toward having missiles of intercontinental range. North Korea has no monopoly on this ability. This problem will recur again and again as the years go on.

Our leverage in negotiations with North Korea or any other country whose ballistic missile programs we seek to limit will be enhanced, not degraded, if our ballistic missile defense program is steadily making these other countries' offensive missiles less and less certain of reaching their targets. I have been an adviser, delegate, or ambassador and chief negotiator in five sets of arms control negotiations with the Soviet Union and other countries between 1969 and 1991. In my experience, and in the many negotiations I have conducted as a private attorney, it is much easier to get an adversary to bargain away something that he sees is declining in value. To the degree that rogue states continue to see their ballistic missiles as virtually certain of reaching their targets, as they are today, they will be harder to persuade to limit or abandon these programs.

In short, Mr. Chairman, the world in which the ABM Treaty was an imperfect, but in my view reasonable, accommodation to the strategic circumstances in which we found ourselves is gone with the wind. In the new world in which we live we now require defenses for our security, and our treaty obligations—with due regard to the niceties of diplomacy and the requirements of international law—must be adjusted to serve our strategic needs, not the other way around.

The CHAIRMAN. Thank you. Mr. Smith.

STATEMENT OF HON. DAVID J. SMITH, PRESIDENT, GLOBAL HORIZONS INC., WASHINGTON, DC

Mr. SMITH. Thank you, Mr. Chairman. First, let me thank you and your colleagues for inviting me here. It is always a pleasure to come back to the Foreign Relations Committee, where I once served proudly, and also to see my former boss, Senator Lugar, here.

If I may, Mr. Chairman, I would like to, as Ambassador Woolsey did, use my written statement as notes and submit it for the record in its entirety.

I would like to cover five key points today in support of President Bush's goal to deploy missile defenses for America, for our Armed Forces overseas, for our allies, and our friends. First I would like to say a word about the threat. I had the opportunity to be a consultant and reviewer to the Rumsfeld Commission report which came out in 1998, and I think it made some good points.

Since then, there has been a steady stream of ballistic missile developments, and I keep a running tally of them. As you can see, it is quite long. I have got two pages, and I think it was made available to you, but I would ask, Mr. Chairman, to include this in the record with my statement as well.

It is very clear that the ballistic missile trend line in the world is toward more missiles, more missiles in more countries, and with greater range and accuracy, and more specialized warheads.

Now, I do not mean to imply for a moment that in every country that has a ballistic missile out there, there is somehow an inex-

orable march here toward bigger and better missiles. It is not true. Some of them will peak, plateau, with SCUD-level technology and high explosive warheads. But some states potentially hostile to the United States clearly are advancing, and it is the trend line that we have to meet.

Now, the chronology I have made available to you I think gives you a little bit of a snapshot, but it is not a perfect picture, for a couple of reasons. One, one of the points the Rumsfeld Commission made was that cover and deception are covering up an awful lot of clandestine programs. Things that 20 years ago we might have seen in various countries we are just not seeing any more, until we see a full-up flight test, and that full-up flight test might barely proceed operational deployment.

The second reason that I think it is a slightly inadequate picture has been detailed by the editor of Jane's Strategic Weapons Systems, Duncan Lennox. Mr. Lennox described a pattern of collaboration where we are not just talking about transfers from, say, Russia or China to these countries, or even transfers among these countries, but actually collaboration among countries working on things. Let me just give you one example.

Back in the eighties, the North Koreans basically gave SCUD B and SCUD C variants to Syria and Iran to experiment on and eventually manufacture. That information was fed back to North Korea, and went into the No Dong program.

Now, the No Dong program then went into the Taepo Dong–1 program, which, of course is the missile that overflew Japan and the debris reached the shores of Alaska in 1998, right after the Rumsfeld Commission report.

The first stage of the Taepo Dong missile benefited from No Dong. The second stage was a direct result of the collaborative efforts that North Korea had with these other countries on the SCUD C variants. Now, we are not quite sure where the third stage came from, but it was a solid fuel rocket motor. It may have benefited from Iranian and Pakistani experience with shorter range rockets and missiles in solid fuel. It also may have been based on a Russian SS–21.

The point I am trying to make here is that the traditional sort of country-by-country intelligence estimates that we used to read simply do not give you a very good picture any more. They no longer conform to reality. The United States must respond to a global trend line, not to something that it sees in some individual country; and as Secretary Rumsfeld has stressed, we need to expect the unexpected.

This also means it is kind of hard to determine the value of things like the North Korean missile testing moratorium. We are really not sure what is going on in North Korea. This is a country in which Americans have maybe spent a total of 100 man-days over the past 50 years. We really do not know what is going on in North Korea.

As late as last Friday they seemed to acknowledge some kind of a missile test moratorium. They also told the delegation led by Javier Solana and Goran Persson that they reserve the right to continue to trade and sell missile technologies, so we are really not

sure what we have, and we are also not sure what they are getting in return.

If you go back and look at this collaborative program that Duncan Lennox is talking about, we do not know what they are getting back from these other countries, but there is some speculation that the entire delay in the Taepo Dong–2 launch was due to the fact that they were making the improvements that they were basing on the information they were getting back from the test of the Ghauri–1 and Ghauri–2 from Pakistan and the Shahab–3 in Iran. The fact is the engineers from all three countries have been involved in all of the tests in all of those countries.

There is an often-heard objection that of course there are a lot of other ways that a country or a transnational group can deliver some kind of a weapon on the United States. There are plenty of ways to hurt America. There are plenty of ways to hurt Americans. We saw that with the attacks on our embassies in Kenya and Tanzania. We saw that with the attack on the USS *Cole*. Of course there are. There are a host of measures that we ought to be taking, but the one thing that we need to be clear on here is that we need to be careful we are not confusing the weapons of terrorism with the weapons of geopolitical blackmail. We really need to be careful not to confuse the two. There could be all sorts of things happening, and we need to be working on thwarting another attack on the World Trade Center, or the Lincoln Tunnel, or the various things we have seen. Those are things that a responsible government should be working on.

Do not confuse that with the ability of a country that wants a return address, wants a missile, not so much because it is just going to lob it at the United States just to see if it will go off, but to try and affect our calculation of our own interest in a crisis. That is why they want missiles. That is what makes a difference.

There are also going to be other military threats. For instance, Dennis Gormley has just written a book on cruise missiles where he suggests we need to do something about cruise missile defense. Indeed we do. He says that should not derail us from looking at the more imminent threat of ballistic missiles. Of course we need to do that. The fact is that because there is a challenge out there that requires a response does not obviate the need to do what you need to do in some other area, which in this case is ballistic missile defense.

Another oft-heard objection is that of course there are lots of ways that you can deal with the proliferation of missiles, missile technology, and weapons of mass destruction. Indeed, there are. I wrote an article in a publication called "Jane's Ballistic Missile Proliferation," last year, where I argued that none of these measures can stand alone.

Indeed, you want all sorts of things that you want to be working on, and I went through a whole bunch of them. You want to be working on better regional diplomacy. You need better intelligence. You need better technology. You probably need various counterforce options. You need passive defense. You want to have some kind of consequence management. You need to maintain deterrence. Absolutely.

I would also say that in response to some of the comments I got back on that chapter, I would add democratization and trade as something that you want to encourage, regime change is very important thing when you are trying to deal with proliferation.

I also think that the former majority leader, Howard Baker, and Mr. Cutler have done us a service in reminding us of the importance of the Nunn-Lugar programs and other sorts of things. Indeed, we need to be worrying about securing and neutralizing the vast arsenal of Russian nuclear weapons and nuclear material. But make no mistake, missile defenses are the linchpin of any kind of a full spectrum response. They will compliment and magnify all of our counterproliferation efforts by sending a clear signal that we do intend to use our superior technology to foreclose this avenue.

Missile defenses would insulate us from geopolitical blackmail aimed at altering our allies' and our friends' calculation of our interests.

Finally, let us just recall that if it should come to war-fighting, that the single greatest loss that we had in the gulf war was the SCUD attack on the Pennsylvania National Guard barracks. Now, others will argue that of course you have conventional forces. Indeed, you do.

You also have nuclear forces, and I do not know, they may well deter in certain cases. There is some evidence that Saddam Hussein was, in fact, deterred by the threat of nuclear weapons, either by us or the Israelis, or maybe a combination of the two, but the fact is we do not have the kind of understanding with these countries that we had with the Soviet Union. We simply do not understand them. It may well work.

The one thing I would not want to do is take away the flexibility, the options that an American President might have. For instance I think, if I understood the suggestion made by Secretary Perry correctly, that we would say that if we were threatened with a ballistic missile attack, we would attack the sites. That is a heck of a corner to work yourself into. I would not want to see any President worked into that corner, so in a moment of crisis, right as we are on the brink of war, where we may be able to walk this thing back, the policy of the United States is to attack. That seems to me to be the wrong way to go. I would rather use our technology to see if we have some kind of an insurance policy on this.

Let me just say, as my third point, that I think what President Bush is doing is absolutely right. He is talking about the right kind of defense. It is a seamless web. It is global. It is layered. It is evolutionary. It is an ambitious goal indeed, but I think if you look at the research, development, testing, evaluation, and deployment plan it is a fairly cautious walk-before-you-go plan, and I think the announcement 2 weeks ago of a new range in Alaska, despite what Dr. Cornwall says, does give us different distances and different geometries. And, by the way, the launch site is not at Shemya, it is at Kodiak, where there is already a space launch facility. I would simply quote what President Bush said. "We will evaluate what works and what does not."

We know that some approaches will not work. We also know that we will be able to build on our successes. That has been our experi-

ence in every endeavor of technology, not just military technology but everything the United States has ever set out to do.

Let me say a word about countermeasures. I do not have the physics credentials that Dr. Cornwall has, but this one keeps coming up again and again. I ask every time I have the opportunity, and I was down at Huntsville, at the Army's Space Missile Defense Command last week. I asked the same question, and I get the answer that yes, we are working the problem, yes, we are concerned about it, but it is not nearly as big as it is being made out to be.

First of all, the fact that somebody at MIT can create a countermeasure on paper does not necessarily mean that they have the technology to be able to integrate that into a system. You have weight and volume cost to any kind of a countermeasure you want to put onto a missile, and then you have the problem of atmospheric reentry, and this is why you have a layered defense system. You are up against a lot of different American technologies that you have to defeat, not just one, but several.

Finally, on the multilevel shroud, that one was addressed directly, and the point was made, the United States actually tried it a few times and it is really hard to do, try to fly something inside something else. American scientists understand the physics of it, but do not understand how it is going to be done.

Now, if you are going to do all this, I am afraid, yes, the administration is right, we are going to bump up against the ABM Treaty very, very soon. I will not go into all the reasons for that, but if anyone wants to get into it during discussion, I would be glad to do that.

Yes, I think things can change right now. It seems to me we had a big step forward in Genoa. I think there are three things all of a sudden now that are coming together that President Bush has had something to do with.

First of all, I think the fact is that President Putin is also looking for a new security framework. Do not get me wrong, I do not suggest that all of a sudden Moscow sees the world the same way we do, but the fact is, if you look at what is happening here, President Putin does understand that to maintain Russia's position in the world you have got to move beyond cold war thinking, and behind their current force structure.

The former commander of the Strategic Rocket Forces was removed from the position of Minister of Defense, and just a couple of weeks ago General Ivashov, the number one hardliner in the ministry, was dismissed. President Putin has his number one friend and political ally, Sergey Ivanov, over there trying to redo a force structure, and General Kvashnin, who clearly was the leader in trying to cut the Strategic Rocket Forces down to size, is now clearly leader of the military.

As I said, I do not say this is necessarily that they see things the way we do, but they are looking for some way out of the conundrum of the cold war.

Second, President Putin's vision of whatever he sees as a post cold war security framework clearly includes a reduction of strategic offensive forces. He has got to go down, and he has used the number about 1,500. He wants us to go down with him, obviously,

or he has got a problem, and if the Americans really are going to pursue missile defense, he wants to be part of that deal.

Now, what President Bush has succeeded in doing, it seems to me, is this, is that by offering unilateral strategic offensive force cuts and then saying he is willing to talk about them in the context of defenses, he has given President Putin an incentive to try and take this thing on in Moscow. It is going to be very difficult. He has got nationalists, he has got Communists breathing down his neck, but he knows he needs to move, and he can come out of this with some kind of a cooperative reduction in the strategic offensive forces and be part of the framework for the post cold war world.

The third thing that I would offer you, in conclusion, that has happened here, is that evidently the Bush administration has been successful in projecting its seriousness about pursuing missile defense. As a former negotiator, I can tell you that nothing, absolutely nothing will happen without this kind of leverage. Consequently, I will conclude my statement to you by recalling the words of Deputy Secretary Paul Wolfowitz before the Armed Services Committee 2 weeks ago.

Dr. Wolfowitz said, "if we agree that a cooperative outcome is preferable, then it is important that the Congress demonstrate the same resolve as the President to proceed with the development of defenses to protect our people, our friends and allies, and our forces around the world, defenses that cannot, by the wildest stretch of the imagination, be considered a threat to Russia or its security."

Mr. Chairman, thank you very much.

[The prepared statement of Mr. Smith follows:]

PREPARED STATEMENT OF AMBASSADOR DAVID J. SMITH

Mr. Chairman:

As ever, it is a privilege to appear before the Committee on Foreign Relations that I once served with great pride. I thank you and your colleagues for inviting me to share my views in support of President Bush's goal to deploy missile defense for America, its forces abroad, allies and friends. My remarks this afternoon will address five key points:

1. A long list of worldwide ballistic missile developments since the 1998 Rumsfeld Commission report underscores the Commission's finding that the threat is evolving rapidly. Of particular concern is missile development collaboration among countries such as North Korea, Pakistan and Iran.
2. The emergent ballistic missile and weapons of mass destruction threat calls for a full spectrum response of which missile defenses are the linchpin.
3. The Bush Administration's missile defense goal is ambitious, but its research, development, testing, evaluation and deployment plan is a cautious, walk-before-you-run approach.
4. An effective missile defense of the United States will bump up against the limits of the 1972 ABM Treaty in months, not years.
5. The 1972 ABM Treaty was the legal embodiment of Cold War stability—mutual assured destruction (MAD). It is time for a new, post Cold War security framework that includes defenses. Presidents Bush and Putin took a big step in that direction last Sunday in Genoa.

THE GLOBAL BALLISTIC MISSILE THREAT

During 1998 I had the opportunity to be a consultant to the bipartisan Commission to Assess the Ballistic Missile Threat to the United States chaired by Donald H. Rumsfeld. On July 15, 1998 the Rumsfeld Commission issued its watershed report. Its principal findings bear repeating in the context of this hearing:

- "Concerted efforts by a number of overtly or potentially hostile nations to acquire ballistic missiles with biological or nuclear payloads pose a growing threat

. . . to inflict major destruction on the U.S. within about five years of a decision to acquire such a capability."

- "During several of those years, the U.S. might not be aware that such a decision had been made."
- "The threat to the U.S. posed by these emerging capabilities is broader, more mature and evolving more rapidly than has been reported in estimates and reports by the intelligence community."
- "The Intelligence Community's ability to provide timely and accurate estimates of ballistic missile threats to the U.S. is eroding."
- "Plausible scenarios [include] re-basing or transfer of operational missiles, sea and air-launch options."
- "The U.S. might well have little or no warning before operational deployment."

Just about the time the Commission issued its report, Iran tested its 1,300 kilometer Shahab-3, a variant of the North Korean No Dong-1. And if any doubt lingered, the final jolt came from the roar of North Korea's Taepo Dong-1 missile as it overflew Japan on August 31, 1998.

Since that time, there has been a steady stream of ballistic missile developments. I maintain a running list of these, the current version of which I am making available to the Committee. I would add that there have been recent reports that Libya is attempting to acquire long-range missiles from China or North Korea. If successful, Rome, an important allied capital, as well as our naval base at Naples, would soon be within Colonel Qaddafi's reach. This underscores the importance of President Bush's point that missile defense of our allies is a vital interest of the U.S.

The world ballistic missile trend line is toward more missiles in more countries, with improved accuracies and ranges, and development of a number of specialized warheads. I do not suggest that every country with a ballistic missile has joined an inexorable march toward bigger and better ones—some will plateau at SCUD type technology and simple high explosive warheads. But countries potentially hostile to the U.S. are advancing. Plainly put, the ballistic missile cat is out of the bag, and the U.S. must prepare to meet the advancing point of the rest of world trend line.

My chronology of ballistic missile events gives a good idea of the problem we face, but the picture is incomplete for two reasons. First, as the Rumsfeld Commission pointed out, effective cover and deception frequently deny us insight into clandestine programs in countries of concern. We may not know what is happening until we see a flight test that barely precedes operational deployment.

Second, writes Jane's Strategic Weapons Systems Editor Duncan Lennox,

> There appears to be a clear proliferation trail and collaboration between China, Russia, North Korea, India, Pakistan, Iran, Iraq, Syria and Libya . . . The trail includes the exporting of technologies by Chinese and Russian industry, the sharing of data and test results between some of the nations, and passing examples of modern designs back up the trail for reverse engineering.

Lennox explains that Syrian and Iranian work on SCUD B and SCUD C variants was fed back into the North Korean No Dong program. No Dong technology, in turn, was applied to the first stage of the Taepo Dong-1 which was flight tested in August, 1998. Experience from the SCUD C variant collaborative effort was applied to the Taepo Dong-1 second stage. The solid fuel Taepo Dong-1 third stage may have benefited from Pakistani or Iranian experience with solid fuel motors for short-range missiles and rockets, although North Korea may have drawn upon the Russian SS-21 or Chinese sources.

Meanwhile, beginning around 1989, North Korea, Iran and Pakistan agreed to collaborate on the basis of the No Dong-1 missile. Pakistan's April, 1998 Ghauri-1 and April, 1999 Ghauri-2 flight tests, and Iran's July, 1998 Shahab-3 flight test, represented advances over No Dong-1. "There have been representatives from all three countries at each of the test flights for full range trials," writes Lennox. We should not now be surprised to learn that this work was looped into the North Korean Taepo Dong-2 or the Iranian Shahab-4. Because of these collaborative patterns, traditional country-by-country intelligence estimates no longer correspond to reality. The U.S. must respond to global trend lines and, as Secretary Rumsfeld has stressed, expect the unexpected.

Additionally, we should eschew self delusions about the value of commitments such as the North Korean missile test moratorium. Although North Korea acknowledged some kind of testing moratorium as recently as last Friday, Pyongyang also made clear to a recent European Union delegation that it reserves the right to sell missile technology abroad. We have no way to know what information it is receiving back from its partners, but the most reasonable assumption is that the collaborative

cycle described by Lennox is still operative. In other words, the Taepo Dong-2, which most analysts believed was ready for flight in 1999, may have been steadily improved since then without flight testing. Indeed, Lennox suggests that implementing these improvements may account for the delay in flight testing the Taepo Dong-2. Now, North Korea may flight test at the drop of a hat and declare Taepo Dong-2 operational shortly thereafter, or it could continue to extract Western concessions while remaining one unannounced flight test from deployment.

Mr. Chairman, because a ballistic missile threat to the United States is developing so rapidly, there are four reasons why missile defense for our country, our forces abroad, allies and friends is the right answer. First, "to provide for the common defense" is a fundamental constitutional purpose of the Federal Government. Second, the defense of Tokyo, Naples or the Suez Canal is a vital U.S. interest and the defense of Anchorage, Norfolk or Boston is a vital interest of our affies. Third, a clear commitment to evolutionary defenses will devalue ballistic missiles and thereby help counter proliferation.

The fourth reason is geopolitical. Why are so many countries willing to devote scarce resources to acquiring ballistic missiles and weapons of mass destruction? President Bush had it exactly right in his May 1 speech to the National Defense University: "to keep the United States and other responsible nations from helping allies and friends in strategic parts of the world." Anyone who sees American and allied power projection as stabilizing should also see ballistic missile defense as stabilizing.

Of course, it is true that there are many other ways to hurt America and Americans, as the attacks on our embassies in Kenya and Tanzania and the bombing of the USS *Cole* clearly underscore. Unfortunately, whether directed by home grown kooks, Japanese mystics, Osama Bin Laden or some hostile state, there could be more bombs, vials of anthrax, malicious computer hackers, airplane hijackings, kidnappings and automatic weapons spraying busy city streets. These are all perils against which a responsible government should guard its people. But they are tools of terrorism, not of geopolitical strategy—and we must not confuse the two.

Mr. Chairman, my list of ballistic missile developments includes parades in India, Pakistan, Iran and China to underscore that these countries are using their ballistic missiles to send us an explicit geopolitical message, not skulking about in the shadows as a terrorist with a bomb. There are a host of measures we should be taking to thwart another attempt on the World Trade Center or the Lincoln Tunnel, but this is hardly a reason to perpetuate our vulnerability to ballistic missiles.

There will also no doubt be other emerging military challenges we must face. For example, Dr. Dennis Gormley has recently published *Dealing With the Threat of Cruise Missiles.* Far from undermining President Bush's approach, writes Gormley, "global defenses against the currently more prevalent ballistic missile should take first priority. But the Bush Administration would be wise to counter the escalating cruise missile threat by investing in technology development programs to improve cruise missile defenses." Again, that other threats exist and require a response does not obviate the need to proceed apace with ballistic missile defenses.

THE NEED FOR A FULL SPECTRUM RESPONSE

Nor is the urgency of missile defense obviated by the oft repeated truism that we have other means at our disposal to counter the proliferation of ballistic missiles and weapons of mass destruction. In a chapter of *Jane's Ballistic Missile Proliferation* published last year, I argued that no single measure can stand alone. Rather, we should assemble a full spectrum response drawn from a variety of measures: a strengthened non proliferation regime, improved regional security diplomacy, better intelligence, a host of technology programs, interception and preemption (although I am skeptical of these options), more effective sanctions, retaliatory capabilities, missile defense, counterforce, passive defense and consequence management. In response to comments I received on my chapter, I would add democratization and trade as important means at our disposal in some cases.

Moreover, former Senate Majority Leader Howard Baker and Lloyd Cutler do us a service in reminding us of the importance of securing and neutralizing Russia's vast holdings of nuclear weapons and nuclear material. This, too, should be added to a full spectrum response. And smart people will no doubt add a few other measures that are worth pursuing.

But—make no mistake—missile defenses are the linchpin of a full spectrum response. Even if we could lock down all Russia's nuclear material tomorrow, ballistic missile threats would continue to emerge. And the very toughest cases are least likely to respond to more attentive diplomacy or even improved sanctions. Indeed, as Deputy Secretary of Defense Paul Wolfowitz suggested before the Senate Armed

Services Committee two weeks ago, it is our lack of defenses that encourages these countries to proceed with ballistic missile programs. It is foolhardy to invite potential adversaries to arm with ballistic missiles, restricting our responses to threats of retaliation and cleanup. Missile defenses would complement and magnify all our other counter proliferation efforts by sending a clear signal that we intend to use our superior technology to foreclose this avenue.

Missile defenses would insulate us from geopolitical blackmail aimed at altering our, and our allies' and friends', calculations of our interests. For example, in the days after the August 2, 1990 Iraqi invasion of Kuwait, President Bush asked Egypt's President Hosni Mubarak to allow the *Eisenhower* Carrier Battle Group to transit the Suez Canal. Mubarak was in a very delicate position, attempting to broker an Arab League solution to the crisis. Imagine if Cairo had been within range of Saddam Hussein's missiles!

And let us be honest, a threat to Boston, Miami or Seattle would indeed affect our thinking about coming to the aid of an ally or friend. As Robert Kagan pointed out in a 2000 column, "a dynamic of this kind already shapes American relations with North Korea . . . [whose] ability to strike Japan—and within a few years Alaska and Hawaii—simply makes bribery more attractive than confrontation." Chinese General Xiong Guang Kai understood this perfectly when he mused that the United States would not defend Taiwan because China would "rain nuclear bombs on Los Angeles." It is impossible to predict the outcome of any future situation—some U.S. interests will be seen as vital despite a missile threat—but missile defense would provide an American president the flexibility he or she needs to make the right decision in every case, and it would send a strong message that the U.S. intends to resist this kind of coercion.

Finally, should it come to warfighting, let us not forget that our single greatest loss in the Gulf War resulted from a SCUD attack on a Pennsylvania National Guard barracks.

BUSH'S MISSILE DEFENSE APPROACH IS RIGHT

Global missile defense is imperative in the post Cold War geopolitical situation. Recognizing this, the Bush Administration has correctly restored three essential elements to our missile defense programs: globality, layering and evolution. The plan is not a rush to a one time solution, but a first step on an evolutionary path that leads to restoration of the traditional balance between offense and defense.

The Administration's missile defense goal is ambitious, but its research, development, testing, evaluation and deployment plan is a cautious, walk-before-you-run plan. And, the announcement two weeks ago of a new missile defense test range in Alaska underscores a commitment to a long term program of realistic testing. As President Bush said on May 1:

> We will evaluate what works and what does not. We know that some approaches will not work. We also know that we will be able to build on our successes. When ready, and working with Congress, we will deploy missile defenses to strengthen global security and stability.

THE 1972 ABM TREATY BLOCKS THE WAY

The 1972 ABM Treaty, amended in 1974, effectively enshrines mutual assured (MAD) destruction by prohibiting a territorial defense. The idea was that a very limited defense—of a missile base or a national capital—would help ensure survival of a retaliatory capability, while more extensive defenses might negate the other side's retaliatory capability. The Treaty's framers effectively used three fundamental facts to achieve their purpose: 1) the world is round; 2) the territories of the two parties were very large; and 3) radar signals travel in straight lines. By restricting ABM radars and fixed, ground based ABM interceptors to one 150 kilometer radius area, the Treaty limited the eyes and legs of the one permitted system. To date, no way around this has been found. But even if Yankee ingenuity figures a way to defend the territory of the 50 states with 100 interceptors in North Dakota, such a system would run counter to the Treaty's object and purpose set forth in Article I.

Moreover, to preclude the parties from achieving territorial defense any other way, the Treaty prohibits development, testing and deployment of any ABM system that is not fixed, ground based—sea, air, space or mobile land based. And nothing else can be given ABM capability or tested in an ABM mode.

The fact is that the 1972 ABM Treaty very effectively precludes a territorial defense. Proceeding with cost effective global, layered, evolutionary defenses means deploying the first available systems right away and embarking on a plan to develop, test and deploy the most promising technologies. Deputy Secretary Wolfowitz

was absolutely correct to tell the Armed Services Committee that we will bump up against the ABM Treaty in a matter of months, not years.

If the Administration chooses to deploy the Alaska ground based system developed by the Clinton Administration, the Treaty currently prohibits construction of an ABM radar or ABM launchers. Further, globality and layering require the exploration of missile defense systems in other basing modes—sea, air and space. Today, laboratory research and sub-component level testing are legal. But testing a non fixed, ground based ABM component, prototype, or an item capable of substituting for an ABM component, is prohibited by the ABM Treaty. In sum, President Bush is absolutely correct that we must move beyond the Treaty—and soon.

TIME FOR A NEW, POST COLD WAR SECURITY FRAMEWORK

The ABM Treaty was the legal embodiment of Cold War stability—MAD. Seen in this perspective, moving beyond it a decade after the Cold War's end seems altogether reasonable.

"Today," the President said on May 1, "the sun comes up on a vastly different world." It was neither salesmanship nor naiveté when he said, "today's Russia is not our enemy." Rather, it was recognition that Leninism—the legitimizing essence of the Soviet state—was what impelled the USSR into conflict with the U.S. The Cold War was a protracted conflict between communism and democracy bound to erupt somehow, somewhere—Berlin, Korea, Cuba, Vietnam, Angola. Given nuclear missiles, strategic stability meant maintaining a standoff at the top of the escalation ladder to prevent any of these inevitable crises from ratcheting up into nuclear war.

Absent the Leninist USSR—come what may in modern Russia—an essential beam in the foundation of the Cold War strategic framework has crumbled. Indeed, concludes a recent National Institute for Public Policy study, "Cold War style arms control, a process focused on specific limitations designed to codify MAD, now contributes to U.S.-Russian enmity."

President Putin appears to have realized this too, and substantial progress was made during his meeting with President Bush in Genoa last Sunday. "We're exploring the opportunity to redefine the strategic framework for keeping the peace," said President Bush, "not as existed in the past, but a strategic framework as we go out into the 21st century." There will be plenty of bumps in the road the two presidents have agreed to travel, Washington will need to be careful to avoid the snares of yet another Cold War style arms control negotiation, and success is far from guaranteed. That said, it is worth a try because three important factors are coming together.

First, tit-for-tat, bean counting, Cold War deterrence has become a recipe for an endless rivalry in which President Putin cannot hope to prevail. Consequently, he too is searching for a new security framework. Difficult as it may be, preserving Russia's status over the long run will require abandoning Cold War thinking and force structures. The Strategic Rocket Forces have been de-emphasized. Their former commander was replaced as Minister of Defense with Putin's closest political ally. And just a few weeks ago, General Leonid lvashov, the Defense Ministry's number one hardliner, was dismissed. Although we should not delude ourselves that Moscow now sees the world as we do, change is clearly afoot.

Second, President Putin's vision of a new security framework no doubt includes radical reduction of Russian and American strategic forces to about 1,500 warheads, and—if the Americans are bound to proceed with missile defenses—some kind of a deal on that score. By rolling it all together, Putin can secure American offensive reductions and help shape the new security framework that includes defenses. By committing to U.S. unilateral strategic offensive reductions, then indicating willingness to discuss them together with defenses, President Bush has given Putin some incentive to make the political effort that will be required to jettison Cold War thinking in Moscow.

Third, and vitally important, the Bush Administration has evidently been successful in projecting its seriousness about proceeding with missile defense. As a former negotiator, I can tell you that nothing—nothing—will happen without this kind of leverage. Consequently, I will conclude my statement by recalling the words of Deputy Secretary Wolfowitz before the Armed Services Committee two weeks ago:

> If we agree that a cooperative outcome is preferable, then it is important that Congress demonstrate the same resolve as the President to proceed with development of defenses to protect our people, our friends and allies, and our forces around the world; defenses that cannot, by the wildest stretch of the imagination, be considered a threat to Russia or its security.

Thank you.

SOME BALLISTIC MISSILE DEVELOPMENTS SINCE THE RUMSFELD COMMISSION REPORT

COMPILED BY AMBASSADOR DAVID J. SMITH

July, 1998—Iran tested its 1,300 kilometer Shahab-3, a variant of the North Korean Nodong-1.

August, 1998—North Korea launched its Taepo Dong-1 missile or space launch vehicle, consisting of three stages, two with liquid fuel and one with solid. U.S. intelligence agencies tracked debris from the flight 6,700 kilometers, nearly to the coast of Alaska.

January, 1999—India displayed its 2,500 kilometer range Agni-2 in the Republic Day parade.

March, 1999—Pakistan showed its 1,300 kilometer range Ghauri-1, flight tested in April, 1998, and its 600 kilometer range Shaheen-1 in the National Day parade.

April, 1999—India flight tested its Agni-2, consisting of two solid fuel stages. India's May, 1998 nuclear tests included a nuclear warhead for Agni.

April, 1999—Pakistan flight tested its 2,000 kilometer range Ghauri-2, a Nodong variant, and its Shaheen-1.

August, 1999—China conducted the second flight test of its 8,000 kilometer range Dong Feng-31 (DF-31).

September, 1999—Iran showcased its Shahab-3 for the second time at the Sacred Defense Week parade.

October, 1999—China paraded its DF-31, improved 2,500 kilometer range DF-21A, and 600 kilometer range DF-15 (M-9) in commemoration of the 50th anniversary of the People's Republic of China.

October, 1999—China announced a successful simulated launch of its developmental 12,000 kilometer DF-41.

October, 1999—Chosun Ilbo, South Korea's largest newspaper, reported development of four North Korean 1,300 kilometer range Nodong-1 battalions.

October, 1999—North Korea, despite an apparent agreement to suspend missile tests, asserted that "the issue of missile launch is a matter wholly pertaining to our sovereignty, and the DPRK will launch a missile and a satellite anytime it feels necessary."

November, 1999—Iran acquired 12 Nodong engines from North Korea.

March, 2000—Pakistan showed its 2,500 kilometer range Shaheen-2 in the National Day parade.

July, 2000—The U.S. Intelligence Community reported that China continues to aid Pakistan's long-range missile program.

July, 2000—Iran flight tested its 1,300 kilometer Shahab-3 for the second time.

November, 2000—China conducted the third flight test of its 8,000 kilometer range DF-31.

December, 2000—China conducted the fourth flight test of its DF-31. Some experts believe it is now deployed.

January 2001—India flight tested its Agni-2.

February, 2001—India will build the Agni-3 "of higher range and better capabilities than its predecessor," according to Dr. Vasudev Aatre, scientific advisor to Defense Minister George Femandes. The new weapon is expected to have a maximum range of 3,500 kilometers.

March, 2001—Pakistan again showed its 2,500 kilometer range Shaheen-2 in the National Day parade. Other systems displayed include the 600 kilometer range Shaheen-1, 1,300 kilometer range Ghauri-1 and the 2,000 kilometer range Ghauri-2.

March, 2001—India announced procurement of the 2,500 kilometer range Agni-2.

April, 2001—India launched its Geosynchronous Satellite Launch Vehicle (GSLV). Its Russian KVD-1M third stage underperformed, placing the payload into slightly lower geosynchronous orbit.

May, 2001—North Korean leader Kim Jong II told an EU delegation that North Korea would continue to refrain from missile testing until 2003, but could not afford to forgo missile sales.

June, 2001—North Korean Foreign Minister Paek Nam Sun reportedly said, "it has yet to be decided whether we maintain the moratorium on missile testing. That

depends entirely on the policy of the new U.S. administration, whether it is hostile or not."

The CHAIRMAN. Thank you very much.

To Mr. Smith and Mr. Woolsey, why do we talk to Russia? Why even bother to enter into negotiations and discussions with Russia? So what? I mean, you guys made an awfully compelling argument that it is totally irrelevant.

Ambassador WOOLSEY. My judgment, Mr. Chairman, is there is a difference between the legal obligation and political and foreign policy wisdom here.

I do not believe, as I have said, that we are legally bound by this treaty because of the succession issue, and I think the President is perfectly within his rights to declare that he is not going to submit the new treaty, essentially, with Russia or the four states to the Senate for two-thirds approval, and to have it lapse.

But Russia is a democracy, admittedly a troubled one, but still a democracy. It is a successor state to a country with whom and with the establishment of whom we have now 30-plus years of history of negotiation on strategic forces, offensive and defensive, and agreements. We have a very valuable commodity that we can provide to Russia that will help, I think, with Russian stability and with Russian willingness to work with us, namely, self-respect: Recognition of the importance of Russia, admittedly weak economically and to some extent weak politically, but nonetheless possessing a large number of nuclear weapons.

And by recognizing it in a sense as another quasi superpower, in dealing with it that way, I think we have the best opportunity to bring the Russian Government along with us into a new age and a new era. Now, I believe we have more likelihood of succeeding in getting them to cooperate with us if we let them know pleasantly, quietly, privately, that we intend to proceed no matter what they do. As Mr. Lukin's statement that was in the paper this morning suggests, I think that will make them more willing to work with us, not less.

I have some experience in this regard. When I was the CFE negotiator and Ambassador in 1989 to 1991, a few days after I took over the negotiations the Berlin Wall collapsed, and during the first 2 months I was in the job a Warsaw Pact government collapsed about every 10 days, and I had Warsaw Pact members with new governments, such as the Solidarity government, wanting to work with NATO in these negotiations. I had a very nervous and upset Soviet Union Government on the other side.

My delegation did absolutely everything we could to raise Soviet esteem, to treat them as an equal, to treat them in such a way as not to gloat, not to talk about emerging victorious.

The CHAIRMAN. So your point is that these foreign policy considerations matter.

Ambassador WOOLSEY. Yes, absolutely.

The CHAIRMAN. Do they matter with regard to what the Europeans think about this?

Ambassador WOOLSEY. To some extent, but I believe the Europeans are all over the map on this. We have apparent support from some of the smaller countries, from Italy, from Spain, to some extent from Britain. I think the locus of the opposition really is in

a rather traditional French tweaking of the United States, and I think that if we handle our foreign policy relations with Russia skillfully, I think it will make it difficult even for President Chirac to be as hostile toward missile defense as some of his foreign minister's earlier statements.

The CHAIRMAN. And if we do not handle it well?

Ambassador WOOLSEY. If we do not handle it well, then we risk stress with some of our allies, perhaps not all, but I would certainly not regard France as the leader, or symptomatic of all other allies' views on this.

The CHAIRMAN. Do you get any sense Germany has any?

Ambassador WOOLSEY. I believe the Germans have a bit more flexibility than the French on this. Neither one has been enthusiastic about American missile defense.

The CHAIRMAN. Just a little truth in advertising. Come on, you are talking to Joe here.

Ambassador WOOLSEY. There is a spectrum.

The CHAIRMAN. Look, let me, Mr. Secretary—Secretary Perry, you indicate that there are a number of things we can and should be doing. As I understand the essence of your statement, it is that, notwithstanding the fact that we may be able to acquire this capability to hit a bullet with a bullet, even if we are less sure that it is likely to occur in the next 5 to 10 tests, in terms of limited resources, there are other things you think we should be spending our money on before we spend tens of billions of dollars in this area, or am I misreading you?

Dr. PERRY. Senator Biden, my comment is not that we should not have a ballistic missile defense program. It is directed at how large the program and how extensive the program should be, and how many components, and how many layers there should be in this program, and as we start to consider expanding the program beyond the ground-based system that is now under development, we are going to come rapidly in conflict with those priority questions.

And yes, I do think the priority of readiness of the force is in the priority of deploying—building and deploying the next generation of fighter aircraft in my judgment is the higher priority than some of the second and third systems that we are now considering in the ballistic missile defense area.

The CHAIRMAN. If the first system, the land-based system was to cost a minimum of $60 billion to develop, deploy and maintain, I assume the layered system is going to cost us a lot more than that. Does anybody disagree with that?

Ambassador WOOLSEY. Mr. Chairman, I think if emphasis were put on boost-phase intercept, particularly initially on surface-based boost-phase intercept, especially from the sea, even if one ultimately went to a combination of boost-phase and midcourse for some defenses and terminal for theater defenses, some of the expenses of the midcourse might well be able to be put off.

I have noted that you for the last 2-plus years have talked, in at least interested terms, of some surface-phased boost-phase system, and I share that. It is interesting to me, some of the supporters also of space-based systems such as former Ambassador Hank Cooper of High Frontier, and also many people who agree with him, have a strong interest in surface-based boost-phase.

It strikes me that one possible way to triangulate on this problem is for people to begin to work together on things like an Aegis boost-phase intercept, even although there may be some agreeing to disagree about what would come down the road. And I think that also might help, at least initially, hold some of the cost down, because as I think you have pointed out, it is easier to hit something that is large, slow, and hot early in its trajectory than when it is small, cold, and fast, and you are trying to hit a bullet with a bullet up there in space.

The CHAIRMAN. You characterize my position correctly, but that is not the administration's position. The administration's position is to move forward on all three fronts. The only point I am trying to get at here is the cost question.

If the administration, not having decided on which system, other than having a layered system overall, is their stated objective, then what we are signing on to, if they mean what they say, is an expenditure well in excess of $60 billion. Then that gets me to the point raised by Secretary Perry and raised by Mr. Cutler that—for example, the Cutler report seems to me one of the most compelling reports I have ever read—you have a recommendation for a $30 billion expenditure over the next 10 years to deal with loose nukes and threat reduction initiatives with Russia.

The fighter we are talking about is going to cost over $200 billion to develop and produce all of them. The new light tank, the whole panoply of requests that I have received from each of the chiefs, although I have not spoken to the Navy yet, but they are always the most expensive, exceeds well over $500 billion for the next 10 years.

I am wondering where we get all this money, and whether or not we are putting our dollars in the right basket. And it seems to me from your statement, Mr. Secretary, that you think the threat is less imminent from a rogue state firing an ICBM missile than it is from many other things that we face, and further, given the resources that we have, that you would rather see these resources spread out more than concentrated so fully on national missile defense, or am I misreading your statement?

Dr. PERRY. I do not doubt that a threat of a rogue state having a missile is something we should be concerned about, and that I would feel comfortable in having a defense against that. My point is twofold. It is that if we go to a full-scale layered defense it is going to be very, very expensive, and then we get into a real conflict with all the other things we want to do, other defense things, and the things we do such as Lloyd Cutler described in terms of minimizing the dangers of proliferation.

So I think that is an important point to make, and it is a matter of perspective, not a matter of saying we want to do it or we do not want to do it. The issue here is primarily tied to the view which has emerged in the last number of months that we need not just a ground-based system, or a space-based system, or a sea-based system, but all three, and we need to have a layered defense. I understand why a layered defense increases the probability of defense. Nevertheless, it is very, very expensive, and we have to take that very much into account.

The CHAIRMAN. Well, my time is up. I will come back in a second round and talk about deterrence with you all.

Senator Lugar.

Senator LUGAR. Thank you very much, Mr. Chairman. I just want to mention what a difficult problem this administration or any administration has in attempting a new idea, and this is a very big idea, because in the Congress we are inclined to want to defend the status quo. This is not the first administration that had a problem in suggesting that some bases be closed in the United States, and finding Members of Congress wanting to keep all of them open, every single one, almost like post offices, or agricultural research stations. We are having real problems even retiring B–1 bombers. This ignites a firestorm just as Secretary Rumsfeld begins to edge in to whatever may be the revision of the defense plan, the quadrennial defense review.

So when we come to the issue of cost, we are in trouble even with our overall defense budget to begin with, but leaving that aside, it seems to me that the layered idea is important to discuss maybe in a different way. Secretary Perry, Mr. Cutler and Senator Baker have described so well the need for cooperative efforts in Russia to eliminate threats at their source. We have talked about a defense in which we try to get rid of weapons of mass destruction, and then stop the proliferation or shipment of material, and weapons at the borders. And third, even think of home defense, how do we prepare in the United States for what might occur from deliveries other than ICBM.

These are concepts that are very important, and they are also very expensive. You know, to some extent the Nunn-Lugar program could have advanced more than $400 million a year but that is about what the Congress has been willing to allocate to it; Department of Energy programs that have faced similar situations. As a matter of fact, we do not have concurrence with the House of Representatives to destroy the first chemical weapons in Russia, although we have them bottled up in seven places, and many people feel this is a very serious problem.

On the biological front, Russian leaders are still basically in denial about most of it, but we are deeply concerned, and a response will be very expensive whatever our strategy may be. So these threats are present and no one denies them, but the United States has not allocated, in my judgment, the resources needed to address the dangers.

Now we have an additional danger of rogue states, and Secretary Perry has said correctly this is something we have to study and consider. He has indicated that more cautious or more tentative measures, or maybe that mischaracterizes it, less than full-layered missile defense system might be more preferential.

But if you were the President of the United States trying to move this argument, I am inclined to agree with Mr. Smith, you had better do so with a lot of vigor, and really shake up the troops. An incremental approach is likely to get you nowhere with our allies, with the Russians, with the Chinese, with anybody else.

Now, I agree with Mr. Smith that the President has begun to change the terms of reference on the subject. People will argue about the style and the rhetoric and so forth, but nevertheless,

there are many Americans now who advocate boost-phase missile defense on ships or aircraft stationed near rogue states. Discussions continue on the economical situation, but the debate is a lot further down the trail than say, 6 months ago, or a year ago, for example.

Furthermore, on the ABM Treaty situation, people said boost-phase almost inevitably runs up against ABM and violates it 15 different ways. So if you are trying to work out a diplomatic solution, do not even start with the first rudiments of experimentation there.

Let me just say, I am still learning the details or all of the elements of the administration's plan. I have listened carefully to testimony that has come before various committees in the last month in particular. The whole layered situation is very complex for me to understand, quite apart from the cost of it and how it might ever work. But it gives an honest idea of where we might head, and very clearly the ABM situation and our relations with Russia will have to change.

Finally, I would just say just as a part of this monologue that I think we are going to have another discussion with Russia this coming year about NATO enlargement. Now, the two are different subjects, but nevertheless, President Putin already anticipates this. In his rhetorical flourish last week he said, either NATO is irrelevant, or Russia ought to be a member. This is an argument we are going to have to be thoughtful about, because as Director Woolsey has pointed out, in the best of all worlds a Europe whole and free includes Russia.

What are the criteria for NATO? Democracy, human rights, being a free-market country. We are going to have to evaluate other countries that are potential members in the same way. This is a good time to visit with Russia about this, even as we are discussing the ABM Treaty and missile defense. The U.S.-Russia relationship is tremendously important, and so I see a good opportunity with the cards being reshuffled here and things more or less in flux for agreement on a number of important issues.

Let me ask each of you, if we proceed with a multi-layered missile defense system that includes a boost-phase intercept capability, what would the costs of the boost-phase be? Does anybody have any idea on the deployment costs or maintenance costs? We could build a system but keeping ships and planes on station will take a lot more money and time. So what do you believe is the cost, given the allocation and the tough decisions we all must make?

Ambassador WOOLSEY. Let me try, Senator Lugar. Several of us had a briefing from General Kadish a short time ago about the program, and this sort of issue came up. I would say that several hundred million more dollars in this year's budget. I do not know whether it is 2 or 6, but I do not think a few hundred million more would probably substantially advance the time by which boost-phase intercept, particularly sea-based, could be tested.

Senator LUGAR. What would happen with that money? How do you spend that?

Ambassador WOOLSEY. Well, I would have to defer to General Kadish on that. Part of this has to do, I think, with testing different kill vehicles. For example, the kill vehicle that was on the

old Brilliant Pebbles Program is so small and light that if it works, it has the advantage of one being able to have more fuel on a missile of a given size, and therefore be able to go faster, which is something that you want in boost-phase intercept.

And I would think that within whatever level of funding the Congress approves for missile defense, a rather vigorous effort on that is worth doing. Because if this works—and for an affordable amount of money within a very few years one could come up with a boost-phase intercept capability on an Aegis ship—over time one would perhaps end up with more Aegis destroyers, but in the first instance one might well end up with just one off the coast of North Korea on a rotation of some sort. That is sort of the first and most immediate problem.

The interesting thing about doing this, at least initially, from the sea, is that except for Iran, most of the countries where one would want to focus on boost-phase intercept, North Korea, Iraq—from the eastern Mediterranean, or possibly from a site in eastern Turkey—Syria, Libya all lend themselves to boost-phase intercept from the sea.

Iran is the big problem. Nobody wants to operate an Aegis destroyer in the Caspian Sea. But for other states we might be able not to need to assume we are going to have simultaneous crises with North Korea and Iraq and Libya and so forth. It seems to me that even a limited capability on Aegis destroyers or cruisers at sea—if you can get the boost-phase intercept to work affordably and relatively early—would be something that might well be able, because of its strategic utility and potentially relatively low cost, to draw support from a wider range of people in the executive branch and the public sector and the Congress than is the case if one goes immediately with all parts of the layered defense.

You are talking to a lawyer and history major here, so my scientific judgments are worth whatever they are worth, but I have been of the view for a number of years that boost-phase is likely to be in many ways considerably more straightforward than midcourse intercept, because of the problem of decoys.

The CHAIRMAN. Senator Chafee.

Senator CHAFEE. I appreciate hearing from the witness. I have no questions. I also would apologize to the next panel because I have to go.

The CHAIRMAN. I want to go back to the issue of deterrence here. Secretary Perry, you negotiated a framework with North Korea regarding fissile material, and you have, I think, done a heck of a job in terms of your discussions, in your previous incarnation and after you left the Secretary's job, with North Korea.

Give me your sense of the prospects—and I know you are not now doing the negotiations—of being able to negotiate a verifiable agreement with North Korea not to develope a long-range missile and not to transfer that technology.

Dr. PERRY. My view on this is predicated on the broader view that North Korea's regime believes that it has a disaster on hand in its economy, and the only way out of that disaster is to stop being a hermit nation and deal in a constructive way with South Korea and with the rest of the world. We gave them an opportunity to do that by presenting two alternatives to them. The first alter-

native was to join the rest of the world, in which case they had a chance of economic cooperation with us, but in order to do that they had to give up their missile program.

At the time I left Pyongyang after that meeting I told my colleague I did not think they were going to accept that, because it seemed to me the military there was really quite set against it. Since then, I have come to believe that they are going to accept it. I believe, indeed, that Kim Jong-il has decided two things. He has decided to form normal relations with South Korea and other countries, and he has decided to try to move toward a Chinese-style market economy.

Whether he can do those two things is another matter, but I believe that is what he has decided, and therefore he is moving toward an agreement with us. We were, I think, quite close to an agreement at the end of last year, but I must say that there were two elements not yet nailed down, two very important elements. One of them was the No Dong missiles already deployed, what would happen to them, and the other was the agreement on a verification protocol.

Those are two very important points, but except for that, all of the other issues which we wanted we had agreement on, so on that basis and the basis of the broader assessment I have given you, I would say there is a good probability of getting an agreement with North Korea which will stop their testing, deployment, and export of medium and long-range missiles.

The CHAIRMAN. What consequence would that have if we had a verifiable agreement with them? How, in your view, if you were still Secretary of Defense, would that affect your calculus in terms of national missile defense, if at all?

Dr. PERRY. It would not affect my view of what to do today or this year, because I cannot count on that happening, and even if we made such an agreement, I cannot count on them staying with it forever, and so I would want to have an insurance program, a backup program in any event.

It would certainly affect my view on the timing of what I did and my view on deployment of systems. I would still want to keep a robust development program underway.

The CHAIRMAN. Mr. Smith, is it your contention that North Korea, Iran, and Iraq are not susceptible to our existing nuclear deterrent?

Mr. SMITH. Absolutely not, and I do not like the word never. They may well be susceptible to traditional deterrence at a particular moment and a particular situation. The fact is, we just do not have the kind of understanding that was developed over 40 years back and forth between the United States and the Soviet Union. We also have a much more dynamic situation. As I said in my statement, I think there was some evidence that, for instance, Iraq may have been deterred by the threat of nuclear weapons.

The point I am trying to make to you, Mr. Chairman, is that we really do not know the kinds of things that deter, and just blithely to take our cold war deterrence mentality and say, well it will always work in every case, as if each one is a lesser-included case, is just not the way to go, and we do not know a lot about all the

cultures, the values, the things we are dealing with with these countries.

The CHAIRMAN. I do not think anybody is saying that. I think the debate is, because very few people are saying we should not do what Dr. Perry has suggested, which was that we should continue a significant effort in terms of research and development on a national missile defense, limited or otherwise, whether or not, either as a consequence of foreign relations, that is, as a consequence of action that will be spawned by other countries if they think we will unilaterally withdraw from a treaty that both of you think is not in effect anyway, or if we unilaterally withdraw from a treaty, there may be more negative consequences of that for very little payoff in return. I do not know anybody who is suggesting, there probably are some, in the Senate or this committee we cease and desist, foreswear, that we have a national missile defense.

It comes down to the way in which we go about it, and there are some of us, I speak for myself, who are concerned about whether or not our actions are decided in a vacuum. If we just decide unilaterally to move forward and renounce whatever agreement may or may not be in existence with regard to national missile defense, that what we are going to do is spawn an arms race, not so much with Russia because of their present financial circumstance and their ability to maintain their existing systems, but in Asia, that, like your old agency suggests, whatever China was likely to do, they will do a hell of a lot more of it. In fact, we should move forward with a national missile defense that gives them some surety that it is not aimed at them and will not deny them their ability to have their own deterrence.

Mr. SMITH. Mr. Chairman, if I just may respond, first of all I am sorry if I left some kind of misconception. I did not say that I do not believe the ABM Treaty is in force. I believe it is.

The CHAIRMAN. I was referring to Mr. Woolsey.

Mr. SMITH. With regard to the deterrence, the point I am trying to make here is that you want to have a lot of different options. You do not want to be in a situation where you have actually to use those nuclear weapons, and it might come to that, and it is not going to be that easy. If you say that is your policy, you had better do it when certain things happen that you have said would provoke that. If you say our policy is deterrence, let us just say it is Iran or Iraq, or whatever it is, and whatever you said would provoke that happens, you had better do it, or you have just lost everything.

I do not want a President of the United States in that situation. One, I do not think it is the right thing to do. You are hurting a lot of people there who have nothing to do with that regime. Two, it may be very difficult for us to do because of our friends, our allies in the area, our forces in the area. It is not quite as easy as you think.

Now, with regard to China, if I may, China has a substantial missile and nuclear modernization program underway. It has been underway since the late eighties. They have a missile modernization program in every single class of missile going on right now. You look at their literature. This clearly predates our missile defense.

They would very much like to use us as the excuse for doing this, but the fact is, this is what the PLA wants to do. But Beijing is not monolithic on this thing right now. There is an awful lot of people who want to concentrate on democratization and economic development, and we ought to be encouraging them to do that rather than doing deals of some kind of a neomutual assured destruction.

Ambassador WOOLSEY. Mr. Chairman, the one attractive aspect of ship-based boost-phase intercept is that whereas——

The CHAIRMAN. I understand that. In the interest of time, I understand that. That is one of the reasons I like it.

What I am trying to get at is this issue of whether or not either of you, or any of you, think there is a concern here about sparking an arms race that will, in fact, put us in more jeopardy rather than less jeopardy at the end of the day.

Yes, Mr. Secretary.

Dr. PERRY. Mr. Chairman, I would say that my main reason I am happy that the President is talking with President Putin and that they are moving forward is not because I thought—and I care very much whether the Russians are unhappy. It is not because I thought they were going to move into an arms race. It is conceivable, but that is not high on my list of concerns, but I think there is three very good reasons why we need the cooperation of the Russians that affect our security. One of them is because we want their cooperation in inhibiting proliferation. That is very important, and we are not going to get it if we are not dealing with them.

Second, we want to help them secure Russian missiles, as we have done under the Nunn-Lugar program. It would be foolish for them not to accept that help, but they might do it if the relations became strained.

Finally, we want to encourage them and work with them to reduce the likelihood of an accidental or unauthorized launch from Russia.

Now, those, all three of those things require close cooperation with the Russians, and it requires our dealing with them. It has nothing to do with building of strategic arms, or getting into an arms race, but they very much affect our security.

The CHAIRMAN. I share your concern about Russia. My question was about China, and whether or not—and I am not concerned about an arms race with Russia, any more than you are for a whole range of reasons that I will not take the time to explain, and you would fully understand all of them, but my concern relates to what you——

Dr. PERRY. Let me be very specific about China, then. China I think Mr. Smith is quite right in saying that their missile modernization program has been underway for sometime, and probably will continue for sometime. The question is what quantity of ICBM's they will build, and I tend to share the view of the intelligence community that in response to a major BMD program they would probably up that quantity, maybe not by a factor of 10, but by some large number.

The CHAIRMAN. The issue—and that was the point I was about to make—to me is not whether or not they modernize, but to the extent to which they deploy what they modernize, what the numbers of that deployment is, and what reaction that causes in India;

and what in turn that does in Pakistan, and what that does in turn, as a consequence of that, in Japan. I think we blithely sort of skate over that in focusing on Russia, and I am going to yield to my colleague.

One of the things that I am concerned about with regard to Europe is not directly whether Europe is happy or not happy with us, but at the same time we are trying to get agreement with Europe on expansion of NATO, at the same time we are trying to get agreement with Europe on trade issues that you deal with in the Agriculture Committee, at the same time we are trying to get agreement with Europe on a whole range of issues that are very much in our interest. It seems to me we make it incredibly more difficult when we fly in the face of what they, the majority at least at this point, believe is in their interest, whether or not it is.

I often tell my daughter, if you bring home a report card that is not very good on Friday, do not remind me that I promised you on Monday you could have the car on Saturday. It is not a good time to remind me of that. I know that sounds trite, but it is the way human relations function. It is the way relations between countries function.

Very few times in my 29 years of experience, as long as some of you around here, with a notable exceptions, the very few times when we have a serious disagreement with a country on a bilateral basis, a serious disagreement, are we able to get a whole lot of other things done with that country at that time. And there is a lot on our plate here, and that is the reason why I have a concern as it relates to Europe.

Look, I do not think anyone in Europe now, or even when the argument used to take place, in the seventies, Jim, doubts our might and our capability. The only time we ever had a problem with Europe is when they begin to doubt our wisdom, when they doubt our judgment. That is when we have trouble getting them to follow us, when they doubt our judgment, and that is what I think is being put in play now.

But I am going to yield. I have one very brief round, but I will yield to my colleague.

Senator LUGAR. Well, let me just pick up, Mr. Chairman, on the European theme. It occurs to me that the President has had some success with our European friends by at least his dialog with President Putin, which a good number of Europeans seem to be markedly relieved that we are having this dialog.

It is a question which many Europeans have doubted, this missile defense business, because they feared a confrontation, and they are closer to Russia, and to the extent their anxiety has lifted somewhat, they have moved off into other topics like global warming, or the biological convention, or other areas, or trade. These are all very difficult problems for the Europeans.

I do not separate missile defense from the rest of it, but I would say we have a number of issues there, and the most overwhelming one, which we all hope to be delivered from, is sort of a worldwide recession, which the Europeans are going down faster than our economy.

Now, we may be recovering, and hopefully help scoop them out of the difficulty, but that will become more apparent as we proceed in the months ahead.

I just want to thank each one of the panelists. This is a delight, to have each of you and to share your wisdom and have a chance to ask you questions and hear your responses to the chairman, and I think this has been a very, very instructive and helpful panel.

I thank you, Mr. Chairman.

Dr. PERRY. Senator Lugar, can I make one comment on the question you asked earlier. You asked a question about the cost of the system.

Senator LUGAR. Yes.

Dr. PERRY. As the general testified this morning, the architecture is not yet determined, and so it is impossible to come up with a definitive cost, but he has also said the administration has testified on other occasions they are going for a layered system, and if I interpret that to mean a fully layered system, that means a system that would operate in the boost-phase and the midcourse and terminal, I think is what is ordinarily understood by that, so let me comment on that system, or that concept of a system.

The ground-based part of that system, which is the midcourse, we already have a fairly confident estimates from the CBO, among others, which suggested a $60-billion cost. That is for the production, deployment, and, I understand, 15 years of operations, so if you take that $60 billion as a reasonable figure for the ground-based, we then have to account for the boost-phase system and the terminal system.

The boost-phase system, I take my colleague Jim Woolsey's enthusiasm for sea-based boost-phase, but he makes an important exception. He says, unfortunately, it will not take care of Iran. I think a boost-phase system that covers all threats of concern must be in space. Indeed, Mr. Woolsey has issued a paper, which is the definitive paper, I think, on that subject.

A space-based system is going to be much more expensive, as Dr. Cornwall has already commented. In addition, there is a consideration of the terminal system. Now, a terminal system almost by definition has a relatively small footprint. That is, one needs a terminal system at each urban area that you are trying to defend, and therefore there are going to be a lot of them, and therefore that is going to be very expensive. We are talking about many tens of billions of dollars for a boost-phase system, many tens of billions of dollars for a terminal system. In short, a fully layered system is gong to cost two or three times as much as the ground-based system that is being considered.

So you are not talking about tens of billions of dollars for the overall system, you are talking about a system well in excess of $100 billion, maybe well in excess of $200 billion.

I do not offer this as a considered cost estimate, because we do not have the system defined yet, but we can work our way up from the ground-based system and say a fully layered system is going to be very much more expensive than that.

Senator LUGAR. Would that be over the same 10 or 15-year period?

Dr. PERRY. Yes. I have tried to use the deployment and maybe 15 years of operation.

Senator LUGAR. So $10 to $12 billion a year, on average.

Mr. SMITH. Mr. Chairman, may I say a word about the cost, if I may, sir? It seems to me we are going about this in an additive way, and I would just like to say, first of all we do not know what the architecture is going to be. Second, if layering means several different systems, then I think there are several ways of doing layering, but the ground-based system that this administration inherited is probably the most expensive way you can go, and that is exactly why they are pulling back from it.

The Clinton administration's plan was to deploy 100 interceptors in Alaska and an X-band radar in Shemya. If you have noticed, at least the noises I am hearing coming out of the Pentagon, they are talking maybe a down payment of five or six interceptors because they want to get something deployed. I think the radar at Shemya is very, very much still an iffy proposition. So, I do not think it is $60 billion plus whatever else you want to do.

If you go about developing a sea-based system, you inherit all of the Aegis technology, you inherit the entire fleet that we have already decided to build here, and you go about it a completely different way. If you go about it in a more efficient way—for instance, the way we did the Polaris program. You slice off little bits at a time and you do it—I think our third submarine was the first time we built a full-up ballistic missile submarine as a Polaris. We experimented with other kinds of submarines, and it seems to me that is what the Aegis program does for you, so I would not take $60 billion and start adding from there.

Senator LUGAR. You are down to sort of single-digit billions a year, then?

Mr. SMITH. As General Kadish said this morning, it is certainly going to cost money.

The CHAIRMAN. I will bet you my life on that, and I guess in a sense we are betting our lives on this.

My friend, it is kind of fascinating that we are only being additive when it comes to missile defense systems, but if I said, you know, we really need a new medical health care system in the United States, I would find some of the same people becoming additive very rapidly. They carry around their calculators.

But, Senator Kerry.

Senator KERRY. Mr. Chairman, I apologize for not being here, but I did watch some of it in my office and I appreciate enormously the expertise and the commitment of everybody at this table, and I particularly thank Secretary Perry for his initiative, and Mr. Cutler for your participation on the efforts with Russia to secure these weapons.

I would like to pursue some questions, but I do not want to delay things, it has been a long afternoon, but I appreciate the participation very much. Thank you.

The CHAIRMAN. Gentlemen, again I thank you very much. I have some questions I would like to submit in writing so we do not keep you, so we can get to the third panel.

I appreciate very much each of your testimony, and like all things it is going to get down to priorities, how much money we are

willing to spend on our needs in terms of the threats, and I appreciate your time and your effort.

Thank you very much.

Our next panel will be Hon. John B. Rhinelander, senior counsel, Shaw Pittman, Washington, DC, and actually Mr. Schneider[1] for scheduling reasons had to just submit his statement, and Professor Robert Turner, associate director, Center for National Security Law, University of Virginia Law School, Charlottesville, Virginia.

Gentlemen, thank you very much for your time, effort, and not the least of which, your patience in sticking around for so long. Why don't we begin with you, Mr. Rhinelander, and proceed as you would like.

STATEMENT OF HON. JOHN B. RHINELANDER, SENIOR COUNSEL, SHAW PITTMAN, WASHINGTON, DC

Mr. RHINELANDER. Mr. Chairman, I have a statement that I would like to submit for the record. I would like to start off by making six quick observations on what you have heard so far today, and then focus my comments on the legal questions, which I think is really why you wanted me here.

Somebody today made a statement that the whole missile defense effort started with President Carter. That is just wrong. It began under Truman after World War II, it got up steam under Eisenhower, and it has been going ever since. I spent my 2 years in the army in the 1950's with the Nike programs. We had Nike sites at 145 sites across the country with both high explosive as well as nuclear weapons for 15 years. The U.S. finally de-activated them because they were not effective. The U.S. had the Safeguard system up and running for 4 months. Secretary Rumsfeld, when he was first on the job, shut it down in 1976.

The U.S. has been pursuing homeland defense for almost 50 years. By my count this is the fifth, sixth, or seventh effort to try to defend ourselves against the nuclear threat. It is not just a Johnny-come-lately matter.

A lot of talk, of course, is about the ABM Treaty. It is not sacrosanct, it never was, but I do not think we should abandon it before we have something better. I have not heard anything yet to date suggesting we have anything better now. The technology is not ready.

Phil Coyle has not testified before this committee, but he has testified before the Armed Services Committee. His best estimate is we are at least 10 years away before we know whether any of these systems will be effective. He has also testified and written op ed pieces and otherwise that the treaty is not the problem. The problem is the budget and the technology itself.

In fact, he and I are working on a joint article if we can ever get together. He is on his way, moving to California, and I am up in Massachusetts, or at least I hope to be. The treaty is not the problem we are dealing with. The problem is that technology is not up to the task right now.

[1] Due to scheduling reasons Mr. Schneider was unable to stay and participate with the third panel. His prepared statement appears on page 164.

One comment on the last panel you heard, which I thought was most interesting. Bill Perry brings real wisdom to the scene, priorities, and his comments were particularly relevant. I would also like to point out that your former colleague, Sam Nunn, as far as I am concerned, has it right when he says the rogue state ICBM threat is probably the least likely of the threats.

It does not mean we should not do anything in ballistic missile defense, but rogue states are the least likely of the threats. The worst, most difficult problem we have to deal with, as Bill Perry and Lloyd Cutler were both talking about, is the Russian situation. It is their strategic weapons, their lack of early warning, and the immense amount of fissile material which is in the country. This, I have always said, is the first, second, and third concern we should be dealing with. I do not know how you deal with it unless you deal with it cooperatively, and that is cooperatively across the board.

It is not going to be easy, even under the best of circumstances. If we are putting our fingers in Russian eyes and pulling out of the ABM Treaty that they believe is fundamentally important, I do not know how we are going to deal with what I think is the most important issue of all.

Now, let me turn to my statement. I have five points in my statement. I am going to really skip quickly over the first three of them. One on the ABM treaty, and outlining what it does. I do have a provision in there pointing out that article V, banning the development, testing, and deployment of mobile systems does not block research. It does not block laboratory work. Its ban begins only when you get to the field-testing stage. There is leeway under the present treaty, notwithstanding some of the comments which have been made.

One of my great fears, which is emphasized in the statement, is that we may withdraw from the ABM Treaty. We have the right to withdraw—President Bush could give 6 months' notice and the United States can withdraw. If we do that, START II will not come into effect. Russia will withdraw from START I, and then I think the NPT is really threatened. The first recommendation I make at the end of my statement is that you ought to get the best report you can get, an assessment as to what the likely consequences are going to be if we do withdraw.

On the Russian side, I do not think we know what their reaction will be. There is not going to be an arms race in terms of a buildup, but they may well keep MIRV's on the SS–18's as long as they can. They may MIRV the Topol. But I believe we need to know what other countries are likely to do, because the NPT regime and the ABM Treaty are the two most important ones. If the ABM Treaty goes down, the NPT regime may, in fact, go down, too. It will not be overnight. It will be slow.

The CHAIRMAN. Isn't that one of the objectives of this administration?

Mr. RHINELANDER. No, just the opposite. I do not think they have thought it through. They talk in terms of their the strong nonproliferation interest, but the fact is, you cannot call one treaty we do not like a relic and then say, but we want to preserve the other one. You know, these are linked together. The NPT has obligations

on the nuclear weapons states. If we begin to abandon treaties, I think it is going to make it much more difficult to keep others in line, as I think we should.

Now, let me turn to the ABM Treaty and what this administration is proposing. I am not quite sure what they are proposing, because many of the details are not out yet, but let me turn and address three different facets of it in my statement.

The first is this Alaska test facility. I had great trouble wrestling with this when I was at home in Massachusetts, because I was not quite sure what was involved.

The first comment I would make, though, is that there is no concern under the ABM Treaty with where the targets are launched from. They are presently launched from Vandenberg. They could be launched from Kodiak. They could be launched from an airplane. They could be launched from a submarine at sea. That is of no concern under the ABM Treaty whatsoever.

What the treaty is concerned about is where the ABM components, the test components, are located. They are now located at Kwajalein. I do not know what we have at White Sands, although that is a second test range under the treaty, and specifically under article IV of the treaty. Under the 1978 agreed statement the United States can simply notify Russia that we intend to establish a third test range. It does not have to come back to the Senate as an amendment to the treaty.

Now, Russia can challenge it, if it is not consistent with article I of the treaty, but the United States can go forward.

It looks to me like the center of a new test range, if we do test from Alaska, will be the launchers at Kodiak. Those would be the launchers that would be used. As I understand it, there would be two launchers there. My problem in looking at this is that I did not know where the ABM radar was that would be used in relation to those launchers. You do not launch these things without tracking the threat on the way in and then tracking the missile on the way out. The Shemya radar cannot do it.

I originally thought it would have the scope maybe 240-degree arc to do it, but the Shemya radar is only pointed toward Russia. It has a narrow beam, so it cannot do it. As I understand it, the thinking in the Pentagon is that the launchers in Kodiak would be married up to a radar which is presently down in Kwajalein, and they would be used jointly against targets which would be fired from Vandenberg.

You raised the question this morning, and maybe this afternoon, what would you gain from it, and that is a question which I am not technically qualified to judge. Based on talking to other people, not much, probably. Phil Coyle thinks there is an advantage of looking and firing at target missiles coming from different directions. You could launch a target missile from Kodiak and shoot it down from Kwajalein. Putting the intercept launchers up in Kodiak does not seem to add much to the equation, but it could be done under the treaty.

Fort Greely, where we plan to put five launchers, really has nothing to do with a legitimate test range. Shemya, by the way, has a very interesting past. I do not need to get into it in detail now, but originally it was to be an ABM radar. We constructed it

on Shemya after we could only have Grand Forks in defense of our silos. We relabeled the Shemya radar as there to track Soviet test flights, so it has got a peculiar history of its own.

But we are never going to fire any test missiles we have at Fort Greely for safety reasons.

The CHAIRMAN. Remember when Senator Lugar said we have trouble shutting down any bases, so why do you suggest this is a rationale for not shutting the base down?

Mr. RHINELANDER. In fact, the Russians could and already have objected and said this is not legitimate. On the other hand, as I indicated in my statement, if they are looking for a way out, or a way of accommodation with the administration, they could probably hold their nose and swallow, and accept Greely and Kodiak and Shemya, if that is all we were going to do.

If that were done, it would probably be less threatening to China than anything the Clinton administration was taking about. Rather than 100 missiles up in Alaska, we would have five at Greely and two at Kodiak.

But Russia's reaction is going to be the key to that, because Greely cannot, in my judgment, be legally justified as part of a test range. A test range is to flight test missiles, and we are not going to test them from there.

Now, looking at other things they plan to do over the near term, while it is very hard to determine, it looks like at least one of their programs is to use an Aegis destroyer to track a test ICBM from Vandenberg on its way toward Kwajalein. It seems to me that is gratuitous. It is the kind of thing which we were concerned about at the time we negotiated the ABM Treaty. There is a long history of this, and we finally got their agreement not to turn on the ABM systems and SAM systems, or theater ballistic missiles, at the same time. It seems to me that would be what would be involved in this test.

From the perspective of developing an effective national missile defense program, it seems to me that is totally unnecessary. The Aegis system itself is not yet proven against the TMD threat. This is one test that I think is certainly not necessary. One of my recommendations is some kind of cost-benefit analysis be done, and this one does not rank very highly, at least as far as I can see it right now.

Now, turning to research, development and testing, I would stress the point that there is no limit whatsoever on the number of tests we can conduct on systems in a fixed land-based mode. We can keep firing target missiles from Vandenberg, as we have been doing recently, down to Kwajalein, and there are no limits. Much of what we need to test can and should be done in a fixed land-based mode. Phil Coyle and others have made that point already, so that is not a concern.

Where the concern arises for people who are looking to get out of the treaty is article V, which prohibits the development, testing, and deployment of the mobile-type systems, but again, based on Phil Coyle's analysis, we are years and years away from when that is likely to come up.

Now, that, obviously, is based on what has been made public to date. Jim Woolsey a moment ago was saying that he was briefed

by General Kadish on a new sea-based scheme of putting Brilliant Pebbles—small interceptors—on the Aegis ships. I simply do not know. I have not heard of that. I do not know where that stands, but based on the information I have, we are still many years away from where the article V prohibition of development and testing would impact on the programs we have going.

In terms of deployment, we have nothing to deploy right now. I would commend the Bush administration. As I understand what they are saying right now—they are not putting it this way, but they are basically saying—you know, Clinton was talking about deploying a system in Alaska, then the second phase was going to be in North Dakota. The Bush administration is talking about that, because they recognize that the systems are not ready for deployment.

The fact that the ABM Treaty permits only a single deployment area, which is in North Dakota, is really largely irrelevant currently, because we do not know what we want to do. I do not believe that the ABM Treaty should be viewed as a major blockage now in terms of what we want to do if we are soundly pursuing programs to buildup step by step and test out whether or not we can effectively develop and then build a system.

Turning to my conclusions, I have three. The first I mentioned earlier. I think the committee ought to request a detailed report from the executive on the consequences of the U.S. withdrawal from the ABM Treaty. What are other states likely to do? What is Russia likely to do? What is China likely to do?

The 1999 IAEA annual report listed 71 states with nuclear activities. Some of those could go nuclear very quickly. I think you need, as best as we can, an assessment, and it may be classified, of what are the likely consequences of doing this step. No state has withdrawn from an arms control agreement since World War II.

The first treaty that had the clause we are talking about now, the withdrawal clause, was the 1963 Limited Test Ban Treaty, and it has been in every treaty since that time. North Korea is the only country that gave notice of withdrawal. They did that in 1993, and they suspended the notice the day before it became effective. We need to know, better than we do right now, is Humpty Dumpty likely to fall, as I say in my statement, or not?

I do not know, but I am fearful that once we pull the plug on the ABM Treaty, if we do pull the plug, the whole legal regime which has been built up over 40 or 50 years is going to fall apart, to our detriment.

Second, I think you need a cost-benefit analysis in terms of the various programs which the executive is going to propose for funding. When will the proposed activities come up, bump up against, or whatever is the current phrase in vogue now, against the treaty, and what's the importance of that activity. Some of these activities, it seems to me, are gratuitous in terms of more aimed at the treaty than they are in developing the technology. Finally, what kind of agreement or understanding would we need with the Russians to let that go on.

I am personally convinced, having talked with the Russians for a number of years, that if we are serious in terms of reasonable changes to the ABM Treaty, they will sit down and talk to us about

it, then they will probably be accommodating. At the moment, I think they have two questions in their minds. First, are we even going to sit down and talk to them about changes, or are we jut going to blow by them?

Second, if we do, are we simply going to say, strike everything between the preamble and the signature line, and then we will keep the ABM Treaty in force. Of course that is not a treaty. I think there is a huge question mark in Moscow, but we may know more over the next week.

I would close by saying that the announcement we had on, I guess it was Sunday out of Genoa, of the consultations, is not the first time this has happened in this field. I remind you back when Nixon was President that we had an understanding in May 1971. We then spent many months arguing what we had agreed upon in terms of priorities and scope of that general understanding.

Many of the things that have come up subsequently have not led to any agreements at all. I think it is encouraging, personally, that the U.S. and Russia are now going to sit down and talk about offense and defense together but nobody should underestimate how difficult it is going to be, and how different the positions are on both sides, at least at the moment.

Thank you.

[The prepared statement of Mr. Rhinelander follows:]

PREPARED STATEMENT OF HON. JOHN B. RHINELANDER

Mr. Chairman, Members of the Committee:

You have asked our panel to address the legal and technical issues associated with missile defense. While my military service was in the missile defense field in the 1950s, I will focus on the legal issues.

By way of background, I was a law clerk to Justice John Marshall Harlan. My federal service included deputy legal adviser at the Department of State, and legal adviser to the SALT I delegation that negotiated the ABM Treaty and the five-year Interim Agreement on Strategic Offensive Arms. I left federal service at the end of the Ford Administration. I have written and taught in the field of nuclear arms control since. I am currently Senior Counsel at Shaw Pittman and Vice Chairman of the Lawyers Alliance for World Security (LAWS).

I would like to begin by welcoming the announcement by Presidents Bush and Putin over the weekend of consultations linking deep cuts in strategic nuclear arsenals with missile defense systems. One note of caution, however, is in order. History teaches us that the announcement to consult over these issues does not mean that agreement will be easy. There are sure to be difficult negotiations, particularly with respect to priority and linkage of offensive reductions and missile defenses. The most difficult will be whether the ABM Treaty will be amended, as I would strongly recommend, or abandoned. The U.S. is likely to couple offensive reductions with replacement of the ABM Treaty by a non-legally binding agreement. The Russians are likely to insist on limited amendments to the ABM Treaty and its continuation in force as a prerequisite for reductions that include a ban on MIRV'd ICBMs. Notwithstanding the different approaches, this weekend's announcement represents important progress.

ABM TREATY, START AND NPT

A. The ABM Treaty

In 1972, the ABM Treaty halted the defensive ABM competition and was a predicate for the limitations placed on and then the reductions in strategic offensive weapons through SALT I (1972), SALT II (1979), START I (1991), START II (1993) and the outline for START III (1997). The ABM Treaty has and continues to provide predictability in the strategic environment. While the political relationship between the U.S. and Russia has changed substantially, the nuclear postures of the two countries have remained largely unchanged with thousands of nuclear weapons remaining on alert. Under these circumstances, it is still preferable to continue the ABM Treaty in force (amended as necessary), maintain the predictability required

to enable Russian political and military leaders to avoid worst-case assumptions, and to work with the U.S. in an expanded cooperative threat reduction program.

The ABM Treaty is a very short document of less than ten pages. My initial drafting effort in 1971, working with the SALT I delegates, took about two months. The Treaty was signed by President Nixon less than a year after a U.S. draft was first tabled in July 1971.

In brief, the ABM Treaty as amended in 1974:

limits the U.S. and Russia[1] to one deployment site each, the Russian one being around Moscow and the U.S. in North Dakota;

permits unlimited flight testing of fixed land-based ABM systems and components at identified ABM test ranges, but *prohibits* the advanced development and flight testing of all mobile type ABMs (sea-based, air-based, space-based and mobile land-based);

prohibits giving ABM "capability" to non-ABM systems and "testing them in an ABM mode;" and

provides for verification by national technical means (NTM), *establishes* the Standing Consultative Commission (SCC) to promote implementation, and *provides* for both amendments and for withdrawal on six months' notice.

Because of the likely importance of the testing issue, a few words on the scope of Article V, which bans the development, testing and deployment of mobile-type ABM components, are in order. First, nothing in the ABM Treaty prevents research of or laboratory work on anything. Second, the Article V prohibitions on development "start at that point of the development process where field testing is initiated on either a prototype or breadboard model. . . . [T]he prohibition on 'development' applies to activities involved after a component moves from the laboratory development and testing stage to the field testing stage, wherever performed."[2]

The Treaty has now been in effect for twenty-nine years. There is an extensive history, largely classified, on the unilateral as well as agreed positions taken by the parties on many of the issues relevant today. This Committee may want to be briefed on this extensive record. The Treaty itself was amended in 1974 and 1997. The latter—the Demarcation Agreement—has been approved by Russia but not the U.S.

B. START

The START I and START II treaties were both bilateral when signed by former President Bush. START I began the process of reducing arsenals of strategic offensive arms. It entered into force, in amended form with five parties, after diplomatic heroics of Secretary Baker and the Clinton Administration that persuaded Ukraine, Belarus and Kazakhstan to return all nuclear warheads to Russia and to join the NPT as non-nuclear weapon states.

START II is not yet in effect. The Senate gave its consent to that treaty as signed, but Russia approved START II as amended by a 1997 Protocol, and the Senate has not yet received or given its consent to the Protocol. START II reflects the achievement of the long-sought U.S. goal of de-MIRVing Soviet (now Russian) ICBMs. Thousands of Russian ICBM warheads continue to provide a thirty-minute threat at any moment in time to the existence of the U.S. There is no effective defense against ICBMs and no self-destruct device on any deployed ICBM or SLBM.

C. The Nuclear Non-Proliferation Treaty (NPT)

The NPT was signed in 1968 under President Johnson, ratified in 1969 under President Nixon, and entered into force in March 1970. The NPT and ABM Treaty are the twin pillars of the complex, post-World War II arms control regimes that encompass nuclear, chemical, biological, conventional arms, and their delivery systems. Nevertheless, Mac Bundy admonished "never for one moment to forget how different" nuclear weapons are.

There are now 187 parties to the NPT, five of which are nuclear weapon states—the U.S., Russia, the UK, France and China. In addition to those five NWSs, there are three nuclear-weapon-capable states not parties to the NPT—Israel, India and Pakistan. The 1999 IAEA Annual Report lists 71 states with "significant nuclear activities."

---

[1] After the demise of the Soviet Union in December 1991, former President Bush determined that Russia took its place in all international treaties. There are two schools of thought as to whether the necessary legal steps have been taken for Belarus, Ukraine and Kazakhstan to be current parties, but there is no legitimate argument in opposition to Russia's status as an ABM Treaty Party. For example, there are now twelve parties in addition to the U.S. to the formerly bilateral INF Treaty.

[2] *The Military Implication of the ABM Treaty* (92d Cong., 2d Sess., 1972, p. 377).

The two fundamental objectives in the NPT from the perspective of non-nuclear weapon states (NNWSs) are: (1) that other NNWSs not become NWSs, and (2) that the NWSs pursue their Article VI obligation to pursue in good faith "effective measures" relating to the cessation of the nuclear arms race directed toward the eventual elimination of nuclear weapons.

SALT I, SALT II, START I and START II, as well as the outline for START III adopted in 1997, reflect steps consistent with the Article VI obligation. The process has been slow and progress has been made. It is now stalled and may go into reverse unless the consultations announced this weekend produce positive results.

In this context, it is critically important not only to continue the strategic nuclear arms reduction process, but also to remove from high-alert status those weapons that remain. And, just as importantly, Congress should substantially increase the funding available to the Nunn-Lugar programs and urge the Executive to work with Russia across the board to remove the direct and proliferation dangers from its nuclear weapons and materials. These objectives cannot be achieved if the U.S. unilaterally renounces the ABM Treaty.

COLD WAR RELICS

Members of the current Bush Administration have referred to the ABM Treaty as a Cold War relic. The same criticism, wrongly in my judgment, could be directed at the collective efforts of eight former Republican and Democratic Presidents, from Eisenhower through former President Bush. This would include:

The Limited Test Ban Treaty of 1963
The Latin American Nuclear Weapon Free Zone Treaty of 1967
The Outer Space Treaty of 1967
The NPT of 1968
The revitalization of the Geneva Protocol of 1925 and the unilateral renunciation of biological weapons and toxins, both in 1970
The Biological Weapons Convention of 1972
SALT I of 1972
SALT II of 1979
The INF Treaty of 1987
START I of 1991
START II of 1993
The Chemical Weapons Convention of 1993

This list excludes the CTBT of 1996, which NPT parties have identified as the next critical step. The Senate, of course, did not give its consent to this Treaty in 1999, but it remains before the Senate.

President Bush has the right, under the U.S. Constitution, to withdraw the U.S. from the ABM Treaty upon a six-months notice as provided in its Article XV. If he does so, START II will not enter into effect because of a condition set by the Duma, and Russia has announced it will withdraw from START I.

HUMPTY DUMPTY IN THE NUCLEAR AGE

The NPT was signed four years before the ABM Treaty. Some might say it is even more of a relic of the Cold War. A number of states that were nuclear capable—including South Korea, Taiwan, Argentina, Brazil and South Africa—renounced the pursuit of nuclear weapons, but three did not. Israel, India and Pakistan are not parties to the NPT. They possess nuclear weapons and the means to deliver them at short ranges in two highly unstable regions of the world.

No state has yet withdrawn from the NPT. In 1993 North Korea suspended its three-months notice the day before it was to take effect, but there are many states—starting with Japan, Taiwan, South Korea and Indonesia—that could become nuclear weapons states, some very quickly. They, and others, are in addition to the familiar rogue states of North Korea, Iran, Iraq, and Libya.

The U.S., rightly, has been concerned with compliance by the other states with their legal obligations under the network of post-World War II arms control treaties. This legal concern would vanish if "states of concern" and others were to follow the threatened U.S. lead to withdraw before violating. Unfortunately, neither the ABM Treaty, nor START II nor the NPT could be negotiable in the future under foreseeable political conditions. Thus, the withdrawal of the U.S. from the ABM Treaty could lead to the collapse of the larger treaty regime.

This could become the story of Humpty Dumpty in the nuclear age. First the ABM Treaty disappears, then START, then the NPT, and finally the rest of the legal edifice.

Since the pieces could not be put back together again, the security of the United States and the rest of the world would be sharply diminished. Indeed, with the specter of dozens of nuclear weapon states there would be the threat that many future conflicts, no matter how small, might go nuclear.

MISSILE DEFENSE UNDER THE ABM TREATY

The details of the Bush Administration's NMD/TMD proposals are still foggy. Some voices insist that U.S. programs will not be confined to the present or even an amended ABM Treaty, and that DOD should be freed of all treaty constraints. That course would be neither wise nor necessary.

THE ALASKA "TEST FACILITY"

The ABM Treaty is not concerned with the sites from which target missiles are fired. The fact that target missiles may be fired from Alaska, Kwajalein or Vandenberg is not Treaty significant. As noted in Common Understanding B, the ABM Treaty is concerned with "the area within which ABM components are located for test purposes."

One element of the Administration's BMD program is to establish a third ABM test range focused on Alaska, which would be in addition to those at White Sands and Kwajalein. A third test range is legally permissible under Article IV of the Treaty if the total number of ABM launchers at all U.S. test ranges does not exceed 15 and if the additional test range is consistent with the rest of the Treaty, particularly Article I. It would only require, pursuant to paragraph 5 of the 1978 Agreed Statement, notice through the SCC of the location of the new range.

The two ABM launcher silos to be constructed at Kodiak Island for actual interceptor test launches would apparently be used in conjunction with the X-band radar on Kwajalein and target missiles launched from Vandenberg. This new test range coupling Kodiak and Kwajalein should not present any significant legal issues, standing alone.

A greater problem lies with the Bush Administration's proposal to combine this test facility with an emergency BMD capability in Alaska. The five interceptor launchers to be deployed at Fort Greely and the updates to the Shemya radar appear to have no test range functions. The five launchers would never be used for interceptor test flights because of range safety issues, and the Shemya Island radar has a fairly narrow fan (not the 2400 coverage of some radars) and is oriented northwest toward Russia. The Shemya radar provides no coverage whatsoever for a Kodiak-Kwajalein test range. Therefore, Fort Greely and the Shemya radar appear to be a new deployment site, requiring amendments to Articles I and III of the ABM Treaty.

Nevertheless, Russia could decide to acquiesce to including Fort Greely and Shemya Island as part of a new Alaska-Kwajalein ABM test range, provided reassurances and confidence-building measures are given. China, too, could decide that this "test facility" would not threaten its minimum deterrent, or at least would do so to much less of a degree than the Clinton scheme for Alaska.

RESEARCH, DEVELOPMENT AND TESTING

There are no limits on the testing of fixed land-based ABM systems or components from agreed ABM test ranges. Phillip Coyle, in his July 19th testimony before the Senate Armed Services, has suggested that the U.S. will not know whether it can develop an effective ABM/NMD system with only limited capability for ten years or more, and that testing of components in a fixed land-based mode should suffice during that period.

Nevertheless, the Bush Administration is promoting at least two types of test programs that raise Treaty questions. The first is to turn on a SAM/TMID Aegis radar and track an incoming target ICBM during a test, perhaps as early as February 2002. This appears inconsistent with the "testing in an ABM mode" prohibition in Article VI, with Unilateral Statement B made by the U.S. delegation during SALT I, and with the 1978 Agreed Statement. All of these statements stress the persistent and longstanding U.S. concerns to keep separate any test involving ABMs from SAMs/TMDs. The proposed U.S. test involving an Aegis radar appears to be part of a deliberate effort to violate the Treaty without measurably advancing U.S. security. Aegis is not yet proven out in a TMD mode.

The second program involves advanced development and then testing of not yet specified sea-based, air-based and space-based ABM components (e.g., air-based and sea-based boost-phase interceptors). Article V prohibits these activities, but several observations are in order.

Based on Phillip Coyle's analysis, the U.S. is years away from an effective sea-based boost-phase capability, which needs both an entirely new, high acceleration interceptor and a more capable ship-based radar. Therefore, any near-term sea-based testing efforts appear to be scarecrow variants, with little expectation of early effectiveness. Like SAM/TMD testing in an ABM mode, they appear to be efforts to achieve early violations of the Treaty without advancing effective security.

When and if the time comes, the U.S. could propose amendments to Article V permitting the advanced development and flight testing (but not deployment) of sea-based and air-based ABM components. A limited amendment such as this should more than suffice for a realistic five to ten year RDT&E program.

An amendment could also provide for deployment of space-based sensors such as SBIRS-Low, but not kill vehicles. This would, necessarily, raise the question of netting ABM and TMD capabilities and raise substantial policy and Treaty issues.

Any amendments to the Treaty should be coupled with confidence-building measures—such as exchanges of data, notifications of tests, onsite inspections, etc. This would supplement the NTM verification basis of the current Treaty.

DEPLOYMENT OF EFFECTIVE DEFENSE

There are no present prospects for effective ABM/NMD within a decade, based on Phillip Coyle's analysis, with years of development and testing required before a reasonable judgement can be made as to feasibility. Further, current upper-tier TMD systems have not yet proven out in realistic tests and the time frame for effective TMD is also uncertain.

Nevertheless, if and when the U.S. is ready to proceed to deployment of an effective BMD—in excess of or different from that now permitted in North Dakota and the possible launchers at Fort Greely which might be part of a possible "test facility"—there would be time enough to negotiate changes to the ABM Treaty.

THE FUTURE

The rhetoric of the Bush Administration seems to ignore the legislative power and role of Congress under Article I of the Constitution to raise, support and maintain U.S. military forces. The President can, of course, propose legislation, but Congress must decide and act, and its conditions become part of any law.

My recommendations related to the ABM Treaty are three-fold:

First, this Committee should request a detailed report on the probable arms control and security consequences of U.S. withdrawal from the ABM Treaty, including actions by Russia, China and the NNWS parties to the NPT which have "significant nuclear activities".

Second, this Committee should demand cost-benefit analyses from the Executive and from outside experts such as Phillip Coyle on: (a) when proposed NMD/TMD activities might violate the ABM Treaty, (b) the importance of the activity in developing an effective NMD, and (c) the type of agreement or understanding with Russia that would eliminate the problem.

Third, Congress should reject the radical and technologically unproven BMD proposals of the Bush Administration and agree to fund, over the next several years, only those program elements consistent with the ABM Treaty, as currently in effect or as amended, as it did under Senator Nunn's leadership in 1987-88. Congress should not fund programs and activities that would violate the Treaty.

In conclusion, Congress should work with the Executive to fund reasonable and cost-effective BMD programs, starting with TMDs which are more likely to be successful than NMD. Congress should closely monitor technical developments and ongoing technical assessments as well as exchanges and negotiations with allies, Russia, China and others, and take them into account in the annual appropriation decisions for BMD programs.

The CHAIRMAN. Doctor Turner.

STATEMENT OF DR. ROBERT F. TURNER, ASSOCIATE DIRECTOR, CENTER FOR NATIONAL SECURITY LAW, UNIVERSITY OF VIRGINIA SCHOOL OF LAW, CHARLOTTESVILLE, VA

Dr. TURNER. Thank you, Mr. Chairman. It is a great pleasure to appear before this committee once again. I have a prepared statement which, with the committee's leave, I would propose to submit for the record and briefly summarize. I should emphasize my views

are, of course, my own, and should not be attributed to any organization or institution with which I am affiliated.

As I understand it, my mission is to discuss the legal implications of the 1972 ABM Treaty for the proposed U.S. national ballistic missile defense program. This involves some rather complex issues of both international and constitutional law which are addressed in much greater length in my 1999 book, *The ABM Treaty and the Senate.* I will leave two copies for the committee.

My prepared statement begins with a discussion of the importance of respect for the rule of law as a key element of U.S. foreign policy. It quotes Thomas Jefferson's advice to James Madison that, "It has great effect upon the opinion of our people and the world to have the moral right on our side." This is particularly important at our present juncture in history, as even a false impression that we believe that our military and economic power put us above the law will have political consequences that could encourage even our allies to unite against us. That is a quarrel we cannot win.

So I believe that as we deal with this problem, we must act in a manner that avoids even a reasonable perception that we are violating our treaty or other international legal obligations.

As is so often the case, we are faced with both a legal and a political problem. It is thus important, not only that we do the right thing, but that we be perceived as doing the right thing. Further, we must explain our behavior in such a way that people of goodwill can understand that our motives are pure and our conduct honorable, and in the present case I believe the political problem is more difficult than the legal one.

We must also pay special attention to what is often called the Russian problem, and I note in my prepared statement this issue has not been handled very well in the past. A democratic Russia should be a natural ally of the United States, and the people of Russia have suffered too greatly under Communist rule for us not to wish them well in their quest for a better life. This does not mean that we have to give in to all of their demands, but we should treat them with honor and with the respect due to the largest country in the world, possessing a rich and impressive cultural heritage.

With those caveats, let me turn to the key legal issues as I perceive them. To begin with, the International Law of State Succession is both complex and unsettled. However, the better view with respect to nondispositive or personal treaties, like the 1972 ABM Treaty, is that such agreements would not continue in force upon the demise of one of the parties, in this case, the Soviet Union, unless the United States and one or more of the emerging former Soviet republics agreed to keep it in force.

The process by which States agree to continue an agreement in force is governed largely by their internal domestic law, in our case by the U.S. Constitution; and on this point there is so much confusion that a little digression is essential.

When the President was granted the new Nation's Executive power by article II, section 1 of the Constitution, a key component of that power was the general control of American foreign relations. As Thomas Jefferson put it in April of 1790, "The transaction of business with foreign nations is executive altogether. It belongs,

then, to the head of that Department, except as to such portions of it as are specially submitted to the Senate. Exceptions are to be construed strictly."

Jefferson's view was endorsed by Washington, Madison, and Chief Justice John Jay. Indeed, the previous year, Madison had used the same argument, pointing to the Executive power clause, in arguing that the Senate's negative over diplomatic appointments—in this case the appointment of the Secretary of Foreign Affairs—being an exception out of the President's general grant of Executive power, did not extend to give the Senate a voice on such issues as the dismissal of the Secretary of Foreign Affairs. That view was embraced not only by a majority of the House, but also by the U.S. Senate during its first session.

Similarly, in 1793, Alexander Hamilton relied upon the Executive power clause in defending Washington's neutrality proclamation, saying in the process, "It deserves to be remarked that as the participation of the Senate in the making of treaties" is an exception out of the general grant of Executive power to the President it is to be "construed strictly, and ought to be extended no further than is essential to [its] execution."

While intended to be narrowly construed, the checks or negatives given to the Senate and to Congress in this area were nevertheless important. The President may not make a treaty without the approval of two-thirds of the Senate, and it is firmly established in U.S. practice that when an existing treaty is altered in any substantive manner, it must be resubmitted to the Senate before it can be continued in force by the President. I do not understand this point to be in dispute.

To mention but one early example from my book, following the War of 1812, a joint commission was established by the United States and Great Britain to determine the U.S.-Canadian boundary, as established by the 1783 Treaty of Peace that ended the Revolutionary War. But the commissioners were simply unable to identify the "long lake" referred to in the earlier treaty—this was a wilderness area—and so they decided to do their best to survey a clear line that would provide an equitable boundary for the two countries.

In the process, they probably did not alter the territory of either country by more than a tiny fraction of 1 percent, but when Secretary of State Henry Clay learned of this effort, he rejected it, noting that, this was not the line described in the treaty, and thus it could not be implemented without submitting a new treaty to the Senate for its consent.

It is in my view beyond question that any effort to continue the 1972 ABM Treaty with Russia—or with the four signatories of the 1997 Memorandum of Understanding—would unavoidably involve several substantive changes in the original terms, changes which as a matter of clear constitutional law would require its resubmission to the Senate for approval before it could enter into force.

To mention just two examples, to keep the 1972 treaty in force with just Russia would exclude from coverage approximately 5.5 million square kilometers of territory that were constrained by the original treaty, an area about 50 times larger than the territory of Virginia. It is enough territory, theoretically, to deploy more than

a million ABM sites that would have been illegal under the original treaty.

Had the Soviets in 1972 insisted on excluding 50 or 100 square kilometers from the treaty, I am very confident neither the President nor the Senate would have approved it.

The decision to multilateralize the treaty through the MOU is still more substantive a change. It would change the U.S. vote in the Standing Consultative Commission from 50 percent to 20 percent, giving a veto to four other countries instead of one over the implementation of the treaty. There is no precedent in American history for multilateralizing a bilateral treaty without the consent of the Senate.

Thus, Mr. Chairman, I believe the 1972 ABM Treaty has not been continued in force as a treaty between the United States and either Russia or the MOU signatories. The American President lacked the constitutional authority to do that, and I believe this was understood by all of the other parties.

However, this does not resolve our problem. The five signatories to the September 1997 MOU clearly understood the need for ratification of a new treaty, and indeed in article IX they provided that the MOU would not enter into force until ratified by the signatory states "in accordance with the constitutional procedures of those states."

Presumably because of the clearly expressed opposition of the Senate to the ABM Treaty, President Clinton did not submit the MOU to the Senate. It has not been approved by the Senate or ratified by the President. It is thus not binding as conventional international law.

However, there is a good-faith requirement under customary international law, reflected also in Article XVIII of the Vienna Convention on the Law of Treaties, which prohibits a state from defeating "the object and purpose" of a treaty it has signed until it gives notice to the other signatories it does not intend to proceed to ratification. In my opinion, this is the primary legal constraint on the development of a U.S. national ballistic missile defense system at this time.

The United States has always interpreted this good-faith obligation not to defeat the object or purpose not as a duty to comply with every provision of the treaty, but merely to avoid any irreversible steps contrary to the treaty.

As you know, both the Russians and the United States, beginning with the first Bush administration in 1992, and reaffirmed by the Clinton administration, took the view that the ABM Treaty remains in force. These diplomatic statements did not have the effect of actually transforming the 1972 treaty into an agreement between the United States and Russia, because to have done so would have exceeded the President's constitutional authority.

Under Article 46 of the Vienna Convention on the Law of Treaties, the United States cannot be held to any agreement reached "in manifest violation of a fundamental provision of its internal law regarding competence to make treaties." Certainly, the Russians are aware of our constitutional provisions, and the fact that they provided in the MOU that it had to be ratified before it went into

effect is further evidence that everyone knew how this process works.

The behavior of both the United States and Russia strongly suggests that neither side was trying to deny the Senate its proper constitutional role. They elected to implement their desire to keep the treaty in force by signing a new treaty, the 1997 MOU, which had to be ratified in accordance with constitutional processes. But until that is done, their expressed desire to keep the treaty in force has not been legally realized, as a treaty. We still have the same basic obligation because of the provision reflected in Article XVIII.

So I think the better view is that the pronouncements of Presidents Bush, Clinton, and Yeltsin—and their diplomatic representatives—could not, and did not, have the effect of continuing the treaty in force. I think these statements did create an obligation—the same kind of good-faith obligation inherent in all diplomatic intercourse, very much the same as Article XVIII's duty not to defeat the object or purpose of a treaty until notice is given of an intention not to proceed to ratification. Thus, until the United States announces a decision not to pursue ratification of the MOU, I think we are legally bound not to defeat the object or purpose of the 1972 treaty.

Thus, from a purely legal standpoint, I would argue that President Bush or Secretary of State Powell could give formal notice to the other MOU signatories tomorrow morning and free the United States of all legal constraints related to the 1972 ABM Treaty that might limit development and deployment of an effective national ballistic missile system; but let me emphasize the word legal in that statement.

I submit this is not merely a legal issue. In part because of the statements of our own leaders, most of our citizens and much of the world believe that the ABM Treaty remains in force. Even if my legal analysis is correct, and by giving notice that we would not proceed to ratification of the MOU, we would be technically free of the obligations of the 1972 treaty, were we to do that, we would pay a high price, both among our own people and among people of goodwill around the world. It is not a price that we should willingly pay if there is an alternative, and there is.

Mr. Chairman, to avoid even the perception that the United States is violating its treaty commitments and considers itself above the law, all the President would have to do is to include in his notification to the MOU signatories a 6-month delay and an explanation of the extraordinary events which have led us to conclude we must build a national ballistic missile defense system.

Article XV of the ABM Treaty, as has been mentioned, expressly permits either side to withdraw on 6-months notice, and here I quote, "if it decides that extraordinary events related to the subject matter of this treat have jeopardized its supreme interest." The test is subjective, but I do not believe that anyone could read the Rumsfeld Commission report and not agree that the United States faces extraordinary new threats to its security that were not anticipated when the 1972 treaty was concluded.

I do not even think it is necessary for us to take a position on whether the 1972 treaty remains in force or has lapsed. The President (or his Secretary of State) in his communications could simply

use language like, "therefore, consistent with the terms of Article XV of the ABM Treaty, upon the expiration of a period of 6 months from this notice, unless a new agreement is reached regarding this matter, the United States will consider itself free to act as it deems necessary," and so forth.

As a matter of international law, I do not believe such a delay is essential. As a political matter, I would strongly advise the President to include such a delay in any such announcement.

Permit me to close, Mr. Chairman, with one final point. I am not sure there will be any difference on this, but I want to emphasize the decision to give diplomatic notice to the MOU signatories that the United States will not proceed to ratification of the MOU is entirely executive in character, and thus is vested exclusively in the President. Neither the Congress nor the Senate have any role in this process. Summarily, the decision to give notice under Article XV of the ABM Treaty is exclusively executive. In my view, this is absolutely clear.

Obviously, the President cannot build an ABM system without the approval of both Houses of Congress, because Congress controls the purse, raises military forces, and thus you have very much a full role in that process; but the interpretation, execution, and carrying out of treaties at the international level is an executive function.

Mr. Chairman, that concludes my remarks. I would be happy to answer questions.

[The prepared statement of Dr. Turner follows:]

PREPARED STATEMENT OF DR. ROBERT F. TURNER, SJD

Mr. Chairman, it is an honor to appear once again before this distinguished committee. My mission this morning, I gather, is to discuss the legal status of the 1972 Anti-Ballistic Missile Treaty and its implications for the proposed national ballistic missile defense program. Before doing so, however, I would like to make a few brief comments about some contextual issues and to emphasize that my views are personal and should not be ascribed to my employer or any other organization with which I am now or have in the past been affiliated.

UPHOLDING THE RULE OF LAW AND MAINTAINING THE MORAL HIGH GROUND IN THE POST COLD-WAR ERA

Some would have us believe that International Law is not really "law." Others approach the policymaking process with the assumption that we must elect between "obeying the law" or pursuing our national self-interest. I submit that both views are misguided and that upholding the Rule of Law—including our treaty commitments—is very much in our long-term national interest.

This is not the time to debate whether International Law is really "law" or merely a series of political or moral undertakings we are free to ignore when they become burdensome. For those who are interested, I have dealt with that issue elsewhere.[1] For present purposes, I would note only that the United States, like every country in the world, acknowledges that treaties create binding legal obligations, and our government has never questioned that principle in more than 225 years.

The answer to the alleged dilemma about whether we should honor our treaty commitments or pursue our self-interest was answered eloquently by our first Secretary of Foreign Affairs under the Constitution, Thomas Jefferson, who—just ten days after taking the oath of office in 1790—in a letter to Lafayette, wrote: "I think . . . that nations are to be governed with regard to their own interests, but I am

[1] *See, e.g.,* Robert F. Turner, *U.S. and U.N.: The Ties That Bind,* WALL STREET JOURNAL, Dec. 1, 1997, at A23.

convinced that it is their interest, in the long run, to be . . . faithful to their engagements, even in the worst of circumstances, and honorable and generous always."[2]

Three years later, when President Washington asked the Secretary of State for his opinion on whether the United States had a right to renounce treaties with France following the French Revolution, Jefferson responded:

> Compacts then between nation and nation, are obligatory on them by the same moral law which obliges individuals to observe their compacts. There are circumstances however which sometimes excuse the non-performance of contracts between man and man: so are there also between nation and nation. When performance, for instance, becomes impossible, non-performance is not immoral. So if performance becomes self-destructive to the party, the law of self-preservation overrules the laws of obligations to others. For the reality of these principles I appeal to the true fountains of evidence, the head and heart of every rational and honest man. It is there Nature has written her Moral laws, and where every man may read them for himself. He will never read there the permission to annul his obligations for a time, or for ever, whenever they become "dangerous, useless, or disagreeable." Certainly not when merely useless or disagreeable. . . . And tho he may [renounce contracts] under certain degrees of danger, yet the danger must be imminent, and the degree great. Of these, it is true that nations are to be judges for themselves; since no one nation has a right to sit in judgment over another, but the tribunal of our conscience remains, and that also of the opinion of the world. These will review the sentence we pass in our own case, and as we respect these, we must see that in judging ourselves we have honestly done the part of impartial and rigorous judges.[3]

Weeks after turning the helm of government over to James Madison, former President Jefferson advised his protégé that "it has a great effect on the opinion of our people and the world to have the moral right on our side. . . ."[4] I have long felt that this sentiment should be carved in large letters at an appropriate location in the Department of State where policymakers would be reminded of it regularly as they arrived for work.[5]

Mr. Chairman, for the second time in our history the United States today finds itself unchallenged as the most powerful country in the world. Immediately following World War II—a conflict during which all of the other powers of the globe were knocked to their knees if not flat on their backs—the United States had a monopoly on atomic weapons and had suffered far less, particularly on the home front, than any of its potential rivals. Many countries throughout history, if given that opportunity, would have sought to exploit such a situation for their own selfish advantage. To our credit, we viewed our predominance of power as a solemn trust and devoted our energies to trying to build a United Nations to maintain world peace as we helped to rebuild the economies of Europe with the Marshall Plan. To the surprise of many, we even worked to rebuild our former enemies, Germany and Japan, in the process assisting them to become two of the world's most respected democracies and America's close allies.

Once again, the end of the Cold War finds us as the unchallenged heavyweight champion. But this time there is no "Red Menace" to threaten the world—to instill in us a sense of leadership responsibility and to encourage other nations to unite behind our leadership. Today, there is clearly a temptation in some quarters for the United States to take advantage of our sole "superpower" status and use it to promote our short-term self-interest. We won the Cold War, it is suggested, so why shouldn't we compel the world to do things "our way" now that we are the biggest gorilla on the block? Why be constrained by treaties that no one can enforce against us?

I respectfully submit that few things we could do would in the long run be more damaging to our "self-interest" and our national security than such an approach. When the Cold War ended, I was teaching the basic introductory U.S. Foreign Policy course for University of Virginia undergraduates. In discussing our foreign policy options, I made an observation that I think bears repeating: We are the only remaining military superpower, and for the foreseeable future we need not fear that

---

[2] *Jefferson to Lafayette,* April 2, 1790, in 16 PAPERS OF THOMAS JEFFERSON 293 (Julian P. Boyd, ed. 1961).

[3] *Opinion on the Treaties With France,* 25 *id.* at 609-10.

[4] *Jefferson to Madison,* April 19, 1809, in 12 WRITINGS OF THOMAS JEFFERSON 274 (1904).

[5] This is not intended as a criticism of the Department of State or its policymakers. I am a great fan of the State Department. But this principle is so critically important that even good and honorable men and women could benefit from the reminder.

any country will be able to challenge us militarily. But we are not stronger than every country, and if we abuse this special trust that has once again been placed in our care, the predictable result will be that the rest of the world will find it in their interest to unite against us. In the long run, I submit, we will not win that fight. We are thus in a position where the right thing to do—the morally correct course of action—happens to coincide well with the approach that on more pragmatic grounds will best serve our interest. If we are to build a new world based upon democracy, human dignity, and respect for the Rule of Law, we must in our own behavior remain true to our commitments and honorable in our international intercourse irrespective of power relationships.

So I would strongly urge that, as we examine our options with respect to national missile defense, we keep in mind the importance of upholding the Rule of Law and we strive hard to avoid even the perception that we are doing otherwise. I don't expect this caveat to shock anyone here today, but I felt it was important enough that it warranted a brief digression.

THE "RUSSIAN PROBLEM"

Mr. Chairman, I would like also to touch briefly upon what is being called the "Russian problem." The ABM Treaty issue is particularly sensitive, as it has become central to our relationship with Russia, the largest country in the world, the second most powerful nuclear-armed military power, and a country that many of us believed would emerge from the Cold War rubble to become a thriving democracy and a natural friend and ally for the United States.

Today, the Russians are hurt and angry about our behavior in a number of areas; and, trying to see things from their perspective, I am not certain their displeasure is in every instance unjustified. Indeed, I fear that our mishandling of the ABM issue has contributed to undermining that potential relationship. There is still a lot of "old thinking" in Russia, a lot of uncertainty and anxiety, and some of our behavior has, in my view, been horribly shortsighted and counterproductive.

One of the interesting observations we can draw from history is that Winston Churchill and Richard Nixon got along better with Stalin and his Soviet successors than did the more Liberal Franklin Roosevelt or Jimmy Carter, because the Communists *understood* the straight-talking anti-communists and felt they could work with them. FDR tried to deal with "Uncle Joe" as if there were no differences and the two regimes were natural "buddies," and he liked to pat Stalin on the back as he would any American politician with whom he was trying to settle differences.

Stalin, on the other hand, matured in a culture in which, when your enemy put his hand behind your back, there was often a dagger concealed in the hand. He had great difficulty in understanding Roosevelt and concluded that the American president was either trying to trick him or was a fool—and to a good Leninist, fools were to be used and exploited. President Carter—whose sincerity, intelligence, and fundamental human decency can not in my view seriously be questioned—made similar mistakes and seems to have left office bitter over the "betrayal" when his new Soviet friends behaved like good Leninists in Afghanistan.

Ronald Reagan shocked most of my colleagues in the academic world by his remarkable success in dealing with Moscow. One of our Center's first projects was the design and publication of a law school casebook on *National Security Law,* which was begun in 1981 and published in 1990. We called upon our old friend John Rhinelander—a man of great intellect and talent, who had served as the legal officer during the Moscow negotiations that produced the ABM Treaty and later served with us on the ABA Standing Committee on Law and National Security—to write one of the chapters on arms control. John's first draft argued that the hard-line approach of the Reagan Administration towards negotiating with Moscow was designed to guarantee that there would be no further progress in arms control, and he predicted that would be the result. But as President Reagan's tough negotiators—truly exceptional individuals, like Ambassadors Max Kampelman, Jim Woolsey, and Ron Lehman—did their job, they brought back one excellent agreement after another. Fortunately, our casebook was delayed long enough that John had an opportunity to modify his originally pessimistic draft.

Like Churchill and Nixon, Reagan was candid and straightforward in his dealings with Moscow. He didn't pretend that there were "no differences" between Soviet Communism and the United States, but he did believe that both countries could benefit from cooperation in several important areas. He talked about building a national missile defense system and suggested that the Soviets might cooperate in such an effort for the benefit of both countries. That particular suggestion shocked many of Reagan's own senior advisers as much as it did Moscow, but it set the stage for some new thinking as the Soviet empire suddenly collapsed. Boris Yeltsin de-

cided the ABM Treaty was not all that critical after all and that it would be in Russia's interest to have a special relationship with the United States in developing a ballistic missile defense technology that might benefit the entire world. When President Yeltsin came to the United Nations at the end of January 1992, he announced: "I think the time has come to consider creating a global system of protection of the world community. It could be based on a reorientation of the U.S. Strategic Defense Initiative to make use of high technologies developed in Russia's defense complex."[6] Based upon press accounts, it is my sense that the United States embarrassed Yeltsin by ignoring his proposal. And in the years ahead, we—and by "we" I am referring to both the (first) Bush and Clinton administrations—portrayed the ABM Treaty as the "cornerstone" of strategic stability. So the Russians went along, and when American conservatives began talking about perceived new ballistic missile threats, the Russians held to the Treaty that seemed so important to the American presidents.[7]

I've been out of government for many years, but from the press accounts it appears to me that we badly mishandled the ABM issue with Moscow. For example, in late January 1999, Secretary of State Albright reportedly assured Russian leaders in Moscow that "the United States will not violate the 1972 Anti-Ballistic Missile Treaty."[8] Consider this AFP account of the Albright-Ivanov press conference that followed the American Secretary of State's visit:

> The Russian minister told a joint press conference here that Moscow had secured US assurances that the White House did not plan to unilaterally tear up the ABM accord. . . . "We have assurances from the [U.S.] president and the vice-president that the American side will respect the ABM treaty," [Ivanov] said. "Any possible plans must be agreed to. . . ."[9]

Perhaps the Russian Minister was overstating the American assurances—such efforts to win through the manipulation of public opinion what could not be achieved at the bargaining table are not unprecedented in diplomacy and were a pillar of Soviet political warfare—but, in this instance, my strong suspicion is that Foreign Minister Ivanov was accurately reporting the assurances he had received.

However, barely a week passed before National Security Adviser Sandy Berger sent a letter to Senator Carl Levin, promptly released to the press, that assured the Senate the United States would not "give Russia or any other nation a veto over our NMD requirements."[10] These two assurances were obviously incompatible; and, with even a slight measure of paranoia, it was easy for Russian leaders to conclude they were being "conned"—or at least lied to—by the American government that pretended it wanted to be their friend. Such disrespectful treatment towards a proud country that was already feeling humiliation over its loss of world influence was in my view an inexcusable blunder.

The Russians are a highly intelligent people. They may not like it, but if properly explained they will certainly *understand* the message of the Rumsfeld Commission. There are new ballistic-missile threats to the United States, and it is logical and reasonable for us to take them seriously and to want to protect our people.

Let's get one point straight. The clear object and purpose of the 1972 ABM Treaty was to prevent either side from developing or deploying a national ballistic-missile defense system. Article I of the Treaty provides in part that "Each Party undertakes not to deploy ABM systems for a defense of the territory of its country. . . ."

It makes no sense to say we are going to make some minor "adjustments" to the Treaty that will allow us to do the one thing the Treaty was clearly intended to prevent. And all of this rhetoric set off alarm signals in Moscow. The Russians quite understandably felt we were lying to them and trying to trick them—and that, in turn, raised serious concerns about our overall strategic intentions. The ham-handed way in which we fumbled ABM diplomacy sent the further signal that we must have thought Russian leaders were either fools, who were incapable even of reading our own newspapers, or that their country was of such trivial significance on the global

---

[6] *Excerpts from Speeches by Leaders of Permanent Members of U.N. Council,* N.Y. TIMES, Feb. 1, 1992, at A5.

[7] This is obviously an oversimplification. Some senior Russians were anxious to please the American president and saw Russia's future as being best served by a special relationship with Washington. There were "old thinkers" whose views of the United States had changed little since the end of Communist Party rule in Moscow, and still more who blended hopes for such a special relationship with a fair measure of suspicion and paranoia about American intentions.

[8] *U.S. Russia Set Aside Their Dispute On Missile Defenses,* BALT. SUN, Jan. 27, 1999, at 15A.

[9] *U.S., Russia Deeply Divided Over ABM Treaty, Missile Defense Plan,* AGENCE FRANCE PRESSE, Jan. 26, 1999, *quoted in* ROBERT F. TURNER, THE ABM TREATY AND THE SENATE 42 (1999).

[10] *Quoted in* TURNER, *supra* note 9 at 43.

scene to us that we need not care what they thought. It was very sad to watch from the sidelines.

I believe Russia is a very important country. Few developments around the globe would bring me greater joy that to see the Russian people succeed in building a strong democratic government, respectful of the rights of its people and with a market economy capable of lifting them from the sad quandary in which they have found themselves.

We cannot, and we *should not,* do it for them. Unless Russia can get control over corruption, crime, and its numerous other problems, sending them even half of our GNP would not solve their problems. But there are many things that we can help them do-including educational initiatives to teach them about the Rule of Law. We can also appreciate that Russia is a proud country with a great history and that their post-Cold War loss of power is understandably a blow to that pride. They deserve our good will, our respect, our prayers, and—in settings where it can make a difference—our help.

Like the United States, Russia is a sovereign state, entitled to set its own goals and chart its own course to the future so long as it does not infringe upon the rights of other states. We must respect their sovereignty and understand that their efforts to transform into a modern democracy will involve some false steps and a few stumbles under the best of circumstances.

There are signs that Moscow may be wondering if its future will be better served by alignment with the People's Republic of China rather than the United States and its allies in the community of democracies. I believe that would be a step backwards and a serious mistake—a tragedy for the people of Russia, who have already suffered so greatly from more than seven decades of totalitarian rule—but it is not our decision to make. So long as Russia upholds its obligations under the Charter and other principles of International Law, we have no legitimate complaint. But it would indeed be tragic if our bungled diplomatic efforts played a role in any Russian decision to turn its back on democracy and human rights—to allow its paranoia to compromise its promise.

So, Mr. Chairman, I urge that, whatever decisions the United States makes about ballistic-missile defense, we work carefully to explain our decision to the government—and, indirectly, to the people—of Russia and that we deal honorably and candidly with them in the process. The Russians are quite justifiable a proud people, and the hardships of the post-Cold War era have not been easy for them to accept. If we want to be their friend—as we very much should—we need to understand this and to treat them honorably and avoid even the appearance that we intend to ignore them, bully them, or evade our legal responsibilities.

It is, of course, conceivable that I overestimate the Russian people. But if we can get away from the appearance we seem almost to have been cultivating that we don't respect Russia and think we can "manage" them with half-truths and misdirection, I believe they can be persuaded that what we are talking about doing is not only no threat to them, but rather has the potential to do them good. And if they continue their move towards democracy, I see no reason not to include them in some way the enterprise.

Moral and Legal Implications of the "MAD" Policy

Before turning to the legal issues, Mr. Chairman, a comment may also be in order about the moral and legal shortcomings of the strategy upon which the ABM Treaty was premised. Mutually Assured Destruction (quite appropriately acronymized as the "MAD" doctrine) may have served some useful purpose at the height of the Cold War, but at its core it is an immoral and, indeed, an *illegal* strategy. Targeting doctrines designed to impose maximum casualties on civilian noncombatants are today a violation of *jus in bello.*

The ABM Treaty was premised upon the realization that the Soviet Union and the United States were bitter enemies, each possessing the military potential to inflict a nuclear holocaust on the other's population. Both countries believed that the other would be deterred only by the realization that a nuclear attack on the other would certainly result in the destruction of its own cities. If one side could develop an effective ballistic-missile defense shield, it might be tempted to launch a preemptive attack—in the belief that it could prevent missiles launched in a counterattack from reaching its own cities. To counter that risk, the other country might be tempted to deploy additional thousands of offensive ballistic-missile launchers capable of overwhelming even a sophisticated ABM shield. And since the technology of the era called for the explosion of nuclear devices above a nation's own territory to destroy an incoming reentry vehicle, agreeing to ban ballistic-missile defenses in order to curb the offensive missile arms race made a great deal of sense in 1972.

If MAD made sense when the Soviet Union was our mortal enemy, it makes absolutely no sense to me today. We tell the Russians that we want to welcome them into the community of democracies and to be their friend, but then we seem to whisper: "But if you make one false move, We've got a 12-gauge shotgun under the table pointed at your belly." That's not the way civilized friends behave.

We don't behave that way towards the British or the French, and if we want Russia to be our friend we ought not behave that way towards the Russians. Nor should Moscow demand a right to hold our population hostage, especially in a world where other, less civilized, forces can reach the trigger. The United States and Russia should deal with each other honestly, openly, and respectfully—as friends. It is inconceivable to me that the Russians will not see the incongruity of trying to build a relationship of friendship and trust on the cornerstone of MAD and the ABM Treaty. Both are relics of an era we should all wish to place behind us.

As the Rumsfeld Commission has unanimously documented, we are in a very different world today than we were when the ABM Treaty was perceived as a rational component of our security policy. In 1972 we lived in a bipolar world in which our only threat was the USSR and even a minor miscalculation might have produced a nuclear cataclysm. To be sure, France and the United Kingdom had nuclear weapons—but they were democracies and we felt no threat from their arsenals. China's program was still in its infancy and was focused primarily upon a perceived Soviet threat.

Today, as Russia seeks to become a full member of the community of democracies, our primary concern about Russian nuclear weapons is that they will be stolen or otherwise transferred into the hands of radical regimes around the world. The strongest correlation in the war-peace continuum is that democracies do not attack democracies,[11] and if Russia is serious about making this transformation, it should have nothing to fear from the fact that the United States is militarily powerful. Nor should we fear Russian military strength—any more than we tremble when the British acquire a new defensive weapons system. We ought to *want* to see a strong, stable, and vibrant Russia—a global ally with whom we can cooperate under the UN Charter to deter or defeat aggression by radical regimes who are unwilling to accept the prohibition against the aggressive use of lethal force embodied in Article 2:4 of the Charter. Today, the most critical dichotomy is not East-West, North-South, or Rich-Poor, but rather the vast majority of states that accept the Charter's prohibition on the threat or use of lethal force as an instrument of national policy, versus a small number of non-democratic, radical regimes who still perceive they can gain by the aggressive use of lethal force.

The threats documented in the Rumsfeld Report potentially endanger not only the lives of millions of Americans, but of millions of Russians as well. And for either country to demand that, as evidence of its "good faith," the other leave its people exposed to these rising new threats, ought to be unacceptable. Friends don't demand as a price for their friendship that others place the lives of their family at risk.

The United States and Russia know more about ABM technology than do any other countries. This ought to be an area where we can cooperate—a special relationship designed to promote both these interests of our two great countries, and also the welfare of numerous other, smaller, states who might fall victim to the threat or use of ballistic missiles. As I understand the administration's proposal, they are not seeking to build a system that could protect us from the vast Russian nuclear arsenal in any event. The real threat today—for Washington and Moscow—comes from elsewhere. Rather than demanding that the Russians leave their population vulnerable to Rogue State tyrants, we ought to want to see the Russians be able to protect themselves.

I am not a scientist, and I candidly admit that I do not know whether the technology we are pursuing in the ballistic-missile defense area will work. I know we can already shoot down missiles with missiles (I personally never doubted that could be managed), but whether Iran, Iraq, North Korea, or even China will be able to devise effective countermeasures to such a system, I simply do not know. I will of necessity leave that issue to others.

Given the obvious threat, my personal view is that we would be foolish not to try to develop such a system—at least to the extent of being able to protect ourselves from being blackmailed by any two-bit tyrant or terrorist organization who could put together a WMD-armed missile or two. History is full of accounts of people doing things that other "experts" swore could not be done, including making heavy, metal airplanes fly through the sky and sending human beings to the moon and back. Anyone who consistently bets against the technological ingenuity of the American people is going to go home from Las Vegas in a bus.

---

[11] *See, e.g.,* BRUCE RUSSETT, GRASPING THE DEMOCRATIC PEACE (1993).

THE CURRENT LEGAL STATUS OF THE ABM TREATY

Mr. Chairman, a great deal has been written in recent years about the current status of the 1972 ABM Treaty, and I believe much, if not most, of it has missed the mark. To begin with, the international law of state succession governing such a treaty is highly unsettled. Even if one can make sense of that aspect of the problem, comprehending the full extent of the problem requires an understanding of aspects of U.S. constitutional law that may be even less well understood—even within the academic community.

Let me try to briefly summarize the situation as I perceive it. For additional background, I will provide the Committee with some copies of my 1999 book, *The ABM Treaty and the Senate,* which some of you may have already seen.

The International Law of State Succession

The ABM Treaty is what we call a "non-dispositive" or "personal" treaty—as distinguished from a "dispositive" or "real" treaty, which imposes permanent burdens upon the territory and creates rights in other states that do survive in a setting of state succession. Non-dispositive agreements like the ABM Treaty do not automatically survive in settings of state succession, and neither a former party to a treaty with a defunct state, nor a successor State to the territory of the defunct state, can compel the other to continue such an agreement in force without its consent.[12] The predominant state practice is for both sides to discuss whether they wish to continue each such agreement, and if both agree, the treaty continues in force.

How such consent is manifested is largely an issue of municipal constitutional law. It is clear that Presidents Yeltsin and Bush both expressed a desire to continue the ABM Treaty in force, and this was repeatedly reaffirmed by the Clinton administration. However, in this situation, that was insufficient as a matter of clear constitutional law; and because of that, their statements did not, in my view, legally bind the United States to a continuation of the Treaty under International Law.[13] On the other hand, it may well have created a good-faith moral obligation not to defeat the object or purpose of the Treaty until clear notice had been given to the other side of a decision not to take the necessary constitutional steps to keep the Treaty terms in force.

The Relevant Principles of U.S. Constitutional Law

In the United States, our Constitution vests the power to make treaties in the President, subject to the condition precedent that two-thirds of those Senators present give their consent to ratification.[14] Once the Senate has voiced its consent, its role in the treaty process is essentially over. The interpretation of treaties is entrusted to the President unless cases or controversies involving the rights of individuals are at issue, in which case the judiciary interprets the treaty for purposes of domestic U.S. law.

Once again, the proper constitutional rule was set forth by Secretary of State Jefferson, who made the following notation following a 1793 meeting with French minister to Washington, Citizen Genet.

> He asked if they [Congress] were not the sovereign. I told him no, they were sovereign in making laws only, the executive was sovereign in executing them, and the judiciary in construing them where they related to that department. "But," said he, "at least, Congress are bound to see that the treaties are observed." I told him no, there were very few cases indeed arising out of treaties, which they could take notice of; that the President is to see that treaties are observed. "If he decides against the treaty, to whom is a nation to appeal?" I told him the Constitution had made the President the last appeal.[15]

This was, in fact, the prevailing view even in the legislative branch from the start of our country. The men who wrote and ratified our Constitution were admirers of

---

[12] *See, e.g.,* D. P. O'CONNELL, THE LAW OF STATE SUCCESSION 58 (1956); and J. L. BRIERLY, THE LAW OF NATIONS 153 (6th ed. 1963).

[13] As a general principle, a nation may not rely upon a provision of its internal law regarding competence to make treaties to argue that a treaty its agent has ratified is not binding. However, there is a clear exception to this rule when "that violation was manifest and concerned a rule of its internal law of fundamental importance." *See* Vienna Convention on the Law of Treaties, Art. 46. For a discussion of this issue, *see* TURNER, THE ABM TREATY AND THE SENATE 102-04.

[14] [The President] shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur. . . ." U.S. CONST., ART. II, sec. 2.

[15] *Quoted in 4* JOHN BASSETT MOORE, DIGEST OF INTERNATIONAL LAW 680-81 (1906).

Montesquieu's doctrine of separation of powers, but they departed from the theories of Locke, Montesquieu, Blackstone, and others, by blending certain powers for the purpose of establishing important "checks" on government power. Thus, the President was joined in the legislative process through his "negative" or "veto" over bills passed by Congress, the President's power to appoint officers and to make treaties were conditioned upon the approval of the Senate, and each house of Congress was given a negative over a decision to "declare War."[16]

The general management of the nation's external intercourse was vested in the president by the first Article of Section II of the Constitution, vesting the nation's "executive Power" in the president. As Jefferson explained in April 1790:

> The Constitution . . . has declared that "the Executive power shall be vested in the President," submitting only special articles of it to a negative by the Senate . . . The transaction of business with foreign nations is Executive altogether. It belongs then to the head of that department, except as to such portions of it as are specially submitted to the Senate. Exceptions are to be construed strictly.[17]

Three years later, Jefferson's chief political rival of the period, Alexander Hamilton, wrote:

> The general doctrine then of our constitution is, that the EXECUTIVE POWER of the Nation is vested in the President; subject only to the *exceptions and qulifications* [*sic*] which are expressed in the instrument. . . .
>
> It deserves to be remarked, that as the participation of the senate in the making of treaties and the power of the Legislature to declare war are exceptions out of the general "Executive Power" vested in the President, they are to be construed strictly—and ought to be extended no further than is essential to their execution.[18]

This is also the rationale used by Representative James Madison, often called the "Father of the Constitution," in persuading Congress that, because of the president's general grant of the nation's "executive Power," the Senate's power to consent to diplomatic appointments did not extend further to encompass such subsequent decisions as the removal of a confirmed individual from office.[19] During his brief service in Congress prior to becoming Chief Justice of the United States, John Marshall—also relying on the "executive Power" clause—argued so persuasively that the business of executing and interpreting treaties was exclusively executive in character that his Republican antagonist in the debate, the very able Albert Gallatin, refused to engage further and declared Marshall's reasoning "unanswerable."[20]

As I am confident my very able friend John Rhinelander will tell you, there is ample precedent for American presidents unilaterally (in the sense of acting for the United States without the formal involvement of the Senate) agreeing to continue a treaty in force in situations of state succession. Section 310 (3) of the *Restatement (Third) of Foreign Relations Law* notes: "When part of a state becomes a new state, the new state does not succeed to the international agreements to which the predecessor state was party, unless, expressly or by implication, it accepts such agreements *and the other party or parties thereto agree or acquiesce* [emphasis added]."[21] In comment *h* to this section, the *Restatement* explains that the Senate has "apparently acquiesced" in the practice of the Executive branch continuing some treaties with a successor state in succession settings without resubmitting them to the Senate.

This is an accurate statement. While one might argue that the agreement between the United States and the successor state theoretically constitutes the making of a new treaty containing the same terms previously approved by the Senate with the initial treaty party, as a practical matter the Senate has apparently often taken the view that it need not be bothered with resubmission of terms it has already approved. But this "acquiescence" is a political accommodation and not a modification of the Senate's constitutional right to consider all treaties negotiated with foreign states.

---

[16] The meaning of the term "declare War" is discussed in Robert F. Turner, *War and the Forgotten Executive Power Clause of the Constitution,* 34 VA. J. INT'L L. 906-10 (1994).

[17] *Jefferson to Washington,* 16 PAPERS OF THOMAS JEFFERSON 378-79.

[18] *Pacificus 1,* 15 PAPERS OF ALEXANDER HAMILTON 39, 42 (Harold C. Syrett, ed. 1969) (emphasis in original).

[19] *See* TURNER, THE ABM TREATY AND THE SENATE 114.

[20] *Id.* at 121.

[21] 1 RESTATEMENT (THIRD) ON FOREIGN RELATIONS LAW § 210.

More importantly, the precedent of Senate acquiescence to the continuation of treaties in state succession settings does not apply if there is a single substantive *change* in the terms of the agreement. It is well established, from the earliest days of our history, that any effort by the Executive branch to change the terms of a treaty constitutes the making of a *new* treaty and requires the consent of two-thirds of the Senate before it may be ratified. I shall not elaborate on this point here, as I do not sense that anyone of authority within the Executive branch questions the point; but I have addressed it in greater detail elsewhere for anyone who is interested.[22]

I shall not discuss at length the substantive changes to the ABM Treaty that clearly require resubmission to, and the consent of, the U.S. Senate before the terms of the 1972 Treaty can be continued as conventional international law with Russia or the four former Soviet Republics who have signed the 1997 MOU.[23] First of all, I have discussed this issue at length elsewhere;[24] but the point seems to have been recognized by the MOU signatories themselves, who expressly provided in Article IX that continuation of the terms of the 1972 Treaty would be contingent upon the formal ratification of each of the parties as a new treaty in accordance with its constitutional processes.[25]

So where does that leave us? Let me try to summarize the situation as I see it:

1. The 1972 U.S.-Soviet ABM Treaty did not automatically continue in force between the United States and any other country or group of countries upon the demise of the Soviet Union. The law of state succession is unsettled, but the clear majority view in such cases is a presumption that bilateral nondispositive treaties expire when one party ceases to exist in the absence of agreement to the contrary.

2. As sovereign states, the United States and any of the new republics that emerged from the former Soviet Union had the right under international law to agree to observe the terms of any previous treaty ratified by the United States and the Soviet Union. Both the (first) Bush and Clinton administrations clearly expressed a desire to keep the ABM Treaty in force, and a solemn international treaty (the MOU) was signed in New York in September 1967, to continue the terms of the 1972 Treaty—with some necessary (and substantive[26]) modifications—in force between the United States and four of the former Soviet republics. That treaty has been signed; but, by its own terms, it can only go into effect upon ratification pursuant to the constitutional procedures of each signatory state.

3. From the sidelines, it appears clear to me that the MOU is not in the foreseeable future going to be submitted to the Senate for its consent to ratification. Were it submitted, I think the likelihood of the MOU receiving the necessary two-thirds Senate approval is infinitesimal. Just over two years ago the Senate voted 97-3 for the National Missile Defense Act, which as enacted into law provides: "It is the policy of the United States to deploy as soon as is technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack . . ."[27] This is obviously a decisive rejection of the fundamental premise of the ABM Treaty.

4. This leaves unsettled the precise legal status of the 1972 Treaty. It cannot be continued as a legally-binding treaty, as intended by the MOU, without the consent of the Senate, and that provision of American constitutional law is sufficiently clear to all that the statements of the Bush and Clinton administrations could not overcome it. The better view, I believe, is that the good-faith statements of U.S. and Russian leaders created a moral obligation to abide by the terms of the 1972 Treaty until those terms could be incorporated into a new

---

[22] *See* TURNER, THE ABM TREATY AND THE SENATE 160-67.

[23] For background on the September 26, 1997, Memorandum of Understanding signed by the foreign ministers of Belanis, Kazakhstan, the Russian Federation, Ukraine, and Secretary of State Madeleine Albright, *see* TURNER, THE ABM TREATY AND THE SENATE 26-27. The entire MOU is reprinted as an appendix to this volume.

[24] *Id.* at 169-72.

[25] Article IX provides that: "This Memorandum shall be subject to ratification or approval by the signatory States, in accordance with the constitutional procedures of those States." *See* TURNER, THE ABM TREATY AND THE SENATE 27.

[26] There is no precedent in U.S. practice for converting any bilateral treaty into a multilateral treaty without the formal consent of the Senate, and the decision to expand the Standing Consultative Commission (SCC) from two to five, with each party having a veto over decisions, is obviously a major change.

[27] This is discussed in TURNER, THE ABM TREATY AND THE SENATE 45-48.

treaty (like the MOU) or clear notice has been given to all involved that one side or the other did not intend to ratify the MOU or another new treaty continuing the old terms. Since the President clearly needed the consent of two-thirds of the Senate to establish a treaty with Russia (and/or any other former Soviet Republics) on this issue given the substantive changes inherent in the situation, he manifestly lacked the constitutional authority to continue the ABM Treaty in force as conventional law.

5. However, the Russians clearly seem to believe the 1972 Treaty remains in force, the (first) Bush and Clinton administrations seemed to agree, and most of the rest of the world seems pretty much content with that interpretation. While I think that the better view is probably that the 1972 ABM Treaty is not in force today as an international convention, it is clear that able and honorable people—and I suspect a large majority of them—would disagree.

6. The good news, in my view, is that it is not necessary to resolve this issue. Because when Secretary of State Albright signed the MOU in September 1997, as a matter of International Law she incurred on behalf of the United States a legal obligation not to defeat the object or purpose of the MOU (which embodied the terms of the ABM Treaty) until we give clear notice to the other signatories that we do not intend to proceed with ratification.[28]

7. The United States has historically and consistently taken the view that this duty of "good faith" towards other signatories while a treaty is pending ratification prohibits engaging in scientific research and testing that would be barred by the treaty were it in force. Thus, as I understand the facts, we are prohibited from taking necessary steps in the proposed national missile defense system irrespective of the technical legal status of the 1972 ABM Treaty.

WHERE TO FROM HERE?

Mr. Chairman, at this point I would like to return briefly to my opening digression emphasizing the importance of behaving honorably and avoiding not only violations of our treaty obligations, but also reasonable *perceptions* that we are violating treaty obligations. If my legal analysis is correct, the United States can free itself of any constraints embodied in the 1972 ABM Treaty by simply giving notice to the other MOU signatories that we do not intend to proceed with ratification. But if we do that, after nearly a decade during which three U.S. administrations consistently expressed the view that the Treaty is still in force, not even our closest allies will think well of us. We will be perceived around the globe as a nation no longer committed to the Rule of Law, and perhaps a nation that because of its immense power believes it is "above the law" and can impose its will on the rest of the world. I can think of few "signals" we might send that would be better calculated to isolate us from the rest of the world, greatly undermining the Rule of Law in the process. The reality is that even if my assessment of the legal situation is correct, such behavior would be perceived as a declaration of war against the rest of mankind. And if America is no longer willing to obey its legal obligations, what right have we to complain if the Iraqs, Irans, Libyas, and North Koreas of the world follow our lead?

Fortunately, I believe there is an easy solution. It will not appeal to those on the Committee who continue to view the MAD Doctrine and the Cold War ABM Treaty designed to intentionally expose our citizens to deliberate attack with Weapons of Mass Destruction as the "cornerstone of strategic stability," but it should appeal to those who recognize a need to protect our citizens but at the same time are committed to the Rule of Law and are anxious to avoid unnecessary political costs in Moscow and around the globe.

The 1972 ABM Treaty expressly provides the simple solution to our problem. As the report of the Rumsfeld Commission makes absolutely clear, since the ABM Treaty was ratified there have been dramatic changes in the world, including the emergence of several radical states that are actively engaged in efforts to develop or acquire Weapons of Mass Destruction and ballistic missile systems to deliver them. In the near future, several countries—and, conceivably, some radical non-state ac-

[28] Article 18 of the Vienna Convention on the Law of Treaties provides:

A State is obliged to refrain from acts which would defeat the object and purpose of a treaty when:

(a) it has signed the treaty or has exchanged instruments constituting the treaty subject to ratification, acceptance or approval, until it shall have made its intention clear not to become a party to the treaty; or

(b) it has expressed its consent to be bound by the treaty, pending the entry into force of the treaty and provided that such entry into force is not unduly delayed.

tors as well—may have the ability to deliver such weapons against American territory, endangering the lives of vast portions of our population.

None of this was anticipated when the ABM Treaty was concluded nearly three decades ago, but the parties were wise enough to anticipate that unforeseen circumstances might someday make it dangerous for them to remain bound by the Treaty. So they wrote in Article XV:

> Each Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests. It shall give notice of its decision to the other Party six months prior to withdrawal from the Treaty. Such notice shall include a statement of the extraordinary events the notifying Party regards as having jeopardized its supreme interests.

The determination that permits withdrawal is entirely subjective in nature. If the United States notifies any successors in interest to the Soviet Union that we have decided that extraordinary events have jeopardized our supreme interests, we may legally withdraw from the Treaty six months later. But, as Secretary of State Jefferson noted, we should be honorable and fair in making such a judgment. However, in this instance, there can be no reasonable doubt that our withdrawal would be honorable and in good faith. To avoid any question about that, we might enclose a copy of the Rumsfeld Report with our notification of withdrawal. Six months later, we would be legally free from all obligations of the 1972 ABM Treaty or the 1997 MOU.

I would add that this decision also is entirely Executive in nature, and thus I would emphasize that *it is entrusted entirely to the discretion of the President of the United States.* Just as James Madison and his House and Senate colleagues agreed in 1789 that the "exception" to the President's Executive power of appointment vested in the Senate did not give the Senate a "negative" over a presidential decision to remove a diplomatic officer appointed with Senate approbation, the Senate's veto over the ratification of treaties negotiated by the president does not extend to controlling Executive decisions about the interpretation, enforcement, or withdrawal provisions of a treaty. This is important, and if there is any misunderstanding about it I will be happy to brief the point in greater detail.

Mr. Chairman, were it my decision to make—and I confess that I am glad that it is *not,* as I enjoy the relative tranquility of being a schoolteacher—I would take an approach along the following lines in similar letters to each of the MOU signatory states, with notification as well to the Secretary General of the United Nations and to diplomatic missions around the world. I would also have the President go on television shortly after—and I emphasize the word *after*—formal notification is given to explain the decision to our citizens and people around the world in clear terms.

DRAFT

DEAR MR. FOREIGN MINISTER:

In case you did not see it when it was released in 1998, I am enclosing a copy of the [Rumsfeld Report] for your personal consideration.

As I am sure you are very much aware, the President and much of the Congress and the American people, are very concerned about the development of these potential new threats to our security—threats that did not exist and were not anticipated when the United States ratified the ABM Treaty in 1972.

As I am confident you also know, in 1999 the United States enacted domestic legislation, The National Missile Defense Act, establishing a policy of developing a limited ballistic missile defense system to protect our citizens from these new emerging threats. The 97-to-3 majority by which this statue was approved in the Senate strongly suggests that, even if the President were inclined to submit the Memorandum of Understanding signed by our countries on September 27, 1997, to the Senate for its advice and consent, the two-thirds approval required by our Constitution would not be forthcoming. Given these realities, it is incumbent upon me to provide you with formal notification that the United States does not intend to proceed with the ratification of the 1997 MOU.

As you may also know, there is some dispute within this country about whether the 1972 ABM Treaty-independently of the MOU that was designed to continue it in force, which created its own obligation not to defeat the object or purpose of the earlier accord—continues to bind any country as conventional international law. After listening to both sides of the debate, I have concluded that it would be a mistake for the United States to act contrary to the terms of the 1972 Treaty without first satisfying the requirements of Article XV of that accord. That will avoid any

reasonable perception that our actions are inconsistent with our international treaty commitments, which even if inaccurate could do harm to the important principle *pacta sunt survanda.*

Therefore, consistent with the terms of Article XV of the 1972 ABM Treaty, upon the expiration of a period of six months from this notice, unless a new agreement is reached regulating this matter, the United States will consider itself free to act as it deems necessary, consistent with its other obligations of international law, to protect its people and territory from limited ballistic-missile attack.

The President has asked me to emphasize that our decision to take this action is motivated entirely by developments unrelated to any party to the MOU, and the limited missile defense system we are exploring is not intended to defeat a sustained missile attack from Russia. Candidly, we believe that the emerging threat to our own security may constitute a potential threat to the people of your country as well, and we remain willing to discuss a variety of related issues in the coming weeks and months—including a possible new agreement placing some limits on future ballistic missile defense systems, or cooperating (perhaps including the sharing of certain technologies) for the purpose of protecting other countries around the globe from these emerging new threats. Our goal is peace.

Because of its importance, I have asked Ambassador [_____] to deliver this letter to you personally. I would also welcome an opportunity to meet with you or your representative at some point in the near future to discuss this matter in greater detail.

With continued assurances of my deepest respect and warmest good wishes, I remain

Sincerely yours, _____

DRAFT

Such a notification would allow the United States to proceed with the development of a ballistic-missile defense system designed to meet our perceived needs and using the best available technology, unconstrained by the 1972 Treaty. It would hold open the possibility that a new accord might be negotiated that would allow us to build a defensive shield against limited ballistic-missile attack, without in the process jeopardizing any Russian need to feel they could overwhelm such a system with far less than their existing inventories of offensive missiles—hopefully paving the way for agreement on the additional reduction of offensive systems. But it would also serve notice that any nation that wishes to constrain the United States in this area must come to the table willing to bargain seriously and in good faith, for if agreement is not reached within six months the constraints imposed under the 1972 Treaty will no longer be in force. That won't preclude U.S.-Russian or multilateral negotiations from continuing for several more years, but it will provide our negotiators with an extra incentive to promote reasonable behavior by other parties in the negotiations.

Mr. Chairman, this concludes my formal presentation. Once again, it has been an honor to appear before you. I will be pleased to answer questions at the appropriate time this morning and to respond promptly to any questions you or your colleagues might wish to submit for the record.

The CHAIRMAN. Thank you very much.

In a sense, you both reach one conclusion, that what we do relative to how we characterize the treaty and how we proceed has potential impact on other agreements and the opinion of the world about our willingness to keep agreements. And Mr. Rhinelander, according to press reports, and we only have press reports at this time, Russia has suggested that the ABM Treaty could be altered without upsetting existing international arms control regimes. Do you think that could be done in such a manner as to allow the United States to be able to deploy the limited national defense we have heard spoken about today?

Mr. RHINELANDER. I think clearly it could be. If we are going to deploy one with a purported national reach, we have to amend article I, which prohibits a nation-wide defense, and then you would have to amend article III, which at the present time limits us just to the one deployment area in North Dakota. I think Russia would

accept a limited kind of deployment in Alaska, but they would go further.

I think they would probably accept some testing on some of the mobile systems, development and testing, not deployment. But based on my understanding of where the technology is, it is a good 5 to 10 years before you get to any kind of deployment decision. I think it could be done, basically, consistent with the general framework of the treaty as drafted.

We would not have quite as many protective barriers, at least if you amend article V, but after all, we wrote the treaty knowing it was going to be amended, knowing the technology was going to change over time. I think that could be done. Further, my reading and my discussions with the Europeans is they are not saying do not touch the treaty. They want the United States and Russia to remain in a treaty relationship over this.

So I think if the United States is prepared to negotiate reasonably necessary provisions to accommodate what the U.S. wants to do over the next 10 years or so, I think it is well feasible.

The CHAIRMAN. Now, in light of the fact that this administration has gone on record as being opposed to the Comprehensive Nuclear Test Ban Treaty, the Kyoto Convention, the Biological Weapons Convention draft Protocol, and by the way, the refusal to participate in the discussions at the U.N. about legal transfers of small arms, I do not know whether it is true or not, but there are press reports that Mr. Bolton brought along members of the NRA with him for that discussion. I do not know whether that is true or not; and if there were to be no agreement and a unilateral withdrawal from a treaty that you think is at least in existence now, and many others—and I know you do not, Professor—legally think it is in force but what risk do you assign to other states concluding that we are not going to adhere to international agreements, that we have decided to sort of go it alone? I know this is a subjective question, and requires a subjective answer.

Mr. RHINELANDER. I think there is a real risk of other states deciding they are not going to be under legal obligations as they have previously agreed to do.

Now, in some cases, for example, if Iran is in fact developing a nuclear program right now—they are a party to the NPT—and if they end up with a nuclear weapons program, they would be in violation of the NPT. But I believe there is a depth of assurance in a very helpful way to have legal obligations on other countries.

It is not foolproof, as we know. In Ronald Reagan's words, you trust but verify, but I think there is a real risk of the international regime, as it has been built up over the past 40 years, disintegrating.

The CHAIRMAN. What is the major consequence?

Mr. RHINELANDER. Some people would say nothing, because they do not believe treaties have any real effect in the real world. I do not think that is the case. I think there is an international norm against nonproliferation. It is not foolproof. We have eight nuclear weapon-capable states right now. We have a number of others which could go nuclear, some within months if they really made a decision to do that, but I think having the NPT in existence gives us an enormous amount of leverage against others not to go there.

The same thing is true of the Chemical Weapons Convention. The same is true of the Biological Weapons Convention. That is an interesting one. I was in at the State Department when President Nixon made the decision to renounce biological weapons and toxins, and to pursue a Biological Weapons Convention, knowing that we could not get verification provisions in that treaty. The decision was made at that time, with the concurrence of the Pentagon, that it was still in our interests to go forward.

Now it is not foolproof, as we well know. We now know what the Russians were doing at this point in time. There are efforts now to get out of the protocol, but I think there are perhaps unquantifiable and difficult to measure benefits from having these legal regimes. Some of them are obvious.

Some of them—in terms of transparency, some of them in terms of onsite inspections, which we finally got under the INF Treaty—are enormously helpful. If we move toward a world in which everybody, every state, is free to do as they will, I think we are much less secure. It is much less predictable as to where others are likely to go.

The CHAIRMAN. Is that not really what the fundamental debate here is about? You know the people in this administration. I know their track record. They are fine people, but the fundamental disagreement that exists with the, maybe I unfairly characterize the movement, conservatives in serious positions in this administration, is they have argued from the outset that all of these treaties and multilateral agreements, create a false sense of security, that we would be better off without them, that it inhibits us and no one else.

It reminds me of the gun control bumper sticker, which says you know, "outlaw guns, but outlaws will still have guns," or whatever the phrase is. I mean, there is this very serious, fundamental disagreement.

Without going into it, because it is classified, I asked a high-ranking administration official whether what I had heard at the administration that some in the administration were proposing we pull out of the international monitoring regime that is underway to determine whether or not nuclear tests are taking place, to prove that the Comprehensive Nuclear Test Ban Treaty is dead, was true. It seems to me on its face to be against our interest to do that, even for what little value they may think it has, and that is why I said to you at the outset, isn't the NPT really one of the targets of this as well?

Mr. RHINELANDER. No, I do not think it is a target, because it is discriminatory on its face. We are one of the five countries with a preferred position as a nuclear weapons state and therefore, from the kind of analysis you were using, it is favorable. Other states have obligations on them, as nonnuclear states, we do not.

The CHAIRMAN. It amazes me, in the quest for purity on this issue of multilateral treaties and treaty compliance, how far some folks are prepared to go. I mean, it is clearly, on its face, in our interests to continue the monitoring system that is in place now, but there are, I can assure you, efforts within the administration to jettison that system.

Mr. RHINELANDER. I think there are two streams coming together on this, both of which I disagree with. One is that whenever you have a treaty of any importance the other side is likely to cheat, and therefore we not only get no benefit from it, it is a negative because we will abide by it. That is a position you have heard advocated over the past 30 years.

The second one, which is a newer one, is basically that it is either as a matter of policy wrong, or it almost approaches the unconstitutional, to have legal obligations on us.

Putting it in legal terms, it is rubbish, but there is this stream of thought coming along that having legal obligations on us is clearly against our interests, if it is constitutional, which some of them will say it is not.

Dr. TURNER. Mr. Chairman, I certainly cannot speak for the administration. Indeed, John Bolton and I had a big debate a few years ago about whether international law was really law. I made a very strong case that it was, but you talk about, they will not sign this, or will not sign that, or will not go forward with ratification, and others will therefore say they can break their agreements. There is obviously a difference here.

The CHAIRMAN. That is not what I am saying. It is not that they will not sign, that they will withdraw from what they have signed.

Dr. TURNER. But under international law, and there is a long history of this, we are perfectly free, and it is not a wrongful act, or an unfriendly act not to ratify a treaty you have signed. This is well understood, and goes back to Noah Webster and Henry Clay. That is not the same thing as breaking an agreement.

The CHAIRMAN. My point was the one I thought you were making, and I am glad you are clarifying it for me. I thought you were making the point that, not withstanding the fact that it is clearly within the President's power and authority not to sign, clearly within the President's power and authority to suggest that there is no successor country to the ABM Treaty, and therefore there is none, notwithstanding all of those things, it nonetheless might work against our interest to take certain actions, and that is all I am talking about. It is a political matter.

Dr. TURNER. But as a legal matter, there is not a parallel between North Korea violating its treaty obligations or Iran or somebody else and us deciding not to incur new ratifications.

The CHAIRMAN. I was not suggesting that at all. That is not my point.

Dr. TURNER. The same way, when the Senate rejects a treaty that is not a wrongful act.

The CHAIRMAN. Absolutely. I am not suggesting that at all. The only point I was suggesting is that our unwillingness to move forward on international agreements that apparently scores, if not over 100, other nations think is a worthwhile undertaking. Does that, as a political fact, undermine our credibility as a leader in nonproliferation, as a leader in trying to set international norms? That is all.

I am not suggesting anything beyond that, and I agree with your assessment, the President of the United States has the right to withdraw. And by the way, whether or not you are right or wrong about whether the ABM Treaty is legally dead already, rather than

debating this dead issue, I think we can just note that President Bush and President Putin are in talks about amending a thing that you claim is dead, about altering the thing that is dead, and so again it is not a legal point, it is a political point.

Both the Russians and the United States must think there is some benefit and/or liability to them to act in a way that appears to the rest of the world to be precipitous. That is the only point.

Dr. TURNER. Just for clarification, as a legal matter I am not saying we are not bound in any way by the ABM Treaty. I think we are bound, but it is pursuant to the article XVIII provision, and the MOU. In other words, the MOU created new obligations, and until we renounce that, we do have legal obligations.

The CHAIRMAN. I understand what you are saying, and I appreciate it. It is a distinction on which we differ. I can appreciate that.

Mr. RHINELANDER. Just a point, I think the administration is going to address. I think the ABM Treaty is in effect. There are 250 agreements between the United States and Russia, and to say that former President Bush, former Secretary of State Jim Baker, and Brent Scowcroft and others did not know what they were doing is a conclusion the present occupants of the White House are not going to reach.

There is going to be one messy issue they are going to have to deal with, and that is whether there are now two, the United States and Russia, or five parties to the ABM Treaty, because when Condi Rice goes off to Moscow and talks about amendments to the treaty, does she exclude the other three? Russia believes there are now five current parties to the treaty. I think the issue is ambiguous.

There is no question in my mind that former President Bush and former President Clinton had the power, acting alone, without coming back to the Senate, to say that there are now five parties to the ABM Treaty. There are at least two right now, but there has to be some kind of resolution between the United States and Russia, and then those other three, at some point in time.

Incidentally, just in terms of former bilateral treaties, there are now 13 parties to the INF Treaty, which, as you remember, came up here as the first one after the Sofaer dispute. You remember that well, because there were some disputes on that.

The CHAIRMAN. We now have what is called the Biden provision.

Mr. RHINELANDER. There is no question in my mind the ABM Treaty is in effect, but there are political issues which will have to be faced in dealing with Ukraine, Belarus and Kazakhstan. Ukraine is going to be politically sensitive on this, if we tell them they are not now a party to a treaty where they thought they were.

The CHAIRMAN. Well, I for one—I am not revealing anything, any position everyone does not already know—hope we end up with that problem, that we get that far. Because my concern is that we may very well take an action that does spark an arms race, does not leave us any more secure, is based upon, from our perspective, a faulty premise that deterrence does not work, and that there is a technological capability that exists in the near term to give the President options that he does not now have in a moment of crisis.

I think these are all flawed premises upon which the argument for missile defense is based. But having said that, I cannot express

my appreciation to you any more. You have been patient. You have waited a long time. Your testimony was worth the wait. I appreciate your time and your effort, and the committee is grateful, and with your permission we would like to be able to leave the record open for 24 hours to be able to have questions submitted to ruin your August vacation for you to respond to.

As I said, this is the first in what will be a series of hearings on threat assessment. This was not just about the ABM Treaty, because when we make these decisions, to state the obvious—I know you two learned gentlemen fully understand this—everything is a matter of priorities, and we have to make some very difficult decisions about the allocation of resources over the next 10 years in terms of the threats that we face.

So we will be going into some considerable detail on what those threats are, and the cost to meet those threats. Hopefully this committee can serve the function that Senator Helms, who preceded me, sought, and how it clearly did function during the Fulbright years, as a repository of at least some well-thought-out positions for our colleagues to be able to mull over when they make these difficult decisions.

So again, I thank you all very, very much for taking the time and making the effort, and I look forward—and you may not look forward to it—to maybe being able to call on you again.

I thank you all. The hearing is adjourned.

[Whereupon, at 5:35 p.m., the committee adjourned.]

[EDITORS NOTE: Hon. William Schneider, Jr., was present for the hearing but time constraints forced him to leave before being called to testify. His prepared statement follows.]

PREPARED STATEMENT OF HON. WILLIAM SCHNEIDER, JR.[1]

IMPLICATIONS OF INTERNATIONAL BALLISTIC MISSILE DEVELOPMENTS FOR THE ABM TREATY

Mr. Chairman and Members of the Committee:

It is a privilege to once again have an opportunity to appear before this Committee to address a timely issue of public policy. My remarks will summarize several major points on the subject of the implications of international ballistic missile developments for the ABM Treaty. As the characterization of the issue offered here is an illustrative rather an exhaustive treatment of the subject, I will be pleased to amplify or clarify any of the points made here following my remarks.

Introduction

Modern ballistic missile technology has been available for more than seventy years, and its military applications have been well understood for more than half a century. Modifications of ballistic missiles developed for military applications—primarily software and payload changes—have been widely propagated through civil sector science and technology channels since the 1950s for civil space applications.

What is new is our appreciation of the cumulative significance of the proliferation of scientific and technical knowledge about the design, development, test, manufacture, operation, and support of ballistic missiles. The waning of Soviet military power and authority in the late 1980s, and the collapse of the Soviet state 1991 set in motion a chain of developments that have materially altered the assumptions upon which the ABM Treaty of 1972 depends.

The rise of regional powers has fundamentally altered the demand for the long-range delivery of military payloads. Deterring the intervention of extra-regional

[1] William Schneider, Jr., is an Adjunct Fellow of the Hudson Institute (Washington, DC). He formerly served as Under Secretary of State for Security Assistance, Science and Technology, and is currently the Chairman of the Defense Science Board, U.S. Department of Defense. None of the views expressed in this testimony necessarily reflect the views of the U.S. Government.

players in regional disputes, especially the United States, has given rise to an interest in weapons of mass destruction as well. While the number of states seeking nuclear weapons has changed little in recent years, there has been a significant increase in the number of states hostile to the United States seeking to acquire nuclear weapons. Moreover, there has been a sharp increase in the number of states seeking biological weapons since the end of the Cold War.

The ABM Treaty was developed to regulate the strategic nuclear competition between the U.S. and the former Soviet Union (FSU) in a bipolar policy environment of intense reciprocal animosity. At the time (1972), the barriers to entry—technological, industrial, and fiscal—in the development of long-range missiles were high. Moreover, the shared non-proliferation interests the major nuclear states imparted a powerful disincentive to the transfer of ballistic missile technology to other nations.

None of these conditions obtain today. The collapse of the FSU has brought an end to the bipolar world of the Cold War. The successor state to the FSU—Russia—enjoys benign not hostile relations with the United States. The post-Cold War liberalization of commerce in advanced technology has resulted in the proliferation of the core enabling technologies associated with the development of the military applications of ballistic missiles. Indeed, nations counted among the poorest, and most technologically backward on earth have developed or operate long-range ballistic missiles. These nations who do not share any strategic interests, have nevertheless developed a mutually supporting relationship to share the fruits of missile and WMD proliferation. Both China and Russia have permitted the transfer of the technologies of ballistic missiles and weapons of mass destruction to nations that did not previously possess them.

I will summarize further some of the most pertinent recent developments in international ballistic missile proliferation, and address the significance of these developments for the ability of the U.S. to meet its 21st century security needs.

International ballistic missile developments

The proliferation of ballistic missiles is now a fact of the 21st century international security environment. Containing the proliferation of ballistic missiles is now out of reach using the diplomatic instruments of the Cold War, new instruments must be found. Ballistic missiles—including a production and support base—can be found in the arsenals of many of the states with the most profoundly hostile relationship with the United States including North Korea, Iraq, Iran, Syria, and Libya.

Ballistic missile technology

The maturity of the technology preferred by proliferators—liquid fuel rocket propulsion—is widely understood. The chemistry, physics, and industrial engineering of ballistic missile technology are widely understood. The breakdown of Cold War-era inhibitions on the transfer of ballistic missile technology since the 1980s by China and Russia has accelerated the pace of proliferation activities. The deregulation of commerce in advanced technology since the collapse of decline of Soviet military power became evident in the latter years of the 1980s has further facilitated the access of proliferators to advanced scientific and industrial technology.[2]

Development, testing, and manufacturing infrastructure

The development of ballistic missile testing and manufacturing infrastructures sets the stage for a second wave of proliferation. To maintain this infrastructure, there inevitably will be pressure for the development of export markets. North Korea and Pakistan have been quite explicit defending their need to export missile-related technology.

Limited dependence on export-controlled technology

An irony of the deregulation of advanced technology commerce since the end of the Cold War is that very few ballistic missile components or technologies are dependent on export controlled technology. Moreover, the ease with which technical data can be transferred using networked computers (Internet) renders the visibility of traditional supplier networks much attenuated from our Cold War era experience. This means that legitimate commerce will be able to support many of the current ballistic missile programs operated by states with an adversarial relationship with the U.S.

---

[2] In the case of dual-use technology (especially significant for ballistic missile development), the reduction in the scope of export control activity has been dramatic. In the mid-1980s, the U.S. Department of Commerce issued nearly 150,000 validated dual-use export licenses per annum. Several waves of deregulation have reduced the annual total to approximately 10,000.

Shared access to proliferation-sensitive technology

The implications of shared access to proliferation-sensitive technologies are an under-studied policy problem. The fungible character of proliferation-sensitive technologies makes it possible for nations with no strategic interests to collaborate to maximize their collective access to advanced capabilities. The fact that several nations in diverse areas of the world share a nearly common technology base for ballistic missiles has magnified the scale of the proliferation problem and the speed with which it has emerged, and has assured its durability as a security problem for the United States.

Limitations posed by the ARM Treaty to addressing U.S. Government nonproliferation objectives

The multilateral diplomatic instruments and national export control policies of the Cold War that sought to contain the proliferation of ballistic missiles and underlying enabling technologies are no longer efficacious in the post-Cold War environment. The U.S. Government requires new and more effective instruments to deal with the circumstances likely to characterize the first quarter or more of the 21st century.

The U.S. Government can not rely solely on the mechanism of reciprocal retaliation to sustain deterrence. The emergence of asymmetric interests in the post-Cold War period between the United States and regional powers make the manipulation of threats of the use of WMD and long-range missiles appealing to some nations. To diminish the potential that WMD and ballistic missiles will become more important factors in international affairs in the 21st century, we need to move beyond deterrence.

The U.S. needs instruments that will conthbute to an ability of the President to *dissuade* a potential adversary from investing in long-range missiles. Such investments must be devalued. Several instruments can be developed or reinforced that will jointly contribute to the efficacy of non-proliferation policy in the future. These instruments include highly effective intelligence, sharply focused diplomacy, alliance actions, the development of credible kinetic and virtual capabilities to hold adversary ballistic missiles at risk, and *in extremis,* the ability to intercept such missiles in flight. It is the latter point that is primarily at issue here.

The proliferation of ballistic missile technology has reached a point where it is no longer feasible or appropriate to optimize the design a ballistic missile defense system against a specific threat. The spread of the ballistic missile manufacturing infrastructure to several nations with a high propensity to proliferate long-range makes an optimization effort futile. Instead, a general system of ballistic missile defense needs to be developed that will be able to intercept ballistic missiles in all stages of flight.[3] Not only will such a system increase the effectiveness of the system (by multiple layers of defense), but will also provide an appropriate hedge against a range of different deployment schemes or countermeasures. Alternative deployment measures or countermeasures might be devised to exploit the limitations of a design that was optimized against a specific threat.

Most significantly for U.S. non-proliferation objectives, by *devaluing* the investment by adversary states, it will force such states into alternative means of posing a challenge to U.S. interests. These means are likely to focus on asymmetric means such as land-attack cruise missiles, information operations, and terrorism. In some cases, such as land-attack cruise missiles, a considerable effort will be required to defeat such alternative means. In other cases such as terrorism we already have a formidable program in place.[4]

The ABM Treaty poses direct and near-term limitations on a research and development effort to test and deploy effective ballistic missile defenses able to intercept hostile missiles at all stages of missile flight. Moreover, the ability to extend effective missile defense support to allies and friends abroad as well as U.S. forward-deployed forces is limited by the Treaty. The limitations are so extensive that the amendment of the Treaty has no practical value. Specifically, the Treaty impinges on the ability of the U.S. to use ballistic missile defense as part of an effective non-proliferation instrument in four ways:

1. Article I of the Treaty specifically seeks to prevent the deployment of defenses that would protect all U.S. citizens from ballistic missile attack. The concept underlying Article I when the Treaty was negotiated (and subsequently amended) was to protect U.S. land-based strategic missiles sites.

---

[3] These stages include the boost, ascent, mid-course, and terminal phases of ballistic missile flight.

[4] In Fiscal Year 2001 for example, the U.S. Government expended more than three times as much combating international terrorism as it spent on the U.S. National Missile Defense program.

2. Article V condemns a U.S. missile defense effort to ineffectiveness against 21st century threats, and makes any system developed that is compliant with Article V not cost effective. Article V prohibits the development, testing, and deployment of systems that are sea-based, air-based, spaced-based, or mobile land-based. Such a set of prohibitions would prevent the development of any of the most promising technologies.

3. Article VI prevents us from giving ABM capabilities to non-ABM systems or components of those systems (e.g. radars). It is desirable that systems deployed for protecting U.S. forward-based forces such as sea-based missile defense systems have a capability to intercept "strategic" missiles (e.g. those capable of being delivered to a range in excess of 5,500 km.) if such a capability is cost-effective. Article VI prevents us from developing such a capability.

4. Article IX prevents us from sharing long-range ballistic missile defense technology with allied or friendly nations even when it is in our interest to do so.

The constraints of the ABM Treaty materially encumber the United States from being able to employ ballistic missile defense as an instrument in implementing national policy to promote the non-proliferation of WMD and long-range missiles. While these constraints had little impact on the proliferation issue during the Cold War, the circumstances in the 21st century are considerably different.

The consequences of not being able to dissuade current or future adversaries from investing in long-range missiles can materially diminish what are otherwise very bright prospects for extending the peace that has emerged from the 20th century well into the 21st.

RESPONSES OF HON. JOHN R. BOLTON TO ADDITIONAL QUESTIONS FOR THE RECORD SUBMITTED BY SENATOR JOSEPH R. BIDEN, JR.

Question. Whom has the President designated to conduct consultations with Russia on modification of the ABM Treaty? What will the Department of State's role be in conducting or backstopping the consultations?

Answer. President Bush has directed Secretary Powell and Secretary Rumsfeld to conduct discussions at the ministerial level with their counterparts. These discussions will begin this month and next. State and Defense Department Under Secretaries will conduct preparatory discussions as well.

Question. By what means will this Committee be kept informed regarding the consultations?

Answer. The Congress is our partner in moving to a new strategic framework. The Department of State will be providing periodic updates through briefings and consultations to Committee members as our discussions progress.

Question. How long do you think it should take to negotiate a new understanding with the Russians on the ABM Treaty, or an amendment to the Treaty? Is it realistic to expect to achieve this in "months, not years?"

Answer. The Administration is optimistic that we can reach agreement on a new strategic framework with Russia before we reach the point where our missile defense program would conflict with the Treaty. We will pursue intensive consultations with Russia but cannot do so indefinitely.

Question. Dean Robert Gallucci of Georgetown University, who negotiated the Agreed Framework with North Korea, testified before this committee last May on the issue of verification of a long-range ballistic missile agreement and said, "For testing, you do not need very much [verification], for export we need a little more, arguably for deployment we need a little more, and for production we need the most." Dean Gallucci continued, "Whatever verification we were able to negotiate, then we should compare what that gives us . . . to not having the agreement at all, and not compare it to some abstract notion of perfect verification." What verification standard would you apply to an agreement limiting North Korea's testing, deployment, export, and production of ballistic missiles? What conclusions has the Assistant Secretary of State for Verification and Compliance reached regarding verification concerns and the possibility of satisfying those concerns?

Answer. The President has said that verification is an essential element of any missile agreement with North Korea. Accordingly, we have set high, realistic standards for verification of any missile agreement. Even though we believe that negotiating an agreement containing such standards will be difficult, we believe it is important to pursue it.

The Assistant Secretary of State for Verification and Compliance has evaluated the difficulties involved in verifying a missile agreement with North Korea. He has concluded that a high verification standard can be maintained through inclusion of rigorous verification measures as an integral part of a comprehensive missile agreement which limits both exports and production activities. Such verification measures will provide assurance that the restraints and prohibitions contained in the agreement are being observed.

Question. Has the Administration made a decision about attending a meeting of the Standing Consultative Commission in 2001? When is a decision expected?

Answer. Pursuant to the Memorandum of Understanding Regarding the Establishment of a Standing Consultative Commission, of December 21, 1972, no less than two sessions of the Commission must be held each year. This Administration will fulfill all of its ABM Treaty obligations. We are not yet in a position to make a decision on timing, but these sessions will have to occur before the end of calendar year 2001.

RESPONSE OF HON. JOHN R. BOLTON TO AN ADDITIONAL QUESTION FOR THE RECORD SUBMITTED BY SENATOR MIKE ENZI

Question. The non-allied countries most vocal about U.S. plans for a national missile defense are Russia and China. These two countries, however, are modernizing their strategic forces and supply weapons of mass destruction technologies to rogue nations.

Can you explain these two countries' behavior?

Answer. The United States has the best technology in the world and the wealth to exploit it for military advantage. Russia and China are clearly interested in keeping the technological gap between their forces and ours as narrow as possible.

The Administration at present is engaged in high-level talks with Russia that we hope will allay its concerns. The foundation of our discussions with Russia is development of a new strategic framework, which includes substantial reductions in offensive nuclear forces, cooperation on missile defense, enhanced non-proliferation and counterproliferation efforts, and measures to promote confidence and transparency.

Like the United States, Russia contributes to efforts to control the proliferation of WMD and missile-related technologies by participating in the Missile Technology Control Regime and other bilateral and multilateral agreements, treaties, and conventions. We believe implementation of these non-proliferation regimes by Russia is crucial. We continue to monitor Russian actions closely, especially with regard to cooperation with Iran and other rogue states.

China was in the process of modernizing its aging strategic forces before President Bush's missile defense initiative. We have established a dialogue with the PRC on out strategic framework, emphasizing in particular that our missile defense program is not aimed at negating their small strategic nuclear force. We intend to continue our discussions with China on our strategic framework to promote our broad non-proliferation, arms control, and confidence and transparency objectives.

In November 2000, China agreed not to assist any country in any way in the development of nuclear-capable ballistic missiles and to put in place comprehensive missile-related export controls. We expect China to live up to these commitments, are closely monitoring PRC implementation of these commitments and will take appropriate action, to include implementation of our sanctions laws, should we see backsliding.

○