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INCREASING OUR NONPROLIFERATION EFFORTS IN THE FORMER SOVIET UNION

HEARING

BEFORE THE

COMMITTEE ON FOREIGN RELATIONS UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

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INCREASING OUR NONPROLIFERATION EFFORTS IN THE FORMER SOVIET UNION

TUESDAY, APRIL 23, 2002

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

The committee met, pursuant to notice, at 10:27 a.m., in room SD–419, Dirksen Senate Office Building, the Hon. Joseph R. Biden, Jr. (chairman of the committee), presiding.

Present: Senators Biden, Bill Nelson, Lugar and Enzi.

The CHAIRMAN. The committee will please come to order.

Over the past 2 years, the Committee on Foreign Relations has held a series of hearings outlining the threat posed by weapons of mass destruction to U.S. national security. We have listened to witnesses testify on a broad array of threats from the hypothetical smallpox attack on the United States to the potential dangers posed by dirty bomb and improvised nuclear devices.

We have also held two closed hearings for the Senate as a whole, on the last two subjects. In the course of these hearings, one simple fact has stood out: That is, there are many sources for weapons of mass destruction. And it can take years to obtain or build them. But there is one place that has it all, and that place is Russia. It is far from our only problem. But when we talk about confronting the nonproliferation challenges head on, we have to look at Russia.

When the Soviet Union collapsed, a massive military infrastructure geared toward a global confrontation lost its purpose overnight. Huge stockpiles of nuclear weapons and fissile material, poisonous chemical munitions, and illegally produced biological pathogens were no longer needed. As the culture of centralized control withered away in the newly democratic Russia, the security and safeguards for weapons storage facilities and laboratories began to weaken. Weapons scientists, who had devoted their careers to the Soviet state, were left to drift and forced to moonlight to make a living.

To the lasting credit of two of my colleagues, Senators Nunn and Lugar, and aided and abetted by our former Secretary before us when he was here in the Senate, Senator Cohen, they recognized the threat posed by a collapsing superpower with thousands of nuclear weapons. They led the way in creating a set of programs known as the Cooperative Threat Reduction to help Russia and other states in the former Soviet Union secure and destroy nuclear warheads, missile launchers, and other strategic delivery systems.

In 1996, they were joined by Senator Pete Domenici in establishing the lab-to-lab programs under the Department of Energy to

secure Russia's nuclear materials and help its weapons scientists find socially useful concerns—or careers, I should say.

Next month we will celebrate the 10th anniversary of the Nunn-Lugar programs. And as we mark that occasion, we have to face the sobering reality that much more has to be done. Let us take a quick look at what still exists. As a matter of fact, in the interest of time, we will not take a quick look, except to suggest just a couple of broad things.

Approximately 1,000 metric tons of excess highly enriched uranium, enough to produce 20,000 nuclear weapons, remains; approximately 160,000 tons of excess weapons grade plutonium; approximately 40,000 tons of declared chemical weapons. And, according to a recent Carnegie Endowment study, a population of 120,000 scientists and skilled personnel in Russia's nuclear cities, where 58 percent of them were surveyed, are forced to moonlight at second jobs. And 14 percent have indicated a desire to work abroad.

A little more than a year ago, this committee heard from former Senator Baker and former White House counsel Lloyd Cutler as they presented findings on the Blue Ribbon Task Force on U.S. Nuclear Nonproliferation Programs in the former Soviet Union. I risk making myself hoarse by repeating it, but the primary finding is this, and I quote, and I will end with this, "The most urgent unmet national security threat to the United States today is the danger that weapons of mass destruction or weapons useable material in Russia could be stolen and sold to terrorists or hostile nations and used against American troops abroad or citizens at home."

I say to my colleagues: We are fortunate today to have a very, very first-rate set of witnesses, none whom we know better or have greater respect for than our first witness, the distinguished former Senator from Maine and former Secretary of Defense.

In 1974, Time magazine singled out Bill as one of America's 200 future leaders. Others were in that list, but few proved Time magazine to be as correct as Bill Cohen did.

I welcome you, Mr. Secretary. Thank you for being here. And it is really very good to see you. The floor is yours.

[The prepared statement of Senator Biden follows:]

PREPARED STATEMENT OF SENATOR JOSEPH R. BIDEN, JR.

Over the past two years, the Committee on Foreign Relations has held a series of hearings outlining the threat posed by weapons of mass destruction (WMD) to U.S. national security. We have listened to witnesses testify on a broad array of threats, from a hypothetical smallpox attack on the United States to the potential dangers posed by "dirty bombs" and improvised nuclear devices.

In the course of these hearings, one simple fact has stood out. There are many sources for weapons of mass destruction, and it can take years to obtain or build them. But there's one place that has it all. That place is Russia. It's far from our only problem, but when we talk about confronting the nonproliferation challenge head on, we must begin with Russia.

When the Soviet Union collapsed, a massive military infrastructure geared toward a global confrontation lost its purpose overnight. Huge stockpiles of nuclear weapons and fissile materials, poisonous chemical munitions, and illegally-produced biological pathogens were no longer needed. As the culture of centralized control withered away in a newly democratic Russia, the security and safeguards for weapons storage facilities and laboratories began to weaken. Weapons scientists, who had devoted their careers to the Soviet state, were left adrift and forced to moonlight to make a living.

To the lasting credit of two of my colleagues, Senators Sam Nunn and Dick Lugar immediately recognized the threat posed by a collapsing superpower with thousands

of nuclear weapons. They led the way in creating a set of programs known as Cooperative Threat Reduction to help Russia and the other states of the former Soviet Union secure and destroy nuclear warheads, missile launchers and other strategic delivery systems. In 1996, they were joined by Senator Pete Domenici in establishing lab-to-lab programs under the Department of Energy to secure Russian nuclear materials and help its weapons scientists find socially useful careers.

Next month, we will celebrate the tenth anniversary of the Nunn-Lugar programs. As we mark that occasion, we must also face the sobering reality that much remains to be done. Let's take a quick look at what still exists in Russia today, a decade after the Soviet Union fell:

- Approximately 1000 metric tons of excess highly enriched uranium, enough to produce roughly 20,000 nuclear weapons.
- Approximately 160 metric tons of excess weapons grade plutonium.
- Approximately 40,000 metric tons of declared chemical weapons.
- According to a recent Carnegie Endowment study, a population of 120,000 scientists and skilled personnel in the Russian nuclear cities where 58% of those surveyed are forced to moonlight at second jobs and 14% have indicated a desire to work abroad.

A little more than a year ago, this Committee heard from Senator Howard Baker and former White House counsel Lloyd Cutler as they presented the findings of a blue ribbon task force on U.S. nuclear nonproliferation programs in the former Soviet Union. I risk making myself hoarse, but let me once again repeat their primary finding:

> The most urgent unmet national security threat to the United States today is the danger that weapons of mass destruction or weapons-usable material in Russia could be stolen and sold to terrorists or hostile nation states and used against American troops abroad or citizens at home.

To address this critical threat, the Baker-Cutler report had called for the United States to spend *$30 billion over the next eight to ten years* to secure and/or neutralize all nuclear weapons-usable material located in Russia and to prevent the outflow of Russian scientific expertise necessary for weapons of mass destruction.

And that is why I decided to call this hearing today. Working with my colleagues, I plan to make a strong push during this session for expanded funding for U.S. nonproliferation assistance to Russia. Before we do that, however, we need to focus any increased funding on specific objectives. Simply throwing money at the problem is not a solution.

I know that Secretary Cohen and our other witnesses will have their own creative proposals to share with the Committee. I would also like to solicit their thoughts on the following ideas, which have emerged during the past year:

(1) Accelerating the pace of the Materials Protection, Control, and Accounting program so that we will not have to wait until the end of the decade before all Russian fissile material is stored at securely guarded facilities. As of 2001, comprehensive security upgrades had been completed at only 37 out of 95 nuclear sites in the former Soviet Union. Expanding the MPC&A program will allow us to implement comprehensive upgrades at more Russian sites.

(2) Expanding the scope and the pace of the 1993 Highly Enriched Uranium (HEU) Purchase Agreement so that the United States purchases processed nuclear fuel from *additional* Russian stocks of highly enriched uranium. Today, Russia is obligated to down blend 500 metric tons of HEU, or approximately 30 metric tons per year, for eventual sale in the United States to commercial nuclear reactors. There is no reason why we cannot double that total amount to 1000 metric tons to further reduce a proliferation risk. After all, one metric ton of HEU is sufficient to produce approximately 20 nuclear weapons.

(3) Providing greater financial assistance to jump-start the destruction of Russian chemical weapons under the Chemical Weapons Convention. Russia has declared approximately 40,000 metric tons of chemical weapons at seven storage sites across the country. I applaud the Administration's request for a significant increase in the FY 2003 budget request for these efforts, but we may need to do more. We also need to pressure our European allies, in particular, to step up to the plate with further support for this effort.

(4) Expanding programs like the International Science and Technology Centers and Bio Redirect to provide more Russian weapons scientists with greater opportunities for collaborative projects with Western counterparts. I have suggested that we should organize Russian biological scientists into a public health corps to clean up dangerous former test sites, develop and produce new vaccines, and defeat multi-drug resistant tuberculosis and other diseases.

Apart from new proposals, we should also consider new funding mechanisms. Senator Lugar and I have worked to develop the authority for the President to offer "debt-for-nonproliferation" swaps to the Russian Federation. In exchange for our forgiveness of part or all of the Russia's official Soviet-era debt obligations to the United States, Russia would in turn use these proceeds for mutually agreed nonproliferation programs. It is our hope that a U.S. offer along these lines will encourage similar initiatives on the part of our European allies, who carry the vast majority of Russian debt.

Let me clarify one issue. When I refer to Russia as having one-stop shopping for weapons of mass destruction, I do not mean to slander the Russian government or the Russian people. Frankly, I think we have been very lucky that the overwhelming majority of Russian scientists and military officers are real patriots and recognize the perils of cooperating with foreign governments and terrorist groups. Given the economic misery and porous security in Russia over the past decade, we should all be grateful that large-scale defections of materials or personnel to foreign nations have not occurred. With our help and assistance, the Russians are mounting a noble effort to keep a tight noose on weapons of mass destruction. Both we and they can do more, however, and al-Qaeda's efforts are a reminder that we must do more.

At the same time, I am glad the Administration is engaged in a frank dialogue with Russia on the need to curb its cooperation with Iran in the nuclear and missile fields, which *do* raise serious proliferation concerns. That conversation must continue, and I am hopeful the United States and Russia can reach some initial understandings before next month's meetings between the two Presidents.

Our first witness today will be the Honorable William S. Cohen, the former Secretary of Defense and a former member of this body for eighteen years. In 1974, *Time* Magazine singled out Bill as one of "America's 200 Future Leaders." I think the past quarter of a century has borne out the wisdom of that prediction. As Secretary of Defense in the last Administration, Bill was among the first to recognize the likelihood of a potential terrorist attack against the U.S. homeland involving a nuclear, chemical, or biological weapon. He has worked with Russian leaders on the implementation of Nunn-Lugar programs. I look forward to his insights on how we can move to the next level of cooperation.

Dr. Siegfried "Sig" Hecker, a Senior Fellow at the Los Alamos National Laboratory, and Dr. Constantine Menges, a Senior Fellow at the Hudson Institute, will appear on our second panel. Dr. Hecker served as Director of the Los Alamos lab from 1985 to 1997 and participated in some of the initial "lab-to-lab" exchanges between the United States and Russia during the early 1990s. Last summer, Dr. Hecker published an article on "An Integrated Strategy for Nuclear Cooperation with Russia" and offered a number of intriguing proposals. I hope that Dr. Hecker will expand on these proposals and give us a sense of which ideas deserve immediate action in the next year. Dr. Constantine Menges has previously served as a Professor at the George Washington University, where he directed the Program on Transitions to Democracy and initiated a project on U.S. relations with Russia. He has also served on the National Security Council and as a National Intelligence Officer.

With that, I turn to our ranking member for today, Senator Lugar.

The CHAIRMAN. Excuse me. Let me yield to the Senator from Indiana for a statement.

Senator LUGAR. Well, thank you very much, Mr. Chairman, for your comments about Cooperative Threat Reduction.

I join the witnesses that we saw last year, Senator Baker and Lloyd Cutler, believing that the No. 1 national security threat facing our country is the proliferation of weapons of mass destruction and their means of delivery.

The problem we face today is not just terrorism. It is the nexus between terrorists and these weapons of mass destruction. There is little doubt that Osama bin Laden and al-Qaeda would have used those weapons of mass destruction on September 11, if they had possessed them. It is equally clear that they made an effort to obtain them.

Victory in this war must be defined not only in terms of destroying terrorist cells in this or that country. We must also undertake the ambitious goal of comprehensively preventing the proliferation

of weapons of mass destruction. For many years, I and others have promoted the concept of a multi-layer defense. And this first layer of defense must target the most likely source of proliferation, namely, as you pointed out, Mr. Chairman, the former Soviet Union.

Efforts to prevent the leakage of weapons of mass destruction from falling into the hands of rogue nations and terrorist groups are cheaper and more effective than responses after transfer. Nevertheless, we must also prepare for the leakage of these dangers and their possible use against American targets. This requires us to prepare to interdict weapons and materials abroad and at our borders and respond to an attack here at home through consequence management efforts.

Finally, I believe a complete defense must include missile defenses. I have spent considerable time over the last decade working to advance this multi-layer defense. In 1991, with former Senator Sam Nunn of Georgia, we introduced the Nunn-Lugar Cooperative Threat Reduction legislation. The program was designed to assist the states of the former Soviet Union in dismantling weapons of mass destruction and establishing verifiable safeguards against their proliferation.

For more than 10 years, Nunn-Lugar has been the country's principal response to disintegration of the custodial system guarding the Soviet weapons legacy. Nunn-Lugar has also been used to upgrade the security surrounding dangerous substances and to provide civilian employment to tens of thousands of Russian weapons scientists. Unfortunately, complete Russian accountability and transparency in the chemical and biological arena has been lacking. And this has resulted in the administration's request for a waiver for a certification requirement that Russia is committed to arms control goals.

This has led to a freeze on new dismantlements and nonproliferation projects in Russia. This is a dangerous situation. I am hopeful the Congress will quickly respond by granting this waiver on the supplemental appropriation bill. But we must also be clear with Russia that full transparency and accountability must be forthcoming with respect to former Soviet stockpiles of weapons of mass destruction.

Last month I introduced legislation to permit and facilitate the Secretary of Defense's use of Nunn-Lugar expertise and resources when nonproliferation threats around the world are identified. Beyond the former Soviet Union, Nunn-Lugar-styled programs aimed at weapons and dismantlement and counter proliferation do not exist. The ability to apply the Nunn-Lugar model to states outside the former Soviet Union would provide the United States with another tool to confront the threats associated with weapons of mass destruction.

My bill is designed to empower the administration to respond to both emergency proliferation risks and less urgent cooperative opportunities to further nonproliferation goals. The precise replication of the Nunn-Lugar program will not be possible ever.

And clearly, many states will continue to avoid accountability. When nations resist, other options must be explored. When governments continue to contribute to weapons of mass destruction

threats facing the United States, we must be prepared to apply diplomatic and economic power, as well as military force.

The experience of Nunn-Lugar in Russia has demonstrated the threat of weapons of mass destruction can lead to extraordinary outcomes based on mutual interest. No one would have predicted in the 1980's that American contractors and DOD officials would be on the ground in Russia destroying thousands of strategic systems. And if we were to protect ourselves during this incredibly dangerous period, we must create new nonproliferation partners and aggressively pursue any nonproliferation opportunities that appear.

I believe increasing the administration's flexibility in dealing with these threats is the first step down that road. And I can think, as you have pointed out, Mr. Chairman, of no better witness to those efforts the United States has been implementing in the former Soviet Union than former Secretary of Defense Bill Cohen.

Secretary Cohen was personally engaged in these efforts throughout his tenure at the Pentagon. He is a great leader, and I want personally to thank him for his leadership of these vitally important programs. And I join you in looking forward to his testimony.

The CHAIRMAN. Thank you. And before we begin, I will ask unanimous consent that an opening statement by Senator Helms be put in the record at this point, as well as a letter, he has asked to be put in the record, a letter he sent to Secretary of State Powell.

[The prepared statement of Senator Helms and letter follow:]

PREPARED STATEMENT OF SENATOR JESSE HELMS

Mr. Chairman, I appreciate your scheduling this important hearing today; and I appreciate the distinguished witnesses for agreeing to come and assist in our evaluating the significant matter of U.S. nonproliferation assistance to Russia.

President Bush has taken many steps during the past year in moving the United States toward a new relationship with Russia, and thereby beyond the legacy resulting from the confrontation with the Soviet Union during the Cold War.

Since the first Cooperative Threat Reduction project began the dismantling of Russia's excess nuclear infrastructure nearly a decade ago, there have been numerous successes—missiles destroyed, bombers dismantled, submarines disassembled, and nuclear warheads downloaded and safeguarded.

But the success of the Cooperative Threat Reduction program spurred expansion into broader areas that, while significant, have been nonetheless difficult to verify, such as securing nuclear materials, eliminating chemical and biological weapons, and stemming the flow of scientific expertise out of the former Soviet Union.

While all of the Cooperative Threat Reduction programs have experienced fraud, waste, and abuse, these newer initiatives also ran into a Russian bureaucracy that has consistently denied the United States access to essential information, and in doing so gave little confidence in the Russians' commitment to reducing the threat of proliferation.

The President has decided—and rightly so—that he cannot certify to Congress that Russia is *committed* to complying with its relevant arms control agreements, particularly the Biological Weapons Convention and the Chemical Weapons Convention.

While I happen to believe that nonproliferation assistance programs in Russia can benefit U.S. national security interests, we cannot direct our energies toward *preventing* potential proliferation while turning a blind eye to the *actual* proliferation that is ongoing. I am referring specifically to Russia's continued nuclear and ballistic missile assistance to Iran.

According to the most recent National Intelligence Estimate, Iran is likely to possess an ICBM by mid-decade, and could potentially have a nuclear weapon by the end of the decade. This is a *chilling* prospect.

At the same time, Russia is providing Iran with advanced conventional weaponry that could help Teheran sink U.S. warships and shoot down allied planes in the Per-

sian Gulf. Because of Russian aid, Iran will soon present a clear and direct threat to the United States and to our friends and interests in the region.

Russian proliferation to Iran is a must among the central issues of the upcoming meeting in Moscow between Mr. Bush and Mr. Putin. I have recently written a letter to Secretary Powell—which I ask to appear in the record of this meeting today. The letter urges the administration to put the issue of Russian proliferation to Iran at the top of the agenda.

I look forward to hearing today's witnesses' on these matters, as to how we might take action to rectify them.

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, DC, April 18, 2002.

The Honorable COLIN L. POWELL
Secretary of State
Washington, DC, 20520

DEAR MR. SECRETARY:

With the May Summit between Presidents Bush and Putin rapidly approaching, I do hope that this meeting will provide the opportunities to outline a firm and coherent strategy to stop the proliferation of missile technology, nuclear materials and expertise being sent by Russia to Iran.

Additionally, Moscow's reluctance to full compliance with its arms control commitments (such as the Biological and Chemical Weapons Conventions) raises serious doubts about not only its attitude regarding long-term U.S.-Russian relations, but its intentions as well.

I am confident that you are greatly concerned, as am I, about the Intelligence Community reports regarding illicit transfers to Iran continuing—if not increasing—despite protests from our government and contrary statements by senior Russian officials. I'm confident that you saw the National Intelligence Estimate that, unless Russian assistance is curtailed, Iran could attempt to launch an ICBM in the next few years.

A similar estimate can be applied to the Iranian nuclear weapons program, which also is benefitting from Russian assistance (albeit under the cover of peaceful nuclear cooperation).

Mr. Secretary, I fear that unless all Russian assistance is stopped, Iran will present a clear and direct threat to the United States (as well as to our friends and interests in the region) through the combination of long-range missiles and nuclear warheads.

Moreover, ongoing reports by the Intelligence Community and independent experts, coupled with the Administration's decision not to certify that Russia is complying with its arms control commitments, gives me great concern about the extent of Russia's biological and chemical weapons (BW and CW) research efforts, production facilities, and stockpiles.

Needless to say, I applaud the Administration's wise decisions (1) to withdraw from the ABM Treaty and (2) to restructure our nuclear forces. I also support the President's desire for a new relationship with Russia, so essential to America's security in the 21st Century. However, it makes no sense to build missile defenses and more flexible strategic forces on one hand, while ignoring the sources of the threats we are trying to deter and defend against on the other.

Similarly, it makes no sense for the United States to fund threat reduction programs helping Russia meet her international obligations if Moscow continues to pursue illicit WMD programs with freed-up Russian funds. Russian proliferation to Iran, and its dangerous BW and CW programs, must be central issues at the upcoming summit in Moscow, and integral to any agreement reached between our two countries.

As the United States begins to forge this new relationship with Russia, our resolve and commitment to these issues through sound policies and strategies employing the full-range of diplomatic and economic tools at our disposal irrespective of political exigencies is essential.

Mr. Secretary, a note and/or a telephone call from you should be most helpful.

Kindest personal regards.

Sincerely,

JESSE HELMS

The CHAIRMAN. Did you want to make a brief comment?

Senator ENZI. May I?

The CHAIRMAN. Please.

Senator ENZI. Thank you, Mr. Chairman. I would ask that a full copy of my statement be made a part of the record——

The CHAIRMAN. It will be.

Senator ENZI [continuing]. As well as a letter, an informational letter, that I handed out.

I am pleased that you called this hearing. The proliferation of weapons of mass destruction, as well as the unauthorized sharing of weapons-grade technologies are significant threats to national security. As you know, I recently visited Russia to discuss export controls and nonproliferation. The main objective of my trip was to have a new U.S./Russia working group that would expand legislative cooperation between our countries, in order to better control weapons of mass destruction technology.

Growing up during the cold war, if anybody would have told me that at some point in my life I would sit down across the table from Russians and talk about cooperation, I would not have believed it. I have done that. We have a letter of agreement.

The main points of the letter are the ones with the bullets on them: Improvement of export control legislation and its implementation and enforcement in both countries; facilitation and reinforcement of the spirit of cooperation between Russia and U.S. legislators following the events of September 11, 2001; creation of an atmosphere of mutual trust and understanding between the Russian and U.S. legislators crucial for joint resolution international security problems.

And the letter is not only signed by me, but it is also signed by Vladimir Melnikov, who is the Chairman of the Committee on Defense and Security of the Federation Council, and Nikolay Kovalev, who is the Deputy Chairman of the Committee on Security of the State Duma. So I was able to meet with both the Duma and the Federation, I had some great discussions and I learned a lot.

We went through our export control legislation, looked at the final pieces of the export control legislation they are putting together, which are not final pieces, but for them they are final pieces. There is a lot of work that needs to be done. If we sell items that have dual use technologies and we keep them out of the hands of bad actors, but the Russians do not, we do not have security. And they recognize that.

Of course, the way the Russians put it is that if they have technologies that they keep out of the hands of bad actors, but we sell, the world is not safe either.

We also talked about deemed exports. And I was fascinated to learn that they have 20 closed cities over there. These closed cities house 30,000 nuclear physicists, engineers, and scientists, who are not allowed to leave those cities. And for us to visit or anyone else to visit those cities, you have to apply at least 2 months in advance for a visa, and it has to fit into a 2-year plan of visitations to those places.

But they have 30,000 engineers that are interested in getting into the new economy. And there are countries around the world with their hands outstretched to receive these nuclear armament engineers to do work for them. And it presents a tremendous challenge for us and the Russians to make sure that those people, the

people, do not fall into the wrong hands, let alone the weapons, let alone the weapons technology and all of the parts that go with that. I found that to be one of the most scary things that I ran into over there.

I also sat down and visited with some small businessmen, small businessmen that could be employing some of those same people. But I have to tell you: Russia has a long way to go yet for free enterprise. But I think that as fascinated as I was in talking with the Russians, these people were pretty fascinated to be talking to a Western capitalist about free enterprise.

The CHAIRMAN. From Wyoming.

Senator ENZI. Yes, from Wyoming.

And small business over there, I think, hold some of the answers to these closed cities, but the answers include some of the need for export controls. We also talked about some of the inventions they are working on, one of which is a floating nuclear reactor that would be put at Vladivostok. And if you think about the tsunamis and typhoons that could hit that and some of the dangers that could be prevalent in it, we have a lot of things that we need to talk about. But I am glad that we established some realm of cooperation there.

I would like for my full statement to be in the record.

The CHAIRMAN. The entire statement will be placed in the record.

[The prepared statement of Senator Enzi and informational letter follow:]

PREPARED STATEMENT OF SENATOR MICHAEL B. ENZI

Mr. Chairman, I am very pleased you called this hearing. The proliferation of weapons of mass destruction as well as the unauthorized sharing of weapons-grade technologies are significant threats to our national security. As you may know, I recently visited Russia to discuss export controls and nonproliferation. I believe today's hearing is timely and an important issue for the Committee to address. As we all know, nonproliferation is not a new issue and neither are the threats posed by unsafe and unsecure nuclear technologies.

The main objective of my trip was to form a U.S.-Russia working group that would expand legislative cooperation between our countries in order to better control the transfer of weapons of mass destruction technology.

I am pleased to share with everyone on the Committee a copy of the agreement signed by the Chairman of Russia's Federation Council Committee on Defense and Security and the Deputy Chairman of the State Duma Committee on Security. It is my hope that our agreement to form a joint working group will help maintain an open dialogue between our countries. As you will note in the agreement, Russian officials do recognize the threat posed to international security by terrorism and the need for more effective export control regulations.

I believe if both the United States and Russia produce an item that can be detrimental and aid proliferation and only one of the countries restricts its sale, countries who are bad actors can wind up with dangerous items. I have been working on the reauthorization of the Export Administration Act (EAA) which would modernize our export controls. Russia recently adopted its own export control law to regulate the transfer of certain technologies. Russian officials, however, have had problems implementing and enforcing many aspects of their export controls legislation. With EAA pending in the U.S. House of Representatives and Russians unable to implement their legislation, it is imperative that the United States enact its own legislation and work with Russia to control the export of items designed for civilian use, but which can have military applications.

While in Russia, I traveled with a highly intelligent professor from the University of Georgia in Athens, Mr. Igor Khripunov. Mr. Khripunov is an expert in international trade and security. When discussing the status of the military and related technologies, Mr. Khripunov points out that, "This desperate situation is caused not only by underfunding and economic dislocation, but also by lack of motivation and moral values that were supposed to replace the communist ideology." The situation

faced by Russia after the fall of the Soviet Union, combined with the low moral values of those seemingly in charge of Russia's military technologies, led to a very dangerous status for nuclear safety and security.

While I am very pleased that Russian legislators see the need to deal with export controls, cooperation in this one area will not address all of the threats posed by weapons of mass destruction. The threats come in a variety of areas and threaten international safety and security in a number of ways.

One such threat is the lack of qualified people to handle nuclear technologies. Each year, both the United States and Russia have fewer and fewer nuclear engineering schools. This leaves both our countries with fewer and fewer experts who can help us address the permanent threats created by having nuclear technologies. We need to have people highly educated in nuclear engineering to work on the safety of the nuclear facilities and the security of the nation. In the United States, we can begin developing programs where students receive funding for school in exchange for working for the U.S. Department of Energy or the National Security Council. We have the opportunity and the ability to create and re-enforce an educated group of experts whose knowledge and experience will help protect our nation.

In Russia, the continued isolation of the so-called "closed cities" creates another security threat. Scientists and experts in these cities do not currently have opportunities to advance their ideas. By offering these experts a business opportunity, their knowledge can be utilized to achieve better economic possibilities. Small business development should be brought to these Russian cities to encourage the scientists to use their ideas to enhance their personal economic status and their families' well being. It would also prevent the experts from seeking employment or support from a party that should not have access to their knowledge.

This brings up another significant threat to international security: the sharing of highly sensitive nuclear information and machinery with nations who pose a threat to international stability. Our view on many countries differ from the Russian view. Based on our cloudy history, we cannot be surprised. We cannot, however, sit back and allow dangerous technologies to be shared with adversarial nations. Again, only by working with our Russian counterparts to encourage Russian scientists to remain in Russia and not share information with rogue nations, can we help ensure the technologies will not be given away.

As non-proliferation is discussed, we must also address recent missile-defense related issues. 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. 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.

I believe that the limited national missile defense system that the United States is contemplating is not aimed at the Russian offensive capability. The U.S. has been willing to provide Russia with information about what our thinking is, what our development prospects have been for missile defense, and also to engage them in cooperative kinds of activities, because in many respects, the threats that the United States is concerned about from rogue states are threats that are likewise faced by Russia.

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.

I believe these missile defense 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.

While much press has been given to missiles and military technology, some threats to international security can come from seemingly domestic areas, like energy. As we all know, the energy debate in the United States has been highly contentious. Representing a state like Wyoming with many natural resources, I was very curious about Russia's energy future. Coal, which is a staple of Wyoming's

economy, has been a substantial part of Russia's energy resources. While the United States considers technologies like clean coal, I was shocked when the Russian representatives informed me of the possibilities of how to address Russia's future energy needs. In areas like Vladivostok, they are considering using floating reactors! Imagine the safety and security issues of such a energy source. The reactors would literally float in the dock of Vladivostok.

This example is a prime reason the United States must remain actively involved with our Russian counterparts on the issue of non-proliferation. If the Russian government can find no way, other than floating nuclear reactors, to address its energy needs, the United States and the international community must be prepared to help.

The United States had been involved in Russia attempting to halt the dissemination and proliferation of nuclear knowledge. There is, however, much more to be done. In their Annual Report to Congress, the National Intelligence Council noted, "Through Cooperative Threat Reduction Program and the U.S. Department of Energy's Material Protection, Control, and Accounting Program, the United States continues to assist Russia in improving security at nuclear facilities." Unfortunately, upon my return from Russia, I found out that all new program funding from the United States is being held until certification of Russia's compliance with the Cooperative Threat Reduction Program. While I understand the need for cooperation certification and I applaud the State Department for doing its job, I do not think this is the appropriate time to send this message to the Russian government. According to the State Department, Congress passed the legislation for the Cooperative Threat Reduction Program without including a presidential waiver. I hope my colleagues will support the presidential waiver included in the President's fiscal year 2002 emergency supplemental appropriations legislation. I also hope President Bush and the State Department will take all available steps and find a way to certify Russia's cooperation as soon as possible.

As President Bush prepares to travel to Moscow in May, I know non-proliferation will be an issue high on the agenda. It is my hope that as a legislative body, we can continue to support the President's efforts while also addressing the threats of proliferation with our Russian counterparts. Thank you, once again, Mr. Chairman, for your willingness to discuss this threat to our national safety and international security.

SENATOR MICHAEL ENZI,
UNITED STATES SENATE,
Moscow, April 5, 2002.

INFORMATIONAL LETTER

The Russian and U.S. parties recognize the grave threat to humankind posed by militant religious extremists, nationalistic terrorist organizations, and criminal groups seeking to obtain weapons of mass destruction (WMD). Of particular concern to the modern world is the emergence of international terrorism. One of the key elements in combating this threat is effective export controls in conjunction with international cooperation and enhancement to the existing WMD nonproliferation regimes.

The meetings conducted between Vladimir Melnikov, Chairman of the Committee on Defense and Security of the Federation Council, Nikolay Kovalev, Deputy Chairman of the Committee on Security of the State Duma (Russian Federal Assembly), and U.S. Senator Michael Enzi, point to a similarity in the positions of the two countries on a range of issues regarding WMD nonproliferation, export controls, and strengthening international stability.

As a result of the exchange of opinions, the parties have reached an understanding of the need to pursue further discussions among representatives of both countries' legislative bodies involving, if necessary, representatives of the executive branch, non-governmental organizations, and industry, regarding the following:

- Improvement of export control legislation and its implementation and enforcement in both countries;
- Facilitation and reinforcement of the spirit of cooperation between the Russian and U.S. legislators following the events of September 11, 2001;
- Creation of an atmosphere of mutual trust and understanding between the Russian and U.S. legislators, crucial for joint resolution international security problems.

In accordance with the above, the parties consider strengthening and enhancing ties between the legislators of the Russian Federation and the United States of

America, and participation of representatives of the executive branch and non-governmental organizations to be long-warranted and urgent, and agree on joint meetings and negotiations seeking positive solutions in combating international terrorism and WMD proliferation, as well as in cooperation for the development of legislative and normative mechanisms for advanced technology transfers.

VLADIMIR MELNIKOV, *Chairman,*
Committee on Defense and Security,
Federation Council.

NIKOLAY KOVALEV, *Deputy Chairman,*
Committee on Security,
State Duma.

MICHAEL ENZI,
United States Senator.

The CHAIRMAN. And I must say to you, Senator, I am really personally enthused with your interest and passion in this and your work. And I thank you for it.

Bill.

STATEMENT OF HON. WILLIAM S. COHEN, FORMER SECRETARY OF DEFENSE, CHAIRMAN AND CHIEF EXECUTIVE OFFICER OF THE COHEN GROUP, WASHINGTON, DC

Mr. COHEN. Mr. Chairman, first of all, thank you for inviting me to testify, Senator Lugar, Senator Enzi. I regret that Senator Helms is not here, because I wanted——

The CHAIRMAN. He sincerely wanted to be here, but he is unable.

Mr. COHEN. I know that to be the case. I had hoped to see him.

This is the first time I have had a chance to testify before this committee since leaving public office myself. It may be the last opportunity I will have before he enters the private world with me.

But I wanted to say, at least for the record, how much I enjoyed my service with Senator Helms, both as a Senator but also when serving as Secretary of Defense. I know that most people in this body understand that he is a man of great tenacity. What many may not understand is that he is also a man of great gentility. And I think he has treated this institution with the reverence it certainly deserves.

And I know that everyone who has ever served with him would understand what contribution he has made, even though we did not always agree, for example. He always deferred to each and every one of us with great consideration for our roles and our rights.

And I can tell you, as one of his colleagues, I used to have that spinal shiver whenever he stood up on the floor and said, "This Senator sends an amendment to the desk and asks for its immediate consideration." We never quite knew what it was going to be, but we knew it would be strongly debated.

In any event, Mr. Chairman, again I thank you.

I would like to say also something else for the record about the Chairman. His devotion to this issue is not something of mere passing concern. Along with Senator Lugar, I would indicate that Joe Biden goes back a very long way. And I cite a personal experience, which I have not discussed before. And it goes back to 1984, when I worked with Senator Nunn when I was a member of the

Senate Armed Services Committee and helped develop something called the Guaranteed Nuclear Build-down.

I published an article, along with Senator Nunn, in the Washington Post. President Reagan endorsed the concept immediately. And then I set off to go to Moscow to try and persuade the Soviet counterparts, so to speak, that this was the way in which we should proceed into the future as far as modernizing our nuclear forces while reducing the levels that we had in our respective inventories.

I did not really want to go alone, because it would look as if it was simply a Reagan Republican initiative that would be immediately rejected by the Russians—or the Soviets, I should say. I went to Senator Biden. And even though he had a commitment in Wilmington, Delaware, within 24 hours, he immediately agreed to fly to Moscow overnight, attend the meetings just so he could represent to the Soviet representatives that this was not a partisan issue, that this was an issue that affected certainly our countries, but most certainly our respective parties.

After flying all night to go to that meeting, he turned around and kept his commitment to his constituents in Delaware.

And it is something, Mr. Chairman, that has stayed with me in terms of your long-standing devotion to this issue. So when you called to invite me to testify, I would never hesitate.

All of you have already summarized the need for my testimony. Frankly, I would submit it for the record and try to summarize it very quickly, because I know that you have a vote scheduled, I believe, at 11:15. And I will try to just summarize them and——

The CHAIRMAN. But you know the Senate. That could be two.

Mr. COHEN. It could. And there could be back-to-back amendments, and we would never get back.

So I will try to summarize. I know you have several witness to follow me.

On the Cooperative Threat Reduction Program, I think it is perhaps the premier issue that we have to address today. The levels of nuclear, biological, and chemical weapons available throughout the world, but most particularly in the former Soviet Union, are truly staggering.

And when you think about one of the initial successes of the Nunn-Lugar legislation, the fact that nuclear weapons were eliminated from three former Soviet republics, in Belarus, in Ukraine, in Kazakhstan, it is naturally assumed that, taken as a given, this was an inevitable result of the breakdown of the Soviet Union. It was not. And it was Nunn-Lugar who led the effort in eliminating these weapons from these three countries.

And I have laid out in my testimony the option of thinking about what the world would look like if that had not occurred. And I will not take the time here this morning to elaborate on it. But I think all of us would understand that the world might be somewhat different, and there might be greater tensions were it not for Nunn-Lugar and the impetus it gave to eliminating as much of the nuclear stockpile as we could under those circumstances.

You pointed out the numbers are pretty clear, Mr. Chairman, 500 air launch cruise missiles, 400 ICBMs, 300 submarine launch ballistic missiles, 200 nuclear tunnel tests, and 100 long-range

bombers. Those are very significant numbers. But there is a lot more that needs to be done. And I think September 11 has focused our attention on this with greater and greater intensity.

Al-Qaeda is dedicated to acquiring weapons of mass destruction. Osama bin Laden has made that very clear. As you know, during my tenure in the Clinton administration, we launched an attack upon some terrorist camps in Afghanistan back in 1998. We killed a number of terrorists. We missed Osama bin Laden.

We also hit a facility, the Shifa facility, in Khartoum. And I know that there were a number who questioned the advisability of that. But there was no doubt in my mind and no doubt in the minds of other policymakers that Osama bin Laden was dedicated then, as he is now, to acquiring chemical, biological, indeed even nuclear, materials. And so we struck that plant, as well as the striking of the terrorist camps at that time.

And I think that since that date it has become even more imperative that we intensify our efforts to reduce the amount of nuclear, chemical, and biological materials that would be available to these terrorist groups, because they know that the fastest route to acquiring them is not to develop them indigenously and not necessarily to link up in some kind of a partnership with a country, but basically to buy them or steal them.

And you have material in the former Soviet Union. You have as much as 1,000 metric tons of highly enriched uranium. You have anywhere from 150 to 200 metric tons of plutonium. And it is a fairly frightening prospect, when you think about the levels of security, or lack thereof, in the former Soviet Union, when these materials might be easily obtained by al-Qaeda or by other terrorist groups.

And if you read the Washington Post this morning, you will see that there is a discussion on one of the more recent people who have been apprehended that that is indeed what they have in mind, is to explode a radiation bomb, as such, and to kill as many Americans as they possibly can through the use of that kind of device. So it is important that we continue the Cooperative Threat Reduction Program.

I also think it is important that we not link it to other issues. And I know, as one who has served in this body, how important human rights, the human rights issue, is. But the first human right in my judgment is that we have a right to life. And the second one is that we have the right to expect that we live in liberty.

But the notion that we would tie this particular program inextricably to the human rights issue or a failure on the part of Russia to live up to our standards to an exacting degree, I think puts us in a position of jeopardizing the continuation of the lives of thousands, if not millions, of people.

So I would hope that we would not tie the Cooperative Threat Reduction Program inextricably to our insistence on human rights. We still should insist upon human rights whenever we can, but that should not be the dispositive issue when you are dealing with something of mass casualties on a fairly wide basis, and perhaps even globally.

No. 2, we should try to keep the program as flexible as possible, to give the Secretary of Defense as much flexibility as you can consistent with maintaining proper oversight responsibilities.

I know, Senator Enzi, you come from a background in which you look at numbers. And you have a very scrutinizing eye in terms of the disposition of assets and so forth. We should look very carefully at how these funds are used.

But I think the need for greater flexibility is also in order. And there were many times when I was serving as Secretary of Defense that I felt the constraints legislatively placed upon the discretion actually imposed greater hardship and put us more in jeopardy by not having that kind of flexibility.

I think other approaches that have been suggested, such as debt forgiveness, also is very important, again looking at ways in which we can be as creative as possible to encourage the Russians to help dispose of those materials or to secure them.

And the use, as Senator Lugar has proposed, even beyond Russia—there may be circumstances in which there are other countries where these nuclear materials or chemicals or biologicals may be present. And the Secretary of Defense would need some flexibility in responding to an emergency type of situation and then, of course, responding to Congress, again in its oversight capacity.

Mr. Chairman, let me conclude by simply pointing out that the clock is ticking. This is not an overly dramatic statement, certainly, by me. I could go back and point to some fiction writing, you know, "one minute before midnight." It is 1 minute before midnight, if you think in terms of historically and the universal clock, and it is ticking.

We do not have a lot of time in which to reduce the nature of the threat that is out there. And every moment that we hesitate, every moment that we fail to do whatever we can to reduce the amount of nuclear materials, chemical, biological, in existence, we come closer to that kind of armageddon that we all want to avoid.

We know that there are groups that we do not know about who have great ambitions and grave intentions. And I think September 11 taught us that a known enemy can hit us in unexpected ways. But the apocalyptic cult Aum Shinrikyo and the American terrorist, Timothy McVeigh, they taught us that totally unknown enemies can be lurking in our midst, pursuing evil on a massive scale.

And one of the most striking things about the Aum Shinrikyo is that it built an international network of financing and technical experts in Japan, in Russia, in the United States, and elsewhere. They raised over $1 billion, and they pursued nuclear, biological, and chemical weapons. And yet we only became aware of the group after the second chemical attack.

So those who seek to harm us on a massive basis, they know that the quickest route, once again, is to gain a capability lying in the disorder and even the poverty or destitution that still characterizes much of the Russian establishment responsible for securing those nuclear weapons and that material that is biological and chemical.

And this makes it incumbent on us to spare no effort to stop them. And we do not have a moment to lose, Mr. Chairman.

[The prepared statement of Mr. Cohen follows:]

PREPARED STATEMENT OF HON. WILLIAM S. COHEN, FORMER SECRETARY OF DEFENSE, CHAIRMAN AND CHIEF EXECUTIVE OFFICER, THE COHEN GROUP

This is the first time I have appeared before this committee since leaving office, and it will probably be the last time I do so before Senator Helms joins me as a private citizen. Senator Helms has had a remarkable career. Few people have exercised the powers of a Senator with greater influence on U.S. policy for the things in which he believed. The world knows well that he has been tenacious. But few outside this institution have appreciated that even more than tenacious, he has been gracious. While we have not always agreed with each other on substance, he has always been a gentleman of civility who has respected his colleagues and the important role of this institution.

After he retires from this body, many who share his views will miss him for his passionate and effective advocacy of his beliefs. Others who have differing views will miss him for agility and wit in debate. But all of us who have had the opportunity to call him "my dear colleague" will miss his personal warmth and gentlemanly spirit that he displayed to us day in and day out when we served together.

I appreciate the opportunity to appear before you to discuss what is perhaps the premier national security issue facing our country: as President Bush and Senator Lugar have put it, keeping the world's most dangerous weapons out of the hands of the world's most dangerous people.

While our counter-proliferation and counter-terrorism efforts have many facets, a key one has been the Nunn-Lugar Cooperative Threat Reduction program.

History will view the CTR program as one of the most successful defense programs our Nation has ever undertaken.

It has facilitated the complete denuclearization of Belarus, Ukraine, and Kazakhstan, something that is frequently noted but almost universally under-appreciated because it is taken as a given, an inevitability. But it was not inevitable. At the time, there were voices in those countries, and even prominent voices in the U.S., calling for those countries to retain the nuclear arsenals on their soil.

Imagine what the world would be like if Mr. Lukasheriko were in possession of a small nuclear arsenal. Or that, in the wake of the Indian and Pakistani nuclear tests, Kazakhstan had decided that it needed to maintain and modernize a nuclear force. Or that the periodic bouts of political and economic tension between Moscow and Kiev had occurred in the shadow of nuclear tensions.

Would the world be a safer place? Would our efforts to stem the proliferation of weapons of mass destruction have been enhanced or undermined? Would Russia's internal political situation have developed with greater or lesser trouble than has been the case, with extreme nationalism an ever stronger force?

I think the answer is in each case is that American security interests would be worse off, possibly much worse.

And all of this is beyond the straightforward calculation that the CTR program has helped to destroy:

- nearly 500 nuclear ALCMs;
- over 400 ICBMs;
- nearly 300 SLBMs;
- nearly 200 nuclear test tunnels; and
- nearly 100 long-range bombers.

As a result of this unprecedented destruction of nuclear delivery vehicles, thousands of nuclear weapons that had been aimed at America have been deactivatated.

And programs are moving forward to securely store both nuclear weapons and fissile materials, as well as reduce the risk that scientists and others with technical expertise in nuclear, biological and chemical weapons are not enticed to sell their skills to those seeking such weapons.

The importance of this last point has been highlighted by September 11. We have known for some time that terrorist groups, including al Qaeda, have been seeking WMD capabilities.

I and my colleagues who served in the Clinton Administration discussed this at length when we attacked a terrorist leadership meeting in Afghanistan, killing a number of terrorist operatives and very nearly killing Usama bin Laden, and destroyed the al Shifa facility in Khartoum, which we believe had links to both Usama bin Laden and to the Iraqi chemical weapons program. Not everyone listened.

But such wishful thinking is not possible after September 11 and after American troops found al Qaeda documents confirming their desire for such weapons.

Enemies of the United States, both countries and terrorist groups, are working hard to lay their hands on weapons of mass destruction, and particularly in the case of terrorist groups there is no doubt that they would use them. Those pursuing

these weapons know that the fastest route to obtaining them is to acquire weapons or weapon materials from the enormous stockpiles that still sit in Russia and other countries of the former Soviet Union, or to hire technical experts from the former Soviet Union, large numbers of whom continue to struggle to care for their families and face great temptation to sell their talents to the highest bidder.

In this sense, ensuring a flexible, well-funded CTR program is among the most important responses we can make to the tragedy of September 11.

Before I am accused of being a member of the choir, let me note that I have not been an uncritical supporter of the Nunn-Lugar program. In fact, a few of you may recall that the original Nunn-Lugar program was rejected in the Senate Armed Services Committee when it was first proposed in 1991, and that I was among those opposing the original version at that time.

One reason was that it would have provided job training and housing benefits to Soviet officers at a time when such benefits were not being provided to American military personnel being released from service in the biggest U.S. military drawdown since Vietnam. Another reason was that I felt there were inadequate assurances that U.S. assistance to the Russian nuclear weapons establishment would not simply serve to subsidize ongoing Russian nuclear weapon programs.

After revising the proposal to address these concerns, we adopted the Nunn-Lugar CTR legislation.

DO NOT LINK CTR TO OTHER ISSUES

I still believe care is needed to assure ourselves that our CTR assistance is being used to reduce the threat, and well-drafted legislative conditions can contribute to that. At the same time, we should recognize that so long as the CTR program is fulfilling its mission of reducing the threat of weapons of mass destruction, then they are in our national interest—and we only harm ourselves if we condition CTR assistance on Russian behavior in other areas.

While Russian behavior on human rights, Russian actions in Chechnya, Russian debt repayment and many other issues merit our attention, it would be contrary to our own interests to withhold CTR assistance if Russian behavior in these other areas falls short of what we would like.

A fundamental fact is that CTR is a U.S. defense program, it is not foreign aid. That is why the Defense Department has supported funding much of it within the "050" budget function for national defense. It is why the Bush Administration, after a careful review of the program, has wholeheartedly endorsed it.

THE NEED FOR FLEXIBLE AUTHORITIES

Similarly, while Congress has the responsibility to oversee how these funds are spent, excessive restrictions can interfere with the effectiveness of the program, and in doing so may pose a threat to our security.

Secretary Rumsfeld has complained about the limited flexibility the Secretary of Defense has in managing defense programs due to legislated constraints. I am not unsympathetic to his concern. There were certainly times when I would have liked greater flexibility to deal with emergency situations.

All too often, DOD leaders find themselves forced to combine funds from scattered small pots of money to meet critical national security requirements, sometimes to the anxiety of department lawyers.

DOD has repeatedly sought greater flexibility in managing the CTR program and for various counter-terrorism efforts. I would urge the Armed Services Committees and Congress to give favorable consideration to such proposals, while safeguarding the Senate's understandable concern that these funds not be diverted to other purposes.

Also, I would urge support for Senator Lugar's legislation to expand the scope of the CTR program to activities in countries outside the former Soviet Union when the Secretary of Defense believes it appropriate. This would be especially valuable in urgent situations requiring immediate action, where it might be difficult to cobble together the necessary authority and funding in time. But it also would be useful in less urgent situations.

One of the things that has become apparent in recent years is the invalidity of the old proliferation model of either indigenous development or direct sale from one country to another. Instead, just as development and supply chains of legitimate industry have globalized, so have they for WMD and missile proliferation.

A missile program in a rogue state, for example, might involve a complex web of technical assistance and missile equipment coming from several countries, both former Soviet and non-Soviet countries, all aiding an indigenous development effort

in exchange for cash, access to missile test data to support the suppliers own missile programs, or even reciprocal assistance on WMD weapon programs.

We should seize any opportunity to punch holes in this complex supply chain, whether the opportunity presents itself in former Soviet countries or elsewhere. And so I strongly encourage you to act upon Senator Lugar's bill and, in doing so, provide as much flexibility as possible to the Administration without compromising your oversight responsibilities.

Finally, I would urge an open mind to other, perhaps more controversial, approaches intended to enhance the security of Russian nuclear weapons and nuclear material and other WMD. Senator Biden, with Senator Lugar, has proposed a structure to forgive debt if it resulted in greater funding for such material security efforts. The Russian Energy Ministry, the Clinton Administration and others worked on a concept in which Russia would establish an international spent nuclear fuel repository provided that the revenues would fund efforts to protect nuclear weapon material.

While I am not in a position to discuss such ideas in detail, I believe that we should not rule out anything out of hand if it could be structured in such a manner as to significantly increase the safety and security of WMD materials.

CONCLUSION

The CTR program represents a race against the clock, but a rather peculiar one in which we do not know all the players or the rules by which they are playing and we do not know how much time remains before someone who wishes us ill obtains WMD capabilities. But what we do know is that there are enemies of America diligently seeking to acquire nuclear, radiological, chemical and biological weapons and that they would not hesitate to use such weapons on the American people.

We know that Usama bin Laden and al Qaeda have actively sought such capabilities and have threatened to use them if they acquire them.

We know that there are other extremist Islamist terrorist groups hostile to the U.S. that will seek to fill the void as al Qaeda is dismantled.

We know that others, whether we call them "rogue countries" or "states of concern," have pursued such capabilities for decades, and in some cases, are willing to sell any capability they may have to the most attractive bidder.

And we know that there are groups we do not know about with great ambitions and grave intentions. September 11 taught us that a known enemy could hit us in an unexpected way. But the apocalyptic cult Aum Shinrikyo and American terrorist Timothy McVeigh taught us that totally unknown enemies can be lurking in our midst pursuing evil on a massive scale. One of the most striking things about Aum Shinrikyo is that it built an international network of financing and technical experts in Japan, Russia, the U.S. and elsewhere that raised over a billion dollars and pursued nuclear, biological and chemical weapons, and yet we became aware of the group only after its second chemical attack.

Those who seek us harm on a massive scale know that the quickest route to gaining such a capability lies in the disorder and destitution that still characterizes much of the Russian establishment responsible for securing nuclear weapons and material, biological weapons and agents, and chemical weapons and agents. And this makes it incumbent on us to spare no effort to stop them.

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

We will go just 5 minutes, a shot back and forth, in case you have to leave. And interrupt, Dick, if you have any add-ons to what I ask.

Let me address the first question first. And that is the argument that has been used against Nunn-Lugar, or expansion of Nunn-Lugar types of initiatives, which is basically to say that with the cooperation of the Russians we are going to go to them and pay to have them eliminate and/or stop doing something that is bad, that is against our interest. And the argument used in plain language is: They will take that money that they would have had to use for that and use it for something else that is fungible.

And there has been an argument made, and it was raised by you, concerned by you, initially back in 1991, I guess it was.

Mr. COHEN. Right.

The CHAIRMAN. What would they do, if we give *x* number of dollars to help them destroy alchems or whatever else? Would they just take that money and go ahead and invest it in another program, or would they invest it in programs for other countries?

Now, most of that has sort of dissipated in the sense that there has sort of been an emerging notion that, "Look, if there is *x* number of ICBMs aimed at the United States, then my choice is I get to destroy them, and that money may be taken to build a short-range weapon; I am still better off, I mean, in the worst case scenario."

But what is your sense now about whether or not the money that we invest as a Nation in threat reduction in Russia is, in effect, creating an opportunity for the Russians to then spend, even though we can account for that money being spent for that purpose, they will take money they would have had to spend to build a chainlink fence around a chemical weapons site or put bars on a window or whatever, and they will do something against our interest with it?

Would you speak to me a little bit about your thinking after having been Secretary of Defense?

Mr. COHEN. The fact is that they could take the money they otherwise would spend for security and spend it on other items. For example, if we contribute this amount of money to the CTR program, you could argue that they would then turn around and build other types of military capabilities, or they might use it to help pay for housing, which was not included in the CTR program, or for various retirement benefits, et cetera.

I think the answer to the question is: We have an entirely different relationship with Russia today than we had back in 1991 and really until the past year, since September 11. Everything has changed, if you look at the world after September 11. I mean, Senator Enzi pointed out it is astonishing that he would think that he would be able to sit down across from Russians after what he went through in growing up as a child. All of us, I think, could make that same statement.

But the fact is that since September 11, you have seen a geopolitical shift that is perhaps unmatched in historical terms with us having a relationship with Russia, with Russia saying "You can put bases without our objection into Tajikistan, Uzbekistan. We will work with you on this anti-terrorist campaign."

A lot has changed, for their own self-interest, to be sure. They have a self-interest in aligning themselves in this war against terror, because they are also the potential victims. They have been victims.

In fact, I was in Moscow when one of the apartment buildings was blown up. And I went on television, state-wide television, so to speak, in Russia the day after it happened to say that we should join with Russia in combating terrorism, because they were at risk and we were at risk.

So September 11 has changed that. Now you have the potential for the same nuclear materials ending up in the hands of people who will threaten Russia just as much as they will threaten us. So there is a different dynamic at work today.

Do we always have to be on guard? Yes. Do we always have to insist that certain standards be met and that we have certain measurements that we can make; and is there a possibility it could be used for other things? The answer is yes. But to the extent that we establish a relationship with Russia, to the extent that groups, Senator Lugar, Senator Enzi, yourself and others, continue to "engage" the Russians, we have a much greater chance of working together cooperatively to reduce the mutual threat than if we sit back and say, "Well, yes, they could use it for this, and we are only easing their burden."

But the fact is, as long as those piles of nuclear materials are out there and as long as al-Qaeda and other groups are seeking to get their hands on it, we are all in danger.

The CHAIRMAN. Well, let me conclude by saying to you: I do not think any of us in 1991, myself included, thought that in the year 2002 the estimate for the Russian military budget, the entire Russian military budget, would be $5 billion. I mean, you know, think of that. Their entire estimated budget, and assume we are off by 150 percent, is $30 billion.

I would respectfully suggest to those who worry about fungibles, there is nothing to fund you out there. These boys are in real trouble. If we spend $200 million on cooperative threat reduction, it is not like they have $200 million to go spend on anything else. We are talking about an incredibly, incredibly limited budget here. And I think——

Mr. COHEN. Mr. Chairman, the great irony is that during the cold war, we feared Russian strength. In the post-cold war, we fear their weakness.

The CHAIRMAN. I think we are right on both scores.

Mr. COHEN. Yes.

The CHAIRMAN. And by the way, I have been here too long, because I was just handed a note. I am getting prophetic. The 11:30 vote has been moved to 2:30.

Mr. COHEN. Well, in that case, I will read my entire statement.

The CHAIRMAN. I am sure it is not because I said it.

Senator LUGAR. It is, though.

The CHAIRMAN. Senator Lugar.

Senator LUGAR. It is because you said it, Mr. Chairman.

The CHAIRMAN. It is bad news for you. You are going to have to stay a little longer, Bill.

Senator LUGAR. Secretary Cohen, I want to continue with the chairman's thoughts about the fungibility issue, because, really, this is the major attack upon cooperative threat reduction sort of year-in, year-out. Someone has a new discovery that somehow the Russians are using our money for unintended purposes.

As you know the cooperation we have enjoyed with Russia is totally counter-intuitive. Would you have guessed a decade ago that Russian military leaders would invite American contractors and military into nuclear facilities, leaving aside the chemical and the biological, to discuss dismantling of their weapons. Now one of the reasons they did so, is because of concerns they had about safety and security of their own forces.

If accidents were to occur, a lot of Russians would die as opposed to anybody else that the weapons might be intentionally used upon.

The sheer expertise and expense of dismantling these weapons and then storing the fissile material are very, very difficult propositions. As the chairman has pointed out, they reside in a country that was near bankruptcy. Now even at this point—and the figure that I got in preparation for the hearing was that the Russian military budget is now the equivalent of $7.5 billion in the current year.

But it may be, as the chairman suggested, the higher figure. But nevertheless, we are talking about $7.5 billion or this higher figure as compared to our budget of roughly $390 billion. Most Americans have never quite grasped the enormity of that difference. But that is why it is important to point out.

And I would say that, as we proceed with our war on terrorism, we should be concerned that every chemical facility have a fence around it; and not only a fence, but some reasonable security. And so are the Russians.

But the Russians raise the question, "How are we going to pay for it? We have officers that have pensions that are not getting paid, hundreds of thousands of them. We have all kinds of dependencies from the past that are totally unfunded. And we have political problems with our citizens in a democracy. Now you have a problem worrying about the al-Qaeda coming in and taking out chemical weapons, but we have a problem just simply of keeping our government alive." And it is a serious problem.

Now there could be those in the Congress or the administration that would say, "Well, that is their tough luck. After all, if they cannot protect those weapons at Shchuchye, where, as you know, two million chemical weapons are lying on shelves in old buildings, guarded by systems provided by the United States. Hopefully, we are on the threshold of destroying some of those before somebody carts them away.

Unfortunately in order to get to that point, we had to convince some of our countrymen that it is a good idea to destroy them and that we ought to spend some money doing that, and enlist the Norwegians and the British and the Canadians and the Germans, as we have been doing. And they have been pledging to provide assistance and cooperation with the United States.

One of the problems we face is that one day our country is very excited about the possibilities of being attacked, and al-Qaeda might appropriate some of these weapons and kill a lot of Americans right here in the United States. But on other days, we are quibbling as to whether we ought to give the Russians $5 million to put a fence around a chemical weapons plant where all the stuff was created. It may not yet be in Iraq or Iran right now, but the Russians do have it now and we must do what we can to eliminate the threat before it proliferates.

I believe the No. 1 national security threat facing the United States is the nexus of terrorism and weapons of mass destruction. As a result, we must go after the weapons very vigorously, while we have, a relationship that is qualitatively different with President Putin and with others and Mr. Pak, who now heads the chemical situation, yearning for assistance. I have taken Mr. Pak to breakfast with members of our own House of Representatives to try

to at least illuminate what is possible if our two countries cooperate.

Now having said that we had a good hearing with Howard Baker and Lloyd Cutler. They provided a good timetable and a cost. I think $30 billion was the sum that they recommended over 10 years to respond to this treat.

But this did not necessarily excite anybody to begin doing these things. That is one purpose of this hearing.

And I applaud the chairman again. And I applaud him for having you and the distinguished witnesses that will follow, because we need to have revival meetings to appreciate that this is still a dangerous world. All of this is still out there and really requires persistence.

So, you have answered my question. You said at the initial stages of the Armed Services Committee in 1991 you raised some of these questions. The debate on the floor of the Senate, all kinds of stipulations were put on Nunn-Lugar as to how to stop the spending, and pretty well succeeded for a while. It was quite a while before this got on track.

And you will recall from your own experience there were some years it was cumbersome; we were following the money so closely to make sure not a dollar got lost that none of it got spent. The appropriation ran out. They took it off the table, and we are back at it again.

So I appreciate very much your testimony. I do not have a question. I just have applause for you and for the chairman for getting this revival meeting going again, which I think is timely.

Mr. COHEN. Let me respond to your non-question. First of all, this notion, this argument that is being made, this—even before I am before this committee, this is not a foreign aid program. This is a national defense program. This is not charity. We are taking action to reduce the threat to the American people.

Now a few years ago, I went on one of the television programs and held up a 5-pound bag of sugar and——

The CHAIRMAN. It had dramatic impact.

Mr. COHEN [continuing]. I tried to point out that if you took just 5 pounds of anthrax, and you distributed it during a day in which the wind conditions were right, with the right kind of dispersal mechanism, you could wipe out a large percentage of the city the size of Washington, DC. There are hundreds of tons of anthrax in existence.

Now imagine if bin Laden or an al-Qaeda or Islamic jihad or others acquire pounds, if not tons, of anthrax and have it distributed, once again, either through the mail or some other mechanism. How long was the Senate shut down last year with just a small amount of anthrax? Now let us assume that it is distributed on a very wide basis with multiple terrorist actions taking place across this country. How long would that shut down so many of our operations?

So this is not charity, and it is not foreign aid. It is national defense. And so to those who argue that we are simply giving money away when the Russians should be doing it, the fact is that they do not have the capacity right now.

And I will make another argument. I am not trying to—I always try to look at this through the eyes of the opponent, so to speak.

But if you were a Russian general today, and you said, "Well, let me think about this. The United States has a budget of $390 billion, roughly. NATO has been enlarged by three. It might be enlarged by five, six, possibly eight or nine other members. We are now talking about the Baltics being included in NATO membership, not to mention the southern tier of Europe. The United States has embarked on a national missile defense program. There are bases in the central Caucus, in Georgia, Uzbekistan, Tajikistan, and elsewhere," well, I would have some question about the U.S. intentions at this point.

So are there elements inside the Russian military who are very concerned about the United States still? And the answer is yes. How do we overcome that, or do we need to overcome that? Now we can try to beat them down even further, but I will tell you from my own judgment, Russia will be back at some point. The Russian people are very talented. The intellectual quotient is very high. They have vast natural resources. They have a strong history, as a matter of fact. So they will come back at some point.

The question is how they come back. Will it be as a full integrated partner in the international community, or as an inward-looking, nationalistic, militaristic power? And so we have a—assuming we can all make it to that point, assuming all those piles of nuclear material and anthrax and all the other things that have been developed do not fall into hands other than Russian.

We have an opportunity to work with them over a period of time in order to make sure that as we all evolve in the future, that our relationship is one that is cooperative and collaborative, rather than antagonistic, which is not to say that we are never going to have disagreements with Russia. We have them with our allies all of the time, but we are able to sit down and somehow work out and rationalize those differences in ways that are at least peaceful.

So it is not foreign aid. It is for defense. I point out that 80 percent of the money being spent on Nunn-Lugar is going to U.S. contractors. So most of the money is going to us, in that sense.

Mr. Chairman, I simply point out that we cannot afford—if you look at that in very simplistic terms, you have piles of dangerous material on the other side of this fence which has large, gaping holes in it. And we have enemies who are seeking to get their hands on that before we do, who will use it to destroy us.

I do not think we can afford to sit back and say, "Well, the Russians may benefit in some other way and use the money that is being used to reduce that threat in ways that might pose a danger to us down the line." I do not think we can afford to wait that long and to use that argument to defeat this program.

The CHAIRMAN. Very important point to emphasize here in the context of the revival, as my friend from Indiana said.

You served on the Intelligence Committee and as Secretary of Defense. You controlled a significant part of the Intelligence Committee, the Defense Intelligence Agency. We have sat on the Intelligence Committee. I think all of us have. We have known for a long time—we have not been able to say, but we can say now because it happened—there are individuals and groups attempting to purchase, purchase by whatever means, the talent in terms of the personnel, wholesale constructed weapons, nuclear, chemical, bio-

logical, raw products like refined—that is a contradiction in terms—anthrax.

There is a bazaar out there. People are walking up to the table. There have been people arrested because there are sting operations in effect out there. This is not something that is a hypothetical. The American people should understand: People are attempting to purchase weapons.

And last—and I am going to ask my staff for the quote, it came from a closed hearing, but the quote is from the general literature. There is some quote in effect from a famous nuclear scientist that says, in effect: Anybody who thinks it is easy to build a sophisticated nuclear weapon is wrong. Anyone who thinks that it is difficult, it is impossible, to build a crude nuclear weapon is wrong. And I will get the exact quote.

The only thing that keeps some of these outfits or individuals from building a nuclear weapon, is having the material, not the material to construct the casing, not the material to make it go boom—I cannot get any more specific than that—but the actual enriched uranium or plutonium, the weapons grade material. And there is tons of it.

I will conclude with this: I was telling this to my mother, whom you know, Bill, is a very bright lady, incredibly well read, 85 years old and, as they say, sharp as a tack, watches everything on C–SPAN. And I come home, and she is now, because my dad is ill, living with us. So I came home after a hearing, oh, a couple weeks ago, just before the recess.

And she said, "Why would they not spend the money to build a fence?"

And I started the explanation. She said, "Joey, that's biting our nose off to spite our face."

Ever hear that expression, biting your nose off to spite your face? "We will teach those Russians. We are not going to help them build that damn fence," figuratively speaking. "We will show them."

It is yours, Mr. Enzi. It is your floor.

Senator ENZI. Thank you, Mr. Chairman.

And I come from that part of the United States that has sacrificed its uranium industry in order to be able to use up that highly enriched uranium from that part of the world. It is important that we do that, and it is part of the plan.

I want to mention, too, that when I went to Russia, I was accompanied by three professors from the University of Georgia, two of whom grew up in the Soviet Union. The third one was from the United States but had spent a great deal of time in education in Russia. So all three of them spoke Russian.

And, of course, all of the conversations over there were through interpreters. And I was so glad that I had some interpreters from the United States. Their culture has changed, but their vocabulary has not been able to catch up with the changes. They have not had words for "management" and "contracts" and "corporations." Those parts I could understand, because they have adopted the English version. Management is management. So they just took the same word and made it——

The CHAIRMAN. Like my neighborhood.

Senator ENZI. Their word for "security" and "safety" is the same. And those are two absolutely different responses. And had I not had some interpreters with me that had the U.S. perspective of it, there could have been a lot of difficulties in the discussion when it came to security and safety.

One of the things we have been trying to do here, of course, is to get a State Department liaison in the Senate part of the building, much as we have the military liaisons. And I hope the committee will help me to push for them to get some space, so that we have easier capability, when we get foreign visitors, to be able to get interpreters, for one thing, people to sit in on the meeting who have a broader background on what is happening.

There were a lot of instances where my interpreters were able to jump into the interpretation and add in a little more depth, so that they understood exactly what we were talking about, instead of having some of the confusion.

One of the points that was helpful was when we were talking about the "evil axis," Iran and Iraq and North Korea. And I have to say, they are very sensitive on that in Russia. I was surprised that they were most sensitive about North Korea, more so than Iran. Now that is one of the things that I and the interpreters picked up from the lengthy discussion we had about what could be done with those countries to make sure that technologies they are getting are not going to be harmful to the Russians or to us.

And, Mr. Secretary, I was wondering if you could share with us what the United States could do to persuade, from your perspective, Russia to stop the transfer of sensitive nuclear missile technologies to Iran and North Korea? Are you aware of any sticks or carrots that we could employ to do that?

How do we resolve investing more money in nonproliferation programs in Russia while witnessing this continued proliferation? Any ideas on what we can do with those countries?

Mr. COHEN. Well, for one thing, we have to continue to deal with the Russians in a cooperative fashion. I know the word "engagement" initially was not well embraced or enthusiastically embraced by the administration, but I do not know another word for it, whether it is dialog, discussion, collaboration.

I think engagement really does summarize what we have to do, which is to work with the Russians to say, "There has to be a better option than you gaining revenues from the sale of 'commercial nuclear technology' to a country like Iran that we are satisfied is dedicated to acquiring weapons of mass destruction and the means to deliver them. There has to be a better way in terms of your relationship with the United States and the West than transferring similar technology to the North Koreans."

They might point out, for example, that it is a bit inconsistent on our part, since we have a program with the North Koreans to help develop their capability to produce commercial nuclear power. And they might say "You are operating on a different standard here."

But, of course, the Bush administration might say "You are right, and we want to cease and desist from that assistance to North Korea."

But it does put us in a somewhat awkward position to say that they should not be transferring commercial technology. Our fear is that that level of technology—and this is for the experts to testify to—but that level of technology could be converted for military uses. And that is an issue of concern to us.

But I think the only answer to that is to try to engage them more actively in other pursuits with the United States on a trade basis.

Senator ENZI. They did mention, of course, that they were working on export controls and were further ahead than we were on getting their legislature passed.

Mr. COHEN. Well, you know, the fact of the matter is that they are looking for ways to acquire revenues any way they can that is consistent with their national interest.

What we have tried to persuade them, and will continue, I assume, is that transferring sophisticated technology to Iran, Iraq, or North Korean could pose a long-term threat to them, as well as to us. And therefore, we have a joint interest in trying to prevent that from taking place. "And are there not ways that we can work together to find some other avenue or stream of revenue for you to help build your economy while reducing the threat, the long-term threat, to both of our countries"?

Senator ENZI. We did find that the small businessmen that I met with have utilized some of those engineers in different ways than they are used to happening. They found a way to add more sugar to sugar beets. And they found a way to keep chemicals from leaking into their water systems. And they have gotten some of the engineers excited about working on those kinds of projects for profit. But profit is still a difficult motive for them to adjust to. Making a living, they are used to. Getting perks, they are used to. But making a profit, they are not.

Mr. COHEN. Well, this is something that is going to take perhaps generations. The Russians, certainly in the last century, have not had any experience with profit. From imperialism to communism and now to a democratic capitalism, it is new for them. And it may take some time before that is ingrained.

So the question for us is how do we work with them, because our livelihood and our lives are at stake as well in this particular endeavor.

If I could take just a few more moments of your time, Senator Enzi, to respond to what both Senator Biden and Senator Lugar have said. And I come back to this whole issue of, is this really in our interest to do that? I think all of us are familiar with the sort of steps that we take when we talk about national security, deterrence, first line of defense.

Then we go to crisis management. Then we go to consequence management. And all of us are familiar with what we are trying to do. Now, what happens if, and CSIS, the Center for Strategic International Studies, at a program last year ran an experiment called Dark Winter with the release of a smallpox virus in multiple sites and what would happen under those circumstances. So it is all involved in consequence management.

But then it evolves into questions about preemption. And it is something that we have to give serious consideration to, as we are, as a matter of fact, in Iraq. As you discuss what is going to be our

policy toward Iraq, we are saying, here is a country dedicated to acquiring chemical, biological, nuclear weapons and the means to deliver them. And should not we seek to remove Saddam Hussein and his regime and to prevent that from ever taking place? So it is a form of preemption that we are considering right now with Iraq.

Is this not another form of preemption that we are talking about, that we are seeking to preempt an attack upon the United States with a willing partner, that we provide the money? Think about how much money we are going to spend if an attack takes place. And I am making no commentary at this particular point in terms of what our policy is or should be or one that might take place. But how much would be involved if we were to militarily take down Saddam Hussein's military infrastructure?

This is a small fraction of what would be involved in such an endeavor. And it has equally, if not much greater, consequence to allow that much material to sit unguarded or underguarded to the future of this country.

I see the Nunn-Lugar program as a preemption of sorts, that we are preempting an attack upon the United States by groups that are dedicated to killing us and to use the most massive means at their disposal to produce these kind of casualties. And that comes in the form of nuclear, radiological, biological, and chemical weapons. So this is a program of preemption by non-military means with a cooperating partner in the form of the former Soviet Union.

Senator ENZI. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. I apologize. What I was trying to get here with the staff is to put a lot of this in perspective, what you said, Mr. Secretary. And we will not keep you much longer.

If I add up what most folks would look at and think of as threat reduction-type programs, they are the programs relating to nuclear weapons, the programs relating to chemical weapons, and the programs relating to biological weapons. And they range from the Nunn-Lugar Cooperative Threat Reduction Program—I just want to list a couple of these—to the Materials Production Control and Accounting Program, the MPC&A Program, the U.S./Russian Plutonium Disposition Effort, the Highly Enriched Uranium Purchase Agreement, the Initiatives for Proliferation Prevention and the Nuclear Cities Initiative, two separate programs, the International Science and Technologies Centers, the Bioreduction Program, and the Export Control and Border Security Assistance. They all relate to these issues.

As I calculate it, based on funding levels for this coming year that would allow us to, in effect, fully fund on a level that, within 10 years, we would make significant progress in dealing with, again, the 17,000 to 22,000 strategic and tactical nuclear weapons that remain in the Soviet Union, in Russia, 160 metric tons of weapons grade separated plutonium, approximately 1,000 metric tons of highly enriched uranium, 10 nuclear cities with 120,000 scientists and skilled personnel, and so, 60,000 scientists and personnel in the biological weapons programs, et cetera.

You take all these potential places for mischief, and if we were to fully fund—I will submit this for the record—I will not bore you, because you know all this.

[The following information was supplied by committee staff.]

- $167 million in additional funding per year to accelerate the pace of the Materials Protection, Control, and Accounting (MPC&A) program so that we will not have to wait until the end of the decade before all Russian fissile material is stored at securely guarded facilities.
- $250 million per year to finance an expansion of the Highly Enriched Uranium Purchase Agreement to buy more processed nuclear fuel down-blended from Russian stocks of highly enriched uranium. Doubling the size of that program from 500 metric tons of HEU to 1000 metric tons would safeguard enough material for 20,000 nuclear weapons—material that terrorists could readily use, if they got their hands on it.
- $200 million in additional funding per year to incentivize and assist Russia in moving faster on its plutonium disposition under the August 2000 U.S.-Russian agreement, possibly to include additional plutonium beyond the original 34 metric tons agreed upon.
- $67 million in additional funding to help jump start Russia's chemical weapons destruction as called for under the Chemical Weapons Convention.
- $125 million in additional funding for International Science and Technology Centers/Bio Redirect to engage more Russian scientists in collaborative projects; one idea is to organize them into a massive public health effort to research and treat drug-resistant TB and other infectious diseases.
- $100 million per year to help replace plutonium burning reactors in Russia and Kazakhstan and begin securing radioactive sources in the former Soviet Union.

The CHAIRMAN. But if we were to fully fund to the level that we were able to get what was envisioned by each of these programs finished within the timeframes when the agreements were made, we would have to add roughly another $900 million to the—I am going to refer to them all as threat reduction, and that encompasses everything. We would have to add roughly another $900 million to the total threat reduction effort underway, which right now includes in fiscal year 2003 roughly—how much is the administration asking for?

STAFF MEMBER. They are asking for $1.6 billion.

The CHAIRMAN. Asking for $1.6 billion. So $2.5 billion total spending on everything relating to threat reduction out of a budget, including the Department of Energy's portion that relates strictly to defense, of somewhat in excess of $380 billion.

We are talking about a relatively small percentage here of the total amount of the budget. The total is, I am told by my staff, three-quarters of 1 percent or equally in a plus-up of one-quarter of 1 percent of our total defense spending. And the reason I raise this is—and I realize we have varying degrees of agreement and disagreement on the utility, the efficacy, and the soundness of seeking a national missile defense. And I am not trying to juxtapose them as a tradeoff.

I know my friend from Maine supports national missile defense. My friend from Wyoming, I do not know, but I suspect he supports a national missile defense program. Senator Lugar supports one. And I think he is waiting to see the detail of it, like I am. I am the least enthusiastic about it, depending on exactly what it is. I am not opposed to it. I voted for over $100 billion in my 30 years here for research on national missile defense.

But regardless of what position we all take, just to juxtapose this, in terms of an immediate threat to the United States of America in the near term, the idea that out of a close to $400 billion, $380 billion probably, counting, you know, maybe as high as $390 billion on what you count as defense related, that we are not prepared to spend, that we are not prepared to spend $2.5 billion to fully fund all these programs, I find close to mindless. I mean, I really do.

It is not like Senator Lugar and myself—and I do not want to put words in Senator Enzi's mouth, but Senator Enzi is obviously very concerned about this—are asking for there to be gigantic tradeoffs here. It is not like I am saying to the administration, "Look, if you fully fund this, you are not going to be able to maintain the end strength of the military. If you fully fund this, you are going to have to drastically cut back the conventional weapons program. If you fully fund this, you have to shelve national missile defense."

The idea of putting additional silos in Fort Greely, Alaska, in the near term versus doing this in the near term, I do not think are even remotely comparable in terms of our security.

And so I wonder, because you are an incredible—I mean, you and I have been personal friends for 30 years or, to be precise 28 years. You were elected in 1974.

Mr. COHEN. In 1972.

The CHAIRMAN. In 1972. I was—actually 30. I am wrong. I was right the first time.

One of the things I have found out about you is you have the ability, Bill, more than most with whom I have ever worked in or out of the government, to be able to get a sense of what is moving, what pieces are moving on the board here, in terms of national politics, international politics, the public opinion.

What do you think is the reluctance? Am I missing something here? Is there some underlying concern beyond fungibility that prevents us from doing what I think—if you had been on Mars the last 30 years, you got dropped back on Earth today, and they laid out to you the players on the globe and what the threats were, I mean, I cannot imagine anybody, whether they were a right wing conservative or a left wing pinko, whoever they were, saying, "Hey, wait a minute. $380 billion, $2.5 billion, deal with all these programs to fully fund"—why would you not do that? What is going on?

Mr. COHEN. OK. I——

The CHAIRMAN. And I realize I am asking you to be a political commentator here, but I know you too well and know how smart you are. What is your——

Mr. COHEN. Well, I do not want to assume the role of any kind of a national psychotherapy either, but——

The CHAIRMAN. No. I know that. But I would like you to just think out loudly.

Mr. COHEN. First of all, we have been dealing with a country—we are coming out of this post-cold-war world with them as well. There are still a lot of lingering doubts. For example, I think some who are not here today would say, "Is not Russia simply pleading poverty, when in fact they have much more resources available to

them than they are fessing up to?" That would be one sentiment that probably could be reflected on the part of some.

"Are they not just using Uncle Sam? Are they not taxing our people when, in fact, they should be cutting back on whatever else they are expending their resources for in developing either new ICBMs or counters to the national missile defense program or whatever it might be? Are they not just using us to fund those programs? Are they not just going to divert this money to other purposes? Are we not subsidizing a dying Russian military?"

Then the question would be, "Why do we not just let them sink into the primordial ooze of history?" That is a sentiment that runs at least in some segments of our society.

The answer to that, I think, is: They are not going to go away. They are not going to sink into history. They are brilliant people, who—if there is anything we have learned about them over the years, it is, when it comes to "their national security," they will sacrifice everything else in the process. So they are not going away.

They are going through a very difficult period of time now. And the question for us to answer is: Is it better for us in the long term to try to help them regain their economic status, to help evolve that particular country in a way that is consistent with our own ideals and our own democratic processes and our commitment to democratic capitalism, or is it better to let them sink as low as they can, feeding their own internal nationalism, their frenetic contempt for the United States, their fear, as I tried to outline?

If you are looking at it through a Russian eye to say, "We are looking at what the United States is doing, and they are getting pretty close. And they are building a national missile defense system. And they say it is not against us, but who knows what 5 or 10 or 15 years might be with the ability of the United States to have space-based systems to counter our ICBM program," et cetera.

You could make a case that there are elements inside of Russia today that see us as an enemy, a long-term enemy, as well as a short-term one, in which they need to rebuild their country to defeat that. What we have to do is to say: Is there a way that we can reach across this divide that we have had over much of the 20th century, and to find a way to help lift them up into a level of prosperity?

And with that prosperity comes the interest of preserving that and promoting it. And as long as we can continue to engage them in a constructive way, that has the chance of reducing the fears on the part of some in their society from spreading and becoming a majority opinion, turning inward and using their vast size, the 11 times zones that we have talked about, and using those natural resources with whatever assistance they can find from wherever they can find it, using those in ways that are disadvantageous to the United States.

So I come back to this point. We tend to go from oscillating between what Alan Greenspan might call geopolitical irrational exuberance in terms of what our relations should be to one that is manic depressive. And what we have to understand is that Russia will be a powerful country in the future. When that takes place remains to be seen. I have no doubt that it will take place. They will

regain, if not all of their power, then a good part of their power because of their intuitive capabilities, indigenous capabilities.

What we have to do to reduce tensions between us and to have a better relationship is to work with them. As I indicated to Senator Lugar and Senator Enzi, this is a program of preemption. This is a preemption program. We are preempting terrorists from getting those assets that they currently have. And it is in our interest to do that.

I think that the more discussion, whether you call it a national revival, Senator Lugar, whether we call more and more hearings to raise this level of concern to the American people, if we, once again, weigh what it will cost to take down Saddam Hussein's capability, just weigh that in these programs and say, "There is much greater chance that terrorists will get access to these materials in the former Soviet Union and we know will use them against us, causing untold billions of damage, as well as massive loss of life," then this is a small investment by any standard.

This is a mere—I hate to use the word "bagatelle" because it will be taken out by the Wall Street Journal as someone saying Cohen has lost his ability to calculate here. But it is a small amount of money compared to the amount of damage that will be done to us in terms of lives and in terms of our economic livelihood if we fail to do this.

Now the other argument is: There is no guarantee. There is no guarantee, if we do all of this, that that will present.

The CHAIRMAN. Absolutely.

Mr. COHEN. There may, in fact, be some loss of these revenues. There may be some diversion. But in terms of what the risk and the consequence is to failing to act in promoting this program, I think that anyone, anyone of common sense, would look at this as a pretty good investment. It is a pretty small downpayment in terms of ensuring our security compared to what the consequences are if we do not.

The CHAIRMAN. In the Maine tradition, you have been a great Senator and held a significant Cabinet post. This is my concluding question.

In the Baker-Cutler report, they made reference to a lack of coordination between U.S. nonproliferation programs as one key impediment to greater success. Senator Lugar and myself and others, we introduced with Senator Hagel the Nonproliferation Assistance Coordinating Act last year—I am not asking you to, since you have not seen the legislation, comment specifically—to provide greater coherence in existing U.S. efforts.

Drawing on your experience as the Secretary of Defense, can you give us a sense about whether we should have a coordinating body? I am just giving you the context in which I ask the question.

And if you want to comment, then please do, but a sense of the level of the coordination between the various departments and agencies on nonproliferation assistance that you experienced. I mean, you sat there, you know, at the top of the pyramid. Is there a need for greater coordination? I am sure there are other ways than what Senator Lugar and I have proposed. Or is it pretty well coordinated? Do you feel pretty confident about it?

Mr. COHEN. Well, I agree with what Senator Baker and Lloyd Cutler concluded in their analysis. There is not sufficient coordination amongst agencies. And I tried certainly with setting up the Cooperative Threat Reduction Agency and tried to consolidate. But there are still many gaps.

And I think any mechanism that can be devised to get greater coordination is going to make the program that much more efficient.

The CHAIRMAN. Thank you very much.

Senator ENZI. I have no more questions, Mr. Chairman. I thank the witness.

The CHAIRMAN. Mr. Secretary, I found those quotes I referenced. I am just going to read them.

One says: "Those who say that building a nuclear weapon is easy are very, very wrong. But those who say that building a crude nuclear device is hard, they are even more wrong."

The second quote is an alternative version that came from the American Physical Society meeting in Albuquerque. And it said, "Those that think it's easy to build a plutonium implosion bomb are very, very wrong. But those who say that it's hard to fashion a uranium gun bomb are even more wrong." And by the way, a uranium gun bomb could, if able to be done, could easily generate a one kiloton explosion. Nagasaki or Hiroshima was six kilotons, to put this in perspective.

Nobel prize winner Dr. Louise Alvarez did write to the effect that—and I will paraphrase the following sentence. I do not have the exact quote, but it is close to this. It says: Making an implosion bomb is one of the most difficult jobs in the world. But making a uranium gun bomb is one of the easiest. You could almost do it by dropping one piece of uranium on another.

Now that is a paraphrase. I want to make that clear.

The bottom line here is: It is hard, but it is far, far, far, far, far from impossible. And we know full well what has been attempted, what people are attempting to do.

Mr. COHEN. Just remember what——

The CHAIRMAN. Those two Pakistani scientists were not on vacation in Afghanistan.

Mr. COHEN. I was just going to say, just remember how dedicated bin Laden and his legions are. They are determined to destroy this country, to inflict as much damage as they possibly can. We have seen the consequences of just a small amount of anthrax going through the mail.

If you think about the hundreds of tons in existence and the creative ways in which that might be distributed and dispersed, you can see what could take place just with anthrax itself, not to mention what would happen if you had nuclear materials that could be constructed, either to have a nuclear explosion or a radiological explosion.

This is something that really cannot wait. Again, Nunn-Lugar and the Cooperative Threat Reduction Program is not the panacea for everything. It may not ultimately succeed in preventing our worst nightmares. But I think the absence of it will accelerate the future in ways that we will not want to see.

The CHAIRMAN. I cannot thank you enough, Mr. Secretary, for being here. And I know you will be available for us if we ask for more help. And we will be asking, I am sure, as time goes on. It is great to see you. And thank you for coming.

Mr. COHEN. Thank you.

The CHAIRMAN. We now have as our second and concluding panel two esteemed scientists. And I thank them for being here.

Dr. Siegfried Hecker is a senior fellow at Los Alamos National Laboratory. And Dr. Constantine Menges is a senior fellow at the Hudson Institute.

Dr. Hecker served as the Director of Los Alamos National Laboratory from 1985 to 1997 and participated in some of the initial lab-to-lab exchanges between the United States and Russia during the early 1990s. Last summer Dr. Hecker published an article on "An Integrated Strategy for Nuclear Cooperation with Russia" and offered a number of intriguing proposals. I hope that he will expand on some of those proposals and discuss them with us today and give us his sense of which ideas deserve our immediate attention.

Dr. Constantine Menges has previously served as a professor at George Washington University, where he directed the program on Transition to Democracy and initiated a project on U.S. Relations with Russia. He has also served on the National Security Council and as a national intelligence officer.

With that, I turn to Senator Lugar, if he would like to make any comment.

Senator LUGAR. I welcome the witnesses and look forward to your testimony.

The CHAIRMAN. And why do we not proceed in the order in which you were called? Doctor, if you would begin, I would be happy to hear what you have to say.

STATEMENT OF DR. SIEGFRIED S. HECKER, SENIOR FELLOW, LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NM

Dr. HECKER. Thank you, Mr. Chairman.

Senator Lugar, very nice to see you again.

As you said, Mr. Chairman, I have two statements for the record. And what I had planned to do was summarize them briefly. But because of the hour, I will try to summarize them even more briefly. But I do want to state at the outset, much as Secretary Cohen did, how much I personally appreciate the leadership that both of you have shown in this very, very important subject.

And I know, Senator Biden, that the March 6 hearing that you held on radiological terrorism, and I think what you also called basement nukes, really should be required reading for people on that subject. It was very, very educational.

And, of course, Senator Lugar is very well known not only in this country, for cooperative threat reduction, but the place where I travel a lot, which is in Russia, including in the closed cities.

In the extensive paper that I have offered for the record, I try to tackle the issue of solutions. You have very well outlined the problems. And the solutions are quite specific. As you saw, there are two tables. The tables are based on a methodology of looking

at the following. First, define what sort of relationship we want to have with Russia.

When I wrote this paper in August of 2001,[1] that was not clear. So I actually wrote it for three potential scenarios, one of not friend, not foe, which is, I think, where we were then, to potential ally. And I said the best we probably could get to was what I call the France model, which is an independent-minded ally. And the third was reemerging adversary.

I think that situation has been cleared up since last August because of the tragic events of 9/11 and also the decision made by President Putin to ally himself with the United States. So clearly, we should be looking in my tables at the ally scenario.

But then also, in looking at a hierarchy or risk, I thought it was important to set priorities because, as you have already indicated, the U.S. programs in this arena are not necessarily terribly well-structured and coordinated. And so I offer a hierarchy of nuclear risks from the very worst that could happen to things that are still important. And the bottom line is that I believe we need a comprehensive strategy to tackle the entire set of nuclear issues in Russia.

I also believe that there is no single silver bullet to solve this problem. I also believe strongly that what you had just indicated, Mr. Chairman, the importance of funding, that money is essential. In other words, it is necessary, but it is not a sufficient condition.

Today how we run these programs, how we actually work with the Russians is at least as important as how much money we put in these programs. And in fact, and I outline this in my written statement, we have lost our way from the early days of remarkable cooperation between the nuclear complexes of Russia and that of the United States to the last 4 or 5 years, during which that spirit of partnership has essentially drifted away.

And I personally believe that we will not make the progress that you have called for so far this morning without reestablishing a set of common objectives. After all, the materials that you talked about, the dangers that you talked about, these are Russia's responsibilities. They are their responsibilities; they cannot delegate those responsibilities. All we can do is help. We cannot dictate. We cannot buy our way into the Russian nuclear complex.

And so structuring how we run these programs is absolutely crucial to making progress. Nevertheless, the solutions that I outline, I think, are still as applicable today as when I wrote them. However, in the written statement I also update, let us say, the scenario of risks that I view today; that is, nuclear risks in the world after 9/11.

The single thing that really hits me is that today, as we look at the urgency of problems, there are nuclear risks outside of Russia that are actually more urgent today than those within Russia. Now as I also state, the risks and vulnerabilities within the Russian complex remain high because, although we have made much progress through the Nunn-Lugar program, through the lab-to-lab

[1] The paper referred to can be accessed at the following Web site: http://cns.miis.edu/pubs/npr/vol08/82/heck82.htm

programs, the fundamental problems have not been resolved in the 10-years that we have been working together.

But as we look today, the problems are also international. And I lay out—and actually, Senator Lugar, this was inspired by your effort and your speech in December, where you talked about broadening the solution to look at the international problem. There are three pieces to the strategy.

First and foremost, we should make sure that the nuclear weapons themselves are safe. And that means in the five nuclear powers, as well as in India, Pakistan, and Israel, for example. That we must develop rigorous what we call MPC&A—and that is the Materials Protection Control and Accounting programs—not only in Russia, but wherever those materials might be. I mean weapons-useable materials. That means materials that are originated in either the defense programs of a country or those that are part of the civilian programs.

And particularly the ones I am concerned about today are materials associated with research reactors around the world. As a result of President Eisenhower's initiative for Atoms for Peace in 1953, these were distributed around the world. And of course, the International Atomic Energy Agency has responsibility.

But as we look at the security of those materials today, especially in light of the concerns that you mention about gun-type weapons, that means highly enriched uranium, and that is what is in many of these research reactors, that needs reconsideration today.

The commercial nuclear power situation is one where today I feel quite comfortable that we have adequate safeguards. But many people believe that the way to the future in energy is more nuclear power. And even if we do not believe it ourselves, let me tell you, the Russians do. There is hardly a day that passes that you do not read in the newspaper of yet another deal of Russia with some country to build a commercial nuclear power station. So if there is an expansion of commercial nuclear power, we must also be certain that those materials are guarded.

And then the third piece to the overall integrated international strategy is the one that you adequately covered in the March 6 hearing. This is not new, but it has really been brought to our attention since 9/11. And that is the threat of radiological terrorism. And that is not just weapons-useable material to make a bomb, but to scatter radioactive materials either through some sort of a dirty bomb or radiological dispersal device.

The CHAIRMAN. If I could interrupt you just for a second. I am not—I have no personal knowledge of this, just reporting on a report, though, on Sunday in the Washington Post. According to—I mean, today. Was it the Post—in the Post today that Abu Zubaida, the highest al-Qaeda operative allegedly, told U.S. interrogators on Sunday that al-Qaeda was working on a dirty bomb radiological weapon and that they "know how to do it."

Dr. HECKER. Let me just—I can summarize to some extent the bottom line of your hearing on March 6. And that is that a dirty bomb is not a weapon of mass destruction. It is a weapon of mass disruption. And there are things that can be done to avoid that disruption, because it comes from fear and panic. There are lots of things that can be done.

There are also, then, things that can be done in terms of getting rid of or controlling these materials worldwide. And I believe that should be part of an international program now that we have had the events of 9/11.

So that is what I have laid out in my statements. I just wanted to briefly reiterate those points. And, of course, I will be happy to answer any questions that you may have.

The CHAIRMAN. Thank you very much.

[The prepared statement of Dr. Hecker follows:]

PREPARED STATEMENT OF DR. SIEGFRIED S. HECKER, SENIOR FELLOW, LOS ALAMOS NATIONAL LABORATORY

Mr. Chairman, I am honored to share my views about what can be done to increase our nonproliferation efforts in the Former Soviet Union. Many of the questions raised in your letter of invitation are covered in detail in my Summer 2001 Nonproliferation Review article on nuclear cooperation with Russia. With your permission, I would like to enter it into the record. In my written statement, that I would also like to enter into the record, I address how the nonproliferation risks have changed since September 11. I will summarize my statement this morning. Specifically, I want to make three points.

First, the risks and vulnerabilities in the Russian nuclear complex remain high. Fortunately, in the ten years that have passed since the dissolution of the Soviet Union, nothing really terrible has happened in the Russian nuclear complex. Most of the credit must go to the Russians, although initial progress made by cooperative programs sponsored by the United States had a significant positive impact. However, many opportunities were missed to build a lasting partnership and to tackle the root causes of the problem.

Second, following the tragic events of 9/11 and President Putin's decision to ally Russia with the West, we should ask Russia to join with us in a new cooperative effort to reduce the threat of terrorism and proliferation of weapons of mass destruction by improving nuclear security worldwide, and to redouble her own efforts to improve nuclear security within Russia. Today, the nuclear security challenge outside Russia is even more urgent than that within Russia itself. The events of 9/11 and the recent violence in the Middle East have heightened our concerns about nuclear security in South Asia, Central Asia, and the Middle East.

Third, to keep nuclear weapons, their constituent materials, and other dangerous radioactive materials out of the wrong hands worldwide, we should mount an intense, comprehensive international nuclear security initiative with three thrusts: 1) Ensure rigorous security and control of nuclear weapons in each of the five nuclear weapons states, as well as in India, Pakistan, and Israel; 2) Develop and enforce rigorous protection, control, and accounting for all weapons-usable nuclear materials whether designated for peaceful or defense purposes, and 3) Address the threat of radiological terrorism by developing effective security, control, and disposition measures for radioactive materials. Improving security at nuclear facilities to protect against sabotage is an important part of this third thrust.

I. 1991–2002: IMPORTANT PROGRESS, BUT ALSO AN OPPORTUNITY LOST.

The attempted coup in August 1991, and the attendant uncertainties about the control of the Soviet nuclear arsenal, underscored a vital concern: how Russia manages and protects her nuclear assets will affect our security and potentially threaten our people and assets around the world. In the years that followed, the threat of "loose nukes" and the "clear and present danger" posed by Russia's large and poorly secured stock of weapons-usable materials—plutonium and highly enriched uranium (HEU)—emerged as vital national security issues for the United States whose solution required cooperation with Russia.

I had the opportunity to witness the new environment in February 1992 as one of the first Americans to visit the Russian nuclear weapons complex. This visit occurred only two months after the dissolution of the Soviet Union. I was struck by how the Soviet Union's strength—an enormous nuclear weapons complex, huge number of weapons and weapons-usable materials—had suddenly turned into a liability because Russia could no longer afford them or secure them adequately. In spite of popular reports to the contrary, Russian nuclear weapons appeared to be adequately protected, at least as long as the military organizations responsible for security maintained the high level of discipline that had distinguished them for many years.

The security of nuclear materials, however, was of great concern as Russia made a wrenching transition from a centrally controlled police state to a more open, democratic form of government. During Soviet times, the nuclear complex had an admirable record of nuclear security. Now, however, the upheaval of political, economic, and social structures in Russia created unacceptable nuclear security vulnerabilities in Russia and for the rest of the world. A much more rigorous nuclear safeguards system in which modern technology and practices are combined with personnel and physical security was urgently needed to replace Soviet guns, guards, and gulags.

As we now look back over the last decade, the good news is that nothing really terrible happened in the Russian nuclear complex in spite of the enormous hardship endured by the Russian people. The early years were marked by surprising cooperation between our governments in the nuclear area, through unilateral actions on both sides (most notably, the presidential initiatives in the fall of 1991) and through the initial implementation of the Nunn-Lugar Cooperative Threat Reduction (CTR) program. By the end of 1996, the CTR program helped the newly independent states of Ukraine, Kazakhstan, and Belarus return to Russia the nuclear weapons inherited from the Soviet Union. Much of the strategic missile and nuclear weapons infrastructure in these states was destroyed. Technical assistance was rendered to Russia to protect nuclear weapons in transit. Some vulnerable nuclear materials in Kazakhstan were removed to safety in the United States. Construction of a large modern, safe storage facility for excess Russian fissile materials was begun. And, a landmark agreement led to the conversion of weapons-grade uranium to low enriched uranium (LEU) reactor fuel sold to the U.S. nuclear power market (the so-called HEU/LEU deal).

In parallel, the informal scientific network (lab-to-lab cooperation) established between U.S. and Russian nuclear scientists during our first visit to Russia ten years ago began to tackle problems such as nuclear materials safeguards that were stalled or moving very slowly in formal governmental diplomatic channels. In June 1994, with the strong encouragement of then Under Secretary Charles Curtis, I signed the first contracts for cooperative nuclear materials protection, control, and accounting (MPC&A) with Russian defense and civilian nuclear institutes on behalf of the Department of Energy. In addition to strong backing from Mr. Curtis and others the Executive Branch, a bipartisan coalition in Congress, led by Senator Pete Domenici, provided both political and financial support for the lab-to-lab MPC&A activities. With their support and the remarkable spirit of cooperation based on mutual respect and shared objectives between the U.S. and Russian laboratories, we were able to break the logjam and rapidly accelerate improvements in nuclear safeguards in Russia. Senator Domenici's leadership in building support for the lab-to-lab program also extended into many related threat reduction programs and was instrumental, along with that of Senators Nunn and Lugar, in establishing the comprehensive and wide-ranging cooperative threat reduction programs that have accomplished so much over the last decade.

However, most of the credit for avoiding disaster in the Russian nuclear complex must go to the Russians—most importantly to the loyalty and patriotism of the Russian nuclear workers. Their discipline under conditions of personal hardship was remarkable. We must also credit the leadership of the nuclear complex during and right after the transition, specifically former Minister of Atomic Energy, Viktor N. Mikhailov, and First Deputy Minister, Lev D. Ryabev, as well as the directors of the nuclear institutes and enterprises. Their actions early in the transition managed against difficult odds to sustain the complex through those turbulent times and prevented it from fragmenting into even more dangerous and desperate entities. Also, although their decision to keep the most sensitive defense facilities and towns (so-called nuclear cities) closed undoubtedly had several distinct motivations, in retrospect, it was the right decision from the standpoint of nuclear security. Although this restrictive approach hampered much-needed business development, defense conversion, and downsizing efforts in these cities, it helped protect nuclear materials and nuclear secrets. Civilian nuclear facilities and some defense sites located in open cities generally experienced a more abrupt and difficult transition. In fact, these facilities along with the Russian Navy posed by far the greatest immediate proliferation risk. Several confirmed thefts of nuclear materials, albeit of small quantities, in the early 1990s highlighted the vulnerability of the Russian nuclear complex.

Much of the initial success in the MPC&A program must be credited to the partnership approach between the Department of Energy laboratories and the Russian facilities and to the remarkable access the laboratories had to Russian nuclear facilities. I believe that only a self-declared "hawk" such as Minister V.N. Mikhailov was capable of providing the requisite political cover and he had the clout with Russian security services to enable this progress. In fact, he opened the door for the

first American visits to the Russian nuclear weapons laboratories shortly after he led the Russian scientific delegation to the 1988 Joint Verification Experiments and the subsequent nuclear testing talks at Geneva. During the ramp-up of the MPC&A program in the mid-1990s, the U.S. side was able to make a convincing case to the Russians that the program was in their interest. In spite of the fact that Russian security services took control of the program, progress was rapid because of the strong partnership between U.S. and Russian institutes and the fact that the Russian institutes acted as the intermediaries to some of the key sensitive sites in the Russian complex. For example, the Kurchatov Institute was the lead laboratory for the Russian Navy to help it address some of the most urgent nuclear materials vulnerabilities.

The bad news is that the problems in the Russian nuclear complex were much greater and more pervasive than either Russians or Americans realized ten years ago. The Russian nuclear complex in 1992 was vastly oversized and overstaffed for post-Cold War defense requirements, and had been in difficult economic straits for years. Yet, unlike in the United States, dramatic downsizing of the Russian complex was believed too risky by its government. Such downsizing was painful in the United States, but was ameliorated by significant increases in federal environmental budgets at DOE nuclear sites, an innovative community and worker transition program, and by a healthy U.S. economy. In Russia, on the other hand, the closed cities were embedded in a country with a bankrupt federal government whose governing institutions were collapsing. Laying off workers in the closed cities risked serious social unrest. Opening up the cities for business development posed a major proliferation risk. Consequently, the Russian government chose to proceed with a slow but deliberate conversion-in-place program. Such an effort would have been difficult under conditions of a healthy economy and was extraordinarily difficult for these isolated cities in a chaotic national economy. U.S. programs designed to help the Russian nuclear complex conversion received inadequate support from Congress. Moreover, some of the initial efforts were misguided and elicited strong negative reactions from the Russian side. Some of the problems been rectified during the past year and substantial progress is now being made in some of the programs that experienced difficulties earlier.

Today, serious concerns about security of weapons-usable materials in Russia and the other states of the former Soviet Union remain because progress slowed dramatically in the second half of the 1990s as mistrust replaced cooperation. What went wrong? Why did we miss the chance to help Russia further improve nuclear security in its complex and put our relationship with Russia on firmer ground? I believe that some of our leaders were slow to recognize that we truly were threatened more by Russia's weakness than her strength. Consequently, instead of developing and maintaining an integrated strategy based on such an overriding guiding principle, the executive agencies and Congress independently developed their own projects resulting in a patchwork quilt of programs. Although each may have been useful and justified on its own terms, overall strategic direction was missing and little effective coordination existed, either with Russia or within the U.S. interagency community. Some programs pushed by the U.S. side ran counter to Russia's national security interests or energy strategy, forcing Russia to choose between her national interest and receiving much-needed financial assistance. Moreover, the overall political relationship between our countries was severely strained by NATO expansion, the bombing of Serbia, national missile defense, and disagreements over Iran, Iraq, and Chechnya.

Concurrently, partially to placate a skeptical Congress, executive agencies dramatically changed the execution of key nuclear materials security programs with Russia. They began to take a confrontational line with Russian counterparts, replacing partnership with a unilateral, bureaucratic approach that insisted on intrusive and unnecessary physical access to sensitive Russian facilities in exchange for U.S. financial support. During a trip this March, I was told by one of my Russian colleagues: "*The nuclear materials arena is very sensitive for the Russians. Despite this sensitivity, the American side constantly tried to get access everywhere and to obtain sensitive information. This must have been motivated by various reasons (implying that Russia suspected an intelligence motivation). This American desire for extensive information and access backfired. It caused the strengthening of the security services—back to their previous role and prominence.*" I believe that the Russian bureaucracy and security services made a strong comeback on their own for other reasons, but the change in tactics on the U.S. side made matters worse and accelerated the trend. Furthermore, it eroded the spirit of partnership and nearly depleted the bank account of trust and good will. Consequently, progress in nuclear materials protection in key Russian nuclear defense facilities has slowed substantially in recent years. The jury is still out whether or not the recently signed access agree-

ments will put us back on a more productive path, but we hope they will be a springboard for repairing the damage of the last few years and returning to a pattern of genuine cooperation. Thanks to congressional action, the current funding for the MPC&A program is plentiful. However, we must not make the mistake of trying to buy our way into the Russian facilities. Instead, we must re-examine our common objectives, re-establish the spirit of partnership, and together tackle the remaining challenges in the Russian nuclear complex.

During the past five years, several other cooperative threat reduction programs ran into similar difficulties as U.S. and Russian objectives progressively diverged. The HEU/LEU purchase deal, which initially provided the Russian complex much of the funds for conversion of its facilities, has been on the ropes periodically for several years. The plutonium production reactor conversion project was ill conceived from the outset and had to be overhauled several times. Progress on implementing the plutonium disposition agreement in a timely manner remains elusive. And the proposed moratorium on civilian fuel processing never got off the ground. Meanwhile, the financially desperate nuclear ministry aggressively marketed its civilian nuclear technologies around the world, including to potential proliferant states such as Iran. Russian nuclear cooperation with Iran has greatly alarmed the U.S. government and seriously hampered many of the U.S.-Russian cooperative programs. Concurrently, the partial recovery of the Russian economy based mostly on the global rise of energy prices and the August 1998 devaluation of the ruble changed the economic situation in the nuclear complex for the better, giving Russia greater independence from U.S. financial support.

So, as we look back over the past decade, much has been done to help Russia deal with the clear and present danger resulting from the turmoil in its nuclear complex following the breakup of the Soviet Union. And although Russia avoided the worst during this difficult transition, the United States lost a promising opportunity to help shape the future direction of Russia's nuclear enterprise and together with Russia to build a new era of global security. Neither side focused on the historic opportunity to jointly reduce the nuclear dangers. Before 9/11 the window of opportunity appeared to be closing, both because Russia did not need our money as desperately as before and because the security services were once again closing up the complex.

II. POST 9/11: ANOTHER CHANCE TO BUILD A PARTNERSHIP

The tragic events of 9/11 combined with President Putin's decision to ally Russia with the West in the struggle against terrorism provide another chance to build a partnership. The terrorist attacks crossed the threshold of inflicting mass casualties and underscored our vulnerability to the nexus of terrorism and mass destruction. Therefore the statement made by Presidents Bush and Putin at their Crawford Ranch meeting last November—*"Our highest priority is to keep terrorists from acquiring weapons of mass destruction"*—should form the basis of a new partnership against the threat of terrorism and proliferation of weapons of mass destruction. Because of the events of 9/11, this threat is now more urgent than that posed by the Russian nuclear complex. We should now challenge Russia to work with us side by side to tackle the most urgent international nuclear dangers. We should re-examine the highly debatable proposition that Russia is the world's greatest proliferation threat, and we should place the Russian threat, important as it is, in its proper perspective among the full spectrum of threats. Although significant differences are bound to remain in U.S. and Russian security objectives, we have much more to gain than to lose by cooperation, especially in the nuclear arena.

The events of 9/11 call for a greater sense of urgency in dealing with international nuclear security matters. For example, the fragile nature of Pakistan's government and that divided nation's strong anti-Western sentiments heighten our concerns about the security of its nuclear weapons and materials. This situation is exacerbated by the tense situation in Kashmir, and has the potential of a spillover to India and its nuclear arsenal. The renewed violence in the Middle East highlights longstanding concerns about the potential, sooner or later, for nuclear conflict in that region. It is especially important to thwart the nuclear ambitions of Iraq and fran. The war in Afghanistan highlights the need to keep nuclear weapons and materials out of Central Asia. Fortunately, the Nunn-Lugar program facilitated the return of nuclear weapons from Kazakhstan to Russia, but dangerous weapons-usable nuclear materials remain in Kazakhstan. A renewed joint U.S. and Russian commitment to nonproliferation and export controls may also help to hold in check North Korea's nuclear ambitions and prevent other states or groups from obtaining nuclear weapons. The United States and Russia can play separate but supportive roles to effectively and quickly help enhance nuclear security around the world.

To deal with the likelihood that some weapons-usable materials are already in dangerous hands, the United States and Russia should now prepare to respond jointly to potential nuclear terrorist incidents or threats. Such preparations may include sting operations against suspected targets to recover missing materials and joint emergency response exercises spanning the gamut from disabling nuclear devices to mitigating the consequences in case of nuclear attacks. The well-intended "Atoms for Peace" program promoted nuclear research reactors in countries of the world that now do not have the financial means or political stability to maintain and protect them. Together we should accelerate work with the International Atomic Energy Agency (IAEA) to expedite the conversion of weapons-grade fuels at all reactors and the removal of reactors from countries that are judged willing or can be persuaded to give them up.

The events of 9/11 have also brought our vulnerability to radiological terrorism into starker focus—dispersing nuclear materials (without a nuclear explosion) or sabotaging a nuclear facility. Although the consequences of a radiological act are dramatically less than a nuclear detonation, the likelihood of such an event is also much greater because of the relative ease of obtaining suitable materials—which include nuclear waste, spent fuel, and industrial and medical radiation sources. Together, our countries should lead efforts to counter radiological terrorism.

Although international vulnerabilities represent the most urgent nuclear concerns today, many of the vulnerabilities in the Russian nuclear complex resulting from the dissolution of the Soviet Union and the subsequent economic hardship remain. Therefore, it is imperative that Russia redouble her efforts to safeguard her own nuclear materials. This responsibility is an inherently governmental function of the Russian Federation. It cannot be delegated; it cannot be compromised. The United States can only offer to help, we cannot dictate; we cannot demand. We must rebuild the spirit of partnership that characterized initial cooperation. The threat of international terrorism offers another chance to rebuild this partnership because the United States and Russia have common objectives to counter this threat and both bring substantial skills to the table. Also, the activities under the new partnership should be viewed as less threatening by Russia or accusatory toward Russia and should allow us to restore good will and trust.

Such a partnership should allow the United States to restructure nuclear cooperation with Russia, putting in practice the belief that we are threatened more by Russia's weakness than her strength. We should first focus our efforts to help Russia downsize its complex and to become self sufficient in all aspects of safety and security of its complex—its nuclear weapons, its nuclear materials, and its nuclear experts. This effort should be considered a transitional phase with the objective of helping the Russian Federation develop its own modern, indigenous MPC&A system. We should not impede progress by insisting on unnecessarily intrusive physical access to sensitive Russian facilities. Instead, our support should be focused on helping the Russian Federation develop and implement its own system, while ensuring ourselves that U.S. money is spent properly and effectively.

Beyond this transitional phase, we should strive to develop an equal partnership—one without money changing hands—to jointly lead international efforts to fight terrorism and prevent the proliferation of weapons of mass destruction. Such a partnership should include a commitment to reduce all nuclear dangers worldwide while promoting the beneficial contributions of nuclear technologies. In fact, the 5Oth anniversary of President Eisenhower's "Atoms for Peace" initiative in December 2003 provides an opportune occasion to announce a truly new vision and new partnership that reflect the dramatically different political environment of today.

III. AN OUTLINE OF A U.S.-RUSSIAN PARTNERSHIP TO FIGHT NUCLEAR TERRORISM AND PROLIFERATION

To meet the urgent concerns highlighted by the events of 9/11, we should begin immediately to build a partnership on the foundations of the Nunn-Lugar-Domenici legislation and the lab-to-lab cooperation. I briefly outline the three components of a joint U.S.-Russian initiative to fight nuclear terrorism and proliferation.

1. Rigorous security for nuclear weapons

The events of 9/11 prompted a reexamination of the security controls for nuclear weapons by each of the five nuclear weapon states. We can assume that the same occurred in India, Pakistan, and Israel. Concerns over the security of nuclear weapons and nuclear materials in these countries have been increased dramatically by the war in Afghanistan and the resulting tensions in Pakistan, the ethnic unrest and terrorist activities in India and Pakistan, and the escalating violence in the Middle East. The United States should do everything in its power to work with all

of these states to prevent the loss of control of nuclear weapons and its devastating consequences.

The five nuclear weapon states could share the lessons learned from their own reexaminations of nuclear weapons security. They could share ideas and information on recommended practices and standards for nuclear weapons security. They should take additional steps if necessary to demonstrate to the world, without divulging sensitive details, that their weapons are secure. Such cooperation falls within the bounds of historical relations of the United States, Great Britain and France, and to a lesser extent Russia. During the Cold War, there was virtually no interaction with the Soviet Union on matters of nuclear weapons security, but in recent years a substantial cooperative effort has been mounted with Russia under the Nunn-Lugar program. Some preliminary work has also been started on safety and transparency. Although delicate, these efforts should all be accelerated and expanded. Cooperation and transparency should be explored, including revisiting the possibility of an agreement for cooperation that would permit limited sharing of certain kinds of classified information under carefully established rules and procedures.

Any dialog with China on nuclear weapons security would require delicate diplomacy. China adopted the old Soviet model of security, which is effective only in a tightly controlled, closed society—a model that may not work in the China of tomorrow. The initial U.S. contacts in the mid-1990s that focused on security of civilian nuclear materials were suspended late in the decade as result of the furor over potential Chinese nuclear espionage. Now, however, heightened concerns over nuclear security call for a re-evaluation of limited, focused dialog with China on nuclear security. Exchanges focusing on the security of civilian nuclear materials could be revisited before attempting to deal with defense materials or the security of nuclear weapons themselves. Such exploration must, of course, be done within the context of the larger U.S.-China security relationship.

The most striking and urgent nuclear security concern today is the security of nuclear weapons and materials in Pakistan, coupled with closely related concerns in India. The U.S. government has opened a limited dialog with both countries on these matters. For many years, any sort of cooperation with, or assistance to, the nuclear programs of Pakistan and India was out of the question, because of nonproliferation imperatives. Now, a reassessment is unavoidable. Clearly, it is in the interest of the international community that India and Pakistan implement rigorous nuclear safeguards in their nuclear weapons programs. But there is a fine line between helping them avoid disaster and tacitly appearing to approve their nuclear weapons status and programs, in effect undermining the nonproliferation regime. The U.S. government must re-examine where to draw that line. At a minimum, we must do what we can to make sure India and Pakistan each devote adequate attention to the issue and that they take a sufficiently broad, systematic approach to matters of nuclear security (both for weapons and for materials). Given that, they can probably do the job themselves. Similar dialog is necessary with all countries where this threat exists.

2. Rigorous protection, control, and accounting for all weapons-usable nuclear materials whether designated for peaceful purposes or for defense programs

To be successful in this endeavor, we must first and foremost finish the job we started with the Russian nuclear establishment to help it protect its vast storehouse of nuclear materials. I described above how these programs should be restructured to help Russia build and implement a modern, indigenous MPC&A program. One of the key components of getting the job done is the consolidation of the number of sites—addressing hundreds of tons of material, not just the few tons being addressed in the existing material consolidation and conversion effort—and a continued reduction of the total amount of material (through programs such as the HEU/LEU purchase and disposition of excess weapons plutonium).

Second, we have unfinished business in the other states of the former Soviet Union. As mentioned, the Nunn-Lugar program helped to return Soviet nuclear weapons from the newly independent states of Kazakhstan, Ukraine, and Belarus. However, weapons-usable materials remain, most of which are no longer needed for their original purpose. So, now we must tackle the more difficult job of converting or removing all unneeded weapons-usable materials from these and all other newly independent states. Until that can be accomplished, all materials must be protected by a rigorous nuclear safeguards system.

Focusing on weapons-designated materials is not sufficient. Weapons-usable uranium and plutonium are also fuel and/or byproducts of the civilian nuclear fuel cycle. Although most current commercial power reactors in the world use uranium enriched only to 3 to 4% uranium-235 (the weapons-usable isotope), they produce plutonium that can be (and in some countries is) separated from the spent fuel.

Moreover, smaller reactors such as those used for research are often fueled with uranium enriched to more than 20% uranium-235 (the IAEA threshold for weapons-usable uranium). Commercial power reactors today enjoy a very good record of nuclear materials safeguards. This problem will become more challenging as more reactors are built around the world, especially in some less stable nations. The IAEA plays an important international role here. With sufficient vigilance this problem can be adequately addressed even in a future with increased nuclear power.

The situation with research reactors (and other nuclear research facilities) is more problematic. The "Atoms for Peace" program encouraged the export of research reactors to all parts of the globe. In retrospect, reactors, often fueled with HEU, were in some cases located in politically unstable, technologically unprepared, and economically disadvantaged countries (currently 43 countries, including Uzbekistan, Ghana, and Algeria, for example). The IAEA and the U.S. government have encouraged the conversion of research reactors from HEU to LEU (an agreement was recently reached with Uzbekistan, for example). However, the current effort is insufficient in light of the concerns raised by the events of 9/11. A large number of these reactors (many of which are no longer operable) should be shut down, decommissioned and the nuclear materials withdrawn completely. A significant number of reactors or nuclear research facilities are located in the states of the former Soviet bloc; states that can no longer afford them or adequately provide for their security. Solutions to these problems are urgently needed and will require an expensive effort and difficult choices. Among the major challenges is dealing with the spent fuel and radioactive waste. Solving these problems will require strong leadership from the United States, Russia and other reactor-exporting countries working closely with the IAEA.

The IAEA should have a major role in the effort to enhance the security of nuclear materials in civilian applications worldwide. The Nuclear Threat Initiative has pointed the way, through its monetary contribution announced in Vienna in October 2001. The U.S. government pledged a matching contribution in November when Energy Secretary Abraham addressed the IAEA Board of Governors, and other countries have followed suit. But a great deal of heavy lifting will be necessary to translate these initial steps into a meaningful action-oriented program on the worldwide scale that is needed. Congress will need to take strong action. And the Executive Branch must follow through with major bilateral and multilateral efforts to enlist the strong support of other countries. In parallel, the United States and Russia could lead a campaign to down-blend all of the world's HEU not required for legitimate purposes to less than 20%, thereby eliminating its proliferation danger. There is much less need for HEU today than was envisaged in the early days of nuclear power.

3. Expand security measures to radioactive materials for radiological terrorism

Radiological dispersal devices (often referred to as "dirty" bombs) that spread radioactive materials without a nuclear detonation are weapons of mass disruption rather than weapons of mass destruction. The disruption resulting from the 9/11 attacks had a devastating ripple effect, both economically and psychologically, across the entire nation. Had the attack also involved the dispersal of dangerous amounts of radioactive material in a populated area, the resulting disruption would have been significantly greater. We must improve our efforts to avoid and respond to radiological terrorism.

The source materials for radiological terrorism are highly diverse and relatively accessible, much more accessible than weapons-usable nuclear materials. Materials for radiological devices include all radioactive materials of the nuclear fuel cycle (both civilian and military) as well as radiation sources used in medical and industrial applications. They vary enormously in their radiotoxicity and their lethality. Moreover, radioactive materials from the nuclear fuel cycle (including fresh fuel, spent fuel, and nuclear waste) are present in dozens of nations, and radiation sources are present in most nations of the world. If and when Al Qaida or other terrorist organizations decide to use radiological weapons, there is little doubt—under current conditions—that they will be able to obtain them. In addition, sabotage of nuclear reactors or other fuel-cycle facilities poses a serious potential threat.

Securing radioactive materials that constitute a radiological threat presents an enormous challenge. Even in the United States, where extensive government regulations control the handling and transportation of radioactive materials, the security of such materials, in light of new, post 9/11 concerns, needs more attention. For example, as of 2001, close to 5,000 orphaned radiation sources (sources without a current owner) were identified in the United States. Prior to 9/11, the orphan source problem was recognized and the steps and the resources required to solve the prob-

lem were well understood, but there was no sense of urgency. Post 9/11, there is little excuse for delay.

Annually, more than 200 radiation sources are reported stolen, lost, or unaccounted for in the United States alone. Internationally, 110 countries do not even have adequate regulations controlling such materials. We must challenge our experts now to devise a way to deal with this problem internationally. We should explore establishing an aggressive international orphan source program. In some countries or for new problems, we may want to focus on information exchange and sharing best practices and standards. Also, we must strengthen our capability to respond to acts of radiological terrorism, if and when they occur. Effective response can greatly reduce the harm from a radiological event. One of the most important aspects of homeland security against radiological threats will be to inform the public concerning the real hazards before an incident occurs. If one can clearly communicate the fact that radiological weapons are not weapons of mass destruction, then we may be able to avoid mass disruption.

A high priority radiological security initiative should include both a domestic and an international component. The domestic part would necessarily involve the various agencies with responsibilities and expertise in this area, under the coordination of Governor Ridge's office. The international component should build on the capabilities and experience of the IAEA, which has already assembled the basic building blocks of a comprehensive international program. However, Congress and the Executive Branch must act aggressively, through bilateral as well as multilateral channels, to enlist strong international support and commitment.

Mr. Chairman, I want to close my remarks by restating my three main themes. 1) We are fortunate that a major disaster in the Russian nuclear complex has been avoided in the 10 years since the dissolution of the Soviet Union. However, risk and vulnerability of the Russian nuclear complex remains high because we lost a grand opportunity to help Russia build its own, sustainable nuclear safeguards system and to develop a partnership for greater global security. 2) Post 9/11, we have another opportunity to rebuild the partnership by focusing on the fight against international terrorism and proliferation of weapons of mass destruction. 3) I briefly outlined the three elements of a program to meet the urgent concerns of today and I described the opportunity that we have to build a better, more strategic partnership with Russia in the spirit of revisiting the "Atoms for Peace" initiative at its 50th anniversary next year.

Thank you Mr. Chairman for giving me the opportunity to share my views on these important issues.

The CHAIRMAN. Dr. Menges, welcome.

STATEMENT OF DR. CONSTANTINE C. MENGES, SENIOR FELLOW, THE HUDSON INSTITUTE, WASHINGTON, DC

Dr. MENGES. Senator Biden, it is a pleasure to be with you and you, Senator Lugar.

I have been working on the Soviet Union and issues of Soviet and Russian foreign policy for more than 35 years. And I am pleased to have had the opportunity to serve my government three times. And I commend the enormous leadership you both have shown in this whole matter, this important matter of the control of weapons of mass destruction that are on Russian territory. And I think the Cooperative Threat Reduction Program has been one of the most important initiatives, one of the most farsighted that the Senate has launched. And I think it has been extremely—and I support it completely.

My focus in the testimony that I prepared for you, and I summarize briefly in my overview of what we should do, but my focus has been not on the question of weapons of mass destruction on Russian territory, but on Russia's transfer of weapons of mass destruction, components, and expertise on ballistic missiles, to regimes the United States of America correctly considers hostile.

And I have a very, I think, nicely summarized, one-page chart[2] in my testimony of North Korea, Iran, and Iraq, and the transfer of weapons of mass destruction materials, chemical, biological, nuclear ballistic missiles by China and Russia—our report dealt with both China and Russia—derived entirely, may I say, from the U.S. Government sources, from U.S. Government intelligence reports that are declassified, that themselves are the result in my view of a farsighted and sensible congressional view to have the intelligence community of the United States report on this regularly on a biannual basis.

So I will begin with a brief statement on what Russia is doing and has continued to do year after year after year. I think it is important to focus on that.

Russia has continued to provide for North Korea significant assistance with its chemical and biological weapons of which it has large stocks capable of killing hundreds of thousands that it has integrated into its combat doctrine for use against our ally, South Korea. Russia has also provided significant help with North Korea's ballistic missile program.

And North Korea in turn, as you know, has provided significant help, as the Rumsfeld Commission documented, to many other hostile terrorist-supporting states in other countries with their missiles and other programs.

In the case of Iran, which the Department of State calls the most active supporter of state terrorism in the world as a regime, in its annual report, Russia has provided significant help with its development of chemical and biological weapons, of which it now has large stocks, as well as with its help for nuclear weapons.

And this continued after September 11, 2001, regrettably, as we saw when Secretary of State Powell visited in November 2001 in Moscow. He brought the issue up, and once again, as has happened year after year since 1995, the Russian Government turned aside the concerns of the United States about Iran's development of nuclear weapons.

Russia has also provided major help with the development of Iran's ballistic missile capabilities, the medium-range and the long-range ballistic missile, the 9,200-mile range missile, the 9,200-mile range missile, which can reach us directly, which, of course, is a variation of the North Korean 9,200-mile missile.

Finally, Russia has provided major help to Iraq in its development of large stocks of chemical weapons, biological weapons, unknown in the matter of its nuclear weapons from the intelligence community point of view, and help with its ballistic missile program.

Now I take those three countries because they are three of the terrorist-supporting regimes that are significant and important and I think pose a direct threat to us. And I would say that I would simply like to place on your agenda of concern, the agenda of concern of the U.S. Government and our public policy, that while it is very important to help Russia control weapons of mass destruction on its territory, it is, I would say, of equal importance to reduce the spread of these weapons and the transfer to regimes that are hos-

[2] The chart referred to is on page 54.

tile and that we know intend to do the people of the United States harm.

We know that those regimes intend to harm us. We also know that they are intending to harm our close allies, South Korea, Israel, regional allies. And, of course, I think it is important to point out they also pose a direct threat to Russia and to Russia territory. And this is where I come to the question, "Well, what do we do? What should we do in terms of public policy?"

I offer in the concluding two pages of my testimony an overview in broad terms of what we should do and then eight specific steps. Let me categorize the broad terms.

First, I begin with information. And here, Senator Lugar, I think again you are absolutely right. We have to dramatize for our citizens, for our public—you both are correct—the threat that these weapons pose, both on Russian territory and the threat that they pose when transferred to these hostile regimes. We have to make this much more a matter of discussion and concern. I think that is the first thing we have to do.

I think, second, we have to control the spread of U.S. technology. That is, we have to be more effective in terms of our programs to maintain and guarantee the security of our own military and dual-use technology under U.S. law.

Third, I believe we need to reestablish effective export controls. I think it was a mistake to dismantle the COCOM system that had worked so well for many years and denying a dual-use and advanced military technology to potentially hostile powers, or to proliferating powers. And I think we have to reestablish that, and I offer some particular examples.

Fourth, I think it is very important to move beyond words with Russia. And here I want to—I began my testimony in the written form with the perspective on our approach to Russia since the unraveling of communism, which I think has been exactly correct. I think there has been bipartisan consensus since 1991 and 1992, led by you both, if I may say, that we want to see and help Russia to develop as a pluralist political democracy, a market-oriented economic system, and to control these weapons. Those have been our three fundamental purposes. They have been good purposes and correct purposes. They continue. They should continue.

I believe there has been progress in Russia. I have just completed a book on U.S. relations with Russia and China. So I have examined the internal political evolution, as well as the foreign policy of Russia in some depth. I think that is progress, but there is a mixed picture, as we well understand, internally in Russia.

Nevertheless, I think our assistance program should continue. However, it is important to put this in perspective. Since 1991/1992, our bilateral assistance, according to the latest executive branch reports, has totaled more than $35 billion to Russia, of that—to the former Soviet Union—and about $18 billion to Russia alone. And that is about evenly divided between grant assistance and insurance and commercial loans and so forth.

At the same time, the United States has supported the very large program of multilateral assistance. And, of course, many of our democratic allies have provided assistance. Based upon the available data, the democracies, the major democracies, have provided

Russia since 1991/1992 to the present about $150 billion in assistance. This is extremely generous. It is significant. The money comes, as we all understand, from the working men and women of all the democracies.

The CHAIRMAN. Doctor, does that count—is that $150 billion total, including us, or is that——

Dr. MENGES. Yes, it includes us. It includes our $35 billion bilateral. And that includes, also, some of the debt forgiveness and debt restructuring. So that is about $150 billion. So there is a lot of money that has been provided, a lot of——

The CHAIRMAN. I am sorry to—I want to just make sure I understand. And that is since——

Dr. MENGES. Since 1992.

The CHAIRMAN. Since 1992. Thank you very much.

Dr. MENGES. Yes. And that also includes all the cooperative threat reduction funds and the bilateral assistance.

I did—by the way, a few years ago, I did an assessment of our aid over the first 6 years. And I testified on that before the Senate—I was pleased and honored to do so—on just how we have done, what we have done with it, how it has worked so far, and so forth. That was quite a task, as you could imagine. And I think we could do better, as in everything we do in life.

But keeping with that in mind, with the fact that we have and are providing a lot of assistance to Russia, I think it is now time to go beyond words and say in a polite, but firm, way to the Government of Russia, "We have asked you to stop this selling and transfer of weapons of mass destruction, components and expertise year after year after year, through two Presidents, two administrations, and it continues. And it continues after September 11, 2001, unfortunately, in the new context of a more cooperative relationship."

Now I would suggest that it is time to consider reducing U.S. economic assistance. Not cooperative threat assistance, because I agree with you both, this is part of our defense, this is in the strong interest, but to reducing the assistance in direct proportion to the added cost to the United States and its major allies of defending against the military threats resulting from Russia proliferation.

I think this is the time to do this. That is a difficult number to estimate. We understand that. But it can be done, and I think it is time to do that.

Now that is where my testimony ends in terms of the overall approach. But I would like to add another thought, which I have also published in the past and talked with many Russian leaders about. And I discuss it in my book.

And that is, I am also—I believe in disincentives and being practical and tangible, but I also believe in incentives. And we understand that one of the major priorities for Russia and for President Putin is to help the Russian economy develop. And it seems to me that it should be possible for the industrial democracies, which have a combined GDP of roughly $30 trillion, to put together—that is a lot of money, $30 trillion GDP combined—to put together a grant program for Russia on the order of $10 billion to $15 billion a year. A grant program, not a World Bank program, not a loan

program, but a grant program for the development of consumer production industries in Russia, consumer production——

The CHAIRMAN. That is a good idea.

Dr. MENGES [continuing]. And tie that into conversion of the defense sector; and put that grant program together with cooperation as a kind of a Marshall Plan, as it were, in which Russia's—the professed need to earn this money from the transfer of the weapons of mass destruction, components and expertise is put aside. But Russia would have to fulfill the conditions.

What cannot continue to go on, in my view, is for Russia to receive the funds and never to comply with the requests that are reasonable.

And so my view is that Secretary Cohen is right in response to Senator Enzi's question "What do we do?" that dialog is where it should start. And I think part of the dialog also has to be to make tangible and practical to the Russians, looking at the ready eye of the missiles and other things, how dangerous this is for them. After all, a number of these are Islamic regimes. One never knows where they are going to go with their hostility.

Russia is dealing with the Islamic movement in Chechnya and has 70 million to 90 million Islamic population. There is a lot going on in the former Soviet Union and in Russia itself. And it is contrary to Russia's interest to building up these dangerous weapons near its borders, that actually can reach it in direct terms before they can reach us.

But beyond dialog, I think we also need to do the other things I have just mentioned. So I would just summarize: Information to inform our public and leaders about the problem much more actively; the control of U.S. technology; reestablish export controls in an effective way; overall economic disincentives for Russia; cutting the assistance in other domains, not cooperative threat reduction, unless this transfer stops; and finally, propose also an incentive, design and propose an incentive program; but there would have to be complete compliance.

In my book I talk about this. And I describe a situation where I think the administration of the program would have to be by American officials on Russian territory, who would take the $9 billion or $15 billion and allocate it in grants themselves, would monitor that it really goes to civilian production, that it really involves defense conversion; and, if not, that it is cutoff immediately, so that there cannot be this lag of a year or two to find out what is going on. There would have to be sort of conditions. But I think the grant program could be very attractive.

In conclusion, I think it is important to understand, as we look at our relations with Russia, that there are good opportunities for an improvement in relations, a continuing improvement in relations, as we go forward. And I believe, as I indicate in the article in the Washington Post, from the Washington Post that I have attached,[3] on the Russia/China relationship, that part of having a good relationship with Russia is understanding the new relationship it has with China and being realistic about what that means.

[3] The article referred to is on page 55.

You may have noted, Senators, that very few people in Washington have discussed the fact that in June of last year, Russia and China signed the Shanghai Cooperation Agreement establishing a security alliance among Russia, China, and four Central Asian countries. They also, Russia and China, also signed for the first time since 1950 an alliance agreement in July, a bilateral alliance agreement.

Now I believe that the strategy that Russia and China are both following toward us is to have a two-level relationship; one to be normal and civil in relations with the United States and to obtain tremendous amounts of economic benefits, Russia through assistance and trade, China through the one-way trade it has had, which has led, as you know, to a Chinese surplus from 1990 to 2000 of $720 billion with the industrial democracies, $480 billion with us alone. So that has worked very well for them at one level.

At the second level, I believe Russia and China have decided, as we see this in the annual summits and I discuss it in my new book called "The Preventable War, the Strategic Challenge of Russia and China," I believe that they have decided that they want to limit the United States, and they want to do this in as discreet a way as possible.

But regrettably, I believe the proliferation, the transfer of these weapons of mass destruction to these regimes hostile to the United States and its allies, are part of this method, are part of this method of limiting the United States and the world, doing it discreetly, doing it indirectly.

And I believe we, too, should have a two-part strategy toward Russia and China, a normal civil relationship at one level, but on the other level a realistic relationship, which involves certain conditions on the economic benefits they obtained from the United States, so using our economic benefits as a positive instrument to in fact ensure a future of peaceful relations with both countries and both powers. And I think we can do that, and I think it would make all the difference, if we would now move to that kind of approach.

Thank you very much.

The CHAIRMAN. Thank you very much, doctor.

[The prepared statement of Dr. Menges, including additional material, follows:]

PREPARED STATEMENT OF CONSTANTINE C. MENGES,[1] PH.D., SENIOR FELLOW, THE HUDSON INSTITUTE

RUSSIA AND THE TRANSFER OF WEAPONS OF MASS DESTRUCTION

U.S. Purposes and Assistance

Following the unraveling of the Soviet Union and the establishment of the Russian Federation in 1992, presidents and political leaders in both major parties in the United States have supported a large program of assistance for Russia. The purposes have been to encourage a transition to ever more broad based and stable political democracy together with a market oriented economy and to assist Russia in controlling and reducing its large arsenal of strategic and tactical nuclear weapons, other weapons of mass destruction, and its ballistic missiles. These were seen by

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the leaders in the United States and Russia as being in the interests of both countries since a more democratic and market oriented Russia would more likely be peaceful internationally and provide for greater prosperity and well-being for its citizens.

From 1991 until the end of 2000, the United States has provided more than $35 billion in bilateral assistance to all 15 post-Soviet republics: $17 billion in direct funding together with an additional $18 billion in commercial financing and insurance. Russia has received more than $17 billion including $8 billion in direct funding and $9 billion in commercial financing and insurance.[2] This funding continues. At the same time, the United States has joined with the other major democracies to provide an estimated additional $120 billion in economic assistance through bilateral programs and international financial institutions.[3] Further, on several occasions the democracies have canceled or generously refinanced more than $40 billion of Russia's external debt. Therefore, we can estimate that as of this time total expenditures and grants by the United States and its democratic allies in assistance for Russia have been worth more than $150 billion dollars since the unraveling of the Soviet Union.

This is an important starting point for considering Russia's continuing transfer of components and expertise for weapons of mass destruction and the ballistic missiles to launch them. It is often said that these highly dangerous transfers have occurred because Russia and various Russian weapons manufacturing organizations need and want the funds they derive from these transfers. The question facing the current leadership of the United States is whether it is the national interest to continue the many forms of economic assistance for Russia even though its government either denies or fails to stop the proliferation.

Russian Proliferation

For more than a decade, there has been bipartisan agreement among U.S. presidents and the political leadership in Congress that the U.S. and its allies are gravely threatened by the continuing transfer of weapons of mass destruction and ballistic missiles to dangerous regimes such as those in North Korea, Iran, Iraq, and Libya, among others. Those dictatorships support international terrorism, threaten U.S. regional allies, and year after year have demonstrated by their words and actions, that they intend to threaten and if possible harm the people of the United States.

In the mid-1990s, the U.S. Congress decided that the Clinton Administration needed to act more effectively to stop proliferation and that this might occur if the intelligence agencies were required to provide biannual classified and unclassified reports to Congress on this major issue. As a result, the unclassified reports have become a means through which the legislature, citizens and experts could inform themselves about an activity that is largely conducted in secrecy, with some degree of deception and frequent denial.

In 1997 the U.S. Congress established a bipartisan Commission chaired by the Honorable Donald Rumsfeld to examine this question. It had access to all available government information and produced both a classified and an unclassified report. As an example of the dangers deriving from this proliferation, the Rumsfeld Commission predicted in 1998 that Iran could have an intercontinental range ballistic missile able to reach the U.S. "within five years"[4]. Informed experts believe Iran could have its own nuclear weapons within two years; if so Iran might then be in a position to launch or threaten a nuclear attack directly against the U.S. as well as Israel. In December 2001 a senior Iranian cleric publicly threatened to "totally destroy" Israel when Iran has its own nuclear weapons.[5]

The latest annual U.S. Department of State report identifies Iran as "the most active" state supporter of terrorism in the world.[6] Starting in the early 1980s, Iran has provided training, weapons and other aid for Hezbollah and Hamas, terrorist organizations attacking Israel. This continuing Iranian indirect war of terrorism against Israel was again revealed in January 2002 when Israel captured fifty tons of weapons and explosives on a freighter, the *Karine A.* Its Palestinian captain admitted that the Palestinian Authority had obtained the weapons from Iran, and

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[2] *U.S. Government Assistance to and Cooperative Activities with the Newly Independent States of the Former Soviet Union,* Department of State, January 2001.

[3] Speaker's Advisory Group on Russia, Christopher Cox, Chairman, *Russia's Road to Corruption,* U.S. House of Representatives, September 2000.

[4] *Report of the Commission to Assess the Ballistic Missile Threat to the United States,* Executive Summary, Washington, DC July 15, 1998.

[5] From FBIS, *World News Connection,* cited in Constantine Menges, "China, Russia, Iran and Our Next Move," The Washington Times, February 10, 2002.

[6] *Patterns in Global Terrorism,* U.S. Department of State, April 30, 2001.

many of the weapons containers bore Iranian markings. These terrorist supplies included about 3,000 pounds of C-4 explosives, which could be used by suicide bombers against civilians.[7]

The unclassified government intelligence reports on proliferation conclude that Russia and China are the two countries that have been most consistently active in transferring weapons of mass destruction and ballistic missile components and expertise to hostile regimes.[8] The following table is drawn from the most recent unclassified CIA report, released on January 30, 2002. It concludes that Russia has done the following:

- for Iran—assistance in building its stocks of chemical, biological weapons, with its nuclear weapons program, as well as with its mid range ballistic missile and its planned ICBM, the 9200 mile Shahab 4/5;
- for Iraq, major assistance in building its large stocks of biological and chemical weapons, as well as aid for its short range (370 miles) ballistic missile;
- for North Korea—provided major assistance in building its large stocks of chemical and biological weapons, as well as major assistance in building its No-dong medium range ballistic missile and aid in building its 9200 mile intercontinental ballistic missile, the Taepodong.

Background on Russia's Current Transfers of Weapons of Mass Destruction

It is a fact of international politics that virtually all the Soviet-linked anti-U.S. dictatorships of the cold war era outside Europe survived during the 1990s. These include Iran, Iraq, Libya, Syria, North Korea, Cuba—all of which have been judged by the United States government to be states which support international terrorism. The Middle Eastern anti-U.S. regimes, Iran, Iraq, Libya, Syria continue to seek to build weapons of mass destruction for possible use against the United States as well as against U.S. allies such as Israel and the Persian Gulf oil states.

These are the states which during the 1990s have been supported by Russia and China politically and with weapons transfers at ever increasing tempo. In the congressionally-mandated public reports, the Director of Central Intelligence has indicated that Russia and China are the countries which provide the largest number of conventional weapons and the most weapons of mass destruction to these and other hostile regimes.

The Soviet purpose in working for 30 years with these regimes in the Middle East was essentially to use them and their hostility against Israel and its alliance with the United States as a means of helping radical pro-Soviet groups gain control of the Middle East oil wealth. This included unsuccessful attempts to overthrow the moderate Persian Gulf oil regimes—Saudi Arabia, Kuwait, United Arab Emirates. The Soviet view was that with radical pro-Soviet regimes in charge of those oil resources and Europe and Japan depending on these for about 70 percent of their energy supplies, it would be possible to neutralize Europe and Japan by imposing political conditions such as leaving NATO and other U.S. security alliances on further supplies of Middle Eastern oil to Europe and Japan.

In the 1990s, Russia and China sold weapons to the anti-U.S. regimes in the Middle East to earn hard currency, to support their own military producers and also to establish closer relations and build up these regimes as another means of counterbalancing the United States. In addition to China's transfer of weapons of mass destruction to these countries, starting in 1994, Russia began to sell a large number of weapons to Iran along with nuclear weapons-related equipment which reportedly led a 1999 U.S. government analysis to conclude, "if not terminated, can only lead to Iran's acquisition of a nuclear weapons capability."[9] The conventional weapons Russia sold to Iran during the 1990s included many aimed at the U.S. Navy including three submarines, a variety of long-range guided torpedoes for the submarines, a large number of anti-ship mines, as well as tanks and armored personnel carriers.[10]

Years after the event, reports revealed that in 1995 Vice President Gore had entered into a secret agreement with Prime Minister Chernomyrdin of Russia that the

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[7] Menges, "China, Russia, Iran," op. cit.

[8] Central Intelligence Agency, *Foreign Missile Developments and the Ballistic Missile Threat to 2015,* Summary of a National Intelligence Estimate released in January 2002 and Central Intelligence Agency, *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 January through 30 June 2001,* released January 30, 2002.

[9] Bill Gertz, "Letter Showed Gore Made Russian Deal," *Washington Times,* October 17, 2000, A-1.

[10] John M. Broder, "Despite Secret '95 Pact by Gore, Russian Arms Sales to Iran Go On," *New York Times,* October 13, 2000, A-1.

United States would not implement sanctions required by the Gore-McCain Nonproliferation Act of 1992 if Russia promised to stop selling these conventional weapons to Iran. This surprising revelation led Senate Majority Leader Trent Lott and Senator Jesse Helms to write President Clinton on October 13, 2000 saying, "please assure us . . . the Vice President did not in effect sign a pledge with Victor Chernomyrdin in 1995 that committed your Administration to break U.S. law by dodging sanctions requirements."[11] In fact, Russia did not stop selling such weapons. Despite U.S. diplomatic protests, Russian weapons transfers continued into the years 2001 and 2002.

The New Russia-China Alliance After September 11, 2001

Although Russia has cooperated in important ways with the United States since the massive terrorist attack of September 11, 2001, there is no evidence that Russian transfers of components and expertise for weapons of mass destruction and ballistic missiles have changed in any significant degree. In November 2001 it was reported that Secretary Powell raised these issues in his visit to Moscow without any success.[12] Nor is there any sign that the several summit meetings between Presidents Putin and Bush have led to any marked decrease in Russian proliferation activities.

To the contrary, Russian President Putin has publicly stated that the U.S. should take no action against Iraq, Russia has continued to work to have the sanctions against Iraq lifted, and Russia has indicated that it continues to have a close relationship with the clerical dictatorship in Iran.

It is important to understand that the United States faces a new strategic situation as a result of the June 2001 Russia-China treaty establishing the Shanghai Cooperation Organization (SCO) involving six countries and the July 2001 Russia-China bilateral alliance treaty. Together the countries of the Shanghai Pact, as it is referred to by President Jiang Zemin of China, have a population of 1.5 billion, they control thousands of strategic and tactical nuclear weapons, and these combined conventional military forces number 3.6 million.

Iran hopes to join the Shanghai Pact soon. This may have been discussed during the visit of Chinese President Jiang Zemin to Iran on April 18, 2002.[13] Reports are that at the coming June 2002 Shanghai Pact summit Russia and China might agree on adding Iran while China would also like to add Pakistan, and Russia reportedly wants India in the Shanghai Pact as a participant. If all these joined, the Shanghai Pact could include about 2.8 billion people and it might become much more than the current mostly paper alliance.[14]

My analysis of the new Russia-China strategic relationship suggests that its current negative effects, from the U.S. perspective, include:

1. Russia and China both transfer expertise and components for weapons of mass destruction and ballistic missiles to North Korea, Iran, Iraq, Libya and have not reduced this after September 11, 2001;
2. Russia continues selling its avanced weapons to China which aims these at U.S. forces in the Pacific—about $18 billion have already been sold and $30 billion more are scheduled for the next four years;
3. The political and military-to-military relationship with China is strengthening authoritarian groups within Russia.

Possible Constructive U.S. Actions

The U.S. needs to be more effective in dramatizing how this proliferation of weapons of mass destruction might result in immense tragedy for countries near these hostile regimes such as those in Europe, South Korea, Israel and other friendly states in the Middle East as well as countries more distant such as the United States. In addition, the U.S. should become more effective in preventing the theft and illegal export of its own advanced military or dual use technology, should move to reestablish effective international export controls to keep such technology from potentially hostile regimes and from proliferating states such as Russia and China, and should reduce its economic support for Russia until it halts this dangerous activity.

In terms of specific actions and steps to accomplish these purposes, the United States should allocate the skilled manpower and budget resources necessary to:

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[11] As cited by Bill Gertz, op.cit., October 17, 2000.

[12] Tyler, "U.S. and Russia to Complete Talks on Arms Control Pact," *New York Times,* December 11, 2001, A13.

[13] "China's President Visits Iran," *UPI,* April 18, 2002.

[14] See C. Menges, "China, Russia, and What's Really on the Table," *Washington Post,* July 29, 2001 [This article is attached].

1. Maintain the integrity of and control over classified information within the U.S. government and among all U.S. contractors with sensitive military technology information;

2. Significantly improve and expand U.S. counterintelligence operations in order to prevent, deter, and defeat Russian, Chinese and other espionage operations. From 1975 to 2000, more than 127 U.S. citizens were convicted for spying, most on behalf of the Soviet Union/Russia, some for China.[15] The repeated spy scandals of the 1990s and the compendium of information in the bipartisan report produced by the Select Committee chaired by Representative Christopher Cox on successful Chinese military espionage led the Congress to instruct President Clinton to improve U.S. security.[16] This resulted in Clinton signing a Presidential Decision Directive on Dec. 28, 2000 on "U.S. Counterintelligence Effectiveness-Counterintelligence for the 21st Century." Instead of the "piecemeal and parochial" approach in place up to then it urged, in the words of Sen. Richard Shelby, then Chairman of the Intelligence Committee in the U.S. Senate, a "more policy driven . . . proactive . . . approach to identifying . . . the information to be protected enhanced information sharing between counterintelligence elements.[17] The administration of President Bush should make this a major priority.

3. Terminate all launches of U.S. satellites on the rockets of Russia, China or any other foreign country except for close U.S. allies. Such launches give a country the experience, technology and additional financial resources to bring about important improvements in its military ballistic missile capabilities since the systems are so similar—this is fundamentally contrary to U.S. national security interests. The EU is drafting a new code of conduct on missile proliferation to be introduced in 2002. While still urging advanced states to "exercise the necessary vigilance" when aiding other country's space launch programs, the new language would be more lenient than the current restriction under the MTCR (Missile Technology Control Regime) rules.[18]

4. Military exchanges with Russia and China should focus on building understanding and relationships among the participants and should help foreign military personnel understand the truth about U.S. international purposes and activities. These should not involve the transfer of military skills from the United States to these other countries.

5. The U.S. must restore the full, objective functioning of the elements of the Department of Defense (such as the Defense Technology Security Administration [DTSA]) and the intelligence community responsible for the review of the potential military sensitivity of U.S. defense technology exports.[19] The "export virtually everything" approach of the Clinton Administration resulted in pressures on and a weakening of these organizations. In the present and future they must be fully staffed by competent professionals who are able to provide independent analyses of the national security implications of possible military/dual use technology exports.

6. The United States should expel all companies which function as fronts for any military or intelligence related entities in Russia, China or any other non-allied state.

7. Establish and restore an effective multilateral entity such as the Coordinating Committee on Trade with Communist Countries (COCOM) that for so many years served to prevent the U.S. and its main allies from exporting military technologies to the former Soviet Union and its allied states. In 1999, the U.S. Congress urged that this step be taken in view of the relative ineffectiveness of the existing multilateral organizations such as the Nuclear Suppliers

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[15] Sen. Richard Shelby, *Intelligence and Espionage in the 21st Century,* Washington D.C.: The Heritage Foundation, May 18, 2001, 1.

[16] U.S. House of Representatives, *Select Committee on National Security and Military/Commercial Concerns from the People's Republic of China,* Washington D.C., May 25, 1999.

[17] Ibid, 6.

[18] Brooks Tigner, "EU Hopes Code of Conduct Will Cool Missile Proliferation," *Defense News,* July 9-15, 2001, pp. 1, 4. The U.S. should resist such liberalization, but cannot effectively do so when violating the spirit of the rules itself by aiding China's missile program through satellite launchings.

[19] Reps. Dan Burton, Curt Weldon and Dana Rohrabacher wrote the Secretary of Defense in May 2001 to express their support for an effective DTSA, see Bill Gertz, Roman Scarborough, "Inside the Ring," *Washington Times,* June 15, 2001, A 12. The investigative reporter, Kenneth R. Timmerman, (*Selling Out America,* Ex Libirs, 2000, Chapter 8) wrote that a high technology area of California could be called "China's 22nd province" because there were hundreds of such front companies for the Chinese military and military production system with offices there, many listing no telephone numbers or having any of the facilities for normal business operations.

Group (NSG), the Missile Technology Control Regime (MTCR), and the Wassanar Arrangement of Conventional Arms and Dual-Use Goods and Technologies.[20] In April 2001 a bipartisan congressional study group, involving leading members of both the House and the Senate recommended improving the U.S. export control process and also working to strengthen "multilateral export controls based on . . . enhanced defense cooperation with close allies and friends."[21] This provides a good basis for making rapid progress in this little known but very significant domain of international policy.

8. Last and perhaps most important—link current U.S. economic aid to Russia ending its proliferation. Since years of requests to Russia to end this dangerous transfer of weapons of mass destruction and ballistic missile expertise and components have produced very few results, the time has come for the United States to inform Russia in a polite but clear way that U.S. economic support for Russia will be reduced in direct proportion to the additional costs to the United States of defending its allies and people against the ever more serious threats resulting from these weapons in the arsenals of the hostile dictatorships. During the first year that would probably suggest a minimum reduction of 20% in direct bilateral assistance and perhaps comparable reductions in U.S. support for international financial assistance and measures to relieve or stretch out payment of Russia's approximately $150 billion foreign debt.

In international politics, words and declarations alone often do not bring about improvements changes in the negative actions of foreign governments. It is time for the United States to act with seriousness of purpose to persuade Russia to completely terminate its continuing proliferation of components and expertise for weapons of mass destruction and ballistic missiles.

[20] CSIS, *Study Group on Enhancing Multilateral Export Controls for U.S. National Security,* Washington, DC April 2001, 1.
[21] Ibid.

North Korea, Iran and Iraq: Weapons of Mass Destruction and Ballistic Missiles*

Country	Type of Weapon	Model (Range in Miles)	Assistance from: China	Assistance from: Russia	Numbers
North Korea	Chemical		major	major	large stocks [1]
	Biological		major	major	large stocks [1]
	Nuclear		Unknown	Unknown	1 to 5
	Ballistic Missile	Hwasong 5/6 (175-425) [2]	No	No	at least 500
		Nodong (900) [3]	Yes	major	12–100
		Taepodong (9200) [4]	Yes	Yes	in development
Iran	Chemical		Yes	Yes	large stocks [1]
	Biological		Unknown	Yes	in development
	Nuclear		Yes	Yes	no, intends to develop
	Ballistic Missile	Shahab 1/2 (175-425) [2]	No	No	600+
		Shahab 3 (900) [3]	major	major	in development
		Shahab 4/5 (9200) [4]	major	major	in early development
Iraq	Chemical		Unknown	major	large stocks [1]
	Biological		Unknown	major	large stocks [1]
	Nuclear		Unknown	Unknown	in development
	Ballistic Missile	Al-Hussein (370) [2]	No	Yes	Unknown
		Likely Taepodong [4]	No	No	Intends to buy upon end of UN sanctions

[1] "large stocks" mean that each nation keeps enough warheads of this kind to kill several hundred thousand civilians or soldiers.

[2] These missiles are variants of the Soviet SCUD. Hwasong 5/6 are North Korean variants. Shahab-1/2 are the Iranian names for the Hwasong 5/6, which it purchased and produces. Al-Hussein is the Iraqi name for its own indigenous variant of the SCUD.

[3] The Nodong is designed to hit Japan, including the U.S. bases there. The Shahab-3 is a modification of the Nodong intended to hit Israel and the Gulf States.

[4] The Taepodong is under development, but the U.S. government believes that the final version will be an intercontinental missile capable of hitting the United States.

Sources for the Table:

Central Intelligence Agency, *Foreign Missile Developments and the Ballistic Missile Threat to 2015,* published January 9, 2002.

Central Intelligence Agency, *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 January through 30 June 2001,* published January 30, 2002.

Office of the Secretary of Defense, *Proliferation: Threat and Response,* January 2001.

*This table is taken from *North Korea, Iran, and Iraq: Building Nuclear, Chemical, Biological Weapons and Ballistic Missiles,* Briefing Note from the Russia, China Security and Democracy Project, Hudson Institute, March 2002.

[From the Washington Post, July 29, 2001]

RUSSIA, CHINA AND WHAT'S REALLY ON THE TABLE

(BY CONSTANTINE C. MENGES)

Russian President Vladimir Putin's surprise agreement last week to begin a discussion with the United States on offensive and defensive strategic nuclear forces was widely praised. And indeed, it was good news. Putin's willingness to talk might in time produce the "new framework for peace" that President Bush seeks—although, as national security adviser Condoleezza Rice correctly cautioned, talking does not guarantee final agreement.

But it was only part of a larger picture. This is the same Putin who on July 16 signed a treaty of cooperation with Chinese President Jiang Zemin at their summit in Moscow.

While the treaty states that it "is not aimed at any third country," it explicitly seeks to promote a "new international order." This is the phrase China and Russia use to describe international politics when the United States no longer has or seeks what they call "unilateral military and security advantages."

Since their first meeting a year ago, Putin and Jiang have met eight times to coordinate what the new treaty describes as their "work together to preserve the global strategic balance." The two events clearly illustrate a dual-track strategy of Russia and China toward the United States. That strategy should worry the White House.

First, the two countries maintain a sense of normal relations with the United States and other democracies so that they will continue providing China and Russia with vitally needed economic benefits. (Bush noted that he and Putin had also discussed "economic cooperation" and that he would send Treasury Secretary Paul H. O'Neill to Moscow "to discuss a wide range of topics." These might include concessions on Russia's $150 billion foreign debt. Meanwhile, China's yearly trade surplus with the United States is about $85 billion—and growing.)

Second, Russia and China are using mostly political and covert means to oppose the United States on security issues and to divide America from its allies. This was the preferred KGB approach when Putin served there (1975-1991), and this has been China's approach during the Jiang years.

This month's China-Russia summit followed a little-noticed agreement signed on June 15 by the presidents of China, Russia and four former Soviet Central Asian republics establishing a political-military coalition, the Shanghai Cooperation Organization. Jiang called it the "Shanghai Pact," perhaps intending to evoke the former Warsaw Pact. He said that these six countries had agreed on political, military and intelligence cooperation for the purpose of "cracking down on terrorism, separatism, extremism" and to maintain "regional security." Moscow said the agreement would improve "global security."

Then, for the first time in its history, China agreed to participate in joint military exercises, with its fellow Shanghai Pact members this fall. Together, the Shanghai Pact countries have a population of 1.5 billion; they control thousands of strategic and tactical nuclear weapons, and this combined conventional military forces number 3.6 million. Iran, Mongolia and Turkmenistan hope to join the pact soon. They would add another 78 million people and bring the combined military forces to nearly 4.2 million.

Such an arrangement could grant protection to Iran, which continues to support terrorist attacks against Israel and other states. Iran recently sent 8,000 katyusha rockets to Hezbollah guerrillas in Lebanon. Iran could also link the Shanghai Pact with the Middle East, where Russia and China already provide political and military support to Syria, Libya and Iraq—three former Soviet allies that might also be welcomed into the pact. In addition, Putin reportedly hopes that India will join, while China would like Pakistan to participate. If all these countries became part of the Shanghai group, it would include 40 percent of the world's population and could still be open to North Korea, Cuba and the pro-Castro Chavez regime in Venezuela, which in May became a "strategic partner" of China and of Iran.

Judging by its initial public response, the Bush administration may believe that these new treaties are nothing more than symbolic acts—or it simply may not have taken the time to explore this issue fully. The July treaty, according to State Department spokesman Richard Boucher, "is a treaty of friendship, not an alliance. It doesn't have mutual defense in it or anything like that."

That view ignores two facts: first, mutual defense is implicit in the treaty, which states that "if a threat of aggression arises," the two sides "will immediately hold consultations in order to eliminate the emerging threat"; and second, China and Russia have another agreement for mutual defense in the Shanghai Pact, a point

well made by a senior Chinese official who said candidly that the July treaty did not explicitly include military cooperation "because we have ample agreements on that issue."

The new China-Russia treaty marks a complete turnabout from 1992 and 1993, when the previous president George Bush and Russian president Boris Yeltsin met three times and agreed on the need for changes in the Anti-Ballistic Missile Treaty of 1972 to permit missile defense against third states. Back then, Russia spoke of strategic partnership with the United States and kept communist China at a distance. After 1996, because of pressures from communists and ultra-nationalists in Russia and the failure of the Clinton administration to follow through on some of the Yeltsin-Bush initiatives, Russia and China formed a strategic partnership, which China steered increasingly in an anti-U.S. direction.

Putin has said this month's China-Russia treaty was Jiang's idea, and it seems clear that the Shanghai group was as well. Over the past five years, the China-Russia alignment has had many negative effects on the United States. Russia has accepted much of China's anti-U.S. world view, and the relationship with China has strengthened authoritarian tendencies within Russia. The two countries have frequently issued joint statements opposing missile defense for the United States or its Asian allies. And the Russia-U.S. discussions proposed in Genoa are unlikely to change that. Moreover, Russia has sold about $18 billion in advanced weapons to China; some $30 billion more are scheduled for the next four years, all aimed at U.S. forces in the Pacific. Chinese and Russian aid to Iran, Libya and North Korea includes expertise and components for weapons of mass destruction and expertise.

Evidence of the potential new military risks to Washington and its allies came this past February in the form of Russian military exercises that included large-scale simulated nuclear and conventional attacks against U.S. military units "opposing" a Chinese invasion of Taiwan, according to a report based on U.S. intelligence published in the Washington Times. But significant challenge to the United States, at least early on, is more likely to come from Chinese-Russian political and covert actions aimed at reducing Washington's international role. Consider the recent defeat of the U.S. proposal for "smart sanctions" against Iraq: First China extracted economic concessions from Washington in return for not using its veto in the U.N. Security Council to stop the U.S. plan. Then Russia stepped in with a veto.

Broader examples of Russian-Chinese political cooperation may well include actions to oppose or delay U.S. missile defense plans; to intimidate and lure Taiwan into accepting China's terms; to continue the North Korean partial or pseudo-normalization; and to use Chinese economic opportunities for financially pressed Japanese businesses, in tandem with the possibility of Russian territorial concessions, to persuade Japan to begin moving away from its U.S. security alliance.

Two months ago, Russian and Chinese officials announced they would coordinate policy toward Colombia and Cuba. Russia and China have political and military relations with Cuba as well as electronic monitoring bases aimed at the United States. This joint policy might well include more help for Castro as he works with the Chavez regime to support anti-U.S. radical groups seeking to take power in Colombia and other Latin American countries, now even more fragile due to the global economic slowdown. Jiang and Putin might see this as a way of keeping the United States occupied near its borders and less involved in Eurasia.

The Clinton administration ignored early signs of strategic cooperation between Beijing and Moscow. There is no need for a public sense of crisis at this stage, but the Bush administration should avoid repeating that mistake. It should give the China-Russia axis its immediate attention.

The CHAIRMAN. This may surprise you: I agree a great deal with what you have to say about the relationship as well. I find particularly intriguing and, I would think, especially today worthy of serious, serious, not just discussion, but planning on the part of this administration or any successor administration to deal with the prospect of your putting together among the industrial nations a multi-billion-dollar grant program for the express purposes you have stated.

You probably know, because you have testified, and I think not inaccurately, in the past about the spottiness of our efforts to provide assistance to the emerging "democracy of Russia." I am the guy that wrote that first piece called the Seed Program that became the Freedom Support Act in the Bush administration.

I found that—knowing what I know now, I think I would have drafted it differently. I think probably President Bush, knowing what he knows now, George the first, President Bush, might have done it differently.

This has been a learning experience. Hopefully, our learning curve is going to get sharper here. But I do not want to take your time now, but possibly either in person or on the phone—to followup with you on this large notion and idea you have. And I am curious as to whether or not you have gotten any response to the idea from any of your contacts within the administration.

Now, granted, I do not say this as a criticism, because there has been obviously a preoccupation of late within the administration. But it is an intriguing notion to me.

I also want to suggest to you that when President Putin was here last—I cannot remember whether Senator Lugar was in the room or not; there were several of us—I asked him a question about Iraq and why did he not understand that after at least 50 years, and probably closer to 80, of a very spotty, if not hostile, relationship with the Muslim minorities within the former Soviet empire, why he did not think that Moscow might just as easily be a—or find themselves the victim of some of the initiatives that Russia was helping Iran with?

And he was somewhat irritated in his response. He said something to the effect, and I am paraphrasing, Do you not think I understand that a longer range missile is equally as likely, if not more likely, to strike Moscow than New York some day?

I followed up with, "Why?" I mean, there was initial hostility to my question. Because Senator Lugar and I had proposed a debt-for-nonproliferation swap here and the possibility of, although some of this has already been done in Germany, the possibility with Japan, Germany, other countries with whom there is a much larger debt, outstanding debt, that Russia absorb from the former Soviet Union.

As you know, the due bill is coming due. So far, the Russians have met their obligations. But in 2003 and 2004 there is, in effect, a balloon payment coming up. They need very badly to have the World Bank and the IMF and others continue to essentially, my words, not literally applicable, but for those that are listening, grade their bonds highly, so that they can be lent to and/or get assistance.

It seems to us there is a real possibility here. And I raised that with him. I said, "Would you be interested?" And he first launched into—how can I phrase it?—a response that was not particularly friendly. But as he spoke in Russian, you could see him starting to calculate this and realized I was not trying to be polemic with him; I was trying to figure out a way.

He warmed up to the idea but then made the following statement, which gets me to my question. He said essentially, "We do not want to be told with whom we can trade. And our single most significant bilateral relationship we have in terms of trade surpluses is with Iran now."

Now maybe that is not exactly what he said, but that is the point he was making; and that there are others, other bilateral trade relationships with Iran that do not relate to technology and weapons technology and capability.

My question is this: Any part of what seems to be a counterintuitive continuation of a relationship on weapons with Iran, is any part of that, in your view, related to the thinking on the part of the Russians that that need be done in order to have access to markets for non-defense-related items, or do you know?

Dr. MENGES. Yes, Senator, I think so. I am sure the uranium theocracy tries to make that point, "Well, if you do this, we will look more favorably on other aspects of trade with you." I think that is undoubtedly used.

And, of course, President Putin has been very explicit about the concern about repayment of the Iraqi debt to Russia. You know, he has looked at this in monetary terms quite a bit. And yet we know he has a very strategic mind. And in fact, I am very happy that you raised that question with him.

And certainly the events in Chechnya, the tragedy there, and the degree of hatred that has evolved against Russia there, that could also directly impact other Muslim peoples in the former Soviet Union and in Russia, and has to be a major concern.

And that relationship to the regimes, the clerical regimes of other radical groups, the Saddam Hussein regime, which is totally willing to work in any way that will work against its major enemy, the United States, and Israel and so forth, all has to—it is the kind of thing in which I think if he would talk with you both some more, I could see you raising the kinds of issues that would have a big impact.

There is always—as we know, in decisionmaking in every country, there is always a coalition of interest groups that come together. And so you have the military industrial complex that does its—you know, has its relationships. And you have the trading groups. And you have the geopolitical thinkers, who say, "Well, this is part of containing the United States." And we have a special relationship, the people who think, "Well, we have to appease them." So there are lots of different motivations that come together.

But all this happens in the absence of the United States creating any consequences, because words by Secretary of State Powell at a meeting are not consequences. And so that is why I think it is time to create consequences. And so—that is why I think it is time to create consequences, either positive, as I think your debt swap idea is a superb idea of positive, or in terms of reducing opportunities economically.

The CHAIRMAN. I would also suggest, it seems to me that with a little bit of imagination, we should be able to generate a win-win relationship with Russia on Iraq. They are owed, I quoted $8 billion to them. I think he responded $9 billion or whatever. And as you know, there are contracts that have been acquired for by Gazprom to be able to develop fields which they cannot get into to develop, and that they are estimating are worth tens of billions of dollars.

And I do not know why it would be so difficult to walk and chew gum at the same time here. The fear of taking down Saddam, I think, on the part of the French and the Russians—and someone mentioned the French model are different, but they do relate to economic interests.

And it seems to me that there ought to be a way to deal with that. But that is, as they say in my business, above my pay grade. We cannot make foreign policy. We can encourage folks, but——

Dr. MENGES. Right.

The CHAIRMAN. Dr. Hecker, I would like to move to you, if I may. How can we best recreate those positive conditions that you cited on proliferation cooperation that in your testimony you have indicated have been absent for the last 4 years, or—I think you said 4 years, but in the recent past?

And my question is this that relates to that: Is it because we have fundamental policy disagreements unrelated to nonproliferation that have caused this to occur—i.e., the withdrawal from the ABM treaty, expansion of NATO, other broader issues—or is it something that you think is happening inside the Soviet scientific establishment and military establishment that suggests that it is, for strategic reasons within Russia, less advantageous to cooperate? I mean, can you give us a sense of why you think this has occurred?

Dr. HECKER. It is a combination, and let me try to lay them out in the order I see them. First, it starts with what you just mentioned. At the strategic level, the difficulties between our governments over the last 3 or 4 years related to the issues of ABM Treaty, the bombing of Yugoslavia, et cetera.

The next level is the one you were just discussing, and that is, the disagreements over Iran. Any nuclear cooperation between Russia and Iran has made them, if anything else, more difficult.

The next level, I would say, is one within Russia. And that is the re-emergence of the Russian security services. It turns out, right after the dissolution of the Soviet Union, they were sort of scattered in all directions. And that allowed much of that earlier cooperation, both in the military, as well as in the nuclear complex between the scientists. It took a few years for the security service to pull themselves back together. And let me just say: Today, it is much more difficult to get into those closed cities than it was to get in 10 years ago for me. So that is the third.

The fourth level, which actually is the one that we can fix the easiest, is that we have lost the sense of partnership. And that is recognizing that these are their materials and their facilities. They have to safeguard them. And all we can do is help.

And so the program execution over the last 3 to 4 years has gone in the direction of essentially saying, "We will pay you, but you will do it the way we will tell you to do it." And that simply does not work. They are not going to let us into their sensitive closed facilities.

So the issue boils down to—and that is what it has been the last two, two-and-a-half years, is requiring physical access of Americans in sensitive Russian facilities versus a system of assurances.

"Is there not some other way," the Russians would say, "that we can assure you that your money is spent well and we are actually making these upgrades?" That is really the key today, because at least at the top level—I think President Putin has fixed that for the time being. Iran still remains a problem.

But in this latter case, there was essentially a 2-year standstill or, let us say, a significant slowdown in defense programs related

to MPC&A. There was a very important agreement signed in September of last year to allow better access. And hopefully, that will spring some of these things loose.

However, along with that there has to be this change in approach back to saying, "This is a partnership. We are going to help you do the job, and we will all be better off if you protect your materials."

The CHAIRMAN. Thank you.

Senator Lugar.

Senator LUGAR. Thank you, Mr. Chairman.

Dr. Hecker, you have been on the scene with the MPC&A program an other department efforts and have testified to the merits of continuing these programs and projects. And I agree with you generally, that the last 2 years have been difficult.

On the other hand, it is an ambivalent situation, at least I found from my own experience. By that I mean a good number of persons in either a chemical or a biological facility, scientists, people who have been running the show for quite awhile, have really personal needs to visit with Americans. Much has been made in the Judy Miller book of Andy Weber, this remarkable person with the Cooperative Threat Reduction program now, and his work in helping Americans to gain access, particularly in chemical and some biological facilities. And that has been a part of my experience that may be an off day with regard to the bureaucracy.

But still, we are invited to come because the facilities are in terrible shape. They are run down. The material is in dangerous condition. The scientists are in disarray, strange commercial enterprises juxtaposed to weapons of mass destruction. And these Russians are worried about this. And this sort of gets to your first point, this question of how to forge the cooperative attitude, sometimes literally on the ground at the time that physically you are there and you have an opportunity to visit with the right people, and they say, "OK. Come along, and I will show you something."

I think that is important. I do not know how you foster that specifically, except I salute our people in cooperative threat reduction or on the ground, Jim Reed and Tom Kuenning, various other people, who are physically there a good part of the time. And I wish that somehow we were able to pay more attention to them, that their work sort of permeated higher realms in the Pentagon either in the last administration or this one. But we try to do that.

What I am curious about and sort of interweaving what you have said with what Dr. Menges has said—because the Iran problem is one that everyone in our government has thought about and we continue to seek a solution. For years all of us have had a mission to ask, "Why are you doing this?"

Now for a while, it was total denial. Then more frankness came in this cooperative spirit. And they said, "We need the money. It is as simple as we need the money. We are bankrupt. You have to understand that. Our programs are in disarray. The Duma does not appropriate money for us. Furthermore, in a spirit of democracy, we do not control everything anymore. You have to understand there are entrepreneurs who are out there doing these things. It is not a totalitarian state. Now could we control the en-

trepreneurs better? Perhaps. But on the other hand, they are useful in their own ways."

Clearly, the Russians have been ambivalent about this. This gets to Dr. Menges's point. This has helped guide Senator Biden and me in our work in thinking about the debt swap situation. There finally has to be some reason why the Russians would consider other alternatives. I think President Bush and President Putin, in their new relationship, have been starting to have a dialog about: What is to happen to the Russian economy? How constructively can something occur there? This is of considerable interest to President Putin, not an obsession, but very strong priority.

I understand, there is sort of a dialog going along there. But from time to time, people have suggested that if we are serious about this, we are going to have to think of reasons why the Russian economy develops in a normal way, as opposed to these dangerous sales to Iran or Iraq or China or so forth.

Now there could be people in the Russian hierarchy, whether they are in the military or nationalists and so forth, who still, as you suggested, want to control the relationship with the United States, want to control our ability to permeate the whole situation. We saw a little bit of that at the beginning of the September 11 dialog, when some Russians were quoted as saying "Americans are simply not going to be permitted to do very much in Uzbekistan or Tajikistan. This is off limits." And then President Putin says something else, "This is a war against terrorism. In fact, we are together."

Now you suggested, Dr. Menges, that rather than this being an ad hoc basis of the Biden-Lugar loans and so forth—and which some have criticized us for giving away debt owed to Germany or others, which is considerably greater than that owed the United States in our program—that we may approach this in a straightforward way, that there be a fund, free enterprise fund or what have you.

In fairness, President Bush back in the earlier administration and some of his people had some ideas, Jim Baker and others, about doing a lot of this. It all sort of got frittered away in terms of enthusiasm as we became disillusioned with the lack of Russian reform or overt acts by Russians. They were purely hostile.

So the Congress began to strip away one thing after another that might have addressed the commercial situation and the reform business, until we finally got down to the Nunn-Lugar program as the core part of the relationship. Well, that is not enough, although it is important. There has to be some hope out there for something more.

In your dialog on this subject what do you believe is the political possibility of this in this country, quite apart from the views of other countries. If we began to work with Russia on normalizing commerce, but they continued to go to Iran for the money, would we stop the fund, because it is not clear to me, in visiting with some of our European friends that they are eager to be that abrupt. As a matter of fact, they have relations with Iran and Iraq. And in part, it is because of the money. It is debt and commercial relationships.

So to internationalize, this gets beyond merely the Russian problem, but likewise our most intimate NATO friends or others and their willingness to be hard-nosed about this. Absent that, it seems to me we are back almost to a bilateral dialog with President Putin, in which we finally offer a good enough deal that he says, "OK, I understand, and we are going to stop Iran and Iraq because this deal is superior."

Well, we have not come to that point. And in fact, the proposal has not come to the Congress at all. And if it did, if we are having a small problem on fungibility of the Nunn-Lugar funds, imagine the kind of debate if we talk about $10 billion of U.S. taxpayer funds doing this sort of thing in Russia, and people saying, "My goodness, you folks really have been snookered. You have $10 billion out there, and the Russians are now building a super missile. And they have you again."

How do we overcome fungibility, the NATO allies? Are these aspects of your program that you have considered, as you have written or visited with your colleagues?

Dr. MENGES. Well, Senator Lugar, I think the answer is, in one word, "comprehensiveness." I think there has to be a holistic look at this. And I was suggesting about $10 billion among all the industrial democracies.

Senator LUGAR. Yes.

Dr. MENGES. So the U.S. share might be $1 billion. It might be closer to the $900 million for the full funding or so for the testing programs. But aside from the particular amount of money, the point is really the important one, that this is an opportunity, a grant for, let us call it, the consumer enterprise fund, something like that. So the production has to be consumer production.

And it has to be done in the context of a holistic relationship with Russia, in which the security and the political aspects, the proliferation aspects, are all considered together; and there is a shared agreement that is on a piece of paper that is signed, and there are consequences spelled out for not carrying through the agreement. And the consequences are in fact implemented by the United States and its partners in fact.

I think there is a problem—we have a problem with implementation of consequences. We tend not to do so. And therefore, year after year governments, well, feel it does not matter what we say, what we sign. We could just forget about that and go on from there.

So I think there is a possibility of doing this. And the opportunity for Russia is enormous, because, as we know, the dollars do not translate one to one. It is $10 billion, when scientists are earning $100 a month and not $10,000 or $8,000 a month, as they are here. It is sort of a 20 to 1 ratio in terms of purchasing power and what it means and what it can do for the people of Russia.

And this is President Putin's highest priority. And he does not want to accept the World Bank loans and the IMF loans and get back into the debt cycle. So I think there is an opportunity now, and in fact I think you two are just among the people who could lead the way in proposing these kind of ideas because it does link directly to our fundamental national security interests in stopping and doing both with the weapons of mass destruction on Russian

territory and stopping the transfer to these hostile regimes, which clearly menace us.

By the way, we are—it is through divine providence, I think, so far that they have not transferred them. They, the regimes, have not transferred them to some of the terrorist groups. I mean, that has not happened so far and obviously could happen, which I think argues for the urgency of helping the good people in those countries replace the regimes. And I might just say to Senator Biden's point—and do it soon.

I might say to Senator Biden's point about the Russian economic interest and Iraq, I think it is an important one. And I think it can be addressed by the Iraqi National Congress. And I know the leadership. And I think they are sensible people. It seems to me they could simply declare that they will honor previous debts, they will honor contracts. And if they succeed to government, as of the heads of moderate constitutional government in Iraq, that they will have a good relationship with Russia, a trading relationship, a normal relationship. They will give Russia the opportunities for exploration; France, the same; and other countries, perhaps the same.

I know that they would be happy to do that. And I think if we had a clear political strategy, as well as the verbal strategy that seems to be in the air, then one would be moving toward a situation where the Iraqi National Congress and other representatives of a new, moderate constitutional government for Iraq would make those overtures and I think then maybe clear the way internationally to their moving toward ending the enormous danger, I think, represented by that regime.

Senator LUGAR. Well, I share the enthusiasm that Senator Biden expressed on hearing your ideas. And my questions are merely to try to refine them. I think this is an area that we really ought to think about very seriously for the reasons you have suggested, and even given all the hurdles that I might perceive.

I want to take the chance with Dr. Hecker here to ask a technical question, because your work in the accounting aspect for these weapons of mass destruction has really been profound.

There remains considerable disagreement on how much remains and where, which is almost bound to be the case given the stashes all over, given all the laboratories and storage sites. I remember earlier on, one of the small Nunn-Lugar grants were for some computers, in which people actually began to register some data, so that it was not kept in ink and paper in various locations around the place.

But how goes this situation? What sort of a handle do we have in terms of mutual confidence as to how much material that deals with weapons of mass destruction is, in fact, in Russia presently?

Dr. HECKER. In the end, we do not know. And the reason we do not know is because the Russians still keep that information classified. That is, they keep information about the specifics of the nuclear material classified.

For example, what we call the isotopics of plutonium—how much of the different isotopes are in their nuclear weapons systems—the chemistry, the places where they are located, the quantities where they are located are classified? So "we do not know" is the bottom line.

From a Russian standpoint, one of the programs we tried to start is actually to help them to get to know how much they have. And I am not being facetious because in the United States we did not know either necessarily. You know, these are industrial materials. You work with them. You chemically process them. You do not just keep them locked up in a safe. You make them, and then you work with them.

So we had a program in the United States, and we published a report in the 1996 timeframe called "Plutonium, The First 50 Years." We went back and said, "Look, this is how much we have produced. This is how much we have put in the atmosphere. This is how much we have put in the ground. This is where we think it is. This is how much is not actually accounted for, because it is lost in processing."

And so I worked with the Russians to begin a program like that. We called it the Plutonium Registry. And they said, of course, "Well, you cannot do this on our classified materials." And I said, "OK, we will do it together on the civilian materials, and then you use the methodology to do it on your own classified materials."

I think anything we can do in that direction would be extremely helpful so the Russians can use these themselves. The problem we have always gotten into is we tend to push one step too far. And we want to get into the areas that they consider sensitive and classified. And so then often the progress stops.

But the bottom line is that right now there is a slight benefit to the fact that the security services have reestablished themselves. These places are more secure today than they were a few years ago. Now, you know, that has its detriments. If you are going to try to convert these facilities, then it makes it that much more difficult.

Many of the easy targets that were there have been taken care of. Particularly, in my own opinion, the Russian nuclear navy and the highly enriched uranium was the most vulnerable at one time. And significant improvements have been made. Actually, some of the civilian facilities were very vulnerable. And significant improvements have been made.

But what we need to look at is the long term, the whole mentality of how to do nuclear safeguards. And that still remains to be done. So the answer is, there is lots there. We are in much better shape. They are in much better shape today than they were 10 years ago. But the job is not done.

Senator Lugar, if I may offer one comment on your dialog on Iran, and Senator Biden. When I asked the Russians this same question, my colleagues in the nuclear weapons complex "Why do you do this with Iran," they first of all say, "It is not just a matter of money." So it is more complicated.

They say there are three principal reasons. The first one is money. The second one is what they do for that money provides jobs for the very people that they are worried about, the nuclear workers And in this case, thousands of jobs, not just a handful that we tend to establish with our programs. And that keeps down the turmoil in their nuclear complex.

The third thing it offers is prestige. You know, they want to export nuclear reactors all around the world. And they want to demonstrate that they can do this.

The other aspect, of course, from a political standpoint is that they view, as has already been said, Iran as a strategic trading partner. You know, to us it is a rogue state.

So as they look, then, at the risks versus the benefits, they come up with a different answer. The one thing that we do, which has us stuck right now, is we fail to differentiate between those things that are done by the Russians in Iran that represent a true proliferation danger versus those that do not represent such a great danger. And specifically, as I point out in my paper, when it comes to a nuclear power plant, we have said ourselves that we are willing to put some in North Korea, that we can manage that proliferation risk. However, what the Russians also did because of their entrepreneurial institutes or people, and the Iranians very much pushed for this, is to develop the capabilities for the rest of the fuel cycle. And that is a no-no from a proliferation standpoint.

So I think we must differentiate more specifically as to what is truly a nonproliferation problem and what can be managed. And I have not seen that distinction made sufficiently to break this roadblock. That is just my own opinion.

Senator LUGAR. That is very, very helpful.

Mr. Chairman, I conclude just by saying that Dr. Hecker has offered an anti-fungibility argument, namely that the Russian security now is improved. They are doing more of it themselves, as a result. And it is an interesting problem, perhaps less open because of all of this. But nevertheless, for those who are worried about United States funds being transferred to the Russians, they apparently are deciding to use it on security, my hope is the same as yours, that they will find out how much they have. So if something is missing, they have some idea what they have lost. The real fear has been they really would not have any idea in some of these situations. And therefore, all of the strange arguments about the nuclear suitcases and other items which might have been stolen is difficult, because no one really knows; and until they know they could not share it with us, even if they wished to do so.

Thank you, Mr. Chairman.

The CHAIRMAN. We survived 50 years in a hostile relationship on these issues. I am quite confident—I would love to have them to have that capability, even if I did not know what the results were, because I am confident we can survive much better with an emerging democracy that has this control. So however the heck they get the control, I feel better for it, even though it is through the reemergence of a security apparatus.

And I turn to recognize my friend from Florida, who has a keen interest in this overall subject matter. I knew he was an astronaut. I knew he was a man of many talents. But I was recently in Florida with a fellow who looked like something right out of a novel, who was wearing alligator boots and a hat, you know, this cowboy hat. He would not call it a cowboy—no, no, no, no. This fellow lives in the middle of the Everglades. I do not know where. He wrestles alligators and is a very successful businessman as well.

He started to talk about my friend, our friend, from Florida, he said, "This guy Bill Nelson is a great guy. And he goes through the Everglades with me. He has been out there. He goes out at night with me," et cetera.

So from now on, in the tradition of Fritz Hollings, who gives us all nicknames, I am referring to the Senator from Florida as the Swamp Fox.

So I yield now to the Senator, who I knew as an astronaut, who I knew as an accomplished legislator, but I never knew that he knew the Everglades as intimately as this gentleman, who I know knows the Everglades intimately. He invited me to come along, and I said I would rather go to space.

But at any rate, I yield to my friend from Florida.

Senator NELSON. Would you go in the Everglades with me sometime?

The CHAIRMAN. With you, I would, as long as you are the one jumping out and wrestling the alligator.

Senator NELSON. I have better sense than that.

Thank you, Mr. Chairman, and Senator Lugar.

The issue that I wanted to pursue here is the proliferation outside of Russia. And, Senator Lugar, your legislation, with your permission, I want to be a cosponsor.

Senator LUGAR. Great.

Senator NELSON. I think it is very important. And what I wanted to ask for, because of the hour, just a quick commentary on your reflection upon what more the United States can do. Let me tell you about what I discovered on a trip that my chairman had authorized for me to take to Central Asia and the Middle East.

In Uzbekistan, out in the Aral Sea, is the former Soviet anthrax and other bacteriological production. And the Aral Sea is evaporating. And the most recent international team that went out there to see it found all these tire tracks all around it. And this thing is unguarded. And there is no telling the anthrax spores that are buried, the carcasses that may be infected with plague that are buried. That is one thing.

And then we go on to Pakistan, and we specifically talk to President Musharraf. And then we go to India and talk to Prime Minister Vajpayee and talk to them about reducing tensions, as their two nuclear armies are facing off each other. And so here is another area that we clearly have an interest in, that there is not a proliferation of those two countries. In that case, nuclear; in the other case, bacteriological.

Your comments, please.

Dr. HECKER. I agree with you completely, Senator Nelson. And that is why I laid out in my written statement the fact that today, say post-9/11, we realize that those type of problems that you have just brought up are actually more urgent than the serious problems that are left in Russia and need to be addressed.

You made a good case for Uzbekistan and the biological weapons program. In my paper, I lay out on the nuclear side the equivalent challenge in Kazakhstan. You know, thanks to Nunn-Lugar, and as the chairman had already indicated, we got the weapons back from Kazakhstan, Ukraine and Belarus into Russia; in my opinion, the

single greatest accomplishment of the nineties in terms of nonproliferation.

However, we did not get the weapons-useable materials back from those countries. And the greatest amount is left in Kazakhstan. And should you visit some of the places in Kazakhstan, nuclear places, you would find the same situation that you just indicated, whether it is the former Soviet test site or nuclear reactors. Fortunately, in some of the reactors, as part of the MPC&A program, some of those upgrades were made. However, there is also—on the Caspian Sea, there is an old Soviet-style reactor that produced a lot of plutonium.

There are weapons-useable materials left in Kazakhstan. Our job is not done. Because of the concerns in Central Asia, those should be addressed in a comprehensive and urgent fashion.

Then you go on to a reactor in Uzbekistan. You have a reactor in Belgrade. You have reactors in much of the former Soviet Union. Many of those had highly enriched uranium as the fuel. There are programs, spotty programs, either through the International Atomic Energy Agency or the Department of Energy, for those reactors, for reactors in Ghana, in Algeria, in places in the world that today you say, "Why do we have reactors there, and why do we have, you know, potentially weapons useable material?"

I think we need to look at that and develop a comprehensive strategy and figure out how we go after that proliferation risk. I think it is very important, and it is very serious.

Dr. MENGES. Senator, I share your concern. And I think it is a very important one, the issues you brought up. I think when you look at India and Pakistan—I will not deal with the Central Asian countries—it is important to note how it is that it came to the fact that in 1998 both powers tested nuclear weapons and now are soon to have them deployed. And, of course, we have just seen this very significant face-off between them from mid-December 2001 until the present to some degree. It really has not resolved.

So the example of how serious the proliferation problem is—and that, of course, brings me to China, because it is the Peoples' Republic of China that has been the major source of the weapons technology for Pakistan. It has been part of its strategy to encircle India and to intimidate India. And that has been public. It is in the CIA reports, the unclassified CIA reports, that we can read as citizens. You have their classified information and reports.

I think it really brings us to the fact that as we look at this issue of the transfer of weapons of mass destruction, we have to look at both Russia and China and pay serious attention and can give serious thought to, again, giving both powers reasons not to continue doing this.

Senator NELSON. All right. Mr. Chairman, with your permission, Admiral Fargo is here, and I need to visit with him.

The CHAIRMAN. We are going to end right now, but I also want to set the record straight. My staffer pointed out to me that when I said the exploration deal with Iraq was Gazprom, it is really Lukoil. I was wrong. It is not Gazprom; it is Lukoil that has the contract. And I thank Dr. Haltzel for that.

Also, one of the reasons why I have been concerned, Dr. Menges, in light of your last point—and I am not looking for a response

now. We are going to have some hearings on this as we go along. And with your permission, we may very well invite you back. I know that is the bad news. You impressed us both, and we may ask you back. It is like contributing and finding out you are on the list.

But one of the reasons why I am a little concerned about the way the Nuclear Posture Review has been formulated, even though there is not a lot that is fundamentally new from the last administration, is it seems to give a green light to the possibility of renewed nuclear testing, which I find to be disquieting for the very reasons, doctor, you just pointed out.

The nations most likely to benefit the greatest from that, from re-engaging the nuclear testing and would be given an absolute green light, in my view, internationally if we began it, if we did it, talk about risk benefit analysis, is China. And I am very concerned that we do not send the wrong signals here.

But at another time I might ask you both, and at a minimum, with your permission, be able to pick up the phone or ask to meet with you privately to talk with you about that. And I am not making a generic criticism of the Nuclear Posture Review. If I look at it, there is not a whole lot that is fundamentally new in there. It is an emphasis that I am a little concerned about. But I just raise that for your thoughts at a later date.

I cannot tell you how much I appreciate both of your efforts. And I will conclude by saying: Every once in a while we get asked questions by school children or college students or the press, who do not follow the specifics, that are more looking at profile kinds of approaches to the Congress or to the Senate or the individual Senator. And we often get asked the question, "What is the single most valuable asset America has?" And that goes right along with the "Senator, do you have a bodyguard" question. I do not, by the way. None of us do.

And after I point out that our single greatest asset is our ideas and our values embodied in our Constitution, the single greatest physical assets we have—and you reinforce it, doctor—is the National Institute of Health and our laboratories. I cannot think of—if this were a Monopoly game, the last thing in the world I would trade—I would give up the Senate office buildings, I would give up the accoutrements of the Capitol, before I would give up those two institutions.

And they are a product of you, and you are a product of them. I just wish Americans had a better understanding of just what an incredible, incredible set of assets those laboratories are and the men and women who work there.

But I just wanted to state that, as they say, for the record. And I cannot thank you both enough. And as you know from experience, we will continue to trespass on your time and call upon your expertise.

We are adjourned. Thank you.

[Whereupon, at 12:57 p.m., the committee adjourned, to reconvene subject to the call of the Chair.]

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