AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

S. HRG. 108–52

NONPROLIFERATION PROGRAMS OF THE DEPARTMENT OF STATE

HEARING

BEFORE THE

COMMITTEE ON FOREIGN RELATIONS UNITED STATES SENATE

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

MARCH 19, 2003

Printed for the use of the Committee on Foreign Relations

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

U.S. GOVERNMENT PRINTING OFFICE

87–824 PDF WASHINGTON : 2003

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2250 Mail: Stop SSOP, Washington, DC 20402–0001

COMMITTEE ON FOREIGN RELATIONS

RICHARD G. LUGAR, Indiana, *Chairman*

CHUCK HAGEL, Nebraska
LINCOLN CHAFEE, Rhode Island
GEORGE ALLEN, Virginia
SAM BROWNBACK, Kansas
MICHAEL B. ENZI, Wyoming
GEORGE V. VOINOVICH, Ohio
LAMAR ALEXANDER, Tennessee
NORM COLEMAN, Minnesota
JOHN E. SUNUNU, New Hampshire

JOSEPH R. BIDEN, JR., Delaware
PAUL S. SARBANES, Maryland
CHRISTOPHER J. DODD, Connecticut
JOHN F. KERRY, Massachusetts
RUSSELL D. FEINGOLD, Wisconsin
BARBARA BOXER, California
BILL NELSON, Florida
JOHN D. ROCKEFELLER IV, West Virginia
JON S. CORZINE, New Jersey

KENNETH A. MYERS, JR., *Staff Director*
ANTONY J. BLINKEN, *Democratic Staff Director*

CONTENTS

	Page
Biden, Hon. Joseph R., Jr., U.S. Senator from Delaware, opening statement ...	3
Curtis, Hon. Charles B., president and chief operating officer, Nuclear Threat Initiative, Washington, DC	56
Prepared statement	60
Gottemoeller, Hon. Rose E., senior associate, Carnegie Endowment for International Peace, Washington, DC	49
Prepared statement	51
"Search and Destroy, The Mission to Find Unsecured Weapons of Mass Destruction Before Terrorists Do," an articled from Reader's Digest, April 2003, submitted for the record by Senator Richard G. Lugar	87
Smithson, Amy E., Ph.D., senior associate, The Henry L. Stimson Center, Director, Chemical and Biological Weapons Nonproliferation Project, Washington, DC	63
Prepared statement	66
Stratford, Mr. Richard J.K., Director, Nuclear Energy Affairs, Bureau of Nonproliferation, Department of State, prepared statement	32
Responses to additional questions for the record from Senator Biden	101
Wolf, Hon. John S., Assistant Secretary of State for Nonproliferation; accompanied by: Richard J.K. Stratford, Director, Nuclear Energy Affairs, Bureau of Nonproliferation, Department of State, Washington, DC	5
Prepared statement	9
Inter-agency Cleared Questions and Answers on the Waste Convention, March 19, 2003	16
Responses to additional questions for the record from Senator Biden	93
Responses to additional questions for the record from Senator Feingold	104

NONPROLIFERATION PROGRAMS OF THE DEPARTMENT OF STATE

WEDNESDAY, MARCH 19, 2003

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

The committee met, pursuant to notice, at 9:33 a.m. in room SD–419, Dirksen Senate Office Building, Hon. Richard G. Lugar (chairman of the committee), presiding.

Present: Senators Lugar, Sarbanes, Feingold, and Bill Nelson.

The CHAIRMAN. This hearing of the Senate Foreign Relations Committee is called to order. Today, the committee meets to receive testimony on nonproliferation programs in the fiscal year 2004 budget request of the Department of State.

The United States is engaged in a global war against terrorism. The war proceeds in a world awash with nuclear, chemical, and biological weapons and materials of mass destruction. Throughout much of the past decade, vulnerability to the use of weapons of mass destruction has been a No. 1 national security dilemma confronting the United States. We are poised to use massive military force in Iraq in response to the threat of weapons of mass destruction.

Terrorist organizations have demonstrated suicidal tendencies and are beyond deterrence, and we must anticipate they will use weapons of mass destruction if allowed the opportunity. The minimum standard for victory in this war is the prevention of any of the individual terrorists or terrorist cells from obtaining weapons or materials of mass destruction.

In September 2002, President Bush stated that, "Our enemies have openly declared that they are seeking weapons of mass destruction, and evidence indicates that they are doing so with determination," from the President. Less than 1 month later, the administration released its national strategy to combat weapons of mass destruction, which declares that strengthening nonproliferation programs is vital to our national security.

For more than 11 years, the United States has been engaged in efforts through the Nunn-Lugar Cooperative Threat Reduction Program to address proliferation at its most likely source, the former Soviet Union. Through these efforts, more than 6,000 warheads have been deactivated, numerous storage locations have been secured, and tens of thousands of former weapons scientists have been employed in peaceful endeavors.

We have come further than many thought we could, but much more needs to be done, and it needs to be done quickly. When the

Nunn-Lugar program was conceived, the terrorist threat was real, but it appeared distant. Now we live in an era when catastrophic terrorism is our foremost security concern. We must not only accelerate weapons dismantlement efforts in Russia, we must broaden our capability to address proliferation risks in other countries and attempt to build a global coalition against the proliferation of weapons of mass destruction.

Last year, I introduced legislation to facilitate the use of the Nunn-Lugar program outside the former Soviet Union. The restrictions that limit cooperative threat reduction to the former Soviet Union are an unacceptable hindrance to our national security. The President must have the ability to respond to threats posed by weapons of mass destruction anywhere in the world.

For fiscal year 2004, the Department has requested $385.2 million for the Nonproliferation, Antiterrorism, De-mining, and Related Programs account. This is a slight increase over fiscal year 2003. I am hopeful that funding for this critical account can be enhanced.

Within the NADR account, the Nonproliferation and Disarmament Fund, NDF, has made tremendous contributions to United States national security. Just last year, NDF managed the removal of more than a hundred pounds of highly enriched uranium from the Vinca research reactor in Belgrade. The program has destroyed 24 SS–23 missiles, 47 SCUD missiles, and 50 FROG, or intermediate-range, rocket systems. And the administration has requested $35 million for the program in fiscal year 2004, up from $14 million in fiscal year 2003. This increase reflects the need for funds in a new NDF program, the Dangerous Materials Initiative. This program will focus on identifying, securing, and removing dangerous materials from locations worldwide, and this proposal has been dubbed a pilot effort, and, if successful, should be made permanent.

Another important program in the NADR account is the International Science and Technology Centers. Tens of thousands of Russian weapons scientists have been employed by the United States in peaceful pursuits under this program. And if Russian weapons experts are placed in a position of economic desperation, they are more likely to sell their services elsewhere. I have encouraged U.S. corporations to explore the possibility of investing in Russian laboratories. This would complement our work to provide Russian weapons scientists with long-term employment options. I look forward to working with the Department to improve these important initiatives.

Last, I am hopeful that the committee will soon receive the State Department's views on the Nuclear and Radiological Threat Reduction Act of 2002. This bill, offered by Senators Biden, Domenici, and myself, provides a strategy for addressing so-called dirty bombs. A CIA assessment released last January called the use of radiological materials "a highly credible threat." We want to join with the Department to provide legislative authority that will assist in preventing the terrorist use of radiological weapons.

In sum, we have an opportunity to reduce the threat of former Soviet weapons of mass destruction left over from the cold war, and I applaud the efforts underway at the Department of State to cre-

ate new tools to address the threats posed by weapons of mass destruction. Likewise, efforts by Secretary Abraham and his team at the Department of Energy to expedite and intensify programs to safeguard nuclear weapons and materials are succeeding. Despite bureaucratic obstacles, time lines measuring the provision of equipment and expertise to protect the materials at Russian storage facilities, these have been accelerated by a full 2 years over previous plans, and this demonstrates a tremendous progress in just the last 6 months. Historically, no great power has ever possessed such an opportunity to work with a former adversary in removing the threat that confronts both of them. Statesmanship and patience will be required over many years.

We appreciate, especially, the witnesses who have come before us today. They possess extraordinary expertise about the proliferation threats that we face and the steps we can take to protect our Nation.

The committee will hear from two panels. First of all, we will have before us John Wolf, Assistant Secretary of State for Nonproliferation, and he will present the administration's budget request for these key programs. Then, on the second panel, we will have three witnesses, the Honorable Charles S. Curtis, president and CEO of the Nuclear Threat Initiative and a former Deputy Secretary of Energy; Rose Gottemoeller, senior associate at the Carnegie Endowment for International Peace and a former Deputy Under Secretary of Energy for Nuclear Nonproliferation; and Amy Smithson, a senior associate of the Stimson Center. We welcome all of you.

And before I ask Secretary Wolf to testify, I will ask unanimous consent and grant it that Senator Biden's statement be made a part of the record at this point.

[The opening statement of Senator Biden follows:]

OPENING STATEMENT OF SENATOR JOSEPH R. BIDEN, JR.

Mr. Chairman, let me begin by thanking you for holding today's hearing. The proliferation of nuclear, chemical and biological weapons, and the means to deliver them, is at the heart of the worst threats to United States security today.

It may be the threat of Iraqi nerve gas that keeps you up at night, or North Korean nuclear weapons, or terrorists making ricin and cyanide in the basement.

But the basic threat—and it's a *real* threat—is the same: weapons of mass destruction in the hands of people who are crazy enough to use them. We can debate over how to *combat* that threat, but there is *no* doubting the *gravity* of that threat today.

The first line of defense against proliferation is to keep people from getting the materials and technology for weapons of mass destruction in the first place.

- That's what the Nunn-Lugar program in the Department of Defense will do by building a plant to destroy 1.9 million Russian munitions filled with chemical weapons.
- That's what the Materials Protection, Control and Accounting program in the Department of Energy does by improving security for Russia's plutonium and highly enriched uranium.
- And that's what the State Department's International Science and Technology Centers, its Bio-Redirect Program, a related Energy Department program, and the Cooperative Research and Development Foundation all do by funding Russian projects that employ weapons scientists in work that could lead to productive civilian careers.

These programs aren't cheap; we spend over a billion dollars a year on them.

But that's a drop in the bucket compared to the cost of enduring chemical, biological, nuclear or radiological attacks on our homeland or on our forces overseas.

One big question is whether a drop in the bucket is enough. The administration is gradually increasing our non-proliferation efforts, having gotten religion after threatening for a year to cut those programs. But most of the increase is going into a couple of big-ticket items like chemical weapons destruction and plutonium disposition.

Meanwhile, our other programs just jog along. That's fine in a marathon. But it won't do, if a herd of bulls is chasing you. I wish the administration would view our non-proliferation programs with as much urgency as it does Saddam Hussein.

- If we don't bottle up Russia's dangerous materials and technology,
- if we don't retrieve the highly enriched uranium in research reactors around the world,
- if we don't find and secure the countless "orphaned" radiological sources around the world, and
- if we don't convince proliferators from Russia and China to North Korea, Pakistan and Iran to obey world-wide norms on non-proliferation,then there will be many more Saddam Husseins to contend with in the months and years to come.

Today's hearing is an opportunity to hear from the Honorable John Wolf, Assistant Secretary of State for Non-Proliferation, on what's *working* in non-proliferation, what's *not* working, and *why* we're not doing more.

It's also an opportunity for our three distinguished outside experts to address those same questions and to give their recommendations on where and how to increase our efforts so as to stem the tide of proliferation.

As we consider our non-proliferation programs, however, we all know that they function *in the context* of our non-proliferation *policies.* In my view, those policies have been slow in coming and deficient in statesmanship.

I'm not speaking about Iraq here. While I have criticized the President for not doing a better job of gaining international support for disarming Saddam Hussein, I also understand how difficult it is for *any* American leader to deal with the deep cynicism that prevails in much of the world.

All Americans hope that the President and our men and women in uniform will succeed, and that any war will be swift, decisive, and liberating for the Iraqi people.

But I *am* speaking, in part, about *North Korea.* In 2001, the administration inherited a policy under which North Korea had ended its plutonium production and was negotiating to put an end to its long-range ballistic missile programs.

Today, after two years of indecision between a policy of engagement and one of increased pressure, the issue of North Korea's illegal uranium enrichment program has led to an extremely dangerous situation.

North Korea has resumed its previously-suspended nuclear activities, while saying that only direct negotiations with the United States can remedy this. It could, at any moment, begin to reprocess the spent nuclear fuel that was safeguarded under the Agreed Framework.

If it does that, it could have enough material for another half dozen bombs within months—

- enough that it could test a nuclear weapon;
- enough that it could make the use of nuclear weapons part of its military doctrine, which it could not safely do with only 1 or 2 untested weapons; and
- worst of all, perhaps enough that it would decide to *sell* a weapon or two, or some of its plutonium.

Meanwhile, the administration waits for the war in Iraq to begin and end. It also waits for our allies—all of whom want us to begin talking with North Korea—to instead pressure North Korea to accept negotiations within a multilateral framework, where they could join us in pressuring it to give up its weapons programs.

I hope the administration succeeds. I urge North Korea to accept a multilateral forum for talks with the United States, I think a deal is possible that would satisfy both parties.

But I worry that the administration's years of putting North Korea on the back burner—and its current insistence that other countries must pressure North Korea before we will sit down to talk—leave us little margin in which to avoid the twin risks of a military conflict in Korea or a future nuclear catastrophe.

I hope that other countries, like Iran and Libya, will not draw the lesson that Iraq's only mistake in dealing with us was its failure to develop nuclear weapons quickly.

I worry that they, and other countries as well, may develop full fuel cycles, under old-style IAEA safeguards, as a means to get within months of having a nuclear

weapon before renouncing the Nuclear Non-Proliferation Treaty as North Korea has done.

Most of all, I hope that we will see someday a *real* non-proliferation strategy, one that accepts the urgency of the situation and orchestrates our policies and capabilities in a realistic manner.

- Opposing proliferation is not enough, even though we all do that.
- Increasing our non-proliferation programs will not be enough, even though I think it is essential to do that.

And neither is it enough to build a missile defense or threaten retaliation, when a terrorist nuclear device is more likely to show up in an anonymous ship or a U-Haul.

There are no easy answers here. But surely we should recognize that effective non-proliferation depends vitally upon cooperation among a large range of countries.

Surely we should understand that if the United States offends its allies and others with a "go it alone" approach in one sphere, that only makes it more difficult to gain the cooperation we need to stem the flow of dangerous equipment and technology world-wide.

If Assistant Secretary Wolf has difficulty getting other countries to work with us, he may be paying the price for actions he had nothing to do with, on issues ranging from global warming to the Biological Weapons Convention.

We meet at a time when the future is far from clear. One thing that *is* clear, however, is that non-proliferation will remain a vital issue for the United States and the world. I welcome the opportunity that this hearing gives us to address that issue, and I thank you again, Mr. Chairman, for putting together this important hearing.

The CHAIRMAN. And we welcome the fact that Senator Biden is participating. We wish him continued strength. And he is recovering rapidly, and will be vigorously before panels before very long.

Let me now call upon you, Assistant Secretary Wolf, for your testimony. If you have a statement, it will be made a part of the record in full, and please proceed as you wish.

STATEMENT OF HON. JOHN S. WOLF, ASSISTANT SECRETARY OF STATE FOR NONPROLIFERATION; ACCOMPANIED BY: RICHARD J.K. STRATFORD, DIRECTOR, NUCLEAR ENERGY AFFAIRS, BUREAU OF NONPROLIFERATION, DEPARTMENT OF STATE, WASHINGTON, DC

Mr. WOLF. Thank you very much. When you talk about expertise, of course, I defer to you, sir for the remarkable contribution you have made over more than a dozen years, both in terms of the concepts that you have put forward and in terms of the momentum that you have helped to give to us in the administration.

The CHAIRMAN. I would include my partner, Sam Nunn, in whatever accolades——

Mr. WOLF. And I would also include Senator Biden, as well.

The CHAIRMAN. Yes, indeed. Thank you.

Mr. WOLF. Mr. Chairman, thank you for including my full statement in the written record. I would like to make a few oral comments.

Thank you for inviting me to present our plans to combat proliferation. The situation, though, is not good; and, in fact, it is getting worse. So I am here today to tell you about some of the problems, as we see them, and to describe what we are doing about the spread of weapons of mass destruction, missiles, and advanced conventional weapons, and also, of course, to hear your thoughts and those of the committee.

Guarding against the dangers of the proliferation problem lies at the core of every government's most basic obligation, to protect the security of its citizens. Today, more countries than ever and more terrorists than ever have access or are seeking access to weapons of mass destruction. South Asia has crossed the nuclear threshold. Rogue regimes like North Korea, Iran, Iraq, and Libya seek to replicate that ambition. With globalization, there are more potential sources of sensitive material and technologies, and countries that used to be buyers of weapons materials and technology are now supplying such materials to others. Real countries with real names and real problems pose real security threats for us, for our allies, and for our friends. My written statement covers several of the countries mentioned, but I know the committee may have questions on any of these or others.

Mr. Chairman, the reason why countries seek weapons of mass destruction capabilities, so-called WMD weapons, are, I suppose, many. Some feel it is their right. Others feel this will give them a qualitative edge against larger or better-armed neighbors. Doubtless, some believe that this makes them invulnerable against the United States and others who share our belief in democracy, open markets, religious tolerance, and ethnic pluralism. Whatever the reason, we want to convince them otherwise. If we cannot convince them by diplomacy, then we are committed to working with our allies and our friends to do what is necessary to protect our citizens from the threats they pose.

And here is some of what we are doing. First of all, we are focusing on the still sizable residual dangerous material stocks from the massive weapons programs of the former Soviet Union. Twelve years ago, this committee launched several initiatives, including the Cooperative Threat Reduction programs which you and Senator Nunn cosponsored. Congress also enacted the Freedom Support Act and stronger nonproliferation authorities under the Foreign Assistance Act. The Departments of Defense, Energy, and State, among others, have locked down many threats, as you mentioned, Mr. Chairman, that arose from the arsenal from the former Soviet Union. This administration has accelerated funding for a number of projects, but there remains much more still to do, and we must continue boldly on this path.

We are spending nearly a billion dollars a year to improve security at Russian storage facilities, to consolidate stored fissile materials, to stop new production, and to purchase or blend down former nuclear weapons material to reduce supply. My State Department team provides the diplomatic lead for several threat reduction programs of the Department of Defense and Energy.

Just last week, Energy Secretary Abraham signed the Plutonium Production Reactor Agreement, which will lead to the permanent closure of Russia's three plutonium production facilities. The State Department itself runs the International Science Centers in Russia and Ukraine. They employ former Soviet weapons scientists in peaceful commercial projects to reduce the temptation for those scientists to hire themselves out to proliferators. Russian scientists in one project with the U.S. Public Health Service have identified two antiviral compounds potentially effective against smallpox. A Defense project on pathogen security is making important research

advances on alternatives to blocking smallpox. And we are using $30 million that the Congress gave us in last June's Defense supplemental to convert biological weapons factories. American firms can play a role, and we are pleased at the interest that, for instance, Eli Lilly, from your State, sir, has shown in producing medicines at one of these facilities.

Beyond Russia and the states of the former Soviet Union, the State Department runs the Nonproliferation and Disarmament Fund, NDF. It tackles, as you mentioned, some of the tough, urgent problems such as the removal of highly enriched uranium from Vinca, near Belgrade, to safe storage in Russia, and the destruction of missiles in Bulgaria. This is a photograph[1] of electronic and guidance components from an SA–23 missile that was destroyed in Bulgaria. That is the end result we want for a variety of weapons systems.

NDF has created "tracker," a computer system that enables nine countries and 66 ministries to inventory and account for weapons-sensitive exports. We are asking substantial increases for NDF to build on NDF's strong record of accomplishment, possibly including speeding up the removal of highly enriched uranium from Soviet-supplied research reactors. There are a number outside of Russia and the former Soviet Union, Soviet-supplied research reactors, and we need to accelerate progress. We are working with the Department of Energy on that.

NDF also will help underwrite our new worldwide Dangerous Materials Initiative. We seek projects that have the highest, most effective impact in controlling the production, storage, transit, and custody of materials that can be used for weapons of mass destruction. Here we have an example of radiation detection equipment installed at the Turkish/Armenian border. It looks simple, but it is effective, and we are doing that all across Central Asia and parts of Europe.

Allow me to cite briefly two other areas where my Bureau spends the money appropriated to it by Congress. One is the Export Control and Border Security Program. We are running programs in 35 countries. As this chart illustrates, we have broadened out from Central Asia to include new programs in Eastern Europe, the Baltics, South Asia, and Southeast Asia. These programs are important, and they help our partners to control the flow of dangerous technologies in the most dangerous parts of the world. My written statement goes on at some length about the work that we are doing on export controls in a variety of places, whether the Baltics, the Mediterranean, South Asia, or Southeast Asia.

The other area is our partnership with the International Atomic Energy Agency, the IAEA. Its safeguard programs aim to ensure that civilian nuclear facilities remain exactly that, civilian. And to enable the IAEA to ferret out covert weapons efforts, we are prepared to back tough safeguards with increased funding. But let me be frank. We are looking for tough, non-nonsense performance by the IAEA. If it is to have credibility as a guardian of the NPT regime, the IAEA will have to be more hard-edged in reporting viola-

[1] The photographs and chart referred to during Assistant Secretary Wolf's testimony can be found on pages 29-31.

tions. And the international community, all of us, will also need to be much more focused in fashioning political responses early to the challenges that we face.

Mr. Chairman, the State Department projects that I have just described are only part of what we are trying to do to keep bad stuff out of the hands of the wrong people. We are working with our partners around the globe, because proliferation is an international problem. First, the bedrock of countering the nuclear threat remains adherence to the Nuclear Nonproliferation Treaty. As I said earlier, the news has been grim from a nonproliferation point of view in South Asia, Iran, Iraq, North Korea, and a variety of other countries. The latter are inside the NPT. The South Asians were never under the NPT. But most of the 188 countries inside the NPT have made irrevocable decisions to forego the nuclear option. South Africa, Brazil, and Argentina actually turned back from nuclear weapons capabilities. Ukraine, Kazakhstan, and Belarus have abandoned the nuclear weapons they inherited at the fall of the Soviet Union, and they will stick firmly by the treaty, and the IAEA safeguards programs necessary to give confidence to it.

I would like to talk for a moment about South Asia. There are two very different countries with which we are pursuing boldly different relationships. Each poses special opportunities, and each poses special challenges. We need to take account of the unique situation posed by their possession of nuclear weapons.

From my perspective, ongoing tensions in South Asia make especially important those countries' controls on sensitive technologies. We are also mindful of the risk that nuclear weapons could be used either intentionally or accidentally in a crisis. We discuss these issues regularly with officials from both countries, and I convey our concerns and I have helped propose possible solutions whenever I meet with my Indian and Pakistani counterparts. In all of our actions in South Asia, we continually weigh our mutual interests in cooperation against our obligations under the Nuclear Nonproliferation Treaty, the Atomic Energy Act, and our membership in the Nuclear Suppliers Group.

Others at the State Department shepherd U.S. participation under the Chemical Weapons Convention and the Biological Weapons Convention, but my bureau leads active efforts in other multilateral nonproliferation regimes that address weapons of mass destruction—the Australia Group, the Zangger Group, Nuclear Suppliers Group, Missile Technology Control Regime, and Wassenaar for conventional weapons. Each of these regimes has 30 to 40 members. We are working to make them more effective at stopping states and terrorist groups, international terrorist groups, seeking WMD weapons and technologies.

Stronger regimes would be a plus, but it is not enough, in part, because the regimes are mostly voluntary and they are not legally binding. Frankly, too many states are engaging in rhetorical handwringing, but too few are willing to match their words with action. To protect their security interests, and ours, others need to exercise greater scrutiny over their exports, and they need to use their diplomacy more actively to dissuade proliferators.

We have other tools to fight proliferation. One is interdiction. It is not a panacea; but, where properly planned and executed, it can

help to stop proliferating countries or terrorists from getting new weapons, or at least can slow them down.

A second tool is sanctions. These are useful in deterring proliferation, but they rest on a crazy quilt of overlapping authorities that we would like to work with you to consolidate and rationalize.

A third tool is the positive measures, such as the commitment of G–8 leaders last summer at Kananaskis. Leaders pledged to promote nonproliferation projects around the world, starting with Russia, to advance safety at nuclear facilities and to cutoff terrorist access to WMD materials.

Our nonproliferation efforts, Mr. Chairman, are a web of laws, projects, policies, and practices. They must reinforce each other. We must be quick to act when necessary.

Sir, I am gratified that you asked how the Congress can strengthen what we are doing, and I have a couple of suggestions. Obviously, I ask your support and the Congress' support for the stepped-up funding for our programs in fiscal year 2004. These requests address the ominous threat of terrorist access to weapons of mass destruction. I would urge your committee, as well, to support the President's proposal to broaden Cooperative Threat Reduction spending authorities beyond the former Soviet Union by allowing the President to use those resources however and wherever he best can. And finally, I would hope that the Congress would support the President's request for permanent authority to waive the requirements for CTR certification, for permanent authority on construction of the Shchuch'ye chemical weapons destruction plant.

Mr. Chairman, we are all partners in nonproliferation. My Bureau is in action on a variety of fronts. I would be happy to describe that action in whatever additional detail would be helpful to you and your committee.

Thank you very much.

[The prepared statement of Mr. Wolf follows:]

PREPARED STATEMENT OF HON. JOHN S. WOLF, ASSISTANT SECRETARY OF STATE, BUREAU OF NONPROLIFERATION, DEPARTMENT OF STATE

I am pleased to have the chance to talk with you today about our policies and initiatives on nonproliferation. I know we share a view that weapons of mass destruction in the possession of hostile states and terrorists are one of the greatest security challenges facing the United States. Over eleven years ago, this chairman of this committee showed extraordinary foresight in proposing the Nunn-Lugar authorities to address a problem that has broadened and become more serious.

Since then, our nonproliferation policies and programs have come a long way. Executive agencies have forged powerful partnerships in many areas.

The Cooperative Threat Reduction program has partnered the Departments of Defense, Energy and State on vital programs within the former Soviet Union. These include programs managed by my own Bureau of Nonproliferation (NP) in the Science Centers in Russia and Ukraine, and the Nonproliferation and Disarmament Fund (NDF) projects and export control assistance programs, which can operate worldwide. I will have a few more words to say about other areas of interagency cooperation later in my testimony.

We face a world in change, and in the nonproliferation world, this change is not for the better. I'd like today first to offer some thoughts about the worldwide situation we face. Will then describe some of what we are doing about it.

Our challenges have multiplied in many worrisome ways since the end of the Cold War. During the first 40 years following World War II, we and our allies depended largely on deterrence and tight export controls to limit the spread of dangerous weapons. Looking back, things seemed more manageable—perhaps because the Soviet threat superseded all others.

Today, we face a substantially increased risk from countries and international terrorist groups with access to chemical and biological weapons, and at least several states with access to components and technology for making nuclear weapons.

Nuclear issues have the most public visibility. The Nuclear Nonproliferation Treaty (NPT) remains the cornerstone of U.S. nuclear nonproliferation policies, and we can take some satisfaction that, of the 188 countries that are parties to the Nuclear Nonproliferation Treaty, most have made irrevocable decisions to forego the nuclear option. States like South Africa, Brazil and Argentina actually turned back. Ukraine, Kazakhstan and Belarus chose not to try to maintain the nuclear weapons that were left on their territories following the Soviet Union's collapse.

However, we can no longer say we have held the line at five nuclear armed states. South Asia has crossed the nuclear threshold. So too apparently has North Korea. Iraq, Iran, and Libya are among the list of nuclear wannabees. These wannabees seek nuclear weapons capabilities even though they are all parties to the NPT.

We are determined to do what it takes to push back their efforts. We need to get this right. Failure to arrest nuclear proliferation would profoundly affect U.S. and allied defense interests and policies.

Curbing supply of dangerous technologies, including nuclear technology, is made more difficult by the ambivalent approach of many governments in Europe and Asia. While combating proliferation is, for us, a central, focusing national security issue, many others trade off concerns about the spread of WMD against economic and political interests. For us, though, we clearly see a threat—from real countries, with real names, and real capabilities, capabilities which pose real security problems for the U.S. and our allies and friends.

Iraq is a unique threat; and one the President is determined to see ended. For twelve years, Saddam Hussein has reneged on his disarmament commitments and defied the international community by continuing to produce prohibited weapons of mass destruction and delivery systems. That defiance will now end. We are resolved to eliminate Iraq's ability to use WMD to threaten its neighbors, our friends and allies, and our interests. And we are determined not to wait until it is too late.

Some ask why disarming Iraq is more urgent than resolving North Korea's nuclear threat. The facts are different, and so too should be our policies. While all options are on the table, we will be patient yet deliberate in working for denuclearization of the Korean Peninsula. We are working quite closely with our South Korean and Japanese allies, with Russia, China and with the EU to seek a peaceful, multilateral path to end the North's nuclear weapons program.

Iran is another proliferation problem—both for its indigenous programs and for the risk of onward proliferation. Recent visits to Iran by the IAEA have made all too clear what we have been saying publicly and privately to counterparts in the EU, Russia, China, and other countries in Asia—Iran has a sizable, heretofore clandestine, effort to acquire capabilities that makes sense only as part of an effort to produce fissile material for weapons. It has done this while maintaining the pretense of adherence to its NPT safeguard obligations.

As I will expand on in a moment, we count on IAEA to be forthright and forceful in identifying problems and safeguards violations, and we expect it to insist on immediate action by Iran to end its clandestine nuclear weapons programs. This is not just an IAEA problem; again the international community must act in concert. All nations that have not yet done so should sign the Additional Protocol. That would enhance global security through more rigorous safeguards.

The situation in South Asia deserves special mention, as it is quite different from the dangers posed by the rogue states. India and Pakistan are two very different countries, with which we are pursuing boldly different relationships. Each poses special challenges. We need to take account of the unique situation posed by their possession of nuclear weapons. From the NP Bureau perspective, ongoing tensions in South Asia make especially important these countries' controls on sensitive technology. We are also mindful of the risks that nuclear weapons could be used, either intentionally or accidentally in a crisis. We discuss these issues regularly with officials from both countries: I convey our concerns and help identify possible solutions whenever I meet with my Indian and Pakistani counterparts. But with India, there are tough questions about how far we can go. We must continually weigh our mutual interests in cooperation against our obligations under the NPT, NSG, and the Atomic Energy Act.

In the face of such challenges, what's missing in today's international debate is a sense of outrage; international standards of acceptable conduct—embodied in treaties like the NPT and other nonproliferation treaties—are being violated by countries and the world is reluctant to impose consequences. I have said to my colleagues, in Europe and India for instance, that what the rogue states are demonstrating is a deep seated antipathy for our systems based in law, religious toler-

ance, and respect for human rights and ethnic pluralism. Today their target may be the U.S., but one can well expect these states to strike out against all who share these values.

Against this grim backdrop, there is a risk that complacency, inertia, and timidity are preventing the international community from blocking attempted violations, or from reacting decisively to them. Clearly, we cannot simply wring our hands and hope things will get better. We have an active agenda, in partnership with a wide range of other countries and international organizations, and unilaterally.

I have set five goals f or the Nonproliferation Bureau. They are:

- Curbing the supply of material, equipment, and technology for WMD and missiles to proliferators or terrorists;
- Persuading states seeking to acquire WMD and missiles to cease those efforts;
- Maintaining and strengthening the international system of nonproliferation treaties and regimes;
- Promoting international nuclear cooperation under the highest nonproliferation and safety standards; and
- Containing the transfer of advanced conventional arms to states of concern, and to terrorists.

We focus considerable attention on the need to stop leakage of WMD expertise, sensitive materials and technology from the states of the Former Soviet Union. Looking first at nuclear materials, it's axiomatic that one cannot build a nuclear weapon without fissile material. Thus a key part of our efforts relates to securing the hundreds of tons of such materials present mainly in Russia and other states of the FSU. The FY 2004 budget request currently before the Congress seeks about $1 billion for our Global Partnership effort in the former Soviet Union to prevent the spread of weapons of mass destruction. This request includes $459 million for Department of Energy (DOE) programs to prevent proliferation of nuclear weapons, material and expertise, $451 million for Department of Defense (DOD) Cooperative Threat Reduction programs, and $81 million for Department of State programs to prevent the spread of weapons of mass destruction and expertise.

Our goals for nuclear nonproliferation within this effort are to:

- Improve security at Russia storage facilities;
- Consolidate stored fissile materials;
- Stop new production; and
- Purchase or down-blend former nuclear weapons materials to reduce supply.

My bureau provides the diplomatic lead for several of the nonproliferation and weapons reduction programs funded and implemented by the Departments of Defense and Energy. Just last week, for example, Secretary Abraham was able to sign the Plutonium Production Reactor Agreement thanks in part to such support from the State Department. Similarly, with Energy, we are leading the multilateral negotiations on an agreement to finance Russia's plutonium disposition program.

We also oversee the U.S. Government's participation in the International Science Centers in Russia and Ukraine. These provide flexible platforms for engaging former Soviet WMD scientists and for redirecting them toward peaceful, commercial projects, and away from rogue states or terrorists. The centers also are used as partners when needed to support other U.S. nonproliferation programs. The Defense Department, for example, as a partner of the Moscow Center, contributed assistance for pathogen security projects when it was unable to negotiate an implementing agreement for such biological weapons nonproliferation research projects in Russia.

The centers have had some notable successes. Russian scientists regularly tell us that the prospect of working with the Center provides them a genuine incentive to spurn offers from rogue states, and we continue to receive reliable reports that such offers are being made. Research done under the auspices of the Science Centers has produced tangible benefits for Russia—and for us. One project, for example, resulted in development of a high altitude laser which can detect leaks from gas pipelines and is now under commercial development. Another has identified new electronics applications for beryllium that allow a shift from weapons to commercial manufacturing.

Recently, some of our biggest achievements have been in the bio-medical sphere. In research jointly sponsored by State and the U.S. Public Health Service, Russian scientists have identified two anti-viral compounds that hold promise of effectiveness against smallpox. If this effort bears fruit, we could have an important new tool in the event our nation is ever exposed to attack with a smallpox virus. Similarly, Russian researchers in the program are hard at work developing kits for rapid diagnosis of West Nile, Newcastle, and Avian flu. I am sure all members of this

committee who have poultry producers in your states understand the importance of reacting quickly to stop these diseases.

Improved access is another important benefit of our engagement programs. The economic advantages of participating in them are so great that with time and persistence we have steadily reduced the number of institutes closed to us. In recent months members of my staff were the first Americans to receive a thorough tour of the Berdsk biologics facility and the Vostok joint stock company facilities at Omutninsk. They also were the first Americans to be received in any fashion at the Institute of Toxicology in Saint Petersburg. The Kirov-200 facility you tried to visit, Senator Lugar, still eludes us despite much effort. We will not give up, however. We have developed good relations with members of the local university and are now looking into the feasibility of working with the EPA to site an environmental monitoring station there.

In the coming year, we will continue our engagement efforts with a significantly increased focus on chemical scientists, and we will reform our efforts to better guide scientists to commercial self-sustainability. This means in the first instance reorganizing the Moscow and Kiev centers to clarify lines of authority and add staff specialized in the marketing of scientific research. The $30 million Congress provided in Defense Emergency Response Funds for FY 2002 for conversion of former bio-production facilities will also play an important part in the sustainability effort. We are using it to assist such institutes to obtain western business development expertise and to foster the formation of a bio-consortium led by the Moscow Medical Academy to assist Russian biological researchers in marketing their research. We will also, of course, help support American firms seeking to invest in projects at these institutes. We are very grateful, in particular, for the interest shown by the Eli Lilly company in producing a drug at one of these institutes. We will assist and encourage others to follow.

In the year ahead we will press this case with Russian authorities, and we will insist on more access and bringing more institutes into the tent. We want to establish a basis for real commercial partnerships with U.S. industry, but progress has been slow, frustrated by Russian bureaucracy and suspicion.

Another tool we use to curb supply globally is our Nonproliferation and Disarmament Fund, for which the President has requested $35 million in FY 2004, more than double the FY 2003 appropriation. NDF has tackled tough, urgent, and often unanticipated problems on a worldwide basis. In the recent past, it has negotiated and executed the removal of Highly Enriched Uranium (HEU) from Serbia, the destruction of missiles in Bulgaria and the return from Cyprus of nuclear reactor parts en route to the Middle East. The NDF has also led a successful international effort to develop a state-of-the-art automated tracking system referred to as Tracker designed to help governments strengthen their control over sensitive exports or transshipments. Tracker has been a key tool for engaging nearly two dozen countries—either as design partners, current users, or in discussions of future implementation. Now deployed throughout Central Europe to track sensitive exports, this system is increasingly of interest to countries in Western Europe and Asia as a means to track terrorists and to monitor the movement of dangerous materials. The State Department is closely coordinating this export control assistance tool with other U.S. equipment assistance provided to these states. The State Department is closely coordinating this export control assistance tool with other U.S. equipment assistance provided to these states.

In the future, we expect the NDF to focus on urgent, unanticipated opportunities to eliminate missile systems; destroy, secure and remove biological pathogens; eliminate chemical agents and weapons; rescue orphaned radiological sources; inventory and track dangerous materials; assist countries in developing laws and regulations to control the movement, storage, and security of dangerous materials; and encourage countries in the Middle East and South Asia to use the Tracker system and to assist with its development.

The NDF funding increases that we seek anticipate the substantially accelerated effort we will make to work worldwide to help countries at risk secure dangerous materials. We want to help countries establish better accounting and control mechanisms to secure radioactive materials, pathogens, and sensitive precursors, from the laboratory to movement in internal and international commerce. This Dangerous Materials Initiative (DMI) aims for synergies among U.S. Government agencies and programs, and also with international partners and international organizations.

At this point, we are not seeking separate funding for the DMI but expect that the Nonproliferation and Disarmament Fund will be a major resource, along with other U.S. assistance programs. Although still in the design stage, we are aiming to encourage international support under this umbrella at the G-8 Evian Summit

in June, and we have already started several small pilot projects to prove our concept and to survey worldwide legal authorities for controlling dangerous materials.

Another of our major programs to curb supply is centered in State's Export Control and Related Border Security (EXES) Program. We provide policy direction and coordination and draw on the expertise of the Departments of Commerce and Energy, as well as Customs and Coast Guard (now incorporated into the Department of Homeland Security). We also work closely with the Department of Defense to coordinate our efforts.

We currently have active programs in some 30 countries, with 20 EXBS program advisors serving overseas engaging foreign officials on ways to strengthen controls, directing training activities and providing much-needed detection and enforcement equipment. In a number of countries officials trained by EXBS or using EXBS-provided equipment have seized sensitive goods or weapons components bound for countries or programs of concern. U.S. export control assistance is largely responsible for over a dozen European and Eurasian countries adopting comprehensive export control laws that meet recognized international standards.

Even before September 11, 2001, the EXBS program and its advisors were active in key Central Asian countries, a factor that doubtless paid unanticipated dividends when these countries were thrust into the front line of the war against terrorism. Following September 11, increased EXBS resources were focused on this strategic region to help these countries, and key countries in the Caucasus as well, shore up vulnerable borders and improve capabilities to deter, detect, and interdict the transit of illicit goods and weapons.

In Europe, we are increasing EXBS assistance to the Baltics and Southeastern Europe, and Mediterranean transshipment points like Malta and Cyprus. All states, especially those with large ports, must do their part to forestall the transit of dangerous materials and technology.

Export controls can only succeed as a multilateral endeavor, creating a network of controls that is capable not only of detecting and interdicting illicit shipments but deterring them. In the last twelve months, we have hosted major conferences and seminars for European, Central Asian, Caucasus, Middle Eastern and Southeast Asian countries. Countries have stepped forward to take new leadership roles, provide training and equipment. Countries with inadequate controls are committing to adopting new laws to strengthen them and devoting increased resources to enforcement. Other governments are now talking to each other about areas for cooperation in export controls and border security, thereby complementing and reinforcing our efforts.

The State Department also works cooperatively with other, related agency programs to synergize efforts abroad. For example, we have a close working relationship with both the Department of Energy's National Nuclear Security Administration (DOE/NNSA), which funds and manages the Second Line of Defense program that provides advanced radiation detection equipment to foreign governments, and with Customs/DHS, which has the lead on the Container Security Initiative (CSI) designed to secure the supply line of cargo shipments destined for U.S. ports. The State Department's Export Control and Related Border Control Assistance (EXBS) program has worked with NNSA to support NNSA's assessments of countries in which NNSA is considering providing material assistance. NNSA experts perform repairs and maintenance on radiation detection equipment previously provided under both Defense and State programs. State is also working closely with U.S. Customs/DHS officials to ensure that U.S. Government approaches to countries with "megaports" to join the Container Security Initiative are integrated with our broader nonproliferation policy and with export control outreach and assistance efforts we are carrying out in some of these countries.

Our third goal, making the export control regimes stronger, is also one on the supply side. As we noted in our response to last year's examination of the regimes by GAO, the Administration is in process of reviewing the nonproliferation regimes. Since September 11, anti-terrorism has been adopted as a formal goal of the Australia Group, Missile Technology Control Regime, Wassenaar Arrangement, and Nuclear Suppliers Group. We have won Australia Group agreement to adopt catch-all provisions and last year the Group issued its first export control guidelines incorporating catch-all, setting the standard for the other regimes. The Wassenaar Arrangement amended its dual-use export control list to begin adding items specifically of concern for terrorists, and this year is reviewing its controls on man-portable air defense systems (MANPADS) like SA–7s and SA–18s with a view to further strengthening them.

In the year ahead we intend to push adoption of catch-all controls and denial consultation in areas where they haven't yet been implemented, continue to review control lists to make sure they are keeping up with technology and the threat and, as

always, look for ways to strengthen implementation and enforcement. We are also working in the NSG and MTCR on other ways to tighten further these agreements. We will be sending to Congress soon a strategy report, prepared in partnership with our colleagues in the Arms Control Bureau.

But while strong regimes are necessary, they are not enough. Most are voluntary agreements, which aren't legally binding. I talked a moment ago about the differences we have with Europe. I think we spend too much time debating what I'd call "architecture"—treaties, arrangements etc.—and not enough time discussing how to put in place a strong commitment to action to back up those fine words on paper. What we're not doing enough of is taking concrete action to enforce commitments more strictly and make proliferation more costly—politically, and financially.

Tightening regimes and improved enforcement are part of the answer. Many governments tell us about their export controls and laws. But what counts is their willingness to enforce the laws, to make clear there is a price for violating the law. Proliferators need to know they face isolation and consequences if their efforts continue. Ending the threat posed by Iraq's weapons of mass destruction will send a powerful signal to other proliferators that the world will not stand idly by.

And, North Korea must not imagine it can blackmail the international community. The world community has spoken on this in the IAEA's report to the Security Council. As Secretary Powell said, "The United States stands ready to build a different kind of relationship with North Korea, once Pyongyang comes into verifiable compliance with its commitments. The North must be willing to act in a manner that builds trust."

India and Pakistan and two very different countries with which we are pursuing boldly different relationships. Each poses special challenges. We need to take account of the unique situation posed by their possession of nuclear weapons. From the NP Bureau perspective, ongoing tensions in South Asia make especially important those countries' controls on sensitive technology. We are also mindful of the risk that nuclear weapons could be used, either intentionally or accidentally in a crisis. We discuss these issues regularly with officials from both countries. I convey our concerns and help identify possible solutions whenever I meet with my Indian and Pakistani counterparts. With India, there are tough questions about how far we can go. We must continually weigh our mutual interests in cooperation against our obligations under the Nuclear Suppliers Group, the NPT and the Atomic Energy Act.

To help deal with determined proliferators not prepared to conform to international standards, we employ a number of tools. One important tool I mentioned earlier is the IAEA. The Agency has a vital role in ensuring that civilian nuclear facilities are not diverted to weapons purposes, ferreting out covert weapons efforts, and reducing the risk of nuclear and radiological terrorism.

The IAEA underpins the basic bargain of the NPT—nonnuclear weapon state access to nuclear technology in exchange for forgoing nuclear weapons. In the current environment, where some non-nuclear weapon states are violating the basic tenets of this bargain, the IAEA must aggressively pursue every hint of questionable activity and frankly and fully report to the world whenever safeguards are compromised or violated.

The IAEA needs to be strong enough to alert us to tomorrow's problems, wherever they occur. More than 70 countries have now signed on to the Additional Safeguards Protocol, which provides the IAEA with more information and broader access rights. But despite a large expansion of responsibilities, the IAEA's budget has remained essentially flat. That is why the United States is supporting the Agency's efforts to increase its budget to implement its safeguards responsibilities, working diplomatically with others to get them on board.

Beyond safeguards, IAEA has an important role in preventing nuclear terrorism. After September 11, 2001, the IAEA moved quickly to develop a comprehensive program to help states protect against acts of nuclear and radiological terrorism. Just last week the Department of Energy, working with IAEA and Russia, hosted a Conference to validate a new work program to control radioactive sources. Part of our voluntary contribution will support this important effort.

While regimes and institutions, such as the IAEA, can make important contributions to halting the spread of WMD and WMD delivery systems, they alone are simply not enough. The United States also has a variety of tools to help us in these instances:

Interdiction: Where controls fail and international bodies are unable or unwilling to act, interdiction is an option; properly planned and executed, interception of critical technologies en route to dangerous end users can make a difference. At a minimum, interdiction can lengthen the time that proliferators will need to acquire new weapons capabilities, and demonstrates our commitment to combat the spread of

weapons of mass destruction and their delivery systems. In some instances, interdiction can prevent proliferators from acquiring new capabilities. Procurement efforts are becoming increasingly sophisticated, and our efforts to halt those procurements must keep pace.

Sanctions: On sanctions, from our vantage point, companies have a choice: sell to proliferators, or sell in the United States, but not both. Where national controls fail, and where companies make the wrong choice, there will be consequences. U.S. law requires it. That said, U.S. legislation currently offers a crazy-quilt of overlapping requirements that are difficult for foreign entities to understand (which is required to deter them from misbehaving) and that are often difficult to apply in a flexible manner to advance our nonproliferation policies. We hope to be able to work with you to consolidate and rationalize these important authorities.

Positive Measures: "Sticks" are an inescapable reality in fight against proliferation. But carrots too can play a useful part.

The G-8 Leaders' agreement at the Kananaskis summit last June to a new Global Partnership was an important step that reflects the shared view that nonproliferation work remains under-funded. They embraced an initiative to widen European and Japanese support to complement and accelerate this process. G-8 leaders pledged to raise up to $20 billion over ten years for nonproliferation, disarmament, counter-terrorism, and nuclear safety projects to prevent WMD from falling into the hands of terrorists or states who sponsor them.

Since the summit, Under Secretary of State for Arms Control and International Security, John Bolton, has continued to lead U.S. efforts to ensure the success of the initiative. The U.S. has so far carried most of the burden. More cooperation is needed from Europe and Japan. We want total G-8 commitments, by the Evian summit, to meet the $20 billion target. The Senior Officials Group continues to press Russia to take concrete actions to meet donors' concerns about exemption from taxation and adequate liability protections in order to move forward.

We also look to the business community, which has key interests in stable foreign partners. The same protection of intellectual property, and controls on illegal exports of technology, that they seek, are important tools in the fight vs. proliferation. Good corporate governance, transparency, the rule of law—both government and the business community have a shared interest in seeing our partners strengthen the institutions that make the international marketplace transparent and predictable. Business itself prospers from a secure international setting.

But the most vital partnership of all is, of course, between the Administration and the Congress. You give us the tools we need to take on our vital mission through spending authorities and appropriations.

Since you have asked, Mr. Chairman, that I come today with ideas for what Congress can do now to help strengthen our efforts, I would like to offer some general proposals.

You encouraged us to think broadly and creatively. The President has requested major funding increases this year to allow nonproliferation programs to take advantage of new opportunities in the post September 11 world. We of course seek your authorization of those amounts, as well as the budget proposal for Science Centers and bio-engagement, and our voluntary contribution to the IAEA.

The U.S. may very well be confronted with new requirements that go beyond our existing authorities. So we urge the Congress to support the President's proposal to broaden the current Cooperative Threat Reduction spending authorities to permit use of up to $50 million of CTR funds beyond the Former Soviet Union, allowing the President to use those resources in the best way he can.

And, of course, I strongly urge Congress to support the President's request that the authority to waive the requirements for CTR and Title V of the Freedom Support Act certifications be made permanent. We also strongly support permanent waiver authority to cover construction of the Shchuch'ye chemical weapons destruction plant in Russia.

CONCLUSION

Nonproliferation is a Team Effort:

We are all partners in the worldwide effort to make the world safer. There are many areas where the interlocking nature of the challenges confronts us all.

Nonproliferation challenges are multiple and multiplying. We need to focus on the meat of the issue, and not lose the forest for the trees.

Enhancing nonproliferation dialogue with our worldwide partners is essential to success. But dialogue is no substitute for concrete action, and where dialogue fails we will use other means—whether multilateral, plurilateral, or unilateral. That was at the heart of President Bush's National Security Strategy.

There are lots of opportunities to make progress; it's up to us to transform opportunity into reality.

Thank you.

INTERAGENCY-CLEARED QUESTIONS AND ANSWERS ON THE CONVENTION, MARCH 19, 2003

I. PURPOSE

Question 1. What is the purpose of the Waste Convention?

Answer. The purpose of the Waste Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Waste Convention) is to achieve a high level of safety worldwide in spent fuel and radioactive waste management. This is to be accomplished through the enhancement of national measures and international cooperation. It is anticipated that there will be a thorough examination of national programs through an exchange of views, so that Contracting Parties can learn from each other's solutions to common and individual safety problems. The process is viewed as a mechanism for contributing to improving worldwide safety.

Question 2. Is there a relationship between the purpose of the Waste Convention and the Convention on Nuclear Safety (CNS)?

Answer. Yes. The CNS, which establishes a legal obligation on the part of the Contracting Parties to apply certain safety principles to the construction, operation, and regulation of civilian nuclear power reactors, contains a preambular statement affirming a commitment by Parties to develop a similar convention on the safe management of radioactive waste. Together, the Waste Convention and the CNS formulate a joint mechanism to strengthen the worldwide safety culture.

Both Conventions are consistent with U.S. policy. The United States became a Contracting Party to the CNS on July 10, 1999 and signed the Waste Convention on September 29, 1997.

II. SCOPE

Question 3. What is the scope of the Waste Convention?

Answer. The Waste Convention applies to the safety of spent fuel and radioactive waste management resulting from civilian nuclear applications. It also covers such issues as radioactive waste management resulting from civil applications; disused sealed sources no longer needed; operational radiation protection; management of nuclear facilities; decommissioning; emergency preparedness; legislative and regulatory frameworks; and transboundary movement. It does not include naturally occurring radioactive materials (NORM), unless a Contracting Party declares it as radioactive waste for the purposes of the Waste Convention.

Question 4. Does the Waste Convention apply to military radioactive waste or spent nuclear fuel?

Answer. The Waste Convention does not apply to a Contracting Party's military radioactive waste or spent nuclear fuel unless the Contracting Party declares it as spent nuclear fuel or radioactive waste for the purposes of the Convention. The Waste Convention would apply to military radioactive waste and spent nuclear fuel if and when such material is permanently transferred to and managed within exclusively civilian programs. The Waste Convention contains provisions to ensure that national security is not compromised and that States have absolute discretion as to what information is reported on material from military sources.

In the United States, all military radioactive waste and spent nuclear fuel is normally transferred to civilian programs for disposal. The Waste Convention will not, however, affect ongoing U.S. military operations in any way, nor will classified information be covered in the U.S. national report.

Question 5. Does the Waste Convention lay out international standards Contracting Parties must meet?

Answer. No. The Waste Convention in and of itself does not delineate standards the Contracting Parties must meet. Contracting Parties are required to take "appropriate steps" to ensure safe management of spent nuclear fuel and radioactive waste and to report on their activities as described within the articles of the Waste Convention.

Question 6. What are the obligations of Waste Convention Contracting Parties with respect to internationally endorsed standards and criteria?

Answer. The Waste Convention obligates Contracting Parties to consider internationally endorsed standards and criteria, however a Contracting Party is not bound by them in setting national protective methods and radiation standards which will govern even as to transboundary effects.

Question 7. What are the Waste Conventions obligations with respect to transportation and how do they relate to the International Atomic Energy Agency (IAEA) Code of Practice on International Movement of Radioactive Waste?

Answer. Waste Convention obligations regarding transboundary movement are a restatement of relevant provisions of the non-legally-binding IAEA Code of Practice on International Movement of Radioactive Waste.

Question 8. What are the implications of Article 27, Transboundary Movement, for:

- "1(v): a Contracting Party which is a State of origin shall take the appropriate steps to permit re-entry into its territory, if a transboundary movement is not or cannot be completed in conformity with this Article, unless an alternative safe arrangement can be made."

Answer. A State of origin must take the appropriate steps to permit re-entry of a shipment that cannot be completed unless other safe arrangements can be made. This avoids situations of stranded shipments. The Convention recognizes that any State has the right to ban foreign radioactive waste and spent fuel import into its territory.

- "3(ii):. . . a Contracting Party to which radioactive waste is exported for processing to return, or provide for the return of, the radioactive waste and other products after treatment to the State of origin;"

Answer. The Convention does nothing to prejudice or affect the rights of the Contracting Party to return wastes to their State of origin.

- "3(iii): . . . a Contracting Party to export its spent fuel for reprocessing;"

Answer. The Waste Convention does nothing to prejudice or affect this right. For U.S. origin fuel, other countries are required, under the terms of the applicable Agreement for Peaceful Nuclear Cooperation with the United States, to seek the consent of the United States prior to the export for reprocessing of any U.S.-obligated spend fuel. The Waste Convention has no effect upon these U.S. legal requirements nor does it affect U.S. consent rights under Agreements for Peaceful Nuclear Cooperation.

Most international or regional facility proposals focus on the nuclear program in Taiwan and the Republic of Korea as potential customers. Switzerland and Japan have also been mentioned. The United States has retransfer consent rights on all the spent fuel on Taiwan and much of the spent fuel in the ROK. The United States also has certain consent rights over much of the fuel in Switzerland and Japan.

Question 9. Does the Waste Convention's obligation to minimize radioactive waste generation limit a Contracting Party's nuclear fuel cycle options?

Answer. No. Contracting Party obligations under the Waste Convention do not limit a Contracting Party's nuclear fuel cycle options or decisions to opt for higher enrichment or increased fuel burn up, even if options selected may generate more waste than other available options. The Convention explicitly states that this obligation is to keep the generation of wastes to the minimum practicable, consistent with the type of fuel cycle policy adopted.

Question 10. Does the Waste Convention obligate a Contracting Party to obtain views, approval, or permission on the safety impacts of other Contracting Parties in the vicinity of a proposed spent fuel or radioactive waste facility?

Answer. No. Although Contracting Parties in the vicinity of a proposed spent nuclear fuel or radioactive waste facility should be consulted, and thus would have an opportunity to provide their views on the facility's likely safety impact, there is no requirement to obtain their views, approval or permission on the likely safety impact of a nearby proposed facility.

III. IMPLEMENTATION PROCESS

Question 11. What are U.S. obligations under the terms of the Waste Convention?

Answer. Structured similarly to the Convention on Nuclear Safety, the Waste Convention identifies a range of issues with respect to the safe management of spent nuclear fuel and radioactive waste and Contracting Parties commit to take ap-

propriate steps to address such issues. The specific steps to be taken are left to each Contracting Party's discretion. In addition, as a Contracting Party to the Convention, the United States is obligated to submit a national report and participate in the review meetings on measures taken to meet Waste Convention commitments by the United States and other countries.

Question 12. Who represents the United States at the Review meetings of the Contracting Parties?

Answer. As a Contracting Party to the Convention, the United States would be represented by one delegate and any other alternates, experts, advisers, or observers as the United States deems necessary.

- The U.S. delegate would be a representative of the Department of State.
- U.S. Alternate delegates would be representatives of the Department of Energy (DOE), the Nuclear Regulatory Commission (NRC), and the Environmental Protection Agency (EPA).
- Experts and advisers may possibly be invited to be part of the U.S. delegation if determined to be needed. It is a possible, but not likely, that this could include representatives from Non-Government Organizations (NGO), industry, or utilities as appropriate. Intergovernmental organizations may, as appropriate, be invited to attend a meeting or session as an observer.

Question 13. The Convention entered into force June 18, 2001, 90 days after adherence by 25 signatories, including 15 which have an operational nuclear power plant. According to Article 29, a preparatory meeting is to be held not later than 6 months after entry into force. Has a meeting been held and did the United States attend?

Answer. Yes, a preparatory meeting was held in December 2001. The United States, not having ratified the Convention, was not in attendance. An organizational meeting of the Contracting Parties is scheduled for April 7, 2003. Although the United States cannot become a Contracting Party by that time, it expects to participate in the meeting if it has ratified the Waste Convention before that date. The United States would need to be a Contracting Party to review national reports of other States and participate in the November 2003 review meetings.

Question 14. What happened at the preparatory meeting?

Answer. In December 2001, the Contracting Parties met and agreed upon the guidelines for the form and structure of national reports; the guidelines for the review process; Rules of Procedure and Financial Rules.

Question 15. What role do U.S. Agencies and Departments play in the Waste Convention process?

Answer. The Departments of State and Energy, the Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA) all have responsibilities in support of U.S. participation in the Waste Convention process:

- U.S. Department of State

  The State Department's foreign policy responsibilities include representation of the United States to, and conducting negotiations with, other countries and international organizations. These responsibilities also include strengthening Congressional and public understanding of, and support for, the goals, objectives, and approaches of the President and the Secretary in the area of foreign policy. International peaceful nuclear cooperation policy is primarily a foreign affairs issue. For that reason, the State Department's function, in implementation of the Waste Convention, is to lead the U.S. delegation at meetings of the Contracting Parties.
- U.S. Department of Energy (DOE)

  Implementation of U.S. obligations under the Waste Convention will be carried out primarily by the DOE as the U.S. agency responsible for the safe storage, treatment, and disposition of the majority of U.S. high-level radioactive waste, as well as low-level radioactive waste generated by DOE. DOE is responsible for the cleanup of the legacy waste from the Cold War era. In this respect, DOE will be responsible for the preparation of the U.S. national report and the representation of this information. DOE will also be responsible, for working with other U.S. agencies, in the proposal and strategy for U.S. participation in the Waste Convention.
- U.S. Nuclear Regulatory Commission

  The NRC has responsibility for regulating all commercial spent fuel storage and all spent fuel and high-level radioactive disposal activities. NRC and/or

Agreement States (i.e., States to which the NRC has relinquished regulatory authority over certain nuclear activities and facilities) also have responsibility for regulating waste management for commercial low-level radioactive waste. NRC's role in implementation of U.S. obligations under the Waste Convention is to provide information on the regulatory perspective for spent nuclear fuel and radioactive waste management for the U.S. national report.

- U.S. Environmental Protection Agency (EPA)

  EPA establishes generally applicable environmental standards for protection of the general environment from radioactive material. In addition, EPA has regulatory authority for storage, management, and disposal of transuranic wastes at DOE's Waste Isolation Pilot Plant (WIPP). EPA also is responsible for implementation of the London Convention provisions associated with prohibiting ocean dumping of radioactive wastes. EPA's role in implementation of U.S. commitments under the Waste Convention is to provide information on the regulatory perspective for transuranic waste management for the U.S. national report.

IV. NATIONAL REPORTS AND THE CONVENTION PROCESS

Question 16. What is the process by which the Contracting Parties to the Waste Convention will review national reports?

Answer. Contracting Parties are to submit national reports addressing measures taken to implement the obligations of the Convention, their relevant national policies and factual information about their facilities and materials. The Contracting Parties will hold meetings for the purpose of reviewing national reports. The first review meeting is to be held beginning November 3, 2003. The interval between review meetings is not to exceed three years.

Question 17. How will the United States participate in the review of national reports of other countries at the review meeting?

Answer. As currently proposed, the Contracting Parties are to be organized into subgroups of five to seven countries with a Chairman, Vice-Chairman, and a Rapporteur. The United States will be assigned to a group. Membership of each group will be rotated from review meeting to review meeting. In subgroup meetings, members will exchange national reports for the purpose of conducting a detailed review. Each country will have a reasonable opportunity to ask questions and request clarification of reports submitted during meetings of the subgroups. The Rapporteur will prepare a reporting document, which will be used as the basis for a subgroup report to the Plenary Session.

Question 18. Will the United States have an opportunity to comment on national reports from countries not in the U.S. assigned country subgroup?

Answer. Yes. A Contracting Party has additional opportunities to comment on national reports of all other Contracting Parties, by sending written comments and questions before the review meeting, by attending the subgroup meeting in which a particular report is discussed, and by addressing a Plenary Session.

However, the United States must first become a Contracting Party to be entitled to participate in the review of any Contracting Party's national report, unless the IAEA and the Contracting Party voluntarily permitted such a review.

The guidelines adopted at the preparatory meeting (December 2001) propose that the Contracting States should review all country reports. The review process allows formal comment by Contracting States on all reports, whether inside or outside the reporting group.

Question 19. In the U.S. view, what countries have what problems?

Answer. There is a wide range of problems and differences between States party to the Waste Convention. Some emerging nations have issues associated with lack of regulatory systems and requirements. Laws and regulations need to be structured to increase safety of spent fuel and radioactive waste management if they do not exist. Not all countries have operational nuclear power plants and spent fuel, their problems will focus on waste management issues and disused sealed sources. Most nations, including the United States, have difficulties siting disposal facilities.

Question 20. Will any activity under the Waste Convention, including U.S. advice or comments on other country national reports through the review process provide a basis for any U.S. liability?

Answer. It is unlikely that adherence to the Waste Convention could provide a basis for United States government liability. The Convention does not purport to affect international nuclear liability. Under the Waste Convention, the responsibility

for safety of spent fuel or radioactive waste management rests with the Contracting Party which has jurisdiction over the spent fuel or over the radioactive waste. The Waste Convention provides for no private right of action and does not waive the sovereign immunity of Contracting Parties.

Question 21. Under Article 32, Reporting, for 2(u) an inventory of spent fuel that is subject to this Convention and that is being held in storage and of that which has been disposed of. This inventory shall contain a description of the material and, if available, give information on its mass and its total activity; will the Russian Federation report include spent fuel inventories?

Answer. Like the United States, the Russian Federation has not yet become a Contracting Party. Once they complete their ratification process and become a Contracting Party, the Russian Federation will be subject to the terms of Article 32, including the requirement to report its inventory of spent fuel held in storage or disposed of. Article 32 would also apply to any future regional or international repository in the Russian Federation.

Question 22. Under Article 36, Confidentiality, what are the implications for Congressional information interests?

Answer. Under the terms of Article 36, information will be available, but its confidentiality is to be respected. The Convention does not affect the rights and obligations of the Contracting Parties, under their laws, to protect information from disclosure. This includes a range from national security to industrial property protection. The Contracting Party has exclusive discretion to denote "information" as classified or otherwise controlled. The Administration will make information available to the fullest extent possible. The Convention on Nuclear Safety (CNS) will serve to some extent as a paradigm for implementation of the Waste Convention.

Question 23. Will there be a review meeting summary report? Will it be available publicly?

Answer. Yes. Under Article 34 of the Waste Convention, Contracting Parties are obligated to adopt by consensus, and make available to the public, a summary report addressing the issues discussed and the conclusions reached during the meeting. However, no specific national report will be identified, nor will details of debates be available. The summary report is prepared from the subgroup Rapporteur reports.

V. U.S. NATIONAL REPORT PROCESS

Question 24. What is the process by which the United States will prepare a national report?

Answer. Each Contracting Party is required to submit a national report for review on measures taken to meet its commitments under the articles of the Waste Convention, prior to the review meeting. The United States will follow the guidelines for the form and structure of national reports established by the Contracting Parties at the December 2001 preparatory meeting.

- DOE will be the lead agency for preparation of the U.S. national report in coordination with the NRC, EPA, and the Department of State.
- The U.S. national report form and structure will be closely modeled after the U.S. national report submitted for the Convention on Nuclear Safety, although the Waste Convention elaborates on the content of the report in more detail than the CNS. Appendices to the Report will include detailed data tables. Generic summary documents, standard DOE, NRC, and EPA documents, and other appropriate documents and reports will be cited by reference.
- An interagency working group (IWG), The Executive Steering Committee for the Convention on Spent Fuel and Radioactive Waste Convention, chaired by the Department of Energy, was established for the purpose of coordinating U.S. Waste Convention activities in anticipation of ratification and in preparation for the review meetings. Other members include NRC, EPA, and the Department of State.

Question 25. Will Agreement States and Low-Level Radioactive Waste Compacts (Compacts are States that band together with a plan to have one disposal facility per compact in a selected host State) (Compacts), and others have an opportunity to review and comment on the U.S. national report prior to submittal?

Answer. No formal opportunity for Agreement State or Low-Level Radioactive Waste Compact review and comment of the U.S. national report is expected prior to submittal to the IAEA. Likewise, there is no obligation for review or comment

on the part of any or all Agreement States or Compacts to contribute or review the U.S. national report or the report of any other Contracting Party.

Question 26. Will the Comptroller General and the General Accounting Office have access to U.S. analyses and documents prepared under the Waste Convention Process?

Answer. Yes. In accordance with the law.

Question 27. Once submitted, would the U.S. national report be publicly available?

Answer. Yes. The U.S. national report will be made available to the U.S. public.

Question 28. Will other Contracting Party national reports be available to the U.S. public?

Answer. Contracting Parties are entitled to designate certain information to be protected against public disclosure. The United States must respect such confidentiality designations. As a Contracting Party, the United States would be entitled to receive national reports of all other Contracting Parties. However, because of the enormity in the quantity of documentation of national reports from all Contracting Parties, reports for only those States participating in a specific subgroup will be transmitted to members of the group. Other reports will be provided by the Secretariat upon request.

Following the first review under the Convention on Nuclear Safety, many national reports were posted on the IAEA web site and thus are publicly available. We anticipate a similar practice to be implemented for national reports under the Waste Convention.

VI. NATIONAL REPORT ELEMENTS

Question 29. What spent nuclear fuel and radioactive waste inventories will be included in the U.S. national report?

Answer. The U.S. national report inventory data, which will be taken from currently available Federal Government databases, is to cover spent nuclear fuel stored or disposed of and radioactive waste stored at certain facilities or which has been disposed of or has resulted from past practices. Radioactive waste from hospitals, medical institutions, research facilities and the like would be covered in the inventory after shipment to a radioactive waste facility. Specific waste materials included are to be itemized in the report's inventory list.

Question 30. What specific spent nuclear fuel and radioactive waste databases will be used as the source for inventory data in the U.S. national report? Who maintains the databases? What is the source of funding?

Answer. In preparing the U.S. national report, three databases will be used as the source for identifying U.S. inventory:

- DOE Spent Nuclear Fuel Inventory (SNF). The National Spent Nuclear Fuel Database is maintained at the Idaho National Engineering and Environmental Laboratory (INEEL), National Spent Fuel Program Office. The DOE Office of Environmental Management funds the database.
- Commercial SNF Inventory. Data on the commercial SNF inventory will be obtained from the DOE Office of Civilian Radioactive Waste Management's Environmental Impact Statement (EIS) entitled, "Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada." The DOE Office of Civilian and Radioactive Waste Management (OCRWM) funded the collection of inventory data for this EIS. OCRWM funds the collection of commercial SNF inventory information on a periodic basis.
- Commercial Low-Level Waste Disposal Volumes. Commercial low-level waste disposal volumes are collected by DOE through the Manifest Information Management System. The DOE Office of Environmental Management funds this program and collection of data.
- DOE Low-Level Inventory. The DOE low-level inventory is collected in DOE's Environmental Management Corporate Database. This system is maintained and funded by the DOE Office of Environmental Management. The Office updates DOE's low-level radioactive waste inventory every two years. Waste information is collected annually.

Question 31. What facilities will be included in the national report inventory?

Answer. The U.S. national report will cover existing and proposed facilities, whether Federal, State, or private. The report's list of sites identifies which types of sites are included.

Question 32. How many spent fuel and waste management facilities in the United States come under the Convention?

Answer. Numerous facilities in both commercial and government sectors in the United States will be included in the report under the Convention. In terms of sites where the facilities are or will be located, there are:

- Three existing low-level waste disposal sites (Barnwell, Hanford, and Clive) and four closed low-level waste disposal sites (Beatty, Sheffield, Maxey Flats, and West Valley) in the commercial sector. Any future Low-Level Radioactive Waste Compact site would be included in the report under the Waste Convention.
- Currently, there are 26 operating independent spent fuel storage installations (ISFSI) in the United States However, facilities within the controlled area at operating reactors will not be included in the report.
- Interim Spent Nuclear Fuel Storage facilities are located at 21 commercial reactor sites, however facilities within the perimeter at operating reactors will not be included in the report.
- DOE facilities located at 30 different sites across the nation for government waste, including operating and planned disposal facilities for transuranic (WIPP) and low-level waste, treatment facilities, and storage facilities.
- Mill tailings sites include 39 under NRC jurisdiction and 9 under Agreement States. There are 5-10 Uranium/Thorium sites.
- The planned Yucca Mountain high-level waste site and any other site for commercial spent nuclear fuel.
- Twenty-eight contaminated materials facility sites.

Question 33. Is a nuclear power reactor in decommissioning to be included in the inventory of facilities?

Answer. Yes, the Joint Convention's Article 32.2(v) specifies that the National Report is required to provide a list of nuclear facilities (which include nuclear power reactors) in the process of being decommissioned, as well as the status of decommissioning activities at those facilities.

Question 34. Does the Convention include disused sealed sources no longer needed?

Answer. Disused sealed sources no longer needed are covered to the extent that they are disposed in a radioactive waste facility and that a Contracting Party should permit reentry if such a source is being returned to a manufacturer licensed to receive and possess it. The Contracting Party should also have a framework for safe management of disused sources. There is no requirement that a source be registered or tracked throughout its life cycle.

Question 35. Will the national reports include inventories of disused sealed sources?

Answer. There is no specific requirement in the Waste Convention to report inventories of disused sources. In some countries, disused sealed sources may be included in their waste inventories as waste. Those sources returned for re-manufacturing would not be subject to the reporting requirements, unless the Contracting Party voluntarily reported such inventories. However, those disused sealed sources which are to be disposed of would be considered radioactive waste and should be reported under the radioactive waste inventory.

The IAEA has ongoing programs (Net-Enabled Waste Management Data Base) in place for reporting disused sealed sources. Also, the IAEA is in the process of revising the non-legally-binding Code of Conduct on the Safety and Security of Radioactive Sources to address security concerns raised in the wake of September 11. The Code identifies activities important for strengthening national controls on cradle-to-grave management of radioactive sources. National registries of radioactive sources is being considered as a possible addition to the Code.

Question 36. How does ratification of the Waste Convention support U.S. efforts to minimize the threat of malicious use of radioactive waste, such as disused sealed sources?

Answer. Article 28 of the Waste Convention, entitled "Disused Sealed Sources", commits Contracting Parties to the Convention to take the appropriate steps to ensure that the possession, re-manufacturing or disposal of disused sealed sources, in the framework of national law, takes place in a safe and secure manner. The Waste Convention offers an opportunity for the United States, as a Contracting Party, to review other nations' progress through national report reviews and reviews. U.S. concerns about control and intentional misuse of radioactive waste or disused sealed sources can be raised in the context of the national report review meeting. In this

way, the United States can influence globally the safe management of spent fuel and radioactive waste and urge nations to enact new laws and controls on disused sealed sources, where they now do not exist.

VII. U.S. PROGRAM EFFECTS

Question 37. Will the Waste Convention improve or strengthen DOE's spent nuclear fuel and waste program? How or Why not?

Answer. Yes. Review of the national reports and the prospect of bilateral cooperation will strengthen DOE's spent fuel and radioactive waste program. Lessons learned from other countries both from how they manage their spent nuclear fuel and their experiences in resolving common and individual safety problems could be used to improve DOE's programs.

Question 38. Does DOE anticipate any changes in its spent nuclear fuel or waste program in the near-term, long-term? What is the anticipated nature of the changes?

Answer. No changes are expected in the policy and strategy of DOE's spent nuclear fuel and radioactive waste programs. Any changes would be related to developing technological alternatives to current stabilization, storage, treatment, and disposal missions at DOE. Alternative technical solutions are often needed to meet environmental compliance requirements and to reduce the cost of operations.

Question 39. Will the Convention improve or strengthen NRC's regulatory and licensing program? How or Why not?

Answer. The Waste Convention is not expected to result in major changes to the NRC's regulatory program. Nonetheless, by providing a mechanism for receiving information on other national programs through the constructive exchange of national reports and reviews, the Waste Convention will support the NRC's own continuing efforts to improve its regulatory program through self-assessment.

Question 40. Does NRC anticipate any changes in its regulatory program for radioactive waste management and/or spent nuclear fuel management in the near-term, long-term? What is the anticipated nature of the changes?

Answer. The NRC does not anticipate the need to make any significant changes to its regulations as a result of the Waste Convention. Changes, if any, will be publicly vetted as part of the NRC's rulemaking process.

Question 41. Will the Waste Convention improve or strengthen EPA's regulatory program? How or Why not?

Answer. The Waste Convention is not expected to have an effect on EPA's regulatory program.

Question 42. Does EPA anticipate any changes in its regulatory program in the near-term, long-term? What is the anticipated nature of the changes?

Answer. EPA does not anticipate any changes to its regulatory program either in the near-term or the long-term.

VIII. POST 9-11 ISSUES

Question 43. Does the Waste Convention address security and diversion from terrorist attacks?

Answer. No, the Waste Convention does not directly address security and diversion from terrorist attacks. However, the Convention, along with the CNS, does foster a constructive multi-lateral framework to increase safety and security at facilities throughout the world. It is an incentive convention that addresses safety issues primarily associated with spent nuclear fuel management and radioactive waste management. Promoting a stable technical environment and regulatory systems in developing countries through the Convention will assist contracting States to increase security and diversion from terrorist attacks.

IX. COSTS

Question 44. What costs are associated with participating in the Waste Convention?

Answer. The costs to the United States as a Contracting Party to the Waste Convention include:

- Preparation of the U.S. national report every three years
- Reviewing national reports of other countries

- U.S. delegation participation in the preparatory, organizational, and review meetings.

Question 45. What are the anticipated costs for preparing the U.S. national report? Will there be any additional costs to licensees?

Answer:

- For DOE, anticipated costs for preparing the U.S. national report is estimated at $200,000 for FY-2003 and an estimated $200,000 incurred annually thereafter. Costs will be absorbed within the existing DOE budget.
- For NRC, costs to prepare information on the commercial regulatory perspective for the national report are not expected to be substantial and can be absorbed within the existing budget. There are no expected additional costs to licensees.
- For EPA, costs are expected to be minimal and can be absorbed within the existing budget. No additional costs to licensees are anticipated.

Question 46. Under the NRC's regulatory regime Agreement States subsume certain of the NRC's regulatory authority subject to oversight. Will there be any additional costs to Agreement States?

Answer. In countries having a federal system of government such as the United States, States may carry out convention provisions. For the United States there are no significant new burdens or unfunded mandates for the Agreement States that are anticipated to result from the Waste Convention.

Question 47. Under U.S. law, States are responsible for the disposal of low-level radioactive waste and permitted to formulate compacts for this purpose. Will there be any additional costs to Low-Level Waste Compacts?

Answer. No additional costs are expected to States or Low Level Waste Compacts, because the regulatory program to which such entities are subject is not expected to change as a result of the Convention.

Question 48. Will the DOE National Laboratories be involved in preparing the U.S. national report? What are the anticipated costs?

Answer. No. National Laboratories will not be involved in preparation of the U.S. national report. There are no anticipated costs.

Question 49. What is the total number of national reports the United States anticipates it will review from the assigned country subgroup process? What are the anticipated costs for the United States to review and comment on national reports within this group?

Answer. The United States as part of the country subgroup will review five to seven reports within its group and others of interest. Costs will be absorbed within existing agency budgets.

Question 50. In addition to the national reports received as part of the assigned country subgroup process; does the United States anticipate requesting other national reports for the purpose of review and comment? If yes, for what countries? What is the anticipated additional cost?

Answer. Similar to its practice with respect to the CNS, the United States will review national reports for all countries which receive nuclear and radiation safety assistance from the United States or for which it has special safety concerns. The costs will be absorbed within existing agency budgets.

Question 51. What are the anticipated costs for U.S. representatives to participate in the meetings?

Answer. Representatives from the Department of State, DOE, NRC, and EPA are attending all associated Waste Convention meetings to be held at the IAEA headquarters office in Vienna. The delegation will include up to 12 delegates, with associated full-time equivalent (FTE), per diem and travel costs.

Question 52. Are representatives from DOE National Laboratories, Agreement States, Low-Level Waste Compacts, or the private sector anticipated to attend meetings of the Contracting Parties as experts, advisors or observers? If part of the U.S. delegation, how would such participation be funded?

Answer. No. Representatives from National Laboratories, Agreement States, Low-Level Waste Compacts, and the private sector are not expected to attend any meetings of the Contracting Parties.

Question 53. Are there any costs for the United States if it is not a Contracting Party?

Answer. Yes. The IAEA is the Secretariat for the Contracting Parties, including preparing and servicing of the meetings and transmitting information associated with the Waste Convention. Cost for these Secretariat services are included in the annual IAEA budget. The United States is obligated to pay its annual IAEA membership assessment of 25% of the total IAEA regular budget. Therefore whether or not the United States is a Contracting Party to the Waste Convention, a portion of the U.S. membership assessment will be used to fund Secretariat services in support of the Convention.

X. BENEFITS

Question 54. How does the United States benefit from participation as a Contracting Party to the Convention?

Answer. As a Contracting Party to the Convention, the national report review process benefits the United States by providing inter alia:

- An opportunity to review the national spent nuclear fuel and radioactive waste management programs of other Contracting Parties and to benefit from their experience;
- A vehicle, through the drafting of the U.S. national report, to help harmonize management and assessment techniques used by DOE, NRC, and EPA's programs associated with the safe management of spent nuclear fuel and radioactive waste management;
- An opportunity to promote a stable technical environment and safe regulatory system in developing countries, thereby supporting trade services and products of U.S. companies;
- A means to identify possible areas for bilateral and multilateral technical and regulatory cooperation;
- An opportunity to influence the development of nuclear safety programs in other countries, through international cooperation on the life cycle management of spent nuclear fuel and radioactive waste; and
- A means to help harmonize, in a nurturing forum, international approaches to assessing and managing risks and raising the target level of safety associated with spent fuel and radioactive waste, thus strengthening the worldwide safety culture.

Question 55. What are the benefits or value (direct/indirect) of the Waste Convention to Agreement States and Low-Level Radioactive Waste Compacts?

Answer. Improvements to the national regulatory program from U.S. participation in the Convention will carry over to benefit the individual U.S. States' and Low-Level Radioactive Waste Compacts' regional regulatory programs.

Question 56. What are the benefits or value (direct/indirect) to licensees, industry and utilities?

Answer. Through U.S. review of other Contracting Parties' national reports, the United States benefits from lessons learned and in the opportunities which it provides to identify areas for trade in services and products, as well as bilateral cooperation in technology development.

Question 57. The United States participated in the Convention on Nuclear Safety (CNS) second review process.

- What benefits did the United States receive from participation in the CNS review process?

  Answer. As a result of participating in the second CNS review meeting held in Vienna, Austria, April 15-26, 2002, U.S. participants concluded that it was a very important and effective venue for promoting nuclear safety worldwide. Participation in reviews provided wide-ranging benefits to the United States, for example based on interactions with other CNS Parties, the NRC will more closely examine the potential benefits of performing periodic safety reviews of licensed activities as part of its regulatory program.

- Has the CNS process been influential on other nations' nuclear safety programs? How?

  Answer. Most significantly and as noted during the conduct of the second review meeting, the CNS process has clearly influenced the safety and regulatory programs in States of the former Soviet Union, such as Russia and Ukraine, in positive ways. Assistance programs in these countries are taking into consideration key goals and objectives identified as part of the CNS process. In addition, based on its participation in the 2nd review meeting, the NRC has also

determined that additional progress can be made in nuclear regulatory oversight programs of the Russian Federation and Ukraine, and identified the programs of China, Armenia, and Pakistan, as warranting further attention.

In preparing the national report, each country must demonstrate how it complies with the Articles of the Convention. This exercise alone, documenting how the Articles of the Convention are met, and submitting the report for scrutiny by other Contracting Parties in an international forum, exerts pressure on a Contracting Party To improve its safety practices. But perhaps more importantly is the review process itself where countries must respond to the questions of other Contracting Parties. Two examples will demonstrate how the CNS review process influences signatory countries. One of the major concerns addressed by the Articles of the Convention is the independence of the regulatory body. Many of the former Soviet Union and Eastern European countries reported in their initial 1998 CNS reports that their regulatory bodies were not independent from organizations that promoted nuclear power. However, because of the many questions that were raised during the review process, most of these countries reported significant progress in making their regulatory bodies more independent in the 2001 reports, with hopes to report further achievements on regulatory independence in the 2004 reports. A second example concerns the Russian Federation's schedule for completing safety enhancements at many of its aging nuclear power plants. The 1998 Russian Federation report stated that many safety enhancements would be performed but was vague on the enhancements to be performed at specific plants and schedules for when these enhancements would be completed. The 2001 report provided very little detail as well. However, because of the many written questions received from other Contracting Parties during the review process, the Russians provided a complete list of the enhancements for each plant and the schedule for their completion during its presentation at the 2002 CNS national report review meeting.

XI. FOREIGN POLICY CONSIDERATIONS

Question 58. Why is the Waste Convention important to U.S. foreign policy interests?

Answer. The Waste Convention is consistent with U.S. policy to support safety as a top priority in the use of nuclear energy worldwide; to promote safe operation of spent nuclear fuel management and civilian nuclear waste management facilities and radiation protection principles. Pursuing common strategies for the handling of spent nuclear fuel and radioactive wastes are also harmonious with U.S. policy on climate change and promoting a sustainable global environment. The Waste Convention is a particularly important complement to bilateral and multilateral safety assistance programs, because it provides a crucial political mechanism to encourage governments to support emerging regulatory organizations and other entities responsible for nuclear safety culture.

Question 59. What consideration does the Waste Convention give to the needs of developing countries and countries in transition, particularly to the Newly Independent States (NIS) and Central and Eastern European countries (CEE), to assist in fulfillment of their rights and obligations?

Answer. The Waste Convention is a particularly important complement to these bilateral and multilateral safety assistance programs, because similar to the CNS it is an incentive convention. This means that the Convention was carefully drafted to encourage early participation by countries such as the Newly Independent States and Central and Eastern European countries, so that they can adhere without potentially being in a state of non-compliance while they further develop their domestic infrastructure. As such it provides a crucial political mechanism to encourage such governments to become Contracting Parties at an early date. It also provides a nexus for technology transfer to assist developing countries to better facilitate the transition to more effective regulatory infrastructures and waste safety management strategies.

Question 60. What goals and objectives does the United States hope to achieve as a Contracting Party?

Answer. The Waste Convention reflects all of the U.S. goals and objectives in the negotiations. The United States will continue to work with other countries to promote objectives, consistent with U.S. policies and legislative and regulatory framework to:

- Ensure commitment to the principles of a worldwide safety culture, through the enhancement of national measures and international cooperation.

- Increase international understanding and develop common philosophies on the storage, treatment, and disposal of radioactive waste.
- Take appropriate steps to ensure that during the lifetime of a spent nuclear fuel or radioactive waste management facility, radiation exposure is kept as low as reasonably achievable.
- Take appropriate steps to ensure no individual or population is exposed to radiation which exceed national standards.
- Take appropriate measures to prevent unplanned or uncontrolled releases of radioactive material into the environment.
- Assure appropriate corrective measures are implemented to control unplanned or uncontrolled releases and mitigate effects in the event of a release.
- Pursue common strategies for the handling of spent nuclear fuel and radioactive wastes harmonious with U.S. climate change policies and the promotion of a sustainable global environment.
- Maintain minimal cost to the United States for carrying out Contracting Party obligations under the Waste Convention.

Question 61. Has other international recognition been given to the Waste Convention?

Answer. Yes. The Waste Convention is of high-level importance to other foreign States many of which have signed and/or ratified the Convention. The Convention also received support at several of the G-7 Economic Summit meetings, including mention in the 1997 Denver Summit Communiqué, in addition to reaffirmation at the 1996 Moscow Nuclear Safety and Security Summit. An International IAEA Waste Conference was held in Cordoba, Spain in 2000, and a second in Vienna in 2002.

Question 62. What considerations does the Waste Convention give to other international instruments, international law, and other multilateral mechanisms?

Answer. The Waste Convention recalls the desirability of strengthening the international control system and recognizes principles laid out in international instruments, international law, and multilateral mechanisms applying to radioactive waste and spent fuel, including inter alia:

- Basel Convention (1989) on the Control of Transboundary Movements of Hazardous Waste and their Disposal;
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972, as amended) (London Convention on Ocean Dumping);
- Convention on Nuclear Safety (1994);
- Convention on Early Notification of a Nuclear Accident (1986);
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (1986);
- Convention on the Physical Protection of Nuclear Material (1979);
- IAEA Code of Practice on Transboundary Movement of Radioactive Waste (1989);
- IAEA Safety Fundamentals, The Principles of Radioactive Waste Management (1995);
- International Standards relating to the Safety of the Transport of Radioactive Materials;
- International Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources (1996); and
- Rio de ,Janeiro (1992) UN Conference on Environment and Development (Agenda Chapter 21, Chapter 22, Sound Management of Radioactive Waste).

Question 63. Does the Convention overlap or duplicate any other international Convention or Agreement?

Answer. No. The Waste Convention is complimentary to:

- The Basel Convention (1989) on the Control of Transboundary Movements of Hazardous Waste and their Disposal. Article 1 (3)) specifically excludes radioactive wastes. This Article states: "Wastes which, as a result of being radioactive, are subject to other international control systems, including international instruments, applying specifically to radioactive materials, are excluded from the scope of the Convention."
- The Convention on Nuclear Safety (1996). The CNS contains a preambular statement affirming the need for a Waste Convention. Subsection (ix) states: "Affirming the need to begin promptly the development of an international convention on the safety of radioactive waste management as soon as the ongoing

process to develop waste management safety fundamentals has resulted in broad international agreement."

- The London Convention on Ocean Dumping (1972, as amended) prohibits the dumping of radioactive wastes. Radioactive waste does not apply to wastes or other materials containing de minimus (exempt) levels of radioactive waste as defined by the IAEA and adopted by the Contracting Parties.

Bulgaria

SS-23 Missile
Pre-Destruction

SS-23 Missile
Electronic and
guidance
components
destroyed

Turkey-Armenia

Radiation detection system leaving Turkey

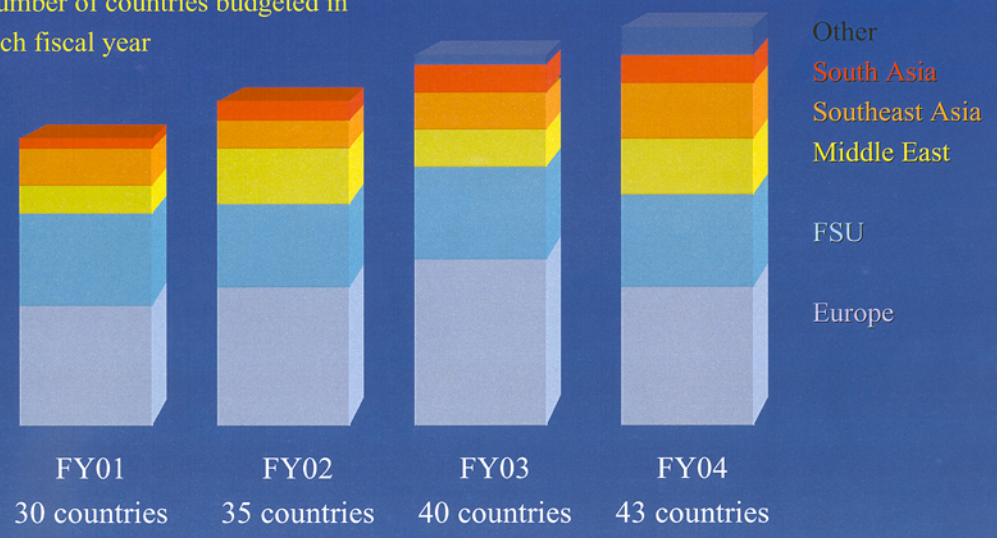
Entering Armenia

The EXBS Program

EXPORT CONTROL AND RELATED BORDER SECURITY ASSISTANCE

Expansion of the EXBS Program beyond Europe and the Former Soviet Union:

Number of countries budgeted in each fiscal year



[The prepared statement of Mr. Stratford follows:]

PREPARED STATEMENT OF RICHARD J.K. STRATFORD, DIRECTOR, NUCLEAR ENERGY AFFAIRS, BUREAU OF NONPROLIFERATION, DEPARTMENT OF STATE

Mr. Chairman and members of the Committee I appreciate this opportunity to discuss with you the importance of timely Senate action on the "Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management." We greatly appreciate your scheduling a hearing on this important Convention. On September 13, 2000, the prior Administration sent the Joint Convention to the Senate for advice and consent. This Administration fully supports the Joint Convention and also desires your advice and consent to the ratification of the Convention, so that the United States can participate in worldwide efforts to ensure the safety of spent fuel and radioactive waste management for the benefit of current and future generations. A favorable action at this time is necessary, so that the United States can join the Parties as they gather this year to implement the Joint Convention. Otherwise we will be excluded from the process.

The Joint Convention is a companion convention to the "Convention on Nuclear Safety" to which the Senate gave its advice and consent on March 25, 1999, and which entered into force for the United States on July 10, 1999. With the United States' participation, the "Convention on Nuclear Safety" is successfully raising the level of nuclear safety at civilian nuclear power plants throughout the world. It is the goal of the Joint Convention to extend similar efforts to spent nuclear fuel and waste management facilitities.

The objectives of the Joint Convention are to achieve and maintain a high level of nuclear safety worldwide in spent nuclear fuel and radioactive waste management through the enhancement of national measures and international cooperation, to ensure that at all stages of spent fuel and radioactive waste management there are effective safety measures against potential radiological hazards so that current and future generations are protected, to prevent accidents with radiological consequences and to mitigate effects should such accidents occur.

The United States played a key role in developing the Joint Convention, and ratification will ensure our continued leadership in its worldwide implementation. The Joint Convention was adopted by a Diplomatic Conference convened by the International Atomic Energy Agency in September 1997. The United States was the first nation to sign the Joint Convention, when the U.S. Secretary of Energy signed it at the International Atomic Energy Agency's General Conference on September 29, 1997. To date, 42 nations have signed the Joint Convention, of which 30 nations have become Parties to it. The Joint Convention entered into force on June 18, 2001, after the requisite 25 nations became Parties, including at least 15 nations that had an operational nuclear power plant. The following nations are currently Parties to the Joint Convention: Argentina, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Republic of Korea, Latvia, Luxembourg, Morocco, Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, and United Kingdom. In addition to the United States, the following nations have signed the treaty, but have yet to ratift, accept, or approve it: Australia, Brazil, Estonia, Indonesia, Italy, Kazakhstan, Lebanon, Lithuania, Peru, Philippines, and the Russian Federation.

The Joint Convention is important to U.S. foreign policy. It supports safety as the top priority in use of nuclear power worldwide. It promotes the safe operation of spent nuclear fuel and radioactive waste management facilities and the application of radiation protection principles. It is an incentive convention that was carefully drafted to encourage participation by countries, such as the Newly Independent States and Central and Eastern European countries, so that they can adhere to the Joint Convention even as they develop their domestic infrastructure. The Joint Convention provides a mechanism for the United States to continue to work with other countries to promote objectives, consistent with U.S. policies and the U.S. legislative and regulatory framework, that ensure the safety of spent fuel and radioactive waste management for the benefit of current and future generations. By becoming a Party to the Joint Convention, the United States will have an opportunity to: review and benefit from the experience of other nations, promote and help influence a stable tecimical environment, safety programs, and regulatory system in developing countries; identify possible areas for bilateral and multilateral technical and regulatory cooperation; and strengthen the worldwide safety culture, including the management of radioactive waste, to minimize the threat of the malicious use of radioactive waste, as may occur with disused sealed sources.

Based on the successful format of the "Convention on Nuclear Safety," the Joint Convention establishes a series of broad commitments with respect to the safe management of spent nuclear fuel and radioactive waste without prescribing specific or mandatory standards for its Parties. Parties to the Joint Convention are required to take appropriate steps to bring their activities into compliance with the Convention's general obligations related to the safety of spent fuel and radioactive waste management. However, the specific steps that Parties should take are not prescribed but are left to each Party's discretion. In addition, the Joint Convention adopts a review process similar to that established in the "Convention on Nuclear Safety" to apply to spent nuclear fuel and radioactive waste management activities. Each Party is obligated to prepare a national report covering the scope of the Joint Convention and subject it to review by other Parties. Such review has proven very successful for implementation of the "Convention on Nuclear Safety."

The Joint Convention applies to spent nuclear fuel resulting from operation of civilian nuclear reactors, radioactive waste from civilian applications, and disused radioactive sealed sources. For such material, the Joint Convention seeks to ensure safety is a consideration in virtually all aspects, including the legislative and regulatory framework, operational radiation protection, management of nuclear facilities, decommissioning, emergency preparedness, and transport between nations. The Joint Convention does not apply to naturally occurring radioactive materials, unless the Party declares this material as waste for purposes of the Joint Convention.

The Joint Convention does not apply to military radioactive waste or military spent nuclear fuel unless the Contracting Party declares it as waste for purposes of the Convention. The Joint Convention does apply to military radioactive waste or military spent nuclear fuel that is permanently transferred to and managed within exclusively civilian programs. In this way, the Joint Convention ensures that national security is not compromised and Parties have absolute discretion as to what information is reported from military sources. In the United States, military radioactive waste is disposed of at U.S. Department of Energy facilities, and military spent nuclear fuel will eventually be disposed of in a Department of Energy geologic repository along with civilian spent fuel and defense high-level waste. The U.S. national report will cover the military radioactive waste that has been transferred to an exclusively civilian program, and will not cover military spent nuclear fuel that has not been transferred to and managed within exclusively civilian programs. The Joint Convention will not affect U.S. military operations in any way, nor will classified information be included in the U.S. national report.

The Joint Convention is non-controversial and has broad support from U.S. industry groups and U.S. states. It has the full support of the Department of State, the Department of Energy, the Environmental Protection Agency, and the Nuclear Regulatory Commission. There is no overlap or duplication of efforts with any other international convention or agreement. In addition to the "Convention on Nuclear Safety," the Joint Convention is complementary to the "Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal" and the "London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter."

As a Party to the Joint Convention, the United States would be represented by a delegate, a representative of the Department of State, with alternate delegates from the Department of Energy, the Environmental Protection Agency, and the Nuclear Regulatory Commission. Consistent with its foreign policy responsibilities, the State Department will lead U.S. representation at meetings of the Parties and coordinate activities with Congress. The Department of Energy is the lead agency responsible for collection of information and preparation of the U.S. national report and technical coordination with the other agencies, including review of other Parties' national reports. The Nuclear Regulatory Commission and the Environmental Protection Agency will provide information on the regulatory perspectives in the U.S. national report and will participate in reviews of other Parties' national reports. An interagency working group has been established to coordinate Joint Convention activities.

The United States has taken the initial steps to prepare a national report in anticipation of becoming a Contracting Party. We do not envision any changes in our regulatory programs resulting from the Joint Convention. However, it is likely that information received through the constructive review and information exchange with other nations will help with our continuous improvement process.

During the national report preparation process, the Department of Energy will use existing information so that there is no burden on governmental or commercial spent-fuel and waste management activities. The report will follow a format arrived at by consensus of the Parties. The Department of Energy will utilize information from existing sources, e.g., Spent Nuclear Fuel Database, Central Internet Data-

base, Manifest Information Management System, and commercial spent fuel information available from the Office of Civilian Radioactive Waste Management.

From December 10-14, 2001, the Joint Convention Parties convened a meeting in Vienna, Austria, to take the first steps in the reporting process. The United States was not in attendance because we had not ratified the Convention. During this meeting the Contracting Parties reached consensus on the procedures, report preparation schedule, report format, and review process details.

An organizational meeting of the Parties is scheduled for April 7, 2003. This meeting is significant because it will determine the makeup of the review groups and the selection of a meeting Chairman and review group Chairmen. The first Review Meeting is scheduled to take place November 3, 2003. We anticipate that the Parties will be organized into sub-groups of five to seven nations. Members of the sub-groups will exchange reports for review and have an opportunity to ask questions and request clarification during the sub-group meetings. The process will allow written questions and comments to be made on all national reports, whether in the assigned sub-group or not, prior to the review meetings. Results of the sub-group meetings will be reported to a plenary review meeting, at which time all Parties will have an opportunity to further discuss the national reports. The plenary meeting will develop a summary review report for public release, addressing the issues discussed and conclusions reached without providing details from national reports or review debates. Following completion of this process, the next review meeting will be held within three years.

Let me next address the amount of resources required and availability of reports. Costs incurred once every three years maybe considered to fall into three categories: (1) preparation of the U.S. national report, (2) preparation and participation by the four agencies in organizational and review meetings, and (3) review and analysis of other national reports. We expect to absorb these costs within each agency's budget and that expenditure will occur on a 3-year cycle.

With regard to availability of information, the United States will receive national reports from members of the review subgroup and any other reports it requests. We will request a copy of all national reports be provided to the United States. Reports provided by Parties will be available to the Committee and General Accounting Office subject to any confidentiality conditions expressed by the Parties. Once submitted, the U.S. national report will be publicly available.

The Parties to the Joint Convention are proceeding with the process of preparing national reports for the first review meeting. The Administration seeks advice and consent to the Joint Convention so that the United States can participate fully with the other Contracting Parties to accomplish the goals of this Convention. An organizational meeting of the Parties is scheduled for April 7, 2003. Although the United States cannot become a Party by that time, it expects to participate in the meeting if it has ratified the Joint Convention by that date. We are eager to continue the important U.S. role in promoting safety in worldwide spent nuclear fuel and radioactive waste management activities by fully participating in this process.

Thank you for the opportunity to discuss the Joint Convention, and let me introduce my colleagues from the Department of Energy, Environmental Protection Agency, and Nuclear Regulatory Commission, who are here with me to answer any questions that you may have.

The CHAIRMAN. Thank you very much, Assistant Secretary Wolf.

We will have a first round of questions with 7 minutes for Senators, and please start the clock on my questioning with this first query of the Secretary.

You have addressed the issue of extending the authority of the Department of Defense—but, likewise, the Department of State—for using NDF funds or the CTR program, Cooperative Threat Reduction, outside of the former Soviet Union. Let me just ask right now, is the NDF program bound or limited by statute from pursuing projects outside the former Soviet Union now? What is your reading on that authority, presently?

Mr. WOLF. Sir, our view is that, based on the Foreign Assistance Act, we have a great deal of authority to act around the world. There is some overlap, as I said, because the authorities have evolved over time. There were the original Nunn-Lugar authorities. They were complemented at about the same time by the Freedom

Support Act and then revisions to the Foreign Assistance Act. I kind of remember sitting behind the Deputy Secretary of State when he appeared before you a couple of weeks ago and he said something about KISS, "Keep it simple, sailor." Our authorities are not necessarily simple, and straightening them out and making them clear is something that is always possible.

We have the authority. We are acting around the world with NDF everywhere from the Caribbean to the former Soviet Union to other parts of the world, as well—South Africa and other parts of the world, as well.

The CHAIRMAN. Well, I appreciate that point. There have been numerous programs, as you say, initiated at various times with various degrees of enthusiasm in different Congresses. The attempt on the part of the administration, State and Defense, Energy—all involved in attempting to rationalize this, but even more important, to give the President, finally, as Commander in Chief, the ability to deal with these proliferation problems wherever they are. It is very, very important. It would seem to me to be a no-brainer, but nevertheless, there has been difficulty. I trace it, in part, to some of the controversy that attended the original Nunn-Lugar debate. There were, in those days, Senators who were almost afraid this would spread like a plague, this whole idea of dealing with nonproliferation. They wanted to limit it to the former Soviet Union and not let it get out of hand and put in place a number of controls. Now, fortunately, other programs have been initiated, as you pointed out, either prior to that, with the Freedom Support Act, or subsequently with other situations, that are not so constrained.

But we are hopeful, really, to have legislation this time, and I appreciate your support, which you have explicitly stated, to rationalize this and to work specifically with those programs in which the Department of State, really, has control and leadership.

Mr. WOLF. Thank you, Mr. Chairman. I would make two points.

One, on the Cooperative Threat Reduction programs themselves, we think that authority, if it is to be extended, for instance, beyond the former Soviet Union, needs best be vested in the President to decide which programs, which agencies, he would use.

The CHAIRMAN. Good point.

Mr. WOLF. In terms of our own programs, and especially the NDF and our export control money, as you could see from the—on export controls, as you could see from the chart, we are working, we are extending it, we are moving export controls to a very active dialog and training in India and Pakistan, we're working in the Baltic and in the Mediterranean, and we're moving to Southeast Asia. So we need to be clear as can be that that is the right thing to be doing.

The CHAIRMAN. Yes.

Mr. WOLF. And frankly, the problems are not limited to the former Soviet Union anymore, and we are going where the problems are. And the work that my Bureau—and working with Customs and Homeland Security and a variety of others, we are going out to meet the problems head on. That is our first line.

The CHAIRMAN. That is a very important point, and that is why I wanted to underline it.

Mr. WOLF. Thank you.

The CHAIRMAN. And second, the State Department, as you have pointed out, has requested a provision in 2004 allowing for permanent annual waiver authority for Cooperative Threat Reduction funding restrictions. Obviously, we support that, but I would just ask you, from your own administrative experience, what is your estimate of the amount of time your staff must dedicate to the completion of these waivers or to the examination of all the provisions that you must weigh to begin with?

I am just simply curious, because during this past year, as you will recall, moving through the Shchuch'ye chemical weapons business, this seems to have required an abnormal amount of time in the administration at all points. And I do not fault anyone who was attempting to do all those things that were legally correct. In the meanwhile, not much destruction of chemical weapons or removal of dangers occurs, even while our own bureaucracy rumbles on. To the extent that we can minimize this, obviously we must. Can you give, anecdotally, some feel of why you have asked for permanent authority and, even if you get that, how much time is going to be required to fulfill the requirements that you still have?

Mr. WOLF. Well, sir, that is a good question. I think the reason why last year was complicated was, in part, because we decided, for the first time, that we could not actually certify and that we needed to have authority to waive that we did not have. And that whole process of deciding where we were and where we were going to go and then coming to the Congress created a kind of a logjam, and that came back to us as we need this permanent authority.

We think that there is a utility in the certification process that focuses our attention and the attention of policymakers in the United States, but it also rivets the Russians and those in the former Soviet Union with whom we must work. So the certification process is actually kind of like an annual audit process, and it is useful. But these programs are in our national interest. We do not do them just as a kind of charity, and we need to be able to move on. But we use this process as part of our diplomatic leverage.

That said, you asked, How long does it take, and it takes a long time. We start, I think, with Russia in the late summer, in August, and we stretch that out until nearly Christmas, and then we start with the other countries and we take another 4 months to do them. First we do the statements of fact, and then we do the interagency clearance, and then if there is a problem, it gets fought out at the various policy levels, and finally it gets to the Secretary and the President. But it is labor-intensive. I am not sure—we look for ways to re-engineer the process, but we haven't—the interagency process has been looking to be re-engineered for the last 227 years or something.

The CHAIRMAN. I have expressed to the National Security Advisor, Dr. Rice, some concern about the national interest in all the certification process. I appreciate that it is good to have an audit trail and for everybody to be observant of what Russian friends are doing or not doing, but the dangers of all this seem to me to be very substantial. Having witnessed what occurred, whatever the reasons last year, I think this was a very, very severe problem. Now, I took it up directly with the President of the United States.

He thought it was a severe problem—it occurred in July. He directed Dr. Rice to get on with it. And finally, in January, after all the toils of bureaucracy plus congressional scrutiny and all the rest of it, something finally happened.

Now, this leads me to think that at least maybe our legislative procedures should be just to simply eliminate the certification to save you all the trouble of the waivers. If they cannot get done in days, as opposed to weeks or months, this really debilitates whatever abilities we have. I mean, we can talk a good game about destruction of weapons of mass destruction, surveillance and what-have-you. In fact, we ourselves are the enemy simply because of fastidiousness in many departments that are experiencing arguing, hassling, all sorts of ideological views floating in from the past and the future. That is bad news.

So I have not made up my mind yet which way to proceed legislatively, but I just simply want to take the opportunity of this hearing—see, I think this is really an open issue. I think it is a very serious issue.

Now, last year, when the administration decided not to certify, that was a surprise. That kind of surprise we really do not want to have too many of. Moving through this, through my own determination, I think is something that you will appreciate. We went to the President and we are talking to the President, and this President believes in this program. I am hopeful that there is not ambiguity down the line as we proceed on this.

Mr. WOLF. Thank you, Mr. Chairman, and I respect your views. And I know there would be a number of people in the Nonproliferation Bureau who would applaud not having to write these papers.

But let me just make a counterpoint. The issues that we deal with in the certification process are not trivial. They have to do with whether or not there is responsible behavior, both on the nonproliferation side, in terms of compliance with international obligations, the Chemical Weapons Convention, the Biological Weapons Convention; and these are problem areas, as you well know. And then there are a variety of other issues, including human rights, which, in several states of the former Soviet Union, are not trivial issues.

We try to weigh all these, and I guess I take your point that, it is obvious, you were surprised by our decision not to certify. But the facts of the case were pretty clear to this administration that, at some point, you just cannot—we are building a bridge too far. And better to be candid in our assessment, but then to turn to the Congress and say, But we need legislative relief. We need help. We need, in our own interests, to be able to continue these programs. That is why we came to the Congress. We appreciate the authority that we got last year and we hope to have it extended, because, to be honest, I do not think we have seen enough progress on some of these key issues of compliance with international obligations for us to simply say, Well, we are past those hurdles.

But yours is a fair point; we do not want these programs on a start-stop basis. We want to get the plants built. We want to get the chemical weapons destroyed. We want to be sure, when we destroy chemical weapons, that we are actually destroying all of

them, and not only the old stuff, but anything that might be new, as well.

The CHAIRMAN. Well, I appreciate that. And I want to let my colleagues have their 7 minutes, but let me just, while this point is fresh, see. Let us take the worst-case scenario. Namely, we find human rights violations somewhere in Russia. And I suspect many of us who I have visited, as you have all the time, find a lot of them, so you have got a list.

And then are we finding accessibility to all the biological laboratories? No. You know, I have talked in this committee about having a real time getting my plane to land out there in Kirov. So this, as I personally experienced, is not only a hypothetical situation.

Likewise, we have not received the anthrax report from Obolinsk. We paid for it. It is ours. We protested to the Defense Minister of Russia—you cannot go much higher—and he is still looking at it.

Now, having said that, does this mean, then, that we stop destroying weapons at Shchuch'ye, which is effectively what happened? In fact, we did not start. We do not have the thing up and ready yet. Who are we showing what? Do we stop worrying about biological weapons? Do we gum up the works at Svrotykha so that, ad seriatim, four missiles a month are not destroyed because back here we are still pondering over these things? They are not mysteries.

Now, the question is seriousness about arms destruction and security. Now, all of us are very concerted on that issue. Unanimous. But to the extent that we decide, because of intramural arguments, to frustrate all of this, I think that is very serious. It is a national security problem, and I pose it that way. And I think it is important to each of the bureaus to have their say and interject their views, and we want to hear all of them, but we want action. The American people want the weapons destroyed, as opposed to an intramural argument going on here within the State Department or NSC or Defense.

So, having said that, I pass along the baton to my colleague, Senator Feingold.

Senator FEINGOLD. Thank you, Mr. Chairman, for holding this hearing. And of course, it is an honor to be at such a hearing with a chairman who has played such an historic role on these nonproliferation issues. Thank you.

Assistant Secretary Wolf, I would like to just ask a few questions. I am very concerned about the prospect of a U.S. foreign policy driven by this doctrine of preemptive military action, or I think it is more accurately described as preventative military action. And I am also concerned about depending on such a dangerous doctrine to pursue our nonproliferation goals.

As I have watched the United States policy develop with regard to Iraq and North Korea recently, I am concerned that the rest of the world is starting to learn the following lesson about U.S. policy, and I think you might have heard me mention this at the previous hearing: If you acquire nuclear weapons, you can be free from the threat of military action; but, if not, you may be subject to a preemptive invasion.

This scenario, with its emphasis on preemption, sets out real incentives for proliferation and pursuit of weapons of mass destruction as quickly as possible.

How can sending that signal possibly make the United States more secure? And I guess I would also like, from your own personal perspective, how does this focus on preemption in these matters affect your particular Bureau?

Mr. WOLF. Thank you, Senator.

I think that that tends to oversimplify the array of policies, programs, practices that we actually use in the nonproliferation area. In my oral statement and in my written statement, I have talked about a variety of things that we are doing nationally, bilaterally with countries, pluralaterally in groups like the Missile Technology Control Regime, or the Australia Group, multilaterally in agencies like the International Atomic Energy Agency.

We can have a long discussion about where Iraq is today. I tend to measure my time on Iraq from August 1, 1990, when I was the Principal Deputy Assistant Secretary of State for International Organizations, and I was called back to the State Department to begin the diplomatic effort that led to Desert Shield/Desert Storm. I helped to draft Resolution 687 and a whole successor set of resolutions. So my perspective on Iraq and where that is, is different.

On North Korea, the administration policy is not that if you have nuclear weapons, you can keep them. The administration policy is for a denuclearized Korean Peninsula, and we are pursuing that by patient, but very persistent diplomacy, multilateral diplomacy, and we are working on it.

But the policy of preemption or counterproliferation is one of the tools. As I mentioned, we use a variety of tools. We try to use diplomacy. We try demarches. We use sanctions. We make clear to countries and to entities abroad that if you sell to a proliferator, that is your choice; but if you sell to the proliferator, you will not sell to the United States. We use a variety of things.

But interdiction does have a place in our policy. We will try to do it multilaterally, and we will try to do it with various kinds of authority. But in some cases, to protect Americans, to protect the vital national security interests of this country, the President believes that he has a responsibility, his obligation as, you know, part of the oath of office, to take the actions that are necessary.

So counterproliferation is an important part of the tools that we use. If the other tools work, if other countries join with us, in terms of concerted diplomacy—if the European Union, for instance, raises the bar in their dialog with Iran and—they have a political and economic dialog with Iran, but here we now have Iran with a visible program that, to us, can only seem to lead to fissile material and nuclear weapons—we want the Europeans, we want Asians, we want all of our partners, Russia and China, to join with us in exercising rigorous diplomacy to stop that before it gets to the nuclear stage.

Senator FEINGOLD. Well, let me ask you—I recognize that obviously the doctrine of preemption is not all your doing and that there are these efforts. What I am trying to get at is, are you not experiencing some problems with the administration having enunciated this preemption doctrine with some push back from some of

the entities you are working with, some of the countries you are working with, and when, in particular, it appears, at least, that we have a different approach vis-à-vis Iraq, versus North Korea—is there not some problem with the signal that the preemption doctrine sends?

Mr. WOLF. Well, I think those are several different questions. We are working with our partners, like-minded countries. For instance, in the Australia Group, in 2002, we reached agreement to include terrorism as one of the organizing definitions of the Australia Group so that chemical and biological weapons, technologies, precursors, and whatnot that would go to terrorists are as much of concern to Australia Group countries as those which would go to states that are seeking to proliferate.

We got agreement on controls on intangible technologies. We got a catch-all provision. In the MTCR, we focused on unmanned aerial vehicles. We have a joint action program that is designed to keep terrorists from getting these dangerous technologies. We are working in the Zangger Committee related to the NPT and in the Nuclear Suppliers Group.

Senator FEINGOLD. My time is running out.

Mr. WOLF. So all I am saying, sir, is that your focus on preemption is only one of the things that we are doing. Iraq is the end of 12 years, 17 resolutions, defiance of international obligations, human rights violations, possession of weapons of mass destruction. That is just—that is where we are.

Senator FEINGOLD. Mr. Secretary, it is actually not my focus on preemption. It is the administration's focus on preemption that has muddied the waters and, I think, caused some serious perception problems around the world for our country. And to simply list the things that you are doing, which I think are constructive, and not acknowledge the fact that this has caused significant confusion around the world with regard to international law, our own law, and our past practices, I think, ignores a reality, which is that there is a signal that has been sent that I think may well undercut what you are trying to do. I hope that is not the case.

Mr. WOLF. Well, thank you, Senator. I take the criticism. I accept it as valid criticism. We may need to do a better job, we obviously need to do a better job, of explaining the variety of different things that we are doing. But we are trying to develop a well-rounded set of tools, a variety of tools, tailored to individual circumstances. North Korea is not like Iraq. Iraq is not like Iran. Iran is not like the next one. And we are trying to deal with each one of these. We have to deal in different ways. The coalitions we can put together for each circumstance are very different. And what we can do with our friends and what we can do with people who are not so friendly differs according to the situation.

Senator FEINGOLD. Well, I take your point on that and I thank you for your testimony.

The CHAIRMAN. Thank you very much, Senator Feingold.

Senator Nelson? Very well. Senator Corzine.

Senator CORZINE. I have got a series of queries. Thank you, Mr. Chairman. I would reiterate what Mr. Feingold said. It is an honor to be here with you when you are dealing with a subject that you have committed so much of your career to so effectively. We are

pleased that we are now considering it in a very troubled time. I welcome the Assistant Secretary, as well.

Continuing on with this policy, concern about policy of preemption, and acknowledging that there are a variety of other methods which we are using to deal with proliferation, one of those is to work with the Atomic Energy Agency. And I think I heard in your testimony, as well as last week, the administration asked for more rigorous inspection processes, particularly as it relates to Iran, where I think the concerns that you have verbalized here this morning and otherwise are on the table. We have heard consistently from the IAEA and from Mr. ElBaradei that funding is an issue. I think last summer, he stated clearly, to operate effectively, he would need an additional $30 million in funding resources. They certainly have been pressed since that time in the inspection process in Iraq. I am curious why we are maintaining level funding as our request in 2004, if I am reading the budgetary request properly. It is a flat voluntary $50 million in membership dues. You would think that this is one of those instruments in that variety, besides the policy of preventative action or preemption, as we are talking about. I would love to hear how you are responding to that and why that is not more.

Mr. WOLF. Thank you, Senator.

That number is only one of the many numbers on the table, and I would like to say that we—in fact, it was when I was confirmed, in 2001, one of the issues that was raised then to me was the whole question of funding for the IAEA. We did a fairly exhaustive study last year—exhausting, too, Senator—but looking at the whole safeguards question, and the United States has been leading an initiative now for the next biennium for the budget for 2004/2005, which will be considered later this fall, to increase the safeguards amount. The Director General's number of—well, there is $30 million, but I think it is a little less than that—but, in any event, the Director General's number is a direct reflection of the fact that we put the number, $30 million, out on the table to hire more inspectors, to buy more equipment. When you hire people, it needs to be done in the regular assessed budget; it cannot be done with voluntary contributions that come and go each year. The assessed contributions are a budget obligation. But——

Senator CORZINE. Well, I would, sort of, take the line of questioning, though, that the chairman talked about with regard to the issue that he meant. This is an issue that is clear and present, and waiting around to make sure that we have a response to——

Mr. WOLF. We are not. We have given, in the last year, nearly $8.2 million for the $12 million that the Director General wants for nuclear safety. Secretary Abraham announced $3 million more last week at the conference in Vienna for better protection of radioactive sources. And we are looking at a variety of ways in which we might use, for instance, our money in the Nonproliferation and Disarmament Fund to work with IAEA. We are not necessarily restricted to the $50 million that is in the request before this committee. We have a variety of other sources at the Department of Energy that they are doing either in the trilateral program with Russia and the IAEA that we can use. And so we are plussing-up this amount. And at the same time, we are being pretty active in

terms of pressing our friends and colleagues around the world to pony up more money. As you can imagine, if, of $12 million requested by the Director General, we have provided $8 million, then that says that the rest of the world has not quite stepped up to the bar.

We are going to use a variety of sources. We see IAEA as a partner, but not necessarily the sole implementor. If we are going to move fast, we are actually going to do a lot of things earlier, and we will use the Nonproliferation and Disarmament Fund because the IAEA cannot get there fast enough.

Senator CORZINE. Just an observer and listening, the comments you made in your opening remarks, the request to enforce more rigorously, and the patent need that I think is obvious or at least a concern to the American people with regard to Iran and some of the other countries that you talked about, having this inspection process be full and thorough and efficient and effective is something that I think is one of those tools that hopefully preempts preemptive policies.

Let me ask, in another light, one of the initiatives that I think people were pleased about. I think we passed, a 100 to 0 in the Senate last week, the Moscow Treaty. What kinds of concerns do you have? And is this, with actions this week where the Duma, unfortunately, decided to hold off its vote, is that at all related to the kinds of concerns that Senator Feingold talked about, do you believe, in response to a policy of preemption? And does it give indication that others may take other policy prescriptions when they feel that they are incented to protect themselves against that kind of preventative action?

Mr. WOLF. I do not know, Senator. I guess I do not presume to speak with a great deal of knowledge either about this part of Russian politics or about Duma politics. And I believe that Russia—if one draws a trend line, I am confident that Russia will find that the Moscow Treaty is in its national interest, as we felt it was in ours, and we welcome the vote by the Senate, to ratify. And so we are very hopeful that the consideration that was scheduled for this week will come back fairly quickly.

To the question of the impact of what may or may not happen on Iraq in the coming hours, days, whatever, the President, I think, has laid out a case. Others have laid out a case. This is not a spur-of-the-moment decision. As I was suggesting a few minutes ago, this is part, or hopefully the end, of a 12-year line of defiance and the end of a threat to the people of Iraq, to Iraq's neighbors, and to each one of us, as well.

Senator CORZINE. Thank you.

The CHAIRMAN. Senator Nelson.

Senator NELSON. Mr. Chairman, thank you, again, for your personal example that you have set for all of us on this issue of nonproliferation. It is a pleasure to be a member of your committee.

I think there is broad agreement that the interests of the United States are considerably threatened by North Korea, and I think there is broad consensus that the United States simply cannot allow North Korea to continue to build nuclear weapons and potentially become a nuclear proliferator and a nuclear peddler. So, for

the committee, would you lay out basically what we need to do in the very near future to defang North Korea as a nuclear power?

Mr. WOLF. Thank you, Senator.

We are doing several things. Some we have done, others are part of diplomacy that I think has been explained last week by Jim Kelly. I think it was before this committee.

One of the things that we did several months ago was to go to the Nuclear Suppliers Group to find agreement on lists of items that would support—lists of items that we thought North Korea would seek to procure outside North Korea, and to raise heightened alert among members of the Nuclear Suppliers Group and also others who could provide these kind of vital technologies. And the effort will be to cutoff the flow of the goods that they need to move their program forward.

Obviously, the big play, we went to the International Atomic Energy Agency in January, and the Board of Governors found failure to comply with safeguards and referred it to the Security Council and we are in active discussions in the Security Council on what the Security Council may say and do in the coming weeks.

We are also working—the Secretary has worked on his trip to Asia 2 weeks ago, he worked when he was in New York last week, in consultations with key Foreign Ministers on trying to put together this multilateral framework among the concerned countries that can help us to find the peaceful diplomatic solution that we are looking for.

The variety of other measures that the United States has taken, I am not the best expert to talk about the contingencies for which we prepare.

But I think it needs to be real clear that the President's determination, the United States' determination, but the determination of North Korea's neighbors, as well, is that the end state needs to be a Korean Peninsula that is denuclearized. And we are trying to keep that coalition together. This is one where we are not jumping out on some policy of preemption, and we are working very hard with groups of countries and with the international organizations and the international system.

You know, one question gets us for trying to preempt, and the next question gets us for not trying to preempt. We are trying to balance. This is a difficult situation. We have a set of policies. We are pursuing them patiently and persistently, and we are determined to see a denuclearized Korean Peninsula.

Senator NELSON. All right, Mr. Chairman, I just want to critique this. The Assistant Secretary has listed five reasons, and I think that it would be this Senator's position that, first of all, you have to make up your own mind, that, at the end of the day, that North Korea is not going to have nukes. And that has to be stated. That is going to be the policy. And at the end of the day, that is going to happen.

Mr. WOLF. Agreed.

Senator NELSON. But that needs to be very clearly communicated. You have mentioned five areas. You are working with nuclear suppliers, you are working with the International Atomic Energy Agency, you want to work with the U.N. Security Council, you are working in your diplomatic efforts through the multinational

contacts, and that you are working with Korea's neighbors. All of those five are very important. But if you make up your mind that, at the end of the day, they are going to be de-nuked, you have got to keep the military option on the table and you have got to engage them in every possible way, diplomatically. And if they say, We want to talk one on one, then there is no reason of pride or past history that you should not engage them at that level, as well, if, at the end of the day, where you want to be is a non-nuked North Korea. You do not want to hear that, because you have been given instructions that you are not to engage one on one. That is why I think it is not serious that, at the end of the day, you all have made up your minds that you are going to defang North Korea. And the potential devastation to the interests of the United States seems to me to be so apparent, for them to remain a nuclear power and then to become a nuclear peddler, that it just—I do not know why we are going through these kind of semantic games and diplomatic dances.

Share with me, help clarify, some why.

Mr. WOLF. Thank you, Senator, and thank you for reminding me of something that I should have said.

I think it is very clear that I was saying no nuclear weapons on the Korean Peninsula, but let me be very clear, No nuclear weapons. That is the end state we want.

And thank you also for reminding me, because it is part of the stated policy and it is also in my written testimony, all options are on the table. But the course that we are on is a diplomatic course. And the administration has had intense discussions about how we might proceed forward. And it is our view this is not the U.S.' problem, and as much as Pyongyang might like to bilateralize the issue, we are going to work with South Korea and Japan, and we are going to work with the other members of the P–5, that everybody has to share in creating a course through this, and everybody has to have a vested interest in the outcome of it.

We have tried alternatives before. We tried the bilateral before. We tried in 1994. The Agreed Framework. North Korea violated their agreement with us. It did not matter—you know, to the rest of the world, Well, gee, that is too bad. This time, wherever we go, we want to be sure that there is buy-in by the neighbors, buy-in by the other major countries that have an interest in the peace and security of the Korean Peninsula, have the same interest that you have expressed in ensuring that North Korea not be a nuclear peddler. And this is the course we are on. We are trying to create this multilateral path toward dialog.

You know, you do not see progress until there is progress. And we are trying very hard, and sometimes we see some favorable augurs and sometimes we do not, but we are going to be patient, we are going to be persistent. The end state is a denuclearized Korean Peninsula. All options are on the table, but that is not the path we are going down now.

Senator NELSON. Well, you have my good wishes and my hopes and my prayers for you. I think that there is nothing more important at this point, besides us going after the terrorist networks, to get the situation straightened out with North Korea. Otherwise, we are going to rue the day.

We know they are peddlers. Look at what they are trying to do with their rockets. Why we did not, when we intercepted the rockets going to Yemen, keep those is beyond me, because it just fosters this image that they can do what they want, and now the next step is to start peddling nuclear material. And this is just so devastatingly important to the interests of the United States, and I just do not know why you all would not be engaging one on one.

But I am a Senator; I am not President. If I were, I would be doing something about it, but, Mr. Chairman, I am not running for President.

Mr. WOLF. Thank you, Senator.

The CHAIRMAN. Well, thank you very much for that line of questioning.

I will not prolong, but we did have a good hearing with Assistant Secretary Kelly, and he was in the audience two nights ago when I was privileged to address the Heritage Foundation in Asian Studies' 20th Anniversary and review once again the North Korean negotiations. And I suppose, just simply for sake of argument, there may be a difference between bilateral talks and direct talks, but within the context of other people sitting around the table or in the room, however we can arrange it. I would hope that that has not been ruled out, and I appreciate the Senator, once again, pursuing that.

I want to pursue one more thing while you are here, Secretary Wolf. I would like to get your views on the Jjoint Convention on the Safety of Spent Fuel and Radioactive Waste Management currently being considered by our committee. We have been working closely with the State Department and come to an agreement on a resolution of ratification that protects Senate prerogatives while providing our advice and consent to ratification. It is my hope the treaty can be ratified before an April 6 organizational meeting of the parties. Ratification prior to this date will permit the administration to influence the organization of the peer-review process and fully participate in the November 2003 meeting. And I have expressed my thanks to Senator Biden and his staff for working closely with staff on our side to meet this goal.

Let me just ask, What is the purpose of the Joint Convention? And why is the convention important to United States foreign policy interests?

Mr. WOLF. Thank you, Mr. Chairman, and I will make a brief comment. And if I might ask Dick Stratford, who actually was our chief negotiator and the architect, to join me at the table, I think he will be able to do a lot better with the details than I.

The CHAIRMAN. I would ask him to come forward.

Mr. WOLF. But as you say, it is designed to achieve a high level of safety for spent fuel and radioactive waste, and it matches and is part of the—you know, it matches the Convention on Nuclear Safety. This is the back end of the front end that we have been talking about. It is consistent with our policy to support safety as a top priority. It is one of the five goals that I have in the Nonproliferation Bureau, is to ensure that nuclear power can be used safely. But if it is to be used safely and if the public is to have confidence, we need to have some processes and some practices that show that the operators are, in fact, operating in a safe way.

But if I might defer to Mr. Stratford, he might make additional comments.

The CHAIRMAN. Yes. Mr. Stratford.

Mr. STRATFORD. Thank you, Mr. Chairman.

Mr. Chairman, just for the record, my name is Dick Stratford, and I am the Director of Nuclear Energy Affairs in the Nonproliferation Bureau. I was the U.S. head of delegation for negotiation of both the Waste Convention and its predecessor, the Nuclear Safety Convention.

In brief, what we tried to do was to establish an international obligation to create a regulatory regime for waste management around the world and then create an obligation for countries to prepare national reports, which, in essence, say, "This is how we are going about meeting those obligations," and then to establish a peer-review system for the review of those reports.

It turns out that the Convention on Nuclear Safety, to which we are a party, has done that very well, and I think my colleagues at the Nuclear Regulatory Commission, in particular, would say that they were impressed with the peer-review process and it gave them an opportunity to have a very strong input on programs of other countries. If we are a party to the Waste Convention,, we will have the opportunity to do the same thing this fall at the November meeting of the parties.

So, in short, what it does is gives us a shot at taking a good, hard look at what the other parties are doing in terms of dealing with radioactive waste and spent fuel.

The CHAIRMAN. Well, I thank you for that answer. I congratulate you on your work as our chief negotiator. And I think it is a constructive and positive development. And, as I have admitted, I wanted to take advantage of the presence of both of you today to have this testimony for the record, because—I will consult with the distinguished ranking member, Senator Biden, but I suspect it would be our hope to progress with this at a business session of the committee in the near future to meet the deadlines that you have stipulated.

Mr. WOLF. Thank you very much, and we thank you for your support and Senator Biden's in the variety of things that we are doing. I know the passion that you have for nonproliferation. I often go around in other countries saying one of the problems we find is that there is not enough emotion and enough passion in the discussion that we have with other nations. They deal with it almost pro forma, but I do not think I find that, Mr. Chairman, in your committee.

The CHAIRMAN. No.

Mr. WOLF. So I thank you for keeping us on our toes, and I thank you for the support that you give to us in our efforts.

The CHAIRMAN. Oh, thank you. Never pro forma here. Very genuine passion not only on the part of the chairman, but, as you can tell from our members who participated today. And we appreciate your coming, Mr. Secretary, Mr. Stratford.

Mr. WOLF. Yes, sir.

The CHAIRMAN. And we will now call upon our second panel.

Senator NELSON. Mr. Chairman, is it possible that I could ask one further quick question?

The CHAIRMAN. Of course. Let me just inject, because I should have already, Senator Biden would like to submit questions for the record on the treaty that we were just discussing, and, obviously, we will support his doing that, and we also will support your responding to them promptly so that we can progress.

Mr. WOLF. We will, thank you, sir.

The CHAIRMAN. Senator Nelson.

Senator NELSON. Thank you, Mr. Chairman.

I wanted to bring up the issue of Iran, us trying to keep them from becoming a nuclear power, and particularly with their association with Hezbollah and how that could complicate things for us. Would you share with us your thoughts about Iran?

Mr. WOLF. Thank you, Senator.

This is one of the situation-bad-and-getting-worse problems that I was talking about at the start of my discussion. We have not been taken by surprise. We have been watching the evolution of the Iranian program over some period of time. We have consulted with our counterparts in the Nuclear Suppliers Group. We have briefed the Nuclear Suppliers Group. We have briefed the IAEA. We have talked to the EU, we have actually had Iran in our so-called 721 Report on Nonproliferation put out by the Central Intelligence Agency, so we have worked with the Russians and the Chinese and others, and we are. But what we saw, starting last summer when opposition group NCRI published their photographs of several facilities, this has raised the public awareness. The Director General ElBaradei's trip to Iran a couple of weeks ago only peeled back further the clandestine cover that Iran has been keeping over bold, almost aggressive development of a nuclear fuel cycle that can make no sense at all in terms of where Iran is and what makes sense for a country. It only fits, in our view, with a nuclear weapons program.

So we have had active consultations with the IAEA and with the Board of Governors, which has met in Vienna. The IAEA Board of Governors met this week. There was an initial report. There is an IAEA team that was following up Dr. ElBaradei's visit, and they will be reporting back shortly. We will be very active in our discussions with our partners and others about the steps that we can take both to limit the access that Iran has to foreign technology, although one of the sobering points from Dr. ElBaradei's trip report is that the Iranians seem to be able to do a lot themselves now.

Senator NELSON. And what are those steps?

Mr. WOLF. Well, we are working in the Nuclear Suppliers Group to cutoff—we are trying to convince countries to cutoff, monitor, and not to sell the kinds of technologies which might facilitate Iran's development. We want people to understand that it is possible to operate a nuclear program under safeguards, as Iran does, even while they are developing a clandestine nuclear capability, which they have also been doing.

We are working with the IAEA and others on the kinds of safeguard procedures that could be applied to the kinds of facilities that Iran has so far identified, although I suspect that what they have identified to the IAEA is only a portion of what they have. But we are working on new safeguards techniques.

We have a very active discussion with the Russians, who have been supporting the development of the Bushehr reactor. We think that is a mistake, all the more so because of the revelations that have come out.

Our policies are still evolving, because, in part, there was not an adequate international acceptance. There was an awareness, because we have been talking, but not an international acceptance. And I think, as you said about North Korea, so we would say also about Iran, that it is really not, it is just not on, to see Iran develop a nuclear weapons capability. That would be a profound danger in that part of the world, a profound danger to our friends in that part of the world. And I think, for the reasons that you say, among others, it would be a profound danger to us, as well.

Senator NELSON. Mr. Chairman, perhaps you will consider a hearing on this at some future time. The steps, as outlined by the Secretary—cut off the technology and other supplies to Iran, spread the word, publicize it, third, work through the IAEA, and, fourth, work with the Russians—those are all positive steps, but——

Mr. WOLF. And the Chinese.

Senator NELSON [continuing]. But I am not sure, at the end of the day, that that is going to do it. So perhaps we need to keep focusing on this and encourage the administration to keep moving in that direction.

The CHAIRMAN. Well, the Senator's point is well taken, and the committee, as the Senator knows, is a very active member in all these hearings trying to keep the focus of the administration on a number of things, and I think we are in agreement, the administration is, that it can handle a number of things simultaneously. We will need to, because these are dangerous predicaments in the world and, for better or for worse, fall into your shop, Assistant Secretary Wolf, at this moment in history.

Mr. WOLF. Thank you, Mr. Chairman. We welcome your support and the support of your committee, and we welcome when you rivet our attention on these things, because these are not trivial issues. These are important to the safety and security of the United States, but they are important to the safety and security of friends and allies all around the world. And so the Secretary told me a long time ago, I think, when he offered me the job, this is an area where we cannot afford to get it wrong. But getting it right is hard work, and we just have to keep working at it, and we have to get it right.

The CHAIRMAN. Well, as your partners, with our oversight function, we have these hearings.

Mr. WOLF. Thank you.

The CHAIRMAN. They are well attended by people who have come today to hear your testimony, hear our other witnesses, by the press, who magnify, at least, whatever occurs here, largely, to the American people. And so it is important that all of us remain focused.

Mr. WOLF. Thank you. It is helpful to us. I mean, it helps us to focus, too, and just to step back for a moment and present our report card of what we have been doing, where we are going, where we have problems, where can ask you both for advice and where

we can ask you for tangible help. And I know when we come here that we will get both.

The CHAIRMAN. Thank you very much.

The Chair would like now to call on our second panel of witnesses. They will include the Honorable Rose E. Gottemoeller, senior associate, Carnegie Endowment for International Peace in Washington, DC, the Honorable Charles B. Curtis, president and chief operating officer of the Nuclear Threat Initiative in Washington, DC, and Dr. Amy E. Smithson, senior associate, The Henry L. Stimson Center in Washington, DC.

It is a real privilege to welcome each of you before the committee today. I would admit that I am not a disinterested observer. All of you are friends, and you have been working in this field for many, many years in various responsibilities and perspectives. So we appreciate your giving this time and your expertise today.

As with the previous panel, I would indicate that all of your statements will be published in the record in full. I will ask each of you to proceed to summarize or to present your views in whatever form you find most satisfying. And I will ask you to testify in the order that I introduced you, and that would be, first of all, Dr. Gottemoeller, then Secretary Curtis, and then Dr. Smithson.

Secretary Gottemoeller.

STATEMENT OF HON. ROSE E. GOTTEMOELLER, SENIOR ASSOCIATE, CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE, WASHINGTON, DC

Ms. GOTTEMOELLER. Thank you very much, Mr. Chairman. And indeed, it is a great honor and a pleasure to appear before you today. I appreciate very much your offer for me to place my full statement in the record. I would really like to concentrate my remarks on three points today and then conclude by underscoring, as I see it, the importance of internationalization of these programs.

First of all, I very much agree with the assessment Assistant Secretary Wolf made an hour ago that this is a dire situation. And indeed, I open my testimony by recalling the Baker-Cutler report from January 2001 that weapons of mass destruction proliferation represents the most urgent unmet national security threat. That is still true today and, in my view, is becoming worse. We have accomplished much in our threat reduction programs and nonproliferation cooperation, particularly with Russia and the countries of the former Soviet Union, but there is still much to be done.

As I said, I would like to summarize my testimony by emphasizing three points—one on the budget, one on management of the programs, and one on resolving barriers and impediments.

On the budget, first of all, we should concentrate on making these programs an incontrovertible priority in our Federal budget. I applaud the Bush administration for increasing the budgets overall and, furthermore, for expanding the time line for the programs out in their commitment to the so-called 10 plus 10 over 10 initiative. They have committed to spend a billion dollars per year over the next 10 years as long as the funds are matched by our G–8 partners. I think, indeed, that this kind of stable and long-term commitment is very important and will not, I believe, be money ill spent.

We do not need to have an enormous budget in this arena, but we need to have a stable and long-term commitment, and I believe we are well on our way in that direction, but I would note that it is an area that we still need to do some work on.

I also stated in my testimony, and I believe it is very important, that we need to continue to develop other sources, as well. The new commitments of the G–8 at Kananaskis were important. And furthermore, I think private-sector funding, as well as the Russian Federal budget should be considered increasingly as sources for funding these kinds of programs, particularly, in this case, in the Russian Federation. As the Russian Federal budget improves, I believe Moscow can take on increasing commitments in this area.

Second point, Mr. Chairman, on management. I am stressing in my testimony that I believe no one-size-fits-all approach will resolve all of our management problems in this arena. And I noted, with some amusement, Secretary Wolf's comments in the previous session about trying to get the interagency process right over the last 200-plus years. Indeed, that has been a problem.

Nevertheless, I am not, myself, a great fan of a single kind of solution to our problems in this area when we have extraordinarily urgent projects already that need to be worked on, such as returning reactor fuel from Soviet-built research reactors around the world. That is the reason why I say we should not be stuck on one fix, such as the so-called czar approach, but should be thinking of a number of flexible approaches for resolving problems. And in my testimony, I take note of the way we used a so-called tiger team during the Sapphire Operation in 1994 with a number of experts working against very tough deadlines to get work done within a short period of time. And that is the kind of flexible approach I think we should be looking at across the board.

Third point, on resolving barriers and impediments. Here, too, I believe we should not be stuck on a one-size-fits-all solution to our problems in this area. Personally, as Deputy Under Secretary of Energy responsible for nonproliferation programs, I felt stymied often by the kinds of barriers and impediments thrown in our way by both the Russian Federation and sometimes by my own colleagues here in Washington. I think it is important that we think about a number of ways to work these problems and not be overly dependent on any one mechanism. I note in my testimony that I think over-dependence on the CTR umbrella agreement might be a difficulty. We need to be looking at a number of legal mechanisms that will help us to resolve issues in the area of barriers and impediments, areas such as access, liability, intellectual property rights, and so forth. I think the proof has been in the way we have had success across very large projects that the Federal Government has undertaken over the years. There have been a number of legal approaches that have worked, so we need to be able to cast the net quite wide.

And furthermore, Mr. Chairman—and here I am segueing into my concluding point—as we expand to new regions to carry forward our nonproliferation cooperation, I think that we have extraordinarily important and useful precedents in the work we have done over the years under the Cooperative Threat Reduction umbrella agreement and under our extant threat reduction programs.

However, I do think it will be very important to think about how we might develop further our mechanisms for working in different regions of the world where legal arrangements might be very different. And so I would urge all of us to be considering broader ways to address some of these barriers and impediments, because I think it will help us to move into internationalization of these programs.

Mr. Chairman, I would like to end with a bit of good news. Over the past year, both you, sir, as well as I—you, at a very high level, of course—but you have been very interested in taking these programs and expanding them out into other areas of the world where there are proliferation problems. I make note in my testimony of the Lugar Doctrine, which you launched in December over a year ago. Consonant with your efforts, I have been working on looking at how we might take the experience of working in the former Soviet Union and expand it to other areas of the world. This work I have now briefed in Moscow, in Beijing, among other G–8 countries and other partners, in addition to countries in South Asia, and I wanted to convey to you, sir, that, in my view, there is a wide range of interest among potential international partners in working with us on proliferation cooperation. And so I think we can, in the coming year, think very seriously about specific agenda items in this arena, and I would certainly urge your committee, as well as the Federal Government, to continue to look to ways to expand this work into other regions of the world.

Thank you, sir.

[The prepared statement of Ms. Gottemoeller follows:]

PREPARED STATEMENT OF HON. ROSE GOTTEMOELLER, SENIOR ASSOCIATE, CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE

Mr. Chairman and Distinguished Members of the Committee, thank you for the honor of testifying before you today on this most critical topic, the range of proliferation threats the United States is likely to face in the future, as well as the current set of proliferation problems. They do indeed present an opportunity for evaluating current U.S. nonproliferation programs, to design their future structure and substance for maximum effectiveness in confronting these dangerous, unpredictable threats to the United States.

I would like to begin by recalling that, in 2000, Senator Howard Baker and the Honorable Lloyd Cutler co-chaired a bipartisan task force that produced a study, "A Report Card on the Department of Energy's Nonproliferation Programs with Russia," in January 2001. I have a particularly strong knowledge of this study, because it was undertaken to review programs that were under my responsibility when I was the Deputy Undersecretary of Energy for Defense Nuclear Nonproliferation. The task force produced three main conclusions:

1. 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.

2. Current nonproliferation programs in the Department of Energy, the Department of Defense, and related agencies have achieved impressive results thus far, but their limited mandate and funding fall short of what is required to address adequately the threat.

3. The new President and leaders of the 107th Congress face the urgent national security challenge of devising an enhanced response proportionate to the threat. That enhanced response should include: a net assessment of threat; a clear achievable mission statement; the development of a strategy with specific goals and measurable objectives; a more centralized command of the financial

and human resources required to do the job; and an identification of criteria for measuring the benefits for Russia, the United States, and the entire world.[1]

Mr. Chairman and Members of the Committee, these conclusions were published on January 10, 2001, almost nine months to the day before the terrible attacks of September 11, 2001. They were sadly prescient, and remain extraordinarily valid today. Likewise, the enhanced response that the Task Force proposed is largely achievable, with the proper leadership and focus in the Bush Administration and in this Congress.

Indeed, the greatest concern that I have today is not that the agenda is uncertain, but that its leadership is unfocused. The impending conflict in Iraq and the potential for attacks on U.S. homeland targets are real, and therefore preparations for fighting a war and for defending the U.S. homeland are vigorous. However, the possibility that weapons of mass destruction might get into the wrong hands and endanger our troops in Iraq or our public at home is also very real, and must be tackled with equal vigor. The threat to U.S. troops abroad and U.S. homeland targets is in fact sharply exacerbated by proliferation of weapons of mass destruction.

Mr. Chairman, you have been prominent in calling our nonproliferation cooperation programs "the first line of defense" of the United States. I strongly agree with this assessment, and would further state that the nonproliferation cooperation programs should have the same degree of attention in the policy process as do our troops in the field and our homeland defenders. Quite simply, our soldiers and defenders will have an easier time in achieving the military and national security goals that we have placed on their shoulders if we succeed in reducing the proliferation threat through our cooperative programs.

LEADERSHIP

To focus leadership in this arena, I would propose a basic step:

- Establish an effective interagency that can respond quickly and flexibly, in several forms, to new challenges and urgent crises.

A "one-size-fits-all" approach to interagency cooperation is not the answer to the leadership problems in this arena. In my view, the classic interagency working group, which meets regularly and is chaired by the National Security Council, is the basic mechanism that is effective in achieving results. However, when crises and the need for quick action arise, other mechanisms should be readily available to top decision-makers. A case in point is the 1994 Sapphire operation, when the United States cooperated with Kazakhstan to remove 600 kilograms of highly enriched uranium (HEU) out of harm's way in that country, to safe storage in the United States.

To achieve quick results, a "tiger team" mechanism was used to break through bureaucratic barriers and coordinate the very complex operation. This team operated under the aegis of the interagency working group at the NSC. However, unlike a classic interagency working group, the members met on a daily basis, sometimes for many hours at a time, performing against a highly demanding deadline—removing the HEU before snow started to fall in central Kazakhstan in the autumn of 1994. With guidance and help from senior levels in the interagency working group, the tiger team succeeded admirably. The HEU was removed from Kazakhstan within a very short time period before the end of November 1994.

Flexible approaches of this type should be in constant use, making use of talented experts under high-level guidance. The proliferation problems that we face are urgent, and need more full-time, priority attention than the interagency leadership, saddled with many simultaneous demands and responsibilities, can give them.

More flexibility in management arrangements will also be important as public-private partnerships take hold in the nonproliferation policy arena. The 2002 cooperation between the U.S. government and the Nuclear Threat Initiative (NTI) to remove nuclear material from the Vinca reactor site in Belgrade was a signal success, which I hope will be repeated in future cooperative ventures. A high-ranking team from the USG, NTI and the International Atomic Energy Agency undertook the management of this project. While they achieved admirable results on this occasion, they probably would benefit in future from having a mechanism such as a public-private tiger team. An expert team, with proper guidance, authority and deadlines, could work through the details of nuclear material transfers and save higher level decision-makers much time and effort.

[1] "A Report Card on the Department of Energy's Nonproliferation Programs with Russia," January 10, 2001; Howard Baker and Lloyd Cutler, Co-Chairs of the Russia Task Force, The Secretary of Energy Advisory Board, United States Department of Energy.

BUDGET

Mr. Chairman and Distinguished Members, I am often asked whether I think that the budget for our nonproliferation cooperation programs is adequate. Consistent with the point I made at the outset, I believe that these programs should receive the highest priority in the national budget process, as do other defense and homeland security programs. The cooperative programs are, once again, the first line of defense of the United States, and therefore should receive significant additional resources. I welcomed the ten-year commitment that the Bush Administration made to these programs in the so-called "ten plus ten over ten" initiative—ten billion dollars to be spent over ten years, matched by an additional ten billion from other members of the Group of Eight (G-8) industrialized countries. However, I would note that a billion dollars annually is a small fraction of the annual U.S. defense budget, which for FY 03 was at $355 billion.

I am not arguing that nonproliferation programs should be funded at the same level as the overall defense budget, but that they should be considered a priority as incontrovertible in the budget process as defense spending. As to amount of increase, my view is that the programs could easily absorb a doubling of the billion dollars to two billion dollars per year, matched by the billion dollars per year from the rest of the G-8. The total, $3 billion per year over the next ten years, is consistent with the amount suggested by the Baker-Cutler Task Force. The Task Force believed that this level of funding would allow for an acceleration of the programs and their completion within the ten-year period.

At the same time, I would like to stress that the U.S. federal budget should not be the only source used to support these programs. I have already noted the positive nature of the new G-8 initiative, which is formally known as the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. Agreed during the G-8 summit at Kananaskis, Canada in June 2002, the initiative for the first time is drawing the G-8 together as a coherent group committed to funding such nonproliferation cooperation, in the first instance in the Russian Federation, but also potentially extending to other regions of the world.

The new Global Partnership is also serving as an additional focal point for countries such as Norway, which have long been committed to tackling problems related to the break-up of the Soviet nuclear arsenal in their own regions. Norway has been enormously effective, for example, in developing cooperative programs to handle radioactive waste disposal in the Northern Fleet/Arctic region, and is examining large-scale future projects such as dismantlement of general-purpose nuclear submarines no longer operational in the Russian Navy. Cooperation and coordination among G-8 and other countries committed to these programs should be encouraged and advanced.

General-purpose submarine dismantlement can be used to highlight another potential funding approach for these cooperative projects—the private sector. Reactor fuel withdrawn from Russian general-purpose submarines is currently processed at Russian facilities and fabricated into fuel for nuclear power plants in Russia. It is possible, in future, that such submarine reactor fuel could be processed and fabricated into fuel for foreign customers, thus generating a revenue stream via the private sector that could be used to partially fund further dismantlement of general-purpose submarines.

A partial self-financing approach has been successful, although not completely so, in the implementation of the highly enriched uranium purchase agreement (the HEU agreement). It is high time that the concept be further developed and applied to other projects, recognizing that due care need be taken not to perturb ongoing efforts such as the HEU agreement.

The concept of self-financing highlights an additional point about future funding for the programs: If the Russian economy continues to improve, the Russians should be asked to contribute more resources to these programs from their own national budget. Take the example cited above: currently, foreign partners make no demands on the Russian Federation with regard to nuclear fuel withdrawn from either strategic or general purpose submarines. It remains an asset for Russia to dispose of as it wishes, in part by processing and fabricating it into fuel for Russian civilian nuclear power plants.

Although not all fuel removed from Russian submarines would be appropriate for processing and commercial re-sale, some of it is likely to be. This could be a partial funding stream for Russian general-purpose submarine dismantlement, a Russian contribution to the effort.

Before I leave the budget topic, I would like to reiterate my conviction that this money is well spent in preserving and strengthening U.S. national security. To back up the point, I was impressed to read the recent testimony of GAO Director Joseph

Christoff before the House Committee on Armed Services. Mr. Christoff asserted that within two years of beginning a program to help the Russian Navy secure its nuclear warheads, the Department of Energy had begun installing security systems at 41 of 42 Navy sites in Russia.[2] When we are getting fast results of this kind, we are bolstering our security on a real-time basis. Both the Department of Energy and the Russian Navy can be proud to be making such a strong contribution to the security of the United States and the Russian Federation. When we are encountering delays and difficulties, as I know has been a concern to many members of Congress, we must stay the course and work through the issues. I am convinced that when both partners believe the cooperation is equally in their interests, they can perform rapidly and efficiently to get the job done. Furthermore, barriers and impediments to cooperation can be overcome.

BARRIERS AND IMPEDIMENTS

Mr. Chairman and Distinguished Members, the G-8 global partnership calls on all participating countries to measure up to certain guidelines, which among others include effective monitoring of funds expended, adequate access for donors to work sites, open and transparent procurement practices, adequate liability protection, and effective protection of intellectual property.[3] These guidelines are important, because in the past, issues related to access, intellectual property, liability, etc. have essentially stymied progress in our nonproliferation cooperation with the Russian Federation.

I have personally experienced many of these barriers and impediments over the years that I worked with the Russian Federation as an official of the U.S. government. It is frustrating to be stymied from accomplishing important nonproliferation work that both sides agree is vital to the national security of both Russia and the United States. In fairness, I must stress that barriers and impediments to cooperation also occur on the U.S. side. My comments, therefore, apply to both parties.

Impediments to the implementation of joint nonproliferation and threat reduction programs are both problematic and counterproductive. These impediments to cooperation, and the political, bureaucratic, and structural problems that are behind them, are so complex and interwoven that no one solution will solve all the problems. As in the case of interagency leadership, there can be no "one-size-fits-all" approach. Instead, decision-makers need a variety of options upon which they can draw to address specific problems.

One of the reasons why such a flexible approach is necessary is that the Russian legal and regulatory system is under development. If one were to wait until Russian liability or intellectual property law "settled down" into a uniform code, then one would likely be waiting for many years to carry forward nonproliferation project work. We should be looking for legal but imaginative ways to move forward. At the same time, we can embrace the opportunities that this state of development provides to inform Russian counterparts about various legal approaches that have worked equally well in different realms such as liability law. There are also opportunities to influence Russian legal development, such as suggesting a certain legislative approach to a particular problem.

My conviction that there can be no "one-size-fits-all" approach to resolving barriers and impediments extends to overuse of the Cooperative Threat Reduction umbrella agreement. The CTR agreement has been an invaluable foundation for nonproliferation projects in the Russian Federation, serving as the basic legal document underpinning a number of implementing agreements for both Department of Defense and Department of Energy programs.

But while the CTR agreement has played a tremendous role and will continue to do so, it is not the only possible approach to resolving differences in a way that makes legal sense in both U.S. and Russian contexts. Even today, for example, liability for certain Department of Energy projects is successfully handled through arrangements that do not involve the CTR agreement. By considering how different legal approaches might be used, we open up new opportunities for partnership, not only with Russia, but also with other partners in Europe and around the world. A flexible and more global perspective, in the legal as in other contexts, will be increasingly important as we consider ways to extend the experience of our nonproliferation cooperation with Russia to other countries and regions of the world.

---

[2] Statement of Joseph A. Christoff, Director, International Affairs and Trade, General Accounting Office: "Weapons of Mass Destruction: Observations on U.S. Threat Reduction and Nonproliferation Programs in Russia," GAO-03-526T, March 5, 2003.

[3] Statement by G-8 Leaders, "The G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction," Kananaskis, Canada, June 2002.

"INTERNATIONALIZATION" OF NONPROLIFERATION COOPERATION

Mr. Chairman, over one year ago you began to articulate the "Lugar Doctrine", calling on countries to cooperate to improve the protection of weapons of mass destruction and their constituent materials and components. You and Senator Sam Nunn have since proposed a "Global Coalition Against Catastrophic Terrorism," which has done an enormous amount to raise international awareness of the need to protect potentially vulnerable weapons of mass destruction assets.

Consonant with your efforts, I have spent much of the past year examining how the experience of U.S.-Russian threat reduction and nonproliferation cooperation might be extended to other regions of the world. This work resulted in a Carnegie Endowment study, "Enhancing Nuclear Security in the Counter-terrorism Struggle,"[4] which I have briefed in whole or in part in Washington, Moscow, Beijing, with other G-8 partners and in South Asia. I am pleased to report to you that, in my view, there is a significant amount of international interest in how we might mine our ten-year experience in Russia and other states of the former Soviet Union to inform and structure nonproliferation cooperation in other parts of the world.

I would like to use the opportunity of this testimony to highlight a number of themes and issues that I believe are particularly relevant to the internationalization goal. To begin with, I would like to note that I have often found it important to emphasize how long it has taken to establish nonproliferation cooperation with Russia. It took nearly five years to engage key interest groups, for example in the Ministry of Atomic Energy, and even longer to gain access to critical facilities storing weapons-usable nuclear materials and warheads. Indeed, even today, access to such facilities is still being developed. I conclude from this experience that in many new regions and countries where we would like to establish such cooperation, we will have to be patient. Unless there is an unfolding crisis—for example, an acceleration of thefts by facility insiders due to economic crisis in the country as a whole—it will take time to establish the trust and mutual confidence that is necessary to carry these programs forward.

Following this initial comment, I would like to offer a few streamlined rules that I believe will be important for engaging countries beyond the former Soviet Union in nonproliferation cooperation:

1. We are likely to have to start with civilian nuclear facilities, rather than with "more critical" military facilities, because that is what the political traffic will bear in the target countries. We should not shy away from this reality, for two reasons. First, work carried out at civilian facilities will have a demonstration effect that will be "taken home" to military facilities whether or not we are present there; second, confidence-building will ensue among key political elites, which is likely to result in more critical facilities being offered up for cooperation.

2. We should take proactive steps to accelerate this confidence-building among key political elites, in order to accelerate the potential for cooperation. Some useful steps in this regard are: exchanging best practices in the nuclear security arena; using indigenous companies to provide goods and services to cooperative projects; establishing cooperative projects that are beneficial to the political system as a whole, e.g. situation and crisis centers that are useful in national emergency response; and establishing pilot projects on a trial basis, with no long-term commitment. In the U.S.-Russian context, we found that the pilot project approach was especially effective in developing confidence in the cooperation. Almost invariably, pilot projects positively influenced decisions about further cooperation.

3. We should "keep our eye on the prize," constantly asking ourselves what we need to achieve to solve the most urgent nuclear security problems. Thus, we should be willing to work with a country to improve physical protection even of unsafeguarded nuclear facilities, if they are subject to urgent security threats.

Some of these points are controversial, but they are realistic. The experience of cooperating with Russia and the states of the former Soviet Union to reduce nuclear threats has produced important precedents, but they are not perfect models for working in other regions of the world. For one thing, the Russian Federation is a

[4] Rose Gottemoeller with Rebecca Longsworth, "Enhancing Nuclear Security in the Counter-Terrorism Struggle: India and Pakistan as a New Region for Cooperation," Working Paper No. 29, August 2002, Carnegie Endowment for International Peace, Global Policy Program, Non-Proliferation Project. The author gratefully acknowledges that this work was funded by the John D. and Catherine T. MacArthur Foundation.

nuclear weapons state under the Non-Proliferation Treaty, and therefore U.S.-Russia cooperation on nuclear security projects is a rather straightforward affair. For other countries and in other regions, we will have to consider carefully how to develop the cooperation in a way that does not undermine the NPT regime. Nevertheless, I am confident that the legal and policy space exists for joint projects to go forward on the physical protection of nuclear assets in any country and at any facility where the cooperation can be established.

Mr. Chairman and Members of the Committee, we are embarked on a difficult period, when the established UN system and its accompanying regimes such as the Non-Proliferation Treaty are being seriously shaken. We have much work to do to ensure that they retain their authority and influence in international affairs.

In this troubled period, I would like to draw your attention to a hopeful possibility: might it not be possible to use the experience that we have gained in the past ten years of U.S.-Russian cooperation to fashion new methods for the nonproliferation regime? In future, might it not be possible to give special credit to countries that facilitate nonproliferation cooperation inside their nuclear facilities? For example, if a country is cooperating with an international team to enhance protection of nuclear fuel at its power plants, and that team has regular access to those facilities, might we not consider those facilities to be in good standing in the nonproliferation regime? Naturally, this standing would only remain in place for as long as the cooperation remained intact. Again, these are new ideas, but I believe that they are worth exploring.

Thank you, Mr. Chairman, for the opportunity to give this testimony. I look forward to your questions and comments.

The CHAIRMAN. Well, thank you very much, Dr. Gottemoeller.

Let me say, in introduction further of Secretary Curtis, that the work of the Nuclear Threat Initiative in the Vinca situation that has already been mentioned by Assistant Secretary Wolf was really exemplary. And the facts are that $5 million of NTI money and about $2 million of money from the Federal Government was involved in that affair. And in part, that division came because of restrictions in our programs of what money can be used for. Very specifically, there have always been prohibitions against environmental work. Obviously, people who have laboratories and have difficulties have environmental problems in the quid pro quo. Secretary Curtis can go into this further. Part of our mission in getting a hold of the spent fuel is to clean up the problem.

So this flexibility that you have talked about, Dr. Gottemoeller, really comes home in spades. In a very specific instance, it has been widely applauded. Nevertheless, as a case in point, perhaps we need to have some chance in our own legislation and in our work at bureaus.

Now, with all of that, Secretary Curtis, let me recognize you. And we appreciate, again, your coming today.

STATEMENT OF HON. CHARLES B. CURTIS, PRESIDENT AND CHIEF OPERATING OFFICER, NUCLEAR THREAT INITIATIVE, WASHINGTON, DC

Mr. CURTIS. Thank you, Mr. Chairman. I appreciate the kind words about Vinca. Let me reflectively offer kind words to the Departments of Energy and State, whose operational expertise and partnership helped pull that off. We had an important, but a relatively minor, contributive role to what was a very important nonproliferation action.

You know, Secretary Wolf spoke earlier about a partnership, that those who know these dangers, who know the urgency of these problems, must really be engaged in an effective partnership to reduce the threats from weapons of mass destruction. We at NTI

view our role as just that, as partnering, where possible, with our government and with other actors to meaningfully address the threats that we face and help close the gap that we see between dangers that we face and the response that we have marshalled, both domestically and internationally, to those dangers.

As my remarks will make clear, though, NTI sees its role not only as a partner, but as an assistant conscience on these matters, and I will have some comments toward that end.

Mr. Chairman, I would like to begin my testimony by recalling, for emphasis, the words President Bush used in introducing the latest version of the U.S. national security strategy, words which, in part, you quoted in your opening remarks, "The gravest danger our Nation faces lies at the crossroads of radicalism and in technology. Our enemies have openly declared they are seeking weapons of mass destruction, and evidence indicates they are doing so with determination. The United States will not allow these efforts to succeed. We will cooperate with other nations to deny, contain, and curtail our enemies' efforts to acquire these dangerous technologies."

I have been encouraged to hear these and other Presidential statements confirmed as correct assessment of the dangers we face, but our actions, as yet, are falling far short of our words. That is not to say that we do not have competent individuals who approach their jobs in this field with enormous determination and creativity. As your opening remarks indicated, Secretary Abraham, in particular, and Litton Brooks, the team at the Department of Energy, have made significant progress in their tenure on the job. The people who selflessly devote themselves to this noble cause deserve our praise and support, but they also deserve our objectivity. And in the spirit of objectivity, it is fair to say that they must quicken the pace and expand the scope of what they strive every day to accomplish.

The President's strategy to combat weapons of mass destruction must be translated into a concrete prioritized plan with carefully defined elements for nuclear, chemical, and biological weapons, with clearly defined milestones, and clearly defined accountability. For this to happen, the President must make crystal-clear that what he has called his number-one security priority, keeping the world's most destructive weapons out of the hands of the world's most dangerous people, is, in words and in practice, the No. 1 priority of this administration. And the President, himself, must exercise direct and sustained leadership on these matters and put someone specifically in charge of this essential mission, someone who has and is seen to have the President's and his national security advisors' full confidence.

Mr. Chairman, as you and your colleagues well know, much remains to be done in meeting this priority. Russia's nuclear weapons and weapons materials are still dangerously insecure. By the Energy Department's own account, security upgrades work has not even begun on more than 120 metric tons of plutonium and highly enriched uranium. Not even yet begun. Moreover, we have no accounting for Russia's nonstrategic weapons and still have factors of uncertainty over how many they have or how secure they are. Hundreds of thousands of weapons, chemical weapons, await destruc-

tion at Shchuch'ye and other venues. And thousands of Russia's, former Soviet Union, bio-weapons scientists, which our own intelligence community classifies as security risks, are yet to find sustained, peaceful work.

Mr. Chairman, I wanted to congratulate the efforts that you have made to grant the executive branch permanent waiver authority so that the Nunn-Lugar program, which performs vital work in cooperation with Russia and other former Soviet states, can continue without interruption. If the President concludes our national security interest is served by such a waiver, he must be able to exercise that judgment in a manner that ensures Nunn-Lugar's programmatic integrity. Should we ever suffer attack by terrorists with weapons obtained from unsecure stores of weapons and materials from the former Soviet Union, the American people will be unforgiving to learn that programs designed to prevent this occurrence were interrupted or weakened because the President was constrained in his ability to act in the best security interest of the United States. I encourage the Congress to act decisively on this issue this session.

At the same time, we would do well to remember that unsecured nuclear, biological, and chemical weapons and materials reside outside the territory of the former Soviet Union. Twenty metric tons of highly enriched uranium were distributed to over 130 civilian reactors and other facilities in 40 countries around the world in the last 50 years. We have to get our hands around this problem and clean out the material at risk. We know of at least two dozen circumstances requiring our immediate attention, yet three-quarters of a year after the removal of two bombs worth of highly enriched uranium from Belgrade, Yugoslavia, we have yet to remove a single additional kilogram from any other of these 24 high-risk circumstances. Unsecured nuclear bomb material anywhere is a threat to everyone everywhere, and the approach and the pace of these programs is simply inadequate to the threat.

The point comes across clearly in a report published last week by a team at Harvard University entitled "Controlling Nuclear Warheads and Materials," a report that you are very familiar with, sir. While the focus of this report is on nuclear weapons and materials, the same can be said about chemical and biological weapons. We need a prioritized plan to keep the world's most dangerous weapons out of the hands of the world's most dangerous people, and we have to act on it with high purpose and direct Presidential attention.

For us to succeed in meeting the proliferation challenges facing our Nation, we will need an unprecedented level of international security cooperation. With all of our might, the United States cannot carry this mission out alone. It requires all nations, all nations, to make sure that every nation with nuclear, biological, and chemical weapons materials or know-how accounts for what it has, secures what it has, and pledges that no other nation or group will be allowed access. Mr. Chairman, you will recognize those words. They are yours. This straightforwardly stated objective, an objective which you set forth in an article in the Washington Post over a year ago, must be our No. 1 diplomatic priority. It should lead the talking points of every interaction by our State Department,

with other nations, and by every interaction our President has with other leaders. It needs to be the central organizing principle of security in the 21st century.

As such, it is imperative that we expand the scope of successful programs, such as Nunn-Lugar, the Department of Energy's Material Protection Control and Accounting Program, and the Department of State's Science center, export control and border security activities. The lessons we have learned during the last decade in working with the Russians and other former Soviet states in a cooperative effort to reduce threats can be applied in other regions of the world that face instability and the prospect of open conflict. Making the Nunn-Lugar concept global and extending its programmatic reach to other nations and to the world's regional "hotspots" is the most important step Congress can take to deny terrorists access to weapons of mass destruction and to reduce the potential that these weapons may ever be used by states or non-state actors. I strongly endorse the efforts to extend Nunn-Lugar globally, beyond the borders of the former Soviet Union.

Mr. Chairman, in closing, I want to mention the G–8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction which the G–8 launched last summer in Canada. The establishment of the G–8 Global Partnership and the leadership commitments by member states to spend $20 billion on these matters over the next 10 years, as you have noted, is a great achievement. However, the G–8 makes many commitments at its annual meetings. We must continue to invest the diplomatic energy to make the G–8 Global Partnership real and to turn shared principles into a clear set of priorities, to establish a time line to guide the work, and make sure they devote adequate resources to the work needed. And we need to press the G–8 governments to make the Global Partnership truly global, to include every nation with something to safeguard or that can make a contribution to safeguarding it. Your persistent oversight of these efforts through this committee will do much to make the G–8 partnership real and to make the Global Partnership truly a global coalition of nations.

Mr. Chairman, we often ask, at NTI and sometimes in the hearing rooms of our Congress, if, pray to God, a terrorist attack on the United States is launched with a weapon of mass destruction, we would ask what should we have done to prevent it and why are we not doing that now. Similarly, I think I should ask what would I wish I had said when I had the opportunity to say it. This is an opportunity, and what I must say is we are not doing as much as we can or as much as we must. And I say that with full respect and admiration for the people who have come to this table today and who are working in the trenches in the Departments of Energy, State, and Defense. We are simply not addressing this problem with the urgency it requires, the resources they require, or the planning attention of our government and the international community it requires.

As I conclude these remarks, let me acknowledge, of course, that there are other issues of weapons of mass destruction policy that involve the vital security interest of our country and the world, particularly the related matters of North Korean, Iran, and Iraq,

and I would be happy to address those matters in questions which are to follow.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Curtis follows:]

PREPARED STATEMENT OF HON. CHARLES B. CURTIS, PRESIDENT, NUCLEAR THREAT INITIATIVE

PROLIFERATION THREATS FACING THE UNITED STATES

Mr. Chairman, members of the Committee, I want to thank you for the opportunity to share my thoughts and concerns about the gravest danger facing our world today. I appear before you as the President and Chief Operating Officer of the Nuclear Threat Initiative (NTI)—a charitable organization committed to helping make the world safer from the threats of nuclear, biological and chemical weapons. Former Senator Sam Nunn and Ted Turner co-chair NTI and we are proud to say that our foundation benefits regularly from your guidance, Mr. Chairman, in your capacity as a member of our Board of Directors. We are also thankful for Senator Domenici's leadership on these issues as another member of our Board. I should make clear, however, that my testimony is my own and has not been reviewed or approved by NTI's Board of Directors.

Mr. Chairman, I would like to begin my testimony by recalling the words President Bush used to introduce the latest version of the U.S. National Security Strategy:

> The gravest danger our Nation faces lies at the crossroads of radicalism and technology. Our enemies have openly declared that they are seeking weapons of mass destruction, and evidence indicates that they are doing so with determination. The United States will not allow these efforts to succeed . . . We will cooperate with other nations to deny, contain, and curtail our enemies' efforts to acquire dangerous technologies.

I have been encouraged to hear these and other Presidential statements confirm this correct assessment of the dangers we face and the need for international cooperation to mount an effective defense. The U.S. government has now enshrined those words in a six-page document entitled, "National Security Strategy to Combat Weapons of Mass Destruction." But our actions, as yet, are falling far short of our words. If keeping weapons of mass destruction out of the hands of our enemies is our number one security threat—who is in charge of this important mission? Who's accountable? What is our plan? What, *in fact,* "new" is being done to deny those who intend us harm access to these weapons, weapons materials and know-how? Information is scant, but, I regret to say, I am increasingly concerned that the President's "bureaucratic troops" do not yet display the planning, coordination, and degree of urgency this mission requires.

This is not to say that we do not have competent individuals who approach their jobs in this field with enormous determination and creativity. I know and respect many of them. They deserve your praise and the praise of the American people. But they also deserve our objectivity. Every day these individuals make a positive difference in reducing the threats that face all nations. But we must do much more. We must quicken the pace and expand the scope of what we seek to accomplish. For, in spite of the President's words, keeping the world's most dangerous weapons out of the hands of the world's most dangerous people is not yet a budget priority. There is still a dangerous lag between the President's words and our expenditures. Programs at the Department of Defense, the Department of Energy and the Department of State focused on securing vulnerable weapons and materials in Russia and states of the former Soviet Union where much of the risk resides are proceeding, at best, on a "status quo plus" basis.[1]

Russia's nuclear weapons and weapons materials are still dangerously insecure. By the Energy Department's own account, security upgrades work has not even begun on more than 120 metric tons of plutonium and highly enriched uranium. As is widely known, it takes mere pounds to make a nuclear device with the devastating effect of the bomb exploded over Hiroshima. Moreover, we have no accounting for Russia's non-strategic weapons and still have factors of uncertainty over how many they have, and how secure they are. And for reasons having to do more with political science than political foresight, we stalled out the Nunn-Lugar Cooperative

[1] Running at $1 billion per year or roughly 1/3 of one percent of the 2003 Department of Defense appropriation.

Threat Reduction program for almost a full fiscal year, while Congress considered different versions of a waiver authority for the executive branch.

Mr. Chairman, I want to congratulate the efforts you have made to grant the executive branch permanent waiver authority so that this vital work can continue without interruption. If the President concludes our national security interest is served by such a waiver, he must be able to exercise that judgment in a manner that ensures the programmatic integrity of Nunn-Lugar. A gap in program administration opens an opportunity for terrorists and creates a gap in our own security. To again recall the President's words, "Our enemies have openly declared they are seeking weapons of mass destruction and evidence indicates they are doing so with determination." I encourage this Congress to speak and act decisively on this issue—this session. Should we ever suffer attack by terrorists with weapons obtained from unsecured stores of weapons and materials from the former Soviet Union, the American people will be unforgiving to learn that programs designed to prevent this occurrence were interrupted or weakened because the President was constrained in this ability to act in the best security interest of the United States.

At a fundamental level, we must ask ourselves whether conditions on security assistance to Russia and other former Soviet states—some of which were put in place almost a decade ago—remain relevant in light of the changed nature of the threats we face after September 11th. I don't believe so. But at the very least, I believe the President must have unqualified authority to waive those conditions in the interest of national security as circumstances demand. The Nunn-Lugar program and its counterparts at the Departments of Energy and State served the security interest of this country well in the post-Cold War period. In the post 9-11 era, Nunn-Lugar and its counterparts are needed "now more than ever."

At the same time, we do well to remember that unsecured nuclear, biological and chemical weapons and materials reside outside the territory of the former Soviet Union. Our near-term security focus should look beyond these borders. Twenty metric tons of highly enriched uranium were distributed to over 130 civilian reactors and other facilities in 40 countries around the world in the last 50 years, under the "Atoms for Peace" program. Much of the material remains broadly distributed throughout the globe at inadequately guarded sites. We have to get our hands around this problem and clean out the material at risk. We know of at least two dozen circumstances requiring our immediate attention. We at NTI are pleased to have had a role in addressing the most serious of these circumstances in Belgrade, Yugoslavia, last year. The U.S. State Department, the Department of Energy and Russia's Minatom deserve high marks for this operation, which removed two and a half bombs worth of highly enriched uranium from a research reactor near Belgrade to a secure location where it will be blended down so it cannot be used in nuclear weapons. Yet we have only just begun to do what needs to be done.

Unsecured nuclear bomb material anywhere is a threat to everyone, everywhere and the approach and pace of these programs is inadequate to the threat. This point comes across clearly in a report published last week by a team at Harvard University entitled "Controlling Nuclear Warheads and Materials."[2] This report, which was commissioned by NTI, focuses attention on the requirements for sustained Presidential leadership on these issues and on the need for an integrated, prioritized plan for blocking the terrorist pathway to the bomb. While the focus of this report is on nuclear weapons and materials, the same can be said about biological and chemical weapons.

We must fix our priorities so the greatest dangers draw our greatest investments. Admittedly, designing an effective defense against the full range of risks is a formidable challenge. To succeed, we must begin with an objective, comprehensive national security estimate that assesses each risk, ranks each threat, computes every cost, and confronts the full range of dangers. From this analysis can be constructed a broad-based, common ground strategy and measured defense—one that would allow us to direct the most resources to prevent threats that are the most immediate, the most likely, and the most potentially devastating. In the absence of an infinite budget, relative risk analysis must be the beginning point in shaping our strategy and allocating our resources—to defend our citizens at home and abroad. If such an assessment exists, we have not seen it. Without it, I suggest it will be extremely difficult for the President or the Congress to get our spending and program priorities right.

President Bush has an historic opportunity to dramatically reduce the threat from weapons of mass destruction within the next two years of his Administration. The

[2] Matthew Bunn, Anthony Wier, John P. Holdren, "Controlling Nuclear Warheads and Materials—A Report Card and Action Plan," March 2003, Harvard University. Available at www.nti.org/cnwmj

good news is that he is served by a number of highly dedicated and competent appointed and career officials. They are taking important steps in reducing the dangers from weapons of mass destruction. But we need giant strides and, as I noted earlier, a much greater high-level focus and coordination of this urgent mission. The President's strategy to combat weapons of mass destruction must be translated into a concrete plan with clearly differentiated elements for nuclear, chemical and biological weapons, with clearly defined milestones and clearly defined accountability. For this to happen, the President must make crystal clear that what he has called his number one security priority—"keeping the world's most destructive weapons out of the hands of the world's most dangerous people"—is, in words *and practice,* the number one priority of his Administration. If this is done, programmatic priorities will become Presidential priorities, and the money will follow.

And getting our programmatic and spending priorities right is but one piece of a larger mosaic. To counter the threat from catastrophic terrorism, we will need an unprecedented level of international security cooperation. This will require getting our diplomatic priorities right. And here, too, I am concerned that we are trying to do too many things simultaneously without sufficient focus on the closest snakes.

Mr. Chairman, I would like to associate myself with the words you wrote not long ago in The Washington Post: We have to make sure that every nation with nuclear, biological, or chemical weapons, materials or know-how accounts for what it has, secures what it has, and pledges that no other nation or group will be allowed access. That straightforwardly stated objective must be our number one diplomatic priority. As such, it is imperative that we expand the scope of successful programs such as Nunn-Lugar, the Department of Energy's Material Protection, Control and Accounting Program, and the Department of State's science center, export control and border security activities. I am confident that the lessons we have learned during the last decade in working with the Russians and other states in a cooperative effort to reduce threats can be applied in other regions of the world that face instability and the prospect of open conflict. Making the Nunn-Lugar concept global and extending its programmatic reach to other nations and to the world's regional "hot spots" is the most singularly important step the Congress can take to deny terrorists access to weapons of mass destruction and to reduce the potential that these weapons may ever be used by states or non-state actors. I strongly endorse the efforts to extend Nunn-Lugar globally beyond the Russian Federation and other states of the former Soviet Union.

As we talk with our allies and with all nations—we must underscore the importance of working closely together to meet the threat posed by catastrophic terrorism—the kind of terrorism that has the capacity to stagger societies and destroy lives oceans away from ground zero. It is the brand of terrorism that truly threatens everyone, and so it is the brand of terrorism with the best chance to arouse a cohesive global opposition. And here again, we are taking important steps, but not yet the giant strides required.

Last summer, G-8 leaders met in Canada and took a particularly important step. At that meeting, the leaders declared (and I quote): "we commit ourselves to prevent terrorists, or those that harbor them, from acquiring or developing nuclear, chemical, radiological and biological weapons; missiles; and related materials, equipment and technology." To implement these principles, they established the "G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction," committed $20 billion over ten years, and established a six-element program to guide their work.

The establishment of the G-8 Global Partnership and the leadership pledges achieved in Kananaskis are welcome and important developments. One should recognize, however, that the G-8 makes many commitments at its annual meetings. We now have to invest the diplomatic energy to make the Global Partnership real. NTI is working with the Center for Strategic and International Studies and 15 non-governmental organizations in North America, Russia, Europe and Japan to build the intellectual and political support required to strengthen the Partnership.

We need to *press* the G-8 governments to turn those principles into a clear set of priorities, to establish a timeline to guide their work, and make sure they devote adequate resources to the work.

And we need to press the G-8 governments to make the Global Partnership truly global—to include every nation with something to safeguard or that can make a contribution to safeguarding it. Today, this G-8 agreement is all but invisible—to the press, to Congress and to nations around the world. For this coalition to extend itself from eight nations to all nations, the President of the United States is going to have to promote it with the full authority of his office.

To achieve a global coalition, we will have to make this a diplomatic priority—something that leads the set of talking points whenever the President or an Amer-

ican diplomat of any rank up to the Secretary of State sits down to talk with officials of other nations. And why should it not be? The final section of the National Security Strategy released by the White House in September says: "The United States must and will maintain the capability to defeat any attempt by an enemy—whether a state or non-state actor—to impose its will on the United States, our allies, or our friends." That promise cannot be fulfilled without denying terrorists weapons of mass destruction, and that cannot be achieved without the very kind of international cooperation envisioned in a full scope global partnership.

Mr. Chairman, in these remarks I have tried to outline briefly a set of domestic and international initiatives for how we should go about dealing with the threats from weapons of mass destruction. There are, of course, other issues of weapons of mass destruction policy that involve the vital security interests of our country and the world—particularly the related matters of North Korea, Iran and Iraq. I would be happy to address these matters in the question and answer period which follows these formal remarks. Thank you.

The CHAIRMAN. Thank you very much, Secretary Curtis.

Dr. Smithson.

STATEMENT OF AMY E. SMITHSON, PH.D., SENIOR ASSOCIATE, THE HENRY L. STIMSON CENTER, DIRECTOR, CHEMICAL AND BIOLOGICAL WEAPONS NONPROLIFERATION PROJECT, WASHINGTON, DC

Dr. SMITHSON. Mr. Chairman, it is, indeed, a pleasure to be here with you today, as well as with my colleagues on this panel. However, we cannot ignore that we are on the eve of a war with Iraq, a country stigmatized by its use of poison gas, a country that for over a decade has been anything but truthful and cooperative with international inspectors about its bio-weapons program. Even if this war unfolds without the use of unconventional weapons and concludes swiftly, the struggle to thwart the proliferation of chemical, biological, and nuclear arms will endure indefinitely.

You are so knowledgeable about the proliferation threat that I think I will let my written remarks speak, to the most part, about the nature of that threat, but I would point out that we have had some discussion here today about the nuclear threat emanating from North Korea. If you will look in tables 1 and 2[2] of my statement, you will also see that there are a number of countries, including North Korea, that are known to have chemical and biological weapons capabilities.

When it comes to the terrorist-level threat, they can obtain many of the ingredients and equipment on the open marketplace, which can then be put toward a chemical or biological weapons capability. What will frustrate terrorists most are the technical hurdles associated with large-scale production of chemical agents and with post-production and dispersal of biological agents.

A terrorist seeking to overcome those technical hurdles, would probably turn, first and foremost, to the former Soviet Union, to the more than 60 facilities that were involved in the research development, testing, production, and storage of the Soviet Union's chemical and biological weapons. You know the tale there all too well. Russia has declared 40,000 metric tons of chemical agent and we also know, from the whistle-blower, Dr. Vil Mirzayanov, that the Soviets tested and produced a small quantity of a new generation of nerve agents far more deadly than anything that is in the

[2] Tables 1 and 2 can be found in Dr. Smithson's prepared statement on pages 67-68.

U.S. arsenal which is now being destroyed. The Soviets had a prodigious bio-weapons program involving over 65,000 weapons scientists and technicians. They weaponized contagious diseases, hardened others against antibiotic treatment, and had robust capabilities in anti-crop and anti-livestock agents.

Without a doubt, this reservoir of talent is the deepest in the world, and I fear that terrorists may, indeed, go there for help. We know that Aum Shinrikyo knocked on those doors.

So, Iraq is clearly not the only chemical and biological threat in the world. Therefore, and I think you have heard this panel say loudly, nonproliferation should be a priority, not an afterthought. What remains to be seen is whether Washington will press forward vigorously with a panoply of nonproliferation tools. I will turn first to those that apply to the former Soviet Union.

Mr. Chairman, I cannot help but salute you and former Senator Nunn for having the foresight and the courage to inaugurate the Cooperative Threat Reduction program. With your permission, since these efforts sometimes do not receive the attention that the nuclear efforts do, I would like to highlight a few of the impressive accomplishments of the CTR programs, the Freedom Support Act effort, as well as the Initiatives for Proliferation Prevention, with regard to the chemical and biological weapons institutes.

For example, these funds have helped to dismantle the mammoth chemical and biological weapons production facilities in the former Soviet Union, such as Volgograd and Novocheboksarsk, which made the USSR's nerve agents, and Stepnogorsk, which was built to churn out anthrax by the ton. Also completed are the demilitarization and cleanup of chemical and biological weapons testing facilities at Nukus and on Vorozhdeniye Island in the Aral Sea region of Uzbekistan.

I would point to the improvement of security at Russia's chemical weapons storage sites and also at several biological institutes, so that these dangerous seed-culture collections can be consolidated under higher protection. I would also highlight the construction of an analytical laboratory to support Russia's chemical weapons destruction program and the conduct of collaborative research with bio-weaponeers, particularly the work being done on dangerous pathogens. This work is doubly important because it will enable a better understanding of the Soviet germ-weapons program, which is necessary to improve U.S. military and civilian defenses.

I could go on, but I think you get the picture. I also think you know that much work remains to be done in what I have called the "toxic archipelago."

To further reduce proliferation threats, I would recommend additional investments to tighten security at Russia's chemical weapons storage sites, to enhance safety and security at the biological institutes, and to enable the dismantlement of specialized infrastructure at both chemical and biological institutes. Full funding, once and for all, of the Shchuch'ye destruction facility is in order so that the elimination of Russia's 32,000 metric tons of nerve agent can begin as soon as possible. I would echo your sentiment, sir, that perfection should not be the enemy of the good when it comes to the certification process interfering with these important threat-reduction programs.

I would ask for increased funding for collaborative research with chemical weaponeers until the 3,500 critical proliferation-risk scientists that the U.S. Government believes would be threatening if they cooperated with other governments or terrorists can be supported at least at the poverty level.

And finally, some believe that cooperative activities should be curtailed until Russia grants access to the military biological institutes. Mr. Chairman, you have had trouble getting into Kirov. The three other closed institutes would be located at Yekaterinburg, Sergiev Posad, and St. Petersburg.

I would strongly argue against cutting back Freedom Support Act or CTR funds for work with bioweaponeers because these facilities remain closed. Rather, such funds should continue to rise until U.S. officials can confidently tell Congress that all proliferation risk bioweaponeers have been reached. This work slowly builds the trust that will enable ever-more cooperative defensive efforts in the years ahead, including the opening of these military facilities.

Less than half a year from the first anniversary of the G–8 Global Partnership, more concrete plans need to be announced, funding priorities need to be agreed, and Russia needs to clarify how it will facilitate accelerated CTR programming. In addition, we have already had discussion of the importance of expanded CTR programming beyond the borders of the former Soviet Union. Certainly I would agree that there are a number of healthy candidates for this type of assistance, and I can point to efforts like enhanced disease surveillance as examples where such funds might make a positive nonproliferation contribution. This type of aid can be administered bilaterally or on a more widespread basis.

In November 2002, the Bush administration asked other nations to take whatever steps they deemed appropriate to stiffen bio-safety, bio-security, and oversight of genetic engineering research, an approach that does little to compel governments to take worthwhile action. Moreover, largely at Washington's behest, the international community now convenes only once a year to consider important biological weapons nonproliferation proposals.

Rather than this anemic approach, U.S. security interests would be better served by advocating tougher mandatory standards with noncompliance penalties for bio-safety, bio-security, and oversight of genetic engineering research. The models for these types of standards can be found in the regulations of the Centers for Disease Control and Prevention and the National Institutes of Health.

In addition to promoting revised proposals along these lines, I would also ask the committee to direct the executive branch to intensify the pace of these negotiations. Otherwise, the nonproliferation benefits from these tools, which are aimed mainly at the terrorist-level threat, will certainly not be realized for years to come.

Mr. Chairman, Senators, my written statement contains recommendations to sharpen additional nonproliferation tools. This to-do list for chemical and biological weapons nonproliferation is lengthy. But unlike any of the chores that perpetually await many of us on the weekend, the consequences of ignoring these to-do tasks or for doing them in a half-hearted manner could be grave, indeed, for U.S. soldiers and citizens. So, it is vital that Washington and the international community spare no effort to reduce

the chemical and biological weapons threat at the nation-state level. Hindering terrorist acquisition of these weapons will require even more ingenuity, collaboration, and determination.

I look forward to your questions. Thank you.

[The prepared statement of Dr. Smithson follows:]

PREPARED STATEMENT OF AMY E. SMITHSON, PH.D., DIRECTOR, CHEMICAL AND BIOLOGICAL WEAPONS NONPROLIFERATION PROJECT, HENRY L. STIMSON CENTER

With America on the precipice of war with Iraq, a country known to have used chemical weapons in its war with Iran and believed to be in possession of considerable biological and chemical weapons capabilities, this committee's inquiry into the status of efforts to retard the proliferation of unconventional weapons could not be more timely. Even if a war with Iraq unfolds without the use of unconventional weapons and comes to a swift conclusion, the struggle to thwart the proliferation of chemical, biological, and nuclear arms will endure indefinitely. Unlike nuclear weapons, which can be developed from scratch only at considerable cost and technical skill, chemical and biological weaponry can be acquired at significantly lesser cost, using equipment and materials commonly employed in commercial industries. While there are appreciable technical hurdles involved in the manufacture and dispersion of biological and chemical agents, poison gas remains the lowest on the weapons of mass destruction food chain, with germ weapons coming next and nuclear weapons at the top. Nations seeking unconventional weapons have traditionally scaled the ladder, starting with chemical weapons. Moreover, when unconventional weapons have been employed, mankind has turned most frequently to poison gas, as World Wars I and II and more recently the 1980s Iran-Iraq War, have demonstrated. Therefore, it is vital that the US government and the international community spare no effort to reduce the chemical and biological weapons threat at the nation state level. Hindering terrorist acquisition of these weapons will require even more ingenuity, collaboration, and determination.

In my testimony, I will provide an overview of chemical and biological weapons proliferations concerns, followed by an accounting of the tools that can be employed to stem the proliferation tide. The good news is that such tools are relatively plentiful; the bad news is that none of them will do the job in its entirety and several of them enjoy lackluster support, including from various decisionmakers in this capital.

AN OVERVIEW OF CHEMICAL AND BIOLOGICAL WEAPONS PROLIFERATION CONCERNS

A review of the status of chemical weapons programs worldwide would begin with the stipulation that four nations, namely Russia, the United States, India, and South Korea, have declared possessing chemical arsenals and are in the process of destroying those munitions under the supervision of international inspectors who monitor compliance with the treaty that bans poison gas, the 1997 Chemical Weapons Convention (CWC). According to the US government, an additional sixteen countries are involved in some level of offensive chemical weapons activity. Besides Iraq, North Korea and Syria have reportedly stockpiled chemical weapons, as Israel may have done. While Egypt is described as having chemical agent production capabilities, Taiwan and Myanmar may not have progressed past research, development, and testing. Several additional countries that the US government cites as being of proliferation concern are members of the CWC, namely China, Ethiopia, Iran, South Africa, Sudan, Pakistan, Vietnam, and Yugoslavia. Another country with a checkered past regarding chemical weapons is Libya, which reportedly is on the verge of acceding to the CWC. Upon joining the CWC, as Table 1 below shows, six of these nations declared having former chemical weapons production facilities. Since mid-1997, CWC inspectors have systematically padlocked and begun certifying the destruction of these facilities or their conversion to peaceful purposes.

When the USSR collapsed, Russia inherited the world's largest and most sophisticated chemical weapons capability. Moscow is a member of the CWC and has declared a 40,000 metric ton arsenal. Slightly over eighty percent of that stockpile consists of nerve agents, which are stored at five different facilities. Two other storage sites house mustard and lewisite. In December 2002, Russia began destroying mustard gas at its Gorny storage site. Russia also declared 24 production facilities to the CWC's international inspectorate, of which six have been destroyed and another seven converted to peaceful uses under the watchful eye of inspectors. US- and European-funded programs, which will be discussed later, have propelled these destruction and conversion activities.

Table 1: Chemical Weapons Status of Select Countries.

	CWC Signatory	CWC Member	Declared Former Production Facilities	Declared Arsenal	Non-CWC Signatory, Non-CWC Member
Egypt					■
Iraq					■
Libya					■
North Korea					■
Syria					■
Taiwan					■
Israel	■				
Myanmar	■	■			
Pakistan	■	■			
South Africa	■	■			
Sudan	■	■			
China	■	■	■		
Iran	■	■	■		
Yugoslavia	■	■	■		
India	■	■	■	■	
Russia	■	■	■	■	
South Korea	■	■	■	■	
United States	■	■	■	■	

Actual weapons materials aside, another proliferation problem concerns human expertise. "Brain drain" is linguistic short hand for the possibility that governments or terrorists attempting to acquire nuclear, biological, chemical, or missile capabilities might siphon off the human expertise behind the USSR's weapons of mass destruction. A 26-year veteran of the Soviet chemical weapons program, Dr. Vil Mirzayanov, estimates that at its height the USSR employed roughly 6,000 scientists and technicians to conduct research, development, and testing of chemical weapons. Of that number, the US government conservatively estimates that 3,500 would pose a serious proliferation risk if they were to collaborate with proliferating governments or terrorists. That proliferation dilemma is underscored by the unparalleled amount of chemical weapons expertise that resides in Russia. In 1991, Dr. Mirzayanov blew the whistle on an ultra-secret Soviet program that successfully developed, tested, and produced in small quantities an entirely new generation of nerve agents, known as the *novichok* agents.

In my view, the US government and the international community have yet to reward Dr. Mirzayanov's valor by bringing Moscow to full account for the *novichok* program. The reasons for this sad state of affairs are complicated and perhaps better discussed another day, but when considering chemical weapons proliferation concerns, one must be mindful that a proven design exists for a turn-key chemical weapons production capacity that could be buried in the agro-chemical industry and within a relatively short period of time begin churning out chemical agents five to eight times as deadly as VX and ten times as lethal as soman.

Given the fact that the formulas of chemical weapons have been in public literature for over half a century and the necessary equipment and ingredients are the backbone of a global chemical industry, terrorists could obtain several essential components of a chemical weapons capability without too much trouble. However, should they attempt to produce the large quantities of chemical agent necessary to cause massive casualties, they could be tripped up by the same technical complexities that apparently foiled the efforts of the Japanese cult Aum Shinrikyo to inaugurate sarin production at its $10 million, state-of-the-art production facility near Mount Fuji. Briefly, Aum Shinrikyo was the group that released the nerve agent sarin on Tokyo's subway in mid-March 1995, killing a dozen commuters, seriously

injuring several dozen more, and frightening thousands who rode the subway that day. After this attack, which garnered headlines around the world, predictions of mass casualty chemical terrorist attacks abounded. Many of the initial assessments of Aum Shinrikyo's activities failed to appreciate that while the cult's corps of scientists successfully produced several chemical agents in beaker quantities, as one might expect, they subsequently experienced serious mishaps when they attempted to ramp their sarin production facility up to full speed. The technical difficulties associated with full-scale production and aerosolization and delivery of agents may explain why only governments have overcome those technical hurdles.

When it comes to biological weapons, the proliferation picture is also grim. For quite some time, the number of nations suspected of harboring biological weapons programs has hovered at a dozen. As with chemical weapons, much of the equipment, ingredients, and know-how needed to make biological weapons is integral to the pharmaceutical and biotechnology industries. Therefore, governments can mask a biological weapons program in an industrial setting, as did the USSR and Iraq. These two cases aside, public statements from US officials about the individual countries on its proliferation watch list tend to be light on specifics. Of the countries named in Table 2 below, however, the US government has asserted that Iran may have crossed the line from offensive research and development to production and stockpiling of germ weapons. Depending on which report one consults, Libya and North Korea may also have crossed that line.

Other than Iraq, the country listed below that generates especially pressing proliferation concerns is Russia. In blatant violation of the international treaty outlawing biological weapons, the Biological and Toxin Weapons Convention (BWC) for over two decades, the USSR redefined the horizons of germ warfare with a massive bioweapons effort that involved approximately 65,000 scientists and technicians at over fifty research, development, testing, and production sites. The Soviets harnessed over fifty diseases for military purposes. Not only did the USSR harden some anti-human agents against medical treatment, it weaponized contagious diseases such as plague, smallpox, and Marburg, a hemorrhagic fever. The Soviets also put some 10,000 scientists to work on anti-crop and anti-livestock bioweapons. Nonproliferation programs need to reach into this vast bioweapons complex to secure key assets and to ensure that the bioweaponeers have viable peaceful alternatives to continued weapons work, perhaps at the behest of other governments or terrorist groups proliferating germ weapons.

Table 2: Possible Government Sources of Biological Seed Cultures and Weapons Expertise.

Country	Status as a State Sponsor of Terrorism*	Overview of Biowarfare Capabilities
China	No	• Suspected offensive weapons program involving acquisition, development, production, stockpiling of biological agents • Possesses infrastructure necessary for biological warfare program
Egypt	No	• Military-applied research program • National research center investigating agent production and refinement techniques • Research centers engaged in cooperative biological research with US civilian and military laboratories • No evidence of significant or widespread research or activity
India	No	• Five military centers thought to be involved in biological program • Research and development efforts geared mainly to defense • Possesses biotechnology infrastructure
Iran	Yes	• Military-applied research program, including possible possession of small stocks of biological agent

Table 2: Possible Government Sources of Biological Seed Cultures and Weapons Expertise.—Continued

Country	Status as a State Sponsor of Terrorism*	Overview of Biowarfare Capabilities
		• Documented attempts to acquire dual-use equipment and materials • Mycotoxins received initial research attention; research subsequently expanded to other biological agents • Program anchored in biotechnology and pharmaceutical industries, an infrastructure sufficient to mask and support a significant program; medical, education and scientific research organizations also used for agent procurement, research, and production
Iraq	Yes	• Five key sites affiliated with research, development, and production • United Nations Special Commission monitored five vaccine or pharmaceutical facilities; thirty-five research or university sites with relevant equipment; thirteen breweries, distilleries or dairies; eight diagnostic labs; five acquisition and distribution sites for biological supplies; four facilities associated with biological equipment development; and four product development organizations • Worked with anthrax, botulinum toxin, aflatoxin, ricin, Clostridium perfringens, trichothecene mycotoxin, wheat cover smut • Declared production of 19,000 liters of botulinum toxin; 8,500 liters of anthrax; and 2,200 liters of aflatoxin; all quantities declared destroyed but not verified • Filled bombs and missile warheads with anthrax, botulinum toxin, and aflatoxin; spray tanks also developed as delivery mechanism
Israel	No	• Conducting biological defense research • Robust civilian biotechnology sector • Program likely to mimic former US and Soviet programs
Libya	Yes	• Engaged in initial testing and research; trying to develop agent weaponization capacity • Possible production of laboratory quantities of agent • Interested in funding joint biological ventures with international partners • Program slowed by inadequate biotechnology infrastructure • Has capacity to produce small quantities of biological equipment
North Korea	Yes	• Conducting military-applied research at universities, medical and specialized institutes • Research involves anthrax, cholera, bubonic plague • Possible testing on island territories • Likely able to produce limited quantities of biological warfare agents • Wide means of delivery available
Pakistan	No	• Infrastructure might be able to support a limited biological program • Conducting research and development with potential application for a biological warfare program • Research at scientific centers includes work in microbiology
Russia	No	• Over fifty research, testing, and production facilities

Table 2: Possible Government Sources of Biological Seed Cultures and Weapons Expertise.—Continued

Country	Status as a State Sponsor of Terrorism*	Overview of Biowarfare Capabilities
		• Roughly 65,000 weapons scientists and technicians; at least 7,000 deemed critical weaponeers • Weaponization of smallpox, Marburg, anthrax, plague, and many other diseases • Genetic engineering of diseases to strengthen them against medical treatments, vaccines • Crossing of diseases to create new, more deadly weapons • Advanced dissemination and weapons delivery capabilities
Syria	Yes	• Sufficient biotechnology infrastructure to support small program • Robust program would require foreign assistance
Taiwan	No	• Significant biotechnology capabilities and sophisticated equipment from abroad • Possible military-applied research in biology

As 1992 began, tens of thousands of former Soviet bioweaponeers also found themselves without a source of income. Like their chemical counterparts, these skilled scientists and technicians are the living legacy of the prodigious Soviet biological weapons programs and constitute no less a proliferation threat than the actual weapons that they developed and produced. Many are under the impression that terrorists could easily cause massive casualties with disease. Should terrorists persuade former Soviet bioweaponeers to accept lucrative payoffs in exchange for their knowledge or bioweapons seed cultures, such deals could jumpstart terrorists' biological weapons programs. While fermenting biological agents is not that difficult, major technical hurdles arise in the post-production and dispersal processes, where the technical intricacies are such that the USSR mustered a virtual army of scientists and technicians to master biological weaponry. According to the conservative estimates of US government officials, some 7,000 of those scientists would pose a grave proliferation risk were they to cooperate with other governments or terrorist groups.

The challenges facing potential bioterrorists are further illustrated by Aum Shinrikyo's biological weapons failures. This cult is erroneously credited with having successfully dispersed anthrax and botulinum toxin, when in fact the cult's scientists came nowhere near that feat. Aum Shinrikyo's bioweapons program was not nearly as large as its chemical weapons program, but it was nonetheless very well funded and involved roughly a dozen scientists who worked for several years to conquer the technical obstacles of bioweaponeering.

From this overview, it should be clear that a successful prosecution of a war with Iraq would not bring to an end the chemical and biological threats facing the United States. Seen in this light, nonproliferation efforts should be a priority, not an afterthought. According to one adage, recognition of a problem is half of the solution to it. Surely, with all of the words uttered by US policymakers about the chemical and biological weapons threat since 11 September 2001, the problems have been recognized. What remains to be seen is whether the Washington will press forward with a panoply of nonproliferation tools. The safety of US soldiers and citizens will depend on the determination with which Washington approaches this task.

A MENU OF NONPROLIFERATION OPTIONS

Aside from international legal mechanisms, such as the CWC and the BWC, a number of tools can be applied to reduce the chemical and biological weapons threat. An array of proliferation problems reside in the former USSR, so this discussion will turn first to the tools that apply principally to that area of the globe, followed by a review of nonproliferation tools that have a wider geographic applicability, such as enhanced disease surveillance, strengthened regulations overseeing biological safety, security, and oversight of genetic engineering research, and export controls like those administered by the Australia Group.

Cooperative Threat Reduction Efforts Related to the Safety, Security, and Dismantlement of the former Soviet Chemical and Biological Weapons Complexes

A decade ago, when policy makers around the world were scrambling to comprehend the security implications of the USSR's collapse, Senators Richard Lugar (R-Indiana) and Sam Nunn (D-Georgia, ret.) moved boldly forward to inaugurate the Cooperative Threat Reduction (CTR) Program. The purpose of CTR was to help the fledgling governments that materialized out of the former Soviet empire to secure and dismantle their nuclear, biological, chemical, and missile capabilities. CTR's accomplishments related to former Soviet nuclear weaponry have garnered a fair amount of attention. However, CTR's achievements related to the string of chemical and biological weapons facilities scattered across some eight former Soviet states—a veritable toxic archipelago—are similarly impressive. The following discussion will first address CTR efforts devoted to the elimination of segments of Russia's chemical weapons capability before moving on to the work done to secure and dismantle the former Soviet bioweapons complex.

As was previously indicated, the USSR built an enormous weapons complex and left Russia with the world's biggest chemical arsenal. CTR funds have been instrumental in beginning to dismantle that infrastructure. Plants at Volgograd and Novocheboksarsk produced the USSR's nerve agents, while blister agents were made at Dzershinsk. With CTR monies, some 15 buildings at Volgograd have been destroyed. At Novocheboksarsk, a munitions preparation building has been demilitarized and preparations are underway to do the same with a jumbo production and filling building at that site. CTR funds have also driven the safe dismantlement and destruction of a chemical weapons production plant and testing facility located at Nukus, Uzbekistan.

Another important facet of CTR programming is directed at enhancing the security at Russia's chemical weapons storage facilities. The lack of security around these seven facilities was a problem that I aired in 1995 Stimson Center report. Given the low sums paid to the guards at the storage sites and their inferior physical security safeguards, I was concerned then, and, quite frankly, I continue to worry that bribes and crowbars could spring loose some of the man-portable munitions at these sites. With CTR funding, efforts are underway to strengthen the physical security at Shchuch'ye and Kizner. Given the delayed initiation of Russia's chemical weapons destruction program, it is reasonable to assume that more than a decade could pass before Russia's declared chemical arsenal is eliminated. Additional investments in security to lower the risks of insider theft and to harden these storage sites against outside attack would be wise.

Next, on 30 July 1992, the US government pledged to help Russia get its chemical weapons destruction program off the ground, later opting to build a destruction facility at Shchuch'ye. CTR funds were first used to build an analytical laboratory in Moscow that would permit stringent performance and environmental monitoring of chemical weapons destruction. Years slipped by as US governmental officials worked with their Russian counterparts to iron out the engineering plans and myriad logistical details for Shchuch'ye. Certainly, blame can be cast on both sides of the Atlantic for the delays that have handicapped the Shchuch'ye project. For their part, US officials noted that Russia was not doing its share to build the socio-economic infrastructure that would enable the project to move forward, but since 2000, Moscow has allotted much higher sums for that purpose. Bulldozers cleared the property, but again over $132 million in construction funds were held up over Executive Branch certifications related to Russian treaty compliance.

At long last, Washington has put to rest its internal political squabbles related to certification and CTR. Just under $900 million will be needed to construct the Shchuch'ye destruction facility, which, once built, will begin destroying 32,000 metric tons of nerve agent. The Russian government wants to proceed with this project, and it is in US security interests that Russia's stockpile be eliminated. The 2004 budget request for Shchuch'ye is $200 million. Once and for all, Congress and the Executive Branch should throw their full fiscal and political support behind the Shchuch'ye project so that the destruction of Russia's stocks of nerve agent can begin as soon as possible.

Giving credit where it is due, European nations have singly and in combination provided significant funding to the Russian chemical weapons destruction program, enabling the opening of the Gorny destruction facility, the demilitarization of the Dzershinsk production plant, the initial steps to construct another lewisite destruction facility at Kambarka, and the provision of monies for socio-economic infrastructure projects at Shchuch'ye. Heading the list of major contributors is Germany, which put $50 million into the destruction plant at Gorny. The United Kingdom has given over $11 million, the Netherlands $10 million, the Italians just under $7 million, Norway $2 million, and the European Union over $16 million.

With regard to the former Soviet bioweapons complex, CTR funds have made headway destroying infrastructure and enhancing security at some of biological institutes. For example, significant components of the gargantuan anthrax production facility at Stepnogorsk, Kazakhstan, have been dismantled. At the biowarfare agent testing site on Vorozhdeniya Island in the Aral Sea Region of Uzbekistan, CTR funding allowed specialists to engage in additional decontamination of the pits where materials had been buried, ensuring that no residual pathogenic materials remained. In addition, projects are underway to eliminate infrastructure (e.g., air-handling capacity) and specialized equipment at the State Research Center for Virology and Biotechnology at Koltsovo, known by its VECTOR acronym. Similar projects are on the drawing boards for the State Research Center for Applied Microbiology at Obolensk, the All-Russian Institute of Phytopathology at Golitsino, and the Pokrov Plant of Biopreparations.

A principal objective of another facet of CTR programming is to enhance biosafety practices and physical security at select biological institutes so that the pathogenic culture collections can be consolidated at fewer locations, under higher protection. Work to that effect is already underway at VECTOR, Obolensk, Golitsino, and Pokrov in Russia; the Institute of Virology at Tashkent and the Institute of Veterinary Sciences at Samarkand in Uzbekistan; and the State Research Agricultural Institute and the Kazakh Institute for Research Plague Control in Kazakhstan. Additional biological threat reduction projects are slated for facilities in Georgia and Ukraine.

Given the sheer number of facilities in the toxic archipelago, many of which have yet to see much, if anything, in the way of physical infrastructure improvements, a clear argument can be made for increasing US funds for projects that will strengthen security at chemical weapons storage sites, enhance safety and security at biological institutes, and enable dismantlement of more specialized infrastructure at both chemical and biological institutes. Should Congress decide to increase such funds, it should likewise up the number of government staffers responsible for managing the implementation of these programs. In uncertain and dangerous times, most Americans would characterize this as dollars well spent.

Brain Drain Prevention Efforts

Efforts to prevent the leakage of weapons expertise are another important aspect of nonproliferation programming. Brain drain prevention programs began in 1994 with the International Science and Technology Center's (ISTC's) first collaborative research grants to former weapons scientists. Fairly soon, the ISTC, which is funded through the Freedom Support Act, was joined by sister organizations, namely the Science and Technology Center in Ukraine (STCU), the Civilian Research and Development Foundation (CRDF), and the Department of Energy's Initiatives for Proliferation Prevention (IPP) program. The ISTC and other grant programs were charged with convincing thousands of skilled weapons scientists, most with barely a ruble in their pockets, that the possibility of receiving collaborative research grants was preferable to the certainty of a lucrative job in a proliferating country, several of which could be expected to seek their services. Through February 2003, the ISTC alone has funded 1,704 projects valued at $498 million, providing grant payments to over 58,000 nuclear, missile, biological, and chemical weapons experts.

From the outset, grant assistance to biological and chemical weapons scientists was meager in comparison to the grants to nuclear and missile weapons specialists. At first, it was easier to reach into the nuclear and missile weapons communities given their previous interactions with their counterparts in the United States and elsewhere. In comparison, the US intelligence community knew less about the former Soviet biological and chemical weapons complexes. Moreover, the dual-use nature of chemical and biological facilities made it more difficult to discern where military-related activities left off and purely commercial work began. Since issuing a Stimson Center study about the status of brain drain prevention efforts in 1999, I have advocated increased funding for chemical and biological brain drain prevention grants.

US funding for collaborative research with bioweapons scientists began a gradual rise in 1997 that has become more pronounced in subsequent years. Not only are monies flowing through the Freedom Support Act for collaborative research with the former bioweaponeers, CTR funds are supporting collaborative, closely monitored, dangerous pathogens research at Obolensk, VECTOR, the Research Center for Molecular Diagnostics and Therapy in Moscow, the Research Center of Toxicology and Hygienic Reglementation of Biopreparations at Serpukhov, and the State Research Institute of Highly Pure Biopreparations in St. Petersburg. In the not too distant future, CTR funds could be devoted to similar work at several additional Russian biological institutes, as well as institutes in Uzbekistan and Kazakhstan.

Of particular concern to advocates of transparency, Russia has yet to allow access to four key military biological institutes: the Center of Military-Technical Problems of Biological Defense at Yekaterinburg; the Center for Virology at Sergiev Posad; the Scientific Research Institute of Military Medicine at St. Petersburg; and the Scientific Research Institute at Kirov. In late 1999, US officials overseeing brain drain prevention programming were hopeful that limited access would soon begin to occur. Since that has not come to pass, Washington must now consider whether some cooperative activities should be curtailed until limited or full access is granted.

For my part, I would strongly argue against cutting back on any Freedom Support Act or CTR biological brain drain prevention funds. Rather, such funds should continue to rise until US officials can confidently tell Congress that these programs have reached all of the bioweaponeers of proliferation concern. The US government needs to understand what transpired in the former Soviet bioweapons program to be able to enhance US military and civilian defenses. Continued collaborative research activities with the bioweaponeers therefore hits two birds with one stone, keeping these scientists engaged in peaceful research and slowly building the bonds of trust that will enable ever more cooperative defense efforts in the years ahead, including the opening of the closed military institutes.

Like their biological counterparts, former Soviet chemical weaponeers could accelerate the rudimentary chemical warfare programs of other countries or terrorist groups to lethal maturity. While more brain drain prevention funds have begun flowing to biological grants in the past several years, the amounts going into chemical grants have remained relatively static. From 1994 to mid-1999, the US government was averaging $1.37 million in annual funds for chemical grants through the ISTC, the STCU, the CRDF, and the IPP. In 2001, the most recent year for which complete ISTC statistics are available, the ISTC alone was administering $3 million in grants to chemical weapons scientists. While the IPP, STCU, and CRDF programs have some collaborative research efforts directed at chemical weapons scientists, their level of effort is generally less substantial than the ISTC's work. The ISTC grants alone would be inadequate to allow the 3,500 scientists that the US government deems to be of critical proliferation risk to support a family of four at the poverty line, which stood at $41 per month. Consequently, a dedicated increase in grant aid to chemical weaponeers is advisable.

Several other steps could be taken to improve the administration of brain drain prevention programs. For instance, Russia should continue to clean house of the hardline Soviet holdovers who are primarily concerned with perpetuating a weapons capability and their own personal influence to the detriment of efforts to transform the weapons institutes to peaceful, commercial research and manufacturing centers. Since the launch of new research grants can take over two years, the ISTC should enact reforms to lessen the time needed to kickoff new projects, including shorter deadlines for proposal review by the host and funding governments, the formation of expert advisory committees to pre-screen grant proposals prior to ISTC processing, and the modification of the policy regarding work plan approval. Finally, Washington still needs to improve the overall architecture for brain drain programming, at the least identifying benchmarks that will enable progress to be measured.

Cooperative Threat Reduction Programs Beyond the 10-Year Anniversary

While there is much to celebrate about the first ten years of CTR programs, the preceding discussion underscores that significant tasks remain. In July 2002, the leaders of the G-8 countries announced a Global Partnership Against the Spread of Weapons and Material of Mass Destruction that over the current decade would increase the $10 billion the US government has pledged toward CTR programming by another $10 billion from the remaining G-8 nations. The funds will apply to threat reduction across nuclear, missile, biological, and chemical weapons programs. Most of the pertinent US programming has been touched upon in the previous pages. Continuing its track record in chemical or biological threat reduction activities, Germany has promised $33 million for the chemical weapons destruction facility at Kambarka.

The sooner that individual G-8 nations specify their intentions, the easier it will be to identify possible gaps in threat reduction programming. Less than half a year from the first anniversary of this global partnership's debut, the time has come for more concrete plans to be announced, for agreement on funding priorities, and for Russia to clarify how it will provide the support necessary to facilitate accelerated CTR programming.

In addition to this G-8 partnership, Senators Lugar and Nunn have proposed expansion of CTR-like programming beyond the borders of the former Soviet Union. As the preceding review of the proliferation threat revealed, there are several other nations that could be considered healthy candidates for assistance to help secure,

convert, and dismantle chemical and biological weapons facilities and capabilities. CTR-like assistance could be particularly helpful in enhancing disease surveillance, biosecurity, biosafety, and research oversight. Such aid could be administered bilaterally for specialized projects or on a more widespread basis.

Enhanced Disease Surveillance

Another constructive biological threat reduction approach involves the enhancement of disease surveillance around the world. The attractiveness of this particular tool is that it can be applied on a globally or in a more targeted fashion with select countries. Providing technical and financial assistance that helps nations improve their disease surveillance capabilities is also a dual-purpose threat reduction tool. First, such aid would enable foreign countries to detect disease outbreaks as rapidly as possible, increasing the ability of the public health and medical communities to take life-saving intervention. The short time frames involved in international travel make it all the more critical that US public health authorities have as much notice as possible of disease outbreaks overseas. Depending on the disease in question, public health officials may trigger any number of measures intended to prevent the disease from migrating to US shores or to limit its spread should infected individuals already have arrived in America. The current outbreak of severe acute respiratory syndrome illustrates the importance of having well-equipped, well-trained professionals in the public health service worldwide.

The second threat reduction dimension of disease surveillance assistance relates to the links that would be established and the possible access that such US aid could enable. Many public health laboratories in developing countries are barely equipped with basic equipment. Installing more advanced diagnostic and communications equipment would certainly improve the capabilities of such laboratories, benefiting the health and well-being of the recipient nation's citizenry. Moreover, if foreign microbiologists and epidemiologists receive advanced training at US institutions, their instruction can include inculcation of the responsibilities associated with dangerous pathogens work, as well as proper safety and security techniques. Such programs may facilitate subsequent US access to overseas facilities where US-trained personnel are working. While one does not want to overplay this second dimension of US disease surveillance aid, it could foster a better understanding of what is happening in overseas laboratories.

Last year, with these benefits in mind, the Senate passed the Global Pathogen Surveillance Act of 2002, legislation originating with Senators Joseph Biden (D-Delaware) and Jesse Helms (R-North Carolina, ret.). The House of Representatives has yet to schedule action on this bill. Also, the current request for CTR funding includes $23 million for expanded cooperation with the ministries of health in Kazakhstan, Uzbekistan, Georgia, and Ukraine that would strengthen disease surveillance capabilities and consolidate dangerous pathogen collections in secure facilities that US personnel would be able to access.

More Purposeful Steps to Strengthen Biosafety, Biosecurity, and Research Oversight

In November 2002, the Bush administration debuted initiatives that were supposed to move the international community toward stiffer security surrounding dangerous pathogens, better biosafety practices, and oversight of genetic engineering research. These proposals warrant separate consideration because, if properly formulated and given sufficient political backing, they could hinder the ability of terrorists and government-level proliferators to acquire dangerous pathogens, reduce the potential for accidents at high-level biosafety facilities, and help police research activities. The current US proposals call for individual nations to take whatever steps they deem appropriate in these respective areas.

My counsel to the committee on these issues draws on a braintrust of US industry professionals who collectively have over 280 years of experience, with specialties ranging from drug research and development to process scale-up and manufacture of medicines. Their views on all eight US biological weapons nonproliferation proposals are conveyed in the Stimson Center's 2002 report, "Compliance Through Science: US Pharmaceutical Industry Experts on a Strengthened Bioweapons Nonproliferation Regime." The US proposals related to biosafety, biosecurity, and research oversight suffer from the same handicap, namely the failure to articulate an international standard that governments would be expected to meet. Absent identification of and agreement on such standards, governments will have little to compel them to take action. Many governments will enact measures that fall short of worthwhile standards either unintentionally, because they cannot decipher the existing discrepant regulatory concepts, or intentionally, because they seek to perpetuate illicit activities. The let-each-government-do-as-it-pleases approach would further foster an uneven patchwork of domestic laws and practices that might have little near-

term value and could prove difficult to harmonize in the future. All of these outcomes are unsatisfactory.

The industry experts did not consider allowing governments to set their own arbitrary standards to be a constructive step forward. Therefore, they recommended that states adopt mandatory practices in each of these areas. The industry group cited as models for uniform standards the pertinent regulations issued by the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH).

Establishing select lists of pathogens, including toxins that are dangerous to humans, animals, and plants, would facilitate the implementation of biosafety, biosecurity, and research oversight standards. For example, the CDC employs a select list to govern transfer of some human pathogens. Risk-stratified lists of human, animal, and plant pathogens need to be agreed upon to help anchor the standards. Such lists could change over time, but it would be counterproductive if too many agents were inappropriately categorized as high risk.

Sound reasons exist for establishing universal biosecurity standards. Biosecurity regulations currently vary in strength—some incorporate oversight and penalties for noncompliance, others do not. Other biosecurity regulations apply only to very limited areas of activity (e.g., shipping). The industry experts identified as an appropriate model for a minimum global standard the US access, transfer, and chain-of-custody regulations for select pathogens and toxins, or their equivalent.

Access and transfer restrictions alone are insufficient in that they do not even begin to account for the dangerous pathogens and toxins that are already present in organizations worldwide. Therefore, the industry group recommended a companion biosecurity measure: a "house cleaning" activity. Around the world, academic and research institutions, industry facilities, culture collections, and other facilities should be required to conduct a thorough inventory of the strains that they possess; declare to the appropriate authorities those delineated on the select agent lists of dangerous human, animal, and plant pathogens; and, in consultation with authorities, dispose of them, as appropriate.

The industry experts recognized that the effective implementation of any standards hinges on training, which should be conveyed first in universities and colleges and regularly reinforced in the workplace. The second foundation of implementing tougher standards begins at the level of the individual organizations that are working with dangerous pathogens or conducting research with genetically modified organisms. At universities, research institutes, industrial and government facilities, the appropriate infrastructure must be put in place to oversee these activities. For example, designated individual(s) at a facility would be responsible for proper training of personnel; review of research proposals involving genetically modified organisms; and evaluation of the sufficiency of risk assessments and containment for proposed projects. Where a governing infrastructure does not already exist, national regulations should require its creation along the lines laid out in the NIH Guidelines for Research Involving Recombinant DNA Molecules.

Next, the only way to ensure that standards are being uniformly applied nationwide is for countries to establish a national capacity to oversee facilities working with dangerous pathogens and engaged in research involving genetically modified organisms. This regulatory body would:

- Receive declarations about pertinent activities and capabilities from academic, research, industry, and government organizations;
- Certify biosafety and biosecurity practices at these facilities;
- Review, approve, and track all projects involving genetically modified organisms; and,
- Enforce research oversight, biosafety, and access, transfer, and clean house regulations.

The industry group strongly urged that noncompliance penalties (e.g., loss of job, loss of government grants, suspension of licenses) be incorporated in agreed international standards. Absent the stipulation and enforcement of considerable penalties for noncompliance, some individuals or organizations would make only a minimal effort to abide by the regulations.

The culminating step in the implementation of global biosafety, biosecurity, and research oversight standards would be to create an international body to coordinate, promote, and administer these activities, including the updating of standards, as appropriate.

Singly, research oversight, biosafety, and biosecurity enhancement measures will not go far in thwarting nations or terrorists from engaging in wayward research, experiencing leaks at covert weapons facilities, or gaining access to dangerous

pathogens. Collectively, however, global adoption of the CDC/NIH guidelines or their equivalent would raise the bar, hampering the ability of aspiring proliferators to achieve an offensive weapons capability.

Largely at the behest of the US government, the international community now plans to convene only once a year to discuss important bioweapons nonproliferation proposals. Technical talks are to last two weeks, followed by a one-week policy discussion. Biosecurity will be discussed this fall, with the topic of enhanced disease surveillance not on the agenda until 2004. The current schedule does not even include discussions of biosafety or oversight of genetic engineering research.

Senators, not only are several of the Bush administration's bioweapons nonproliferation proposals anemic, to the international community US political will to see constructive action taken in these important areas appears sadly lacking. This city abounds with rhetoric about the dangers of biological weapons proliferation. Surely, the US government can mount a more useful and concerted approach to stricter international biosafety, biosecurity, and research oversight measures. Given the Bush administration's actions thus far, the burden for instigating a more purposeful effort rests with you and your colleagues in the House of Representatives.

The Australia Group

Another tactic that can be used to hinder proliferation of chemical and biological weaponry is to cut proliferators off from specialized equipment and materials that would abet their proliferation goals. With that purpose in mind, the Australia Group was established in the mid-1980s. The creation of this export control cooperative was spurred by the slow recognition of Western governments that commercial trade in dual-use chemicals and expertise was fueling programs to develop and produce chemical weapons. Out of greed, ignorance, or complacency, companies and individuals from Germany, Great Britain, Japan, Austria, Belgium, the Netherlands, Italy, Switzerland, France, and the United States, among other countries, had sold Iraq and Libya products that facilitated their proliferation aims. As these nations individually began to enact export controls in the mid-1980s, Australian analysts were among the first to recognize that proliferators were selectively shopping for desired items among Western suppliers, requesting sales from one nation when turned down by another. Australia proposed that supplier nations meeting to discuss the problem in April 1985.

From an original fifteen member countries and agreement to harmonize export controls on a handful of chemical weapons precursors, the Australia Group has matured to include thirty-three member governments, plus the European Commission, that exercise coordinated export controls on 54 precursor chemicals; dual-use chemical manufacturing facilities, equipment, and related technology; plant pathogens, animal pathogens, biological agents; and dual-use biological equipment. If companies operating on the territory of an Australia Group member are approached with a purchase request for any of the items on these common control lists, the sale is not to proceed without a licensing review by that government. That review process hinges on the proliferation implications of the individual sale in question. Should an Australia Group member deny a license, that decision is shared with other Australia Group members to reduce the possibility that the item in question could be obtained elsewhere. Australia Group members meet yearly to update each other on pertinent activities and to consider whether the control lists need adjustment or other steps need to be taken to make the export controls more effective.

Proponents of export controls argue that the cause of nonproliferation is served by severing the ability of proliferators to purchase the equipment and materials that are central to a weapons capability. Detractors, largely from developing countries, counter that export controls are discriminatory. Developing countries assert that nations that belong to the CWC and/or the BWC should be considered members in good standing of the international community, allowed full access to trade in chemical and biological goods, unless noncompliance charges are raised. They further argue that the Australia Group's controls have a negative effect on the economic well-being of developing countries. Therefore, since its inception, the Australia Group has been controversial.

In a June 1995 article, entitled "Rethinking Export Controls on Dual-Use Materials and Technologies: From Trade Restraints to Trade Enablers," US analyst Brad Roberts addressed the arguments raised by the Australia Group's critics. According to Roberts' survey of trade data, the existence of select export controls liberates trade between supplier and developing nations. In the absence of export controls, supplier companies worried that certain transactions might somehow assist proliferators tend to err on the overly cautious side, cutting trade entirely with some nations. However, with governments shouldering the burden of making the proliferation risk assessment on controlled items, those same companies are free to en-

gage in trade in non- control list items, which by far constitute the majority of materials and equipment available or trade.

If the controversy surrounding the Australia Group and other export control endeavors is ever to be laid to rest, the relationship between export controls and trade must be further explored. Doing so could dispel objections from developing countries that may be based more on emotion than fact. Ideally, law-abiding governments around the world would then become more vigilant about trade in dual-use chemical and biological equipment and materials. The route to the more global practice of export controls lies in factual evidence about the effect of export controls on overall trade patterns.

CONCLUDING OBSERVATIONS

Senators, the "to-do" list for chemical and biological weapons nonproliferation programs remains quite lengthy. Unlike the list of housekeeping chores that perpetually awaits many on the weekend, the consequences of ignoring any of these to-do items or for doing them in a half-hearted manner could be grave indeed for US soldiers and citizens. For years on end, the sitting members of this committee have been stalwart supporters of common-sense nonproliferation programming. With that in mind, the following nonproliferation chores should be accomplished with all possible dispatch:

- Persist, as champions of CTR programs, with support for funds to dismantle infrastructure, upgrade security, and discourage brain drain from the former Soviet chemical and biological weapons facilities;
- Insist, in particular, on full US funding for the construction of a nerve agent destruction facility at Shchuch'ye;
- Encourage the exploration of opportunities to export CTR-like programs beyond the borders of the former Soviet empire, to other nations of proliferation concern;
- Continue to support a US campaign to enhance disease surveillance bilaterally and worldwide, reaching across the capitol to encourage the House of Representatives to consider the Global Pathogen Surveillance Act soon;
- Promote the revision of US policies related to the global strengthening of biosafety, biosecurity, and oversight of genetic engineering research, directing the Executive Branch to conduct more intense negotiations of rigorous, mandatory international standards; and
- Request that the Executive Branch to issue a report providing statistics and analysis associated with the trade effects of export controls.

The nonproliferation battle is fought step by step, one country at a time, one facility at a time, one scientist at a time, and literally one day at a time. Given the significant challenges facing nonproliferation programs, the odds always appear stacked against success. That is, until one recognizes how many former Soviet weaponeers have chosen peaceful research over continued weapons work, how many times export controls have derailed the plans of proliferators, and how much weapons-tainted infrastructure has been destroyed within the former Soviet chemical and bioweapons complexes, at sites such as Stepnogorsk and Novocheboksarsk.

Though the costs of nonproliferation programs will mount over time, such programs constitute an ounce of prevention that could short-circuit biological and chemical weapons proliferation. Moreover, those costs are insignificant in comparison to the loss in human and animal life, as well as the devastation to crops, should governments or terrorists elect to use biological or chemical weapons.

The CHAIRMAN. Thank you very much, Dr. Smithson.

I would like to recognize Senator Sarbanes for questions that he might have of the panel.

Senator SARBANES. Well, Mr. Chairman, thank you very much. Unfortunately, I am going to have to depart for another meeting, but first I want to thank you for holding this hearing. I think this is an extremely important subject.

I have a sort of a question I ought to know the answer to, presumably, but maybe you can help me. Suppose I am country *z* and I decide I want to have nuclear weapons. What are the international legal strictures that would keep me from doing that, if any?

Ms. GOTTEMOELLER. Perhaps I will start, Senator, and my colleagues may wish to add on. It would depend if country *z* is a member of the Nonproliferation Treaty regime or not. If it is a non-nuclear weapons state under the Nonproliferation Treaty, then there would be safeguards arrangements that would enable it to proceed with the development of peaceful uses for nuclear power, for nuclear materials, in agricultural and medical applications, for example. But there would be a constraint on it acquiring nuclear materials for military uses.

If a country is not a member of the Nonproliferation Treaty regime, then those same kinds of international legal constraints clearly do not exist. But that is a very, very small group currently, including India, Pakistan, and Israel.

Mr. CURTIS. May I add just one thing to that? The Nuclear Nonproliferation Treaty is, by signature countries, the largest-participant treaty in history. So it has—almost all nations are participant.

Senator SARBANES. But I gather you can withdraw from it. Is that right?

Mr. CURTIS. Well, that is unclear. But interesting North Korea is a member, a signature member, of the Nonproliferation Treaty, as was Iraq and as is Iran. And in signing to the treaty, they all agreed not to develop nuclear weapons. They are treaty-bound not to, and those treaty pledges are enforceable through the Security Council of the United Nations, which is why the IAEA has certified the issue to the United Nations. Specifically, there is some dispute whether one can withdraw from the treaty or not and then claim that they are not subject to the international community's disciplines exercised by sanctions or otherwise through the Security Council of the United Nations. But it is probably not a very consequential point, because if you were to withdraw and claim that you are no longer subject, the U.N. still may impose sanctions on you as an unlawful state.

Senator SARBANES. And were the existing nuclear powers grandfathered when the treaty was developed and signed?

Mr. CURTIS. No, sir. They are all signatures of that treaty. And under Article 6 of that treaty, they have made certain undertakings to ultimately dispose of their nuclear weapons over time.

Senator SARBANES. So if I have signed the treaty—suppose I say to myself, as country *z*, You know, given the kind of world we now seem to be living in, maybe I should get some nuclear weapons to, sort of, provide a defensive counter for myself. If I am in the treaty, it is your view that I cannot really get out of it, so I cannot go down that path. Is that correct?

Mr. CURTIS. It is my view that whether you can get out or not, that the international community may very well, and ought to, impose severe sanctions against that type of conduct.

Senator SARBANES. Thank you very much.

The CHAIRMAN. Thank you very much, Senator Sarbanes.

Let me mention at the outset that each of the statements that you have made, I think, are a real contribution to the arguments that we are all having and the progress of this. This is why we want to make certain that they are included in the record that will be published and that people who are not with us today ca read,

because it seems to me this is a good summation from experts of where we are, as well as of your recommendations of where we should be going.

I just want to comment further on a point that you made, Dr. Gottemoeller, that the Russian contribution to this is increasing. In correspondence that I have had just in the past week with Foreign Minister Ivanov in response to a meeting that we held in room S–116 a couple of months ago during one of his visits to the United States, he has mentioned, particularly at Shchuch'ye, which was a case in point of our conversation with the Foreign Minister, that the Russians are doing a lot more, and he specified the amount. And that is important, because this is cooperative threat reduction. That is, the United States and Russia, in this particular endeavor, are working together. This is not the United States' endeavor. The risks to Russians from accidents, whether they be nuclear, chemical, or biological, are substantial, and they recognize that. The security problems that occur in that country most likely would affect people who are fairly close at first Russians recognize that.

I recall, Dr. Smithson, your invaluable contributions when we were having the floor debate on the chemical weapons convention and the information that your institute provided. I would just simply say that, as I pointed out in direct conversation with President Bush, we are 5 years through the 10-years that both Russia and the United States were given, through their ratification of this treaty, to destroy all chemical weapons. We are at halftime.

The NTI newsletters are invaluable each day in picking up traces at various other locations that have chemical weapons. Some work done by our European friends in these areas, estimates that, at best, a few hundred tons out of the 40,000 metric tons that were declared may have been destroyed to this point. I just note incrementally, and I always tear these sheets out of the NTI newsletter, if a hundred tons has been disposed of on that day and somebody records it, this is significant. But the fact is, by any stretch of the imagination, half of 40,000 is 20,000; it is not a few hundred.

Now, people ask, well, why are the Russians not fulfilling their obligations? After all, the Duma considered this just as the U.S. Senate did. The United States is busy, even in my home State out at Newport, trying to work through deadly pathogens out there. And even then, we may be stretched, as all of you have testified in various other fora, to complete our obligation in 10 years with all the expertise, the appropriations, and what have you, as well as with the urgency of local populations who want this done right and who contribute a great deal of testimony about that.

In Russia, all of us understand that the money to do this simply was not there from the beginning; and, therefore, certain understandings occurred as the treaty was being ratified as to the United States' assistance. That was true, likewise, of certain technical expertise, notwithstanding the delegation of Dr. Pak by President Putin to take hold of Russian bureaucracy here. I believe he has done well, and he visits with us often, with all of us in this room today, to try to coordinate those efforts.

If we are serious about the treaty that we just ratified, the Moscow Treaty, essentially this calls for both of our countries to reduce nuclear warheads, or at least to displace them, from missiles, make

them inoperative in various ways to go from the roughly 6,000 level each to somewhere between 2,100 and 1,800 over the course of a period until 2012. I expressed directly to President Bush that this is clearly going to be impossible without having either Cooperative Threat Reduction money or some other comparable program that may be named to take care of the Russian treaty. To enter into this thing with any other understanding is to be disappointed—to have the persons taking a look at the record in 2012 and saying, How did we fail? or Who failed? or Who failed whom?—when we knew at the beginning that we have a very sizable management problem that really has to be articulated and thought through with the Russian friends.

Now, I mention all this because I suspect that the Russian treaty is not going to work out without constant oversight by this committee and by your newsletters and by testimony and so forth. The sums of money are substantial. The requirements of the American people for other things are substantial. There will be an annual appropriation discussion and debate about priorities.

If this is, in fact, the number-one security problem facing the United States of America, we will have to continue to reiterate that, I suspect. People may forget from month to month what the major problem was. Your constancy is exemplary, and the record that you have created today is important, really, as a reminder of that.

Now, having said all of that, the fact is that you have expressed in various ways—you started with this, Dr. Gottemoeller—the need for extraordinary flexibility in trying to understand what the challenges may be. Project Sapphire, in 1994, is an excellent case in point. Who would have anticipated that the President of Pakistan or his subordinates, finding sheds or enclosures of nuclear material, would have called us? We are grateful he did, as opposed to calling some other country and notifying it of the availability of this stash that the President of Kazakhstan was unaware of, apparently. But what did we do about it? What we did, that you have suggested, and many of you were involved in this, was to first of all get out there to Kazakhstan, to get American aircraft out there, really, ultimately to pick it up and take it to Oak Ridge, Tennessee, after several legal and potential intervening steps. And we got it out of there, out of a place of great vulnerability, where proliferation could have occurred or, worse, just wholesale merchandising that might have met the purposes of that country.

Who knows where the next thing will show up? You pointed out that we have had success in Belgrade and maybe 20-plus other locations—not much movement even though we understand the problem. In part, this is because of our own legislation or interpretations of that, the flexibility that is there. We contemplate why Yugoslavia, in this case, would, in fact, give up the spent fuel. Now, they wanted money for clean-up. Well, our laws and interpretations did not allow that. We said we are not environmentalists. We are looking at nuclear threat, the hard stuff, and this is what our government deals with. But we would not have gotten the hard stuff out of there if we had not been able to contemplate the environmental situation and had that flexibility through the NTI moneys and expertise that came into this.

My point, again, is please help us as we fashion an extension of legislation this year. You can tell from the hearing that we are about trying to extend this beyond Russia. The flexibility that you are talking about, these certification requirements, the waivers, the roadblocks that come from our own debates—what is the path of wisdom in attempting at least to modify, where we can, our own legislative history and language so that we make it possible for the President, as Commander in Chief, to act fairly swiftly if he gets a call from the President of Kazakhstan or from somewhere else?

I am here to testify that if he got such a call today, in some areas the President's hands would be tied. He would be visiting with some of us and asking, What can you do to help me? Well, we could introduce legislation. We want to do that, because I take seriously Secretary Curtis' point. If there are horrible incidents in this country involving weapons of mass destruction, people are going to ask, Where were you, you people who are responsible? As they did. I have served in the joint committees of people wanting to know what happened on 9/11. Why didn't the intelligence committees, why didn't our intelligence services, why didn't somebody understand, stop this so Americans would not be killed and American areas severely damaged, and American psyche damaged by the fact of an attack on our own country? People are unforgiving with these things.

Now, we are all going in eyes wide open today, and we are saying, "This is the most important threat." But we have to always be thoughtful in inventorying what physically we ought to be doing. So the thought that some of you have suggested specific measures—I think you said, Secretary Curtis, in notes that I have taken and that I found in a portion of your testimony in which this appears—specific timetables or an inventory, sort of ad seriatim, of these situations. Now, that clearly is not there now. And, each year, we in our various departments, try to do a number of things that are important. But in terms of a comprehensive grasp of how much is there—are there 40,000 metric tons of chemical weaponry out there in Russia? And if so, how do we plan to get through the 40,000? In what timetable and in what locations and with whom? Who are our other partners? Others are prepared to contribute to this if we are wise enough and diplomatic enough to ask them or to contrive circumstances; not only the 10 Plus 10 Over 10, but with very specific indicators.

Now, finally, let me just ask each one of you—Senator Sarbanes has raised the question, and some of my colleagues, likewise in various areas, about certain issues that are—I would not call them topical, but in our interest in Iraq. Much has been said about weapons of mass destruction and very unreliable leadership and potential proliferation. Other instances of this have arisen, North Korea and Iran being conspicuous, but probably not unique. How should we proceed? You cannot help all of this in terms of the foreign policy situation imposed as President of the United States today, but as you heard Secretary Wolf trying to handle these questions, well, each one of these is different, they are different policies. And fair enough, no tailor-made situation.

But for example, let us take the case of North Korea. Secretary Wolf was pinned down by Senator Nelson to say, in essence, it is

unacceptable that North Korea would have nuclear weapons, that the Korean Peninsula is nuclearized. Well, maybe so, maybe not. There are certain voices that have been public—I am not sure where they come from—who suggest that this is rather inevitable if you do not have military action, for example. Now, you might say, well, it is not inevitable if your diplomacy is adept and somehow or other somebody does something. But let us take the worst-case scenario, that the sort of direct talks that I have advocated, and Senator Nelson and others advocated, happened and the North Koreans sit down, as they did with Assistant Secretary Kelly last October, and simply indicate, We are a sovereign Nation, and we reserve the right to build nuclear weapons if we want to do so. And as a matter of fact, we are building them, and we plan to build some more, as a matter of fact. And we see this as a major way in which our country is going to be defended in case somebody comes after us, including you, the United States, quite apart from anybody else in the neighborhood, because they will respect the fact that we have these nuclear weapons; and, therefore, they will remove the military option from the table because of the awesome situation. And they might add, although we see it as awesome, too; nevertheless, it is our country, it is our sovereign entity that is at stake, our government, our regime, all of that. So we are prepared to use them.

Now, that is the kind of predicament that we might face despite optimistic scenarios in which some type of conversation occurs about the sixth iteration, a nonaggression pact, the need for some humanitarian assistance, the need for this or that or so forth. Others might contribute. At that point, some in our government might say, well, we are not going to appease nuclear violators, people who have already broken the Agreed Framework, in our judgment, people who are unreliable. So it is not really clear what we would do, even if such suggestions were forthcoming, to avoid the thought of appeasement, or reiterating what some have thought is a failed agreement from 1994.

Can any of you elaborate, sort of, given this invitation, which may be beyond the scope slightly, of expansion of Cooperative Threat Reduction, or other programs to other countries—but we are getting very close to that, because let us say we came up with a solution in North Korea. It may very well be that we will want to work there, or in Iran or in Pakistan or wherever, with the equivalent of the ISTC, International Science and Technology Committee. In other words, we may want to find something for people who have been employed in these areas to do something else. You know, there may be other parts of our programs that offer some assistance in securing it to begin with and in destroying it. And here, in the case of North Korea, just as a common example, they may say, these weapons, or even the fissile material, even the plutonium chipped off the rods, are a useful, lucrative commodity. This is an export potential for us, as a poor state, that needs the cash, that needs the international flow.

So if we are to give this up, however nefarious you think it is, really how do we proceed with something that offers a way out of our economic predicament?

Well, with all of these leading questions, Dr. Gottemoeller, do you have a thought today on any of this?

Mr. CURTIS. We are trying to figure out who is going to volunteer to take this question, Mr. Chairman.

The CHAIRMAN. All right. Well, any of you.

Mr. CURTIS. Let me start, though as I know each of my colleagues will have useful observations, I think.

I think the North Korean, Iranian, and Iraqi situations are all different. And undoubtedly, an effective engagement of those circumstances will require different means and strategies and actions. But they do bear one important common characteristic, and that is that if Iraq, Iran, or North Korea were to gain a nuclear weapons capability, it would be intolerably destabilizing in the regions in which they are situated. It is not to be accepted that it is inevitable that either Iran or North Korea gain nuclear weapons, as it is not acceptable that Iraq gain that capability.

I think while all weapons of mass destruction have a common in terror effect, there is nothing quite like a nuclear weapon for its sheer destructive power in a single incident. As Amy's comments may illuminate, perhaps the great challenge in the 21st century will prove to be bio-weapons, but today it is the nuclear threat that organizes and concentrates the diplomacy of nations.

In the case of North Korea, specifically, I think we first characterized that situation as not a crisis, and the North Koreans seem to take that as a challenge and they have been, by their actions, demonstrating it really is. I do not believe the American people will be very much impressed with the niceties of diplomatic stratagems if things go very badly wrong there. If we are to rely on diplomacy first with North Korea, it seems to me diplomacy without talking is an empty strategy. Relying on the People's Republic of China as our principal intermediary is a curious reliance, in my judgment. I think if we could achieve a nuclear disarmament, a confident nuclear disarmament, and a limitation on North Korea's export of missile technology, it would be certainly worth direct discussions with North Korea. It is not an appeasement to discuss. It depends on the content and outcome of those discussions whether the appeasement vocabulary is even relevant.

If we were to denuclearize North Korea confidently and assuredly, it is almost certainly something that we would have to, the United States and other nations, finance. If we were to—and here is where extension of Nunn-Lugar really comes in—because there would be no more effective weapons system that we could conceive than a Nunn-Lugar cooperative effort on the Korean Peninsula that would denuclearize North Korea. That would be an enormous accomplishment. So having it ready, having the authority in the President and the ability to access funds to simplify the appropriation, if you will, judgment of the Congress if it were to come to it, I think is an important tool in the President's quiver, and the President should have that.

The President should have that tool to deal with other situations. I mean, ultimately, we will need to engage, by effective bilateral means, India, Pakistan, and China in securing weapons and weapons material and know-how. Again, the instruments of cooperation can most effectively be exercised against the experience base that

has been the Cooperative Threat Reduction program in Russia and the former Soviet Union under your and former Senator Nunn's original concept and extension of that concept.

In dealing with Iran, I agree entirely with John Wolf's earlier statement that the presence of a uranium enrichment capability—which incidently, under the Nonproliferation Treaty is perfectly legal—but its presence is a clear manifestation of Iran's nuclear weapons ambitions. It is not whether it is illegal; it is whether it is tolerable in the regional security interests of the globe. It is not tolerable for Iran to develop a nuclear weapons capability, and we should draw a very bright line to make that clear, and we should engage an effective tailor-made strategy to address that with great energy and urgency.

In the case of both North Korea and Iran, I do think that Russia can play an effective or important role. Russia was the supplier of North Korea's weapons capability on the plutonium side. Russia is the supplier of technologies necessary to complete Bushehr. Pakistan's role in both Iran and North Korea, as is emerging from public accounts of intelligence reporting—I have not seen the classified material—is a tremendously worrisome circumstance. And so, again, it means an urgent engagement. If we are to be joined with Pakistan against a war against terrorism, we have to be similarly insistently joined with Pakistan against stemming proliferation to dangerous circumstance, and both are very, very dangerous circumstance.

Consequences of a nuclear-armed North Korea have been well described by you and by others. It seems to me that that is—"crisis" is a proper characterization of that threat, and Iran is making itself a near crisis if it proceeds on its current path. And of course, we are already in the ultimate form of crisis, or on the threshold of it, in Iraq. To recognize that it is in our security interest in the United States, it is in the security interest of peaceful nations everywhere, that nations not acquire nuclear weapons in circumstances, perhaps now in any circumstances, is a recognition that should be—that should be—a matter to organize collective and sometimes coercive international cooperation. That we did not achieve that in the United Nations Security Council has made the world much less safe, and it will make the aftermath of any action in Iraq much more complicated and less safe. We ought not to allow it to repeat in Iran and North Korea, as well.

The CHAIRMAN. Thank you very much, Secretary Curtis.

Dr. Gottemoeller.

Ms. GOTTEMOELLER. Perhaps I will pick up where Secretary Curtis left off, Mr. Chairman, and that is to underscore, as I note in my testimony, that we are truly embarked on a difficult period now where the U.N. system and its accompanying regimes, such as the Nonproliferation Treaty, are being very seriously shaken. And we have a lot of work to do to ensure that they retain their authority and influence in international affairs.

I believe that strengthening enforcement is going to be an arena that occupies many of us in the months and, indeed, years to come. I welcomed very much, after 1991, that the IAEA's safeguards regime was bolstered by the so-called strengthened safeguards. I think that is a very positive step. We need to continue to press

countries such as Iran to sign the additional protocol and embrace additional safeguards. That is very important.

But I want to also note that, at a more positive end of the spectrum, I believe that from the experience we have gained in nonproliferation cooperation, threat reduction cooperation, over the years, we know that when we engage with countries on these kinds of programs, a certain amount of what I call natural transparency ensues. We become deeply involved, as we have with the Russians in working at their naval bases, for example, to dismantle submarines, and we know that those submarines are being dismantled. So I would urge that we also think, when we are talking about strengthening enforcement, about some additional and more positive aspects of enforcement; that it need not only be punitive in its nature, but that we think about ways to engage and perhaps reward countries who are willing to cooperate on nonproliferation projects of the threat reduction type. And this is a direction I think is very hopeful for the future and could perhaps provide a type of incentive for cooperation among countries who are not vigorously involved today on nonproliferation cooperation.

I would like to further note that, with regard to North Korea, Iran, Iraq, and other countries that are a proliferation concern, nuclear weapons become less relevant to them when solutions are found for their larger security problems, whether in their region or internationally, and that is why I urge that we think in those terms when we are considering, for example, North Korea.

You are aware, Mr. Chairman, that I was intimately involved in the denuclearization of Ukraine, and I recall what factors were especially important in that context. First of all, the United States was willing to embark on a close security relationship with Ukraine involving the extension of security assurances to Ukraine—very important, I think, also in the North Korea case. Second, we were willing to help them to eliminate the weapons systems on their soil through the threat reduction Nunn-Lugar program—again, extraordinarily important. Third, we were willing to extend to them additional assistance in areas that they found very important, and that was energy assistance—again, very relevant to the North Korea case. And finally, that we had additional partners that we could engage to help us with some of the more difficult problems and the heavy lifting. In the case of Ukraine, it was Russia. Of course, Russia agreed to take back the nuclear warheads on Ukrainian territory and eliminate them quickly and expeditiously in Russian warhead elimination facilities.

I think, again, that we should very much be looking at this example and precedent when we consider North Korea. It makes eminent sense to me that the Russian Federation should take back the plutonium fuel rods that it was helpful, as Secretary Curtis noted, in extending as assistance to North Korea in the first place, and it should be willing to store and otherwise dispose of that material from North Korea.

So, to conclude, I will only say that I see a package before us. The structure of the deal is not all that difficult, as far as I am concerned. But we do have to take into account very seriously the larger security concerns of North Korea and be willing to work them very directly and intensively.

Thank you.

The CHAIRMAN. Well, your testimony from the Ukraine instance is very helpful.

Dr. Smithson.

Dr. SMITHSON. Your question was phrased in terms of Iraq, Iran, and North Korea. While Secretary Curtis and I might have a debate about which should garner more priority, nuclear or biological weapomry, let us just say they are both two very important security problems, and I am here to carry the biological standard today.

Among the first orders of post-conflict business in Iraq, I would argue that the United States should begin rebuilding the public health infrastructure in that country. This is a service to the citizens of Iraq, who have suffered grievously for far too long under Saddam Hussein's leadership. But we should also give very serious consideration to enhancing the disease surveillance capabilities of North Korea and Iran, for example by providing better laboratory equipment. The individuals that work in their public health labs could probably use more training, training that includes an inculcation of good bio-safety standards; which would help reduce the potential for accidents; good security procedures for dangerous pathogens; and certainly better oversight procedures for research projects that involve genetic engineering.

The reason this is so important is because of the way people live in very large population concentrations today. Public health officials need to quickly catch disease outbreaks, whether they are intentional or naturally erupting. There is a situation right now in the world with acute respiratory distress syndrome that is causing some concern that illustrates my point. Diseases can hop from continent to continent literally overnight, and if they do not detect the eruption quickly, authorities will not have the time to take as much life-saving intervention as they otherwise might have if the United States had conducted this type of expanded CTR assistance to these countries.

I would also argue that we should consider taking this type of programming to places like South Africa, Egypt, Pakistan and India. Indeed, there are so many on the list of countries of proliferation concern that could benefit from this type of assistance. This effort is not just about doing a public service for the citizens of these countries. This is about protecting U.S. citizens, given the speed with which disease can spread. And it is also about facilitating transparency and gaining a better understanding of what is happening in laboratories around the world. If the United States is training these scientists and equipping these laboratories, it is arguable that the United States would probably have better access to these facilities and, again, a better understanding of what is taking place. That is just one illustration of where you might begin to expand CTR programming.

The CHAIRMAN. I thank you for that very important suggestion.

It has come to the attention of the committee that the Reader's Digest has published today for its April 2003 issue an article called "Search and Destroy, The Mission to Find Unsecured Weapons of Mass Destruction Before Terrorists Do," which is especially appropriate for our hearing this morning. So I will include that in the record so that it will be a part of our discussion.

[The article referred to follows:]

[From Reader's Digest, April 2003]

SEARCH AND DESTROY

The mission to find unsecured weapons of mass destruction before terrorists do

(By Michael Crowley)

In the early morning hours of August 22, 2002, the race to protect America from nuclear destruction focused on an aging building in Eastern Europe. Under cover of darkness, a paramilitary operation unfolded in the area around the Vinca Institute, home to a Soviet-era nuclear reactor in the Serbian capital of Belgrade. Soldiers and police closed off nearby streets. Snipers took up rooftop positions. Counterterrorism commandos stood on high alert. Their mission was to protect a cargo of terrifying potency: some 100 pounds of highly enriched uranium-spent fuel from the reactor that could be used to develop up to three nuclear bombs.

For years the fuel had been stored at Vinca under conditions that made American officials uneasy. Security amounted to one or two armed guards. The fuel itself was stored in containers light enough for a man to carry, but not radioactive enough to kill him quickly. Within months of such a theft, a nation or terrorist group employing a few skilled scientists and some fairly basic equipment could be ready to devastate the city of its choice.

Project Vinca, as it was called by the State Department, ended that threat. The uranium was loaded into one of three identical trucks, two of which acted as decoys. With an armed escort and helicopters hovering overhead, the convoy traveled along 22 miles of closed roads to Belgrade's international airport. From there the radioactive cargo was flown to its destination: Russia, where it would be converted into a form of uranium unsuitable for a nuclear bomb.

The world is now dotted with places like Vinca, where terrorists might secure the ingredients to make weapons of mass destruction. Thirteen countries are known to possess chemical, biological or nuclear weapons. Perhaps 25 in all have such weapons programs going full-throttle. More than 40 nations, meanwhile, have nuclear research facilities that store either enriched uranium or plutonium. But the most dangerous places are weapons sites where security is abysmal or where scientists could be available to the highest bidder. And the majority of these are tucked away in remote areas of the former Soviet Union.

The stakes were made clear on September 11, 2001. As Thomas Friedman, foreign affairs columnist for *The New York Times,* has said, technology now enables a superpower like the United States to be attacked by "super-empowered" individuals such as Osama bin Laden. He can communicate easily through the Internet and satellite telephones to form virtual Al Qaeda cells that can become all too real as they carry out their nefarious deeds.

Project Vinca is a good example of what the future of America's battle against terrorism will look like. Even as the FBI, CIA and NSA hunt down terrorists around the world, a parallel effort is underway to make the raw ingredients of mass terror secure—whether they are chemical agents like sarin, VX nerve gas and mustard gas; biological agents like anthrax and ricin; or the essential ingredients of nuclear weapons, highly enriched, uranium or plutonium.

Last spring, this quest took Senate Foreign Relations Committee Chairman Richard Lugar to a massive Russian chemical-weapons complex at Shchuch'ye, an impoverished town in Western Siberia. Inside the corroded buildings, some with deteriorated roofs, are nearly two million artillery shells. Stacked snugly in racks, they could be mistaken for an enormous collection of wine. But the containers are filled with two of the most lethal substances known to man: sarin and VX nerve gas.

Iraq has already shown the world what nerve agents can do: In 1988, Saddam Hussein slaughtered 5,000 Kurds in a northern Iraqi town with a cocktail of sarin, tabun and VX gas, along with mustard gas. Years later, many survivors have permanent, crippling nerve damage and respiratory problems. Even more devastating, their babies are being born with birth defects and mental retardation.

Many of the shells at the Shchuch'ye warehouses are easy to carry off. Lugar fit one into an ordinary briefcase. "The Russians claim that this single shell would kill all in a stadium of 85,000 people," says Lugar. "And this is just one of the smallest shells."

Russian soldiers stand guard at the Shchuch'ye facility. But most Russian military men are paid poorly, making them susceptible to bribes from peopie who might want to buy or steal shells.

"The concern at the moment is an inside job by someone who wants to feed his family," explains Ken Myers, a Lugar staffer who has visited Shchuch'ye.

The Russians have an inventory of Shchuch'ye's cache, but if one shell out of two million were to go missing, who would notice? Nor is there a shortage of potential buyers in the area. Shchuch'ye is located near the Russian border with Kazakhstan, reportedly a base of operations for Al Qaeda terrorist's over the years.

Tracking down and keeping tabs on substances like the nerve gas in Shchuch'ye is extremely difficult and expensive work that will stretch across nearly every populated continent. But the task is being undertaken, largely thanks to the pioneering efforts of Senator Lugar and former Senator Sam Nunn, who now heads the Nuclear Threat Initiative, based in Washington, D.C.

Through their decade-old Nunn-Lugar program, the U.S. government has been spending $1 billion a year to secure and destroy weapons of mass destruction in the former Soviet Republics and employ, in peaceful work, cash-strapped weapons scientists who might otherwise go to work for rogue states or terrorists.

So far, the program has deactivated more than 6,000 nuclear warheads, destroyed hundreds of weapons such as ballistic missiles, and found jobs for tens of thousands of scientists. Still, the risk has been diminished only slightly. Chemical weapons stockpiles—some 40,000 metric tons in Russia alone—have barely been touched; security at many of the former biological weapons facilities remains lax; and nuclear materials (200 metric tons of plutonium and 1,200 metric tons of uranium in Russia) have been completely secured at fewer than half of the facilities that house them.

It's clear why Nunn and Lugar have focused their efforts to date on the former Soviet Union. Georgia, Ukraine, Kazakhstan, Uzbekistan and Belarus—all being former Soviet Republics—have stores of chemical, biological or nuclear materials. And Russia itself contains the mother lode of the world's super-deadly materials. This is what remains of the crumbling Soviet Cold War arsenal.

The old Soviet bloc is not the only problem. Several countries that have spawned or supported terrorists, including Egypt, Iran, Libya and Sudan, are believed to have germ-weapons programs—and little is known about the security of their laboratories and the allegiances of their scientists. Meanwhile, nations as diverse as Syria, Congo and Bulgaria have nuclear "research" reactors, like the one at the Vinca Institute, that are believed to account for some 20 tons of uranium. (Italian authorities, in fact, caught Mafia operatives in 1998 trying to sell a uranium rod that had been stolen from a reactor in Kinshasa, Congo. The plant manager had not even known the rod was missing.)

It is through the work of Nunn and Lugar in the former Soviet Union, however, that we can see most clearly what the dangers look like. Consider the Pokrov Biologics Plant southeast of Moscow. Pokrov was ostensibly built during the Cold War to produce animal vaccines. But it had another secret purpose: to brew killer germs capable of wiping out America's livestock en masse. The refrigerators at Pokrov still store a wide variety of virulent germs, including anthrax. But as of last spring, the plant's security-alarm system was 30 years old and not working properly. And a building housing viruses was guarded by a lone man with a German shepherd. Inside, Senator Lugar found a refrigerator with its "security" amounting to a piece of string with a wax seal. Another refrigerator with deadly viruses stood in a second-floor room by a window, accessible to anyone with a ladder.

Thanks to the Nunn-Lugar program, security is being upgraded at places like Pokrov. And, in a model for future efforts, the plant is being converted to peaceful uses. One of the facility's old biological fermenters now churns out a shampoo, of all things, sold under the label "Green Mama." But experts say shoddy security is still the norm at chemical, biological and nuclear facilities throughout Russia.

It's not just the germs, but also the know-how of the makers, that have officials worried. Many Russian bio-scientists work in labs with no heat, and are paid as little as a few hundred dollars a month. Several top Russian germ scientists have said they were approached in the 1990s by Iranian officials, offering them salaries five times greater than what they were earning. Some are believed to have accepted. Countries like Iraq and North Korea are reported to have made similar offers—a serious problem, given that the Soviets employed some 65,000 scientists in their germ-weapons program.

Finally, there is the nuclear material available in the former Soviet Union-some 20,000 weapons, and enough bomb-grade uranium and plutonium (much of it in non-weapons nuclear facilities) to build 40,000 more. In one chilling case, two kilograms of highly enriched uranium were stolen from a nuclear research institute in Sukhumi, Georgia, in the early '90s. That uranium has never been recovered.

Authorities have reported that dozens of attempts to smuggle nuclear material have been thwarted, including the arrest in 1998 of workers at a Russian nuclear-

weapons facility who had plotted to steal 18.5 kilograms of highly enriched uranium—possibly enough to build a bomb.

Even more recent attempts, in Bulgaria and Georgia, indicate that, nuclear material may increasingly be destined for the Middle East or Asia. This would square with a finding of a recent commission led by former Senator Howard Baker and former White House counsel Lloyd Cutler: "The task force was advised that buyers from Iraq, Iran and other countries have actively sought nuclear-weapons-usable material from Russian sites."

A facility of particular concern is the Kharkiv Institute of Physics and Technology in Ukraine, which houses about two-thirds more bomb-grade uranium than the Vinca Institute did. Workers at Kharkiv typically earn the equivalent of $150 per month, and heat and lights are often turned off to cut utility bills. These facts are surely not lost on those interested in acquiring nuclear weapons; in 1998, Saddam Hussein dispatched an Iraqi delegation to Kharkiv, supposedly to explore business opportunities there (no nuclear material is thought to have been transferred).

Ensuring that reactors like Kharkiv don't become black-market outlets for terrorists won't be easy. Even a top-priority mission like Project Vinca required more than a year of planning and intensive diplomacy, and it ultimately cost the U.S. taxpayer millions of dollars. What's more, the federal government failed to fund critical parts of the job. Only a private grant of $5 million from the Nuclear Threat Initiative—which is funded by CNN mogul Ted Turner—made Project Vinca possible.

Other efforts of the Nunn-Lugar program often run afoul of Congress, where members suspect that American dollars may be wasted. A priority of Nunn and Lugar, for instance, has been to construct machinery to neutralize the stockpile of nerve gas at Shchuch'ye. In a speech last year, President Bush called this project "a vital mission." But since then, progress has been held up by bickering in Congress over the extent of the threat. Meanwhile, the shells sit in Shchuch'ye, gathering dust. Or so we hope.

More upbeat news came at the 2002 "G8" summit meeting of the world's leading industrialized nations, where heads of state pledged $20 billion over ten years to address the worldwide threat. But even that support seems shaky: Experts complain that the plan lacked both specifics and hard commitments.

"Preventing the spread and use of nuclear, biological and chemical weapons should be the central organizing principle on security for the 21st century," says Sam Nunn. Yet he also fears that securing these weapons "doesn't even come close to being a high enough priority for our nation and the world." Nunn likens the United States and its allies to a gazelle running from a cheetah—moving in the right direction, but not nearly fast enough. He hates to think what it might take to drive the point home.

The CHAIRMAN. I just have one final query, and it follows on from your testimony, Dr. Smithson, but, likewise, from programmatic work that I know is part of the NTI agenda. We were at the Ultrapure Laboratory in St. Petersburg this summer. First of all it is an example of a conversion by very dedicated scientists. They are doing something else. I have to take on faith the representations of how many scientists were there, as well as how many are there now and their budget and so forth. Essentially they said to our group that they had 300 scientists there at one point working on nefarious activities. There may be 150 scientists or a few more there now, with well over half of their budget taken care of by three pharmaceutical products that they have created and that they are selling to hospitals in the St. Petersburg area.

Now, in addition to that, a member of the Duma was present, because he wanted to extol the research they were doing on HIV/AIDS. They were in several tangents of inquiry there, and the Duma member wanted to point out the importance of that given the spread of HIV/AIDS in Russia, a point in which some Russians are in denial. He simply wanted, as a public official, to indicate how extensive it was and how important this research was.

The thing that attracted my attention even beyond that was that they were attempting to do work with regard to the immune sys-

tem of human beings as they might be affected by biological pathogens. Now, I know, at NTI, that Dr. Hamburg and perhaps others have had an interest in this same question. It is a big question. Can the human immune system—not be altered, but be affected by treatments or by inputs or so forth in such a way that most biological pathogens, as we know them, do not become fatal or deadly to a human being. If so, this is likely to change the course of biological warfare very, very substantially.

Now, this is not a panacea offered this morning to suggest that we stop attempting to keep track of what is occurring in that area in which a lot of countries are in denial. But, at the same time, it indicates what I believe is a very important path to be pursued, at least in terms in our research, both with Russian friends who are working in an ISTC project at the Ultrapure Laboratory in St. Petersburg, as well as Americans who may be working constructively here.

Do any of you have any further information or any testimony about this? Dr. Curtis, do you, or Dr. Smithson, do you want to proceed?

Dr. SMITHSON. Thank you, Senator.

First, I would note that when I began discussing the layoffs of scientists with individuals from a number of these institutes, the numbers that I was given about the staffing level of Institute for Highly Pure Bio-Preparations in St. Petersburg was that, in 1990, they had 500 scientists.

The CHAIRMAN. Five hundred.

Dr. SMITHSON. Whereas, in 1999, they were down to roughly 250 which gives you some indication of why I share your concerns about brain drain.

With regard to the type of research that you described, traditionally the strategy has been to look for cures to diseases one disease at a time. Some scientists will try to tackle anthrax, others will try to tackle smallpox, and so on. But, there is research underway even in this country, if my memory is correct, sponsored by the Defense Advance Research Projects Agency, where scientists are looking for commonalities between dangerous pathogens so that perhaps we might come up with one antibiotic or one vaccination that would be able to address several diseases.

I would join you in encouraging our government to collaborate with these Russian scientists on these very difficult research problems. I would also hope that our industry, our pharmaceutical and biotechnology industries, would come off the sidelines and begin to help in the conversion of these former weapons facilities.

These weapons scientists explored and developed so many agents that we do not fully understand yet, and they took different strategies to achieve the goals that they set out for their weapons programs. From these scientists, I think we have a lot to learn for the benefit of United States defenses as well as for commercial medicine and other disease problems that confront Americans and the world.

So that would be my response to your question.

The CHAIRMAN. Well, when you mention that our firms should come off the sidelines, do you mean to say they are sitting out

there in the spectator seats sort of hoping for something to happen, or what is the dilemma here?

Dr. SMITHSON. Senator, some U.S. companies did take trips to the former Soviet Union right after the collapse, and they took one look at these institutes and were very discouraged at the prospects for conducting collaborative research or for initiating production of medicines at these facilities. The reasons are rather straightforward. These Russian scientists were working according to their practices. In the United States and in Europe, the Food and Drug Administration and other organizations set very strict regulations for the research, development, testing and production of medicines. So the Russians had quite a way to go in scaling the learning curves not just about how to do business, how to market themselves, but how to conduct research, how to do testing with animals for the certification of medicines and how to maintain the good laboratory practices and manufacturing practices that are observed in the West. With the assistance of the International Science and Technology Center, the Initiatives for Proliferation Prevention, and Cooperative Threat Reduction programs, the former weaponeers have gone a long way in beginning to understand and actually incorporate Western standards into these facilities.

So the potential is quite ripe for the U.S. industry now. Launching joint ventures is not just good nonproliferation policy; it is good business sense. There are many opportunities for U.S. industry to collaborate profitably with these biological institutes.

The CHAIRMAN. Yes, sir.

Mr. CURTIS. Can I offer just an observation? The advances in bioscience are the ultimate dual-use technology. The very advances that we depend upon to improve our health defenses may also be used to weaponized biological agents, as we have seen repeatedly. During the Soviet era, we know very well that advances in bioscience for a weapons purpose were taken much farther in the Soviet system than anywhere else in the world. We have to find a way to harness that expertise in ways that improve our bio-defenses against the modern threats that we face, and we have to find a way of engaging those scientists in peaceful, sustaining peaceful, work.

I mentioned in my testimony there are 7,000 scientists in the Biopreparat apparatus in the former Soviet Union that our security services classify as security risks.

The CHAIRMAN. Yes.

Mr. CURTIS. We cannot tolerate those folks engaged in an international commerce of their knowledge. So we have to do two things. We have to engage them effectively with our pharma industry, hopefully in useful advances in bioscience to improve health and human progress, and, at the same time, we have to take advantage where it is presented of that science in constructing better bio-defenses. And working in partnership, our scientists and theirs together, we think we can make meaningful progress in doing that.

The CHAIRMAN. I appreciate this discussion, and it is an extremely difficult problem, as are most of these problems. But like some that we have worked before, we have gotten into this a bit with regard to Presidential waiver today and stipulations of various sorts. Clearly, in the biosciences there are very, very well-

drawn stipulations with regard to health and safety, as well as maybe security risk. And the dilemma for us is that out there somewhere is knowledge that may save the lives of a lot of Americans. So while we are busy reciting a lot of our laws, our difficulties as to why we cannot move on any of these things, some of these people will still ask, What are you doing to reduce the risk? And without being melodramatic about it, after all, this particular building is relatively secure, but the one in which my office is, in the Hart building across the way, was subject to one of the largest anthrax attacks that the world has ever seen. And about 5,000 people, more or less, who are staff members and constituents who had the misfortune of visiting us on that particular day that the envelope was in Senator Daschle's office two floors above me, the finely ground spores went up into the ventilation system, and all of our folks were swept out of the building over into this building—this is sort of the safe ground—throats swabbed, 3 days of Cipro tablets issued. Fortunately, the tablets worked for this particular strain of anthrax and everybody lived. Not so for postal workers, who were not too far away who had handled these letters who did not know in time exactly what had hit them and did not have the same prescription. So this was for real, not a hypothetical situation. It occurred within a few feet of where we are now.

Now, it is of interest that people talk about developing other strains of anthrax, maybe not the variety that went up through the ventilators here. And did the Cipro work there? Maybe so, maybe not. As you have all suggested, in the deviousness of this research, either Russians or other scientists in other countries may, in fact, have developed pathogens that, in fact, go well beyond anything that we have contrived to offer a safety zone. That is not beyond our imagination. And having visited—not Ultrapure, but another laboratory in Russia, where they were working on various strains of smallpox or monkeypox or various of other sorts of pox, you see all the possibilities for evading all that we know with regard to antidotes.

So this is a very, very serious issue, in my judgment, and one not easily handled in the normal ways that we deal with legislation here, nor by an administration which says, We're hog-tied because the laws prevent us from going there.

So this is why I take your creative imagination today to supplement that which others are offering, because it seems to me that, in our own legislative way, that we have to authorize our administration, at least the President of the United States to be able to go places that are very difficult on behalf of American people, of saving life in an area where we do not have conventional warfare of nation-states. And as the President and others have been pointing out, individual persons or small groups, unidentified people without agendas, manifestos or what have you, may wish us harm and may be able to affect that.

Well, I thank you for your personal leadership in each of the organizations in which you are involved, as well as your public service careers.

And the hearing is adjourned.

[Whereupon, at 12:10 p.m., the committee adjourned, to reconvene subject to the call of the Chair.]

RESPONSES TO ADDITIONAL QUESTIONS FOR THE RECORD

RESPONSES OF HON. JOHN S. WOLF, ASSISTANT SECRETARY OF STATE FOR NONPROLIFERATION, TO ADDITIONAL QUESTIONS FOR THE RECORD SUBMITTED BY SENATOR JOSEPH R. BIDEN, JR.

Question 1. The Fiscal Year 2004 budget submitted by the President has only modest increases for the State Department's nonproliferation assistance programs, and little or no increase for the Energy Department's assistance programs to the former Soviet Union. All of these programs will remain below their actual 2002 spending levels. This risks sending a message of "business as usual" when it comes to spending on non-proliferation.

- Does the $7 million increase in funding for the International Science and Technology Centers (ISTC) and Bio-Redirection come near what those programs could usefully spend? If an additional $30 million or more had been budgeted, could not those funds have been used for additional valuable projects?
- The President's FY 2004 budget submission states that the Bio-Redirect program is to be broadened to include former Soviet chemical weapons scientists. But the budget request only adds $7 million onto a program that was appropriated just $52 million in FY 2003, following a $67 million appropriation in FY 2002. What effect will the proposed FY 2004 funding have on programs involving former Soviet biological weapons scientists?

Answer. If the FY 2004 Science Centers/Bio-Chem Redirection budget receives the requested $7 million increase, the requested total of $59 million will adequately fund ongoing engagement with former biological and chemical weapons scientists under the Bio-Chem Redirection program. We will look at whether additional funds could be usefully directed to the BioIndustry Initiative (BII) for the outyear.

BII was initiated with a one time $30 million emergency supplemental appropriation in FY 2002. The program seeks to reconfigure former Soviet biological production facilities for peaceful uses, and to engage former Soviet biological and chemical weapons scientists in collaborative R&D projects to accelerate drug and vaccine development for highly infectious diseases. BII is currently the only U.S. program specifically aimed at engaging and reconfiguring former Soviet biological weapons production facilities capable of producing large quantities of weaponizable infectious disease agents, such as anthrax and smallpox. Through BII, we have already engaged four large-scale bio production facilities in Russia that had not previously worked with the ISTC. Current funding levels will enable engineering assessments of production capability, marketing and business plan development, and ISTC projects aimed at redirecting these facilities toward sustainable, commercial applications. In order to engage at least five additional high-priority production facilities, and to continue working on long-term self sustainability projects with the facilities already engaged, additional funds would be required in future years.

The Bio-Redirection program has received more than $65 million since its inception, including $20 million in FY 2003. If the Science Centers/Bio-Chem Redirect programs receive their requested budget of $59 million for FY 2004, these funds will adequately support ongoing efforts to engage former BW scientists. With several notable exceptions where access issues have so far prevented engagement, we have expanded our redirection efforts to engage most of our top-priority targets (more than fifty institutes). Some priority bio institutes are making progress toward long-term self-sustainability, and we plan to begin "graduating" the first bio institutes from our engagement program by FY 2006.

Through FY 2003, a modest chemical engagement effort has been funded using core Science Center funds. Starting in FY 2003, a modest share of Bio-Chem Redirection funds are also being obligated to engage former CW scientists at the top-priority Soviet-era CW R&D institutes. Four such institutes have been selected in Russia, and engagement has begun with each. Two such institutes have been selected in Ukraine, and projects there are in development. Using additional Bio-Chem Redirection and Science Center funds requested for FY 2004, chemical engagement can continue without significantly constraining ongoing efforts to engage former BW scientists.

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) FUNDING

Question 2. The International Atomic Energy Agency (IAEA) will play a major role in guarding against radiological terrorism. The Security Assistance Act enacted last year calls for an effort to increase the regular IAEA budget, in part for this purpose, and the Administration supported that provision. But the U.S. voluntary contribution to the IAEA holds steady at $50 million, and the request for the regular U.S. budget contribution actually goes down from $57 million in FY 2003 to $54 million in FY 2004.

- (*2a*) Is the United States backing its strong words of support for the IAEA's mission with adequate funding? Will the request of $54 trillion in FY 2004 for our contribution to the IAEA's regular budget still accommodate a 20% increase in that budget?
- (*2b*) Is the Administration banking on the availability of other funds? For example, do you expect the value of the dollar to rise sharply, thus decreasing the cost of our budget assessments? Is significant extra IAEA funding contained in the Department of Energy budget? Will there be carryover funds from FY 2003?
- (*2c*) The Energy Department had to come up with funds for this year's voluntary contribution to the IAEA's new effort to combat radiological terrorism. Does the President's request for FY 2004 take into account the need to continue or expand that new IAEA program?
- (*2d*) At last week's IAEA conference on radiological sources, it was disclosed that Russia has many more nuclear generators than it had previously acknowledged. What are we doing to combat the risk that one of those unattended lighthouse generators could be stolen? Does the budget request include any funds for that effort?

Answer (2a). The IAEA has proposed a budget for 2004-2005 with a roughly eleven percent ($27.1 million) increase in 2004. The bulk of this increase ($19.5 million) is for safeguards, where it would meet critical staff, equipment and other support needs. The United States has made clear its support for this increase for safeguards.

The Administration gives high priority to the IAEA budget and budgets to pay its assessed share in full. We expect the IAEA regular assessed budget to increase in 2004 and to pay our full assessment. However, because the IAEA assessed contributions are paid on a deferred basis (along with eight other UN-affiliated organizations), the proposed safeguards increase in the 2004 IAEA budget would not be incorporated into the President's Budget until FY 2005. The drop in our regular budget request from FY 2003 to FY 2004 is based solely on the changing assumptions about currency exchange rates. At present the value of the Euro is at historically high levels, and the FY 2004 request is based on the level that was in effect last April, when the budget was originally formulated.

Answer (2b). The Administration is not assuming that other funds will become available. We do not attempt to project exchange rates; we pay our assessments as soon as we have both a bill from the organization and the full appropriated funds. The CIO account, which funds our regular budget assessment, is only available for one year and thus no carryover funds exist. Voluntary Contribution funds, which come from the NADR account, are typically expended over a period of 1-2 years, and NDF funds have been used in the past to meet IAEA equipment needs.

Answer (2c). The Department of Energy also supports the IAEA in a variety of ways, including in-kind technical support of national lab experts and, as you note, cash contributions to the IAEA's Nuclear Security Fund. We have discussed with DOE the need to sustain funding for the IAEA's nuclear security program, which helps states reduce the risk of nuclear terrorism. I cannot speak for DOE on its plans for FY 2004, and suggest that you ask DOE directly.

Answer (2d). We are working to ensure the safety and security of all significant radioactive sources. The RTG problem is a subset of these efforts. Current estimates place the number of Radioisotope Thermoelectric Generators (RTGs) in the Russian Federation at approximately 1,000. The Department of Energy is currently working through Russia's Ministry of Atomic Energy (MinAtom) to help secure vulnerable RTGs and the radiological material they contain. The Government of Norway also has a significant program to secure these sources.

DOE plans are to securely remove RTGs that have reached the end of their useful life (disused) from their current locations and transport them to sites that are equipped for the safe and secure storage or disposal of these sources. We are evaluating the issues related to the security of sources in use and potential replacement of lighthouse RTGs with alternate power sources, thus eliminating this particular use for radiological sources.

DOE's current budget for the Material Protection, Control and Accounting (MPC&A) Program contains sufficient funding for the start-up of these efforts. I would refer you to DOE for further information on their budget submission for FY 2004.

Question 3. Several experts have highlighted that the Nuclear Nonproliferation Treaty allows nations to develop full nuclear fuel cycles without sanction, in effect arriving at a position where the construction of actual nuclear weapons is only a few months away. Accordingly, they have suggested the need to go beyond the NPT to effectively meet new challenges. As one example, fuel fabrication and reprocessing facilities could be internationalized and purely national facilities prohibited.

- How can we revitalize international non-proliferation regimes, including the Nuclear Non-Proliferation Treaty, the IAEA safeguards regime, and the Nuclear Suppliers Group, to better meet the new threats of the 21st century?

Answer. One of the inherent challenges of nuclear energy, recognized as early as President Eisenhower's Atoms for Peace initiative in 1953, is its potential use for peaceful and military purposes. Negotiations leading to the 1968 NPT would have failed if some countries had insisted that it contain limitations on fuel cycle facilities because of their utility to nuclear weapons. Many prospective NPT parties had plans in the 1960s to build such facilities for civil uses.

The need to supplement the NPT with policies that limit access to certain nuclear fuel cycle technologies has been a feature of the nuclear nonproliferation regime since the 1970s.

For example, the Nuclear Suppliers Group (NSG) agreed to exercise strong controls on the transfer of enrichment and reprocessing technologies. The idea of "internationalizing" certain fuel cycle facilities was also encouraged by the NSG. Due to the large scale of such facilities, some facilities in Europe have been owned by multinational companies in which several governments have had an interest. But for obvious reasons a determined proliferator is not going to adopt this approach. It would not be feasible or desirable to seek a global ban on purely national facilities.

The NPT could be bolstered by its parties adopting strong national policies that support NPT compliance. Such policies should encourage prompt and effective action by the IAEA and the U.N. Security Council in response to cases of noncompliance. NPT parties must also recognize that a threat to the NPT is global in nature and that a multilateral response is necessary. NPT parties should also ensure they provide assistance only to peaceful nuclear programs of NPT parties in good standing and that their nuclear export controls are strong enough to prevent their firms from assisting nuclear explosive programs or unsafeguarded nuclear fuel cycle activity in other states.

The IAEA safeguards regime has been strengthened steadily over the past decade to expand the IAEA's capabilities to detect undeclared activities. This has involved an affirmation of existing IAEA rights, the application of new technologies (e.g. environmental sampling), the use of more information (e.g. imports/exports), and the negotiation of Additional Protocols to existing safeguards agreements (which give the IAEA greater access to nuclear-related facilities). Members of the IAEA must also ensure the Agency has sufficient resources in its regular budget to apply effective safeguards. Finally, the members of the IAEA must make clear to the IAEA staff that it expects safeguards to be fair and objective, but also that the IAEA must be aggressive and be willing to take vigorous action in pursuit of investigating situations where questions have arisen.

The Nuclear Suppliers Group is undertaking a number of initiatives. Among them are clarifications to the Guidelines that would require non-nuclear-weapon state recipients to accept stronger safeguards and physical protection measures as a condition of supply. Watch lists are being developed to supplement the NSG control list and to target certain countries such as North Korea to further inhibit their ability to acquire foreign assistance. The NSG is amending its Guidelines with anti-nuclear terrorism measures and considering expanding its information sharing activities as a means to prevent diversions to terrorist states. The NSG is working to create stronger ties to licensing and law enforcement officials of member states.

Question 4. In your prepared statement for the hearing, you assert: "Where controls fail, and international bodies are unable or unwilling to act, interdiction is an option; properly planned and executed, interception of critical technologies en route to dangerous end users can make a difference."

- In that regard, what are the lessons of the *So San* episode, in which the United States and Spain interdicted a North Korea vessel ferrying SCUD missiles, only to permit the ship to sail on when the government of Yemen claimed possession?

- Can we make international non-proliferation regimes more effective, so that a similar scenario not occur again? Is the U.S. government considering any proposals for a new international interdiction regime?
- Do we need to make the Missile Technology Control Regime more effective in controlling the proliferation of cruise missiles and other unmanned aerial vehicles?

Answer. The DPRK continues actively to proliferate ballistic missiles and related materials, equipment, and technology that pose a continuing threat to regional security and stability and to U.S. friends, forces, and interests. The *So San* episode illustrates that proliferators are vulnerable to having their shipments interdicted at sea by the U.S. and our allies under appropriate circumstances. It is imporatant that we continue to work harder to exploit this vulnerability and to work closely with other like-minded countries to interdict North Korean missile-related shipments, where appropriate, in addition to continuing to take other steps to impede North Korea's missile efforts.

The Administration attaches high importance to strengthening the multilateral regimes and to pursuing vigorous diplomacy to dissuade other governments from seeking WMD-related and missile technologies and any military cooperation with rogue. For instance, the Missile Technology Control Regime (MTCR), since its inception in 1987, has included controls on certain unmanned aerial vehicles (UAV) (including cruise missiles) and key related technologies. UAV controls were broadened in 1994. At the September 2002 Warsaw MTCR Plenary, the Regime agreed to a number of changes to strengthen the MTCR Annex (control list), particularly with regard to UAV-relevant technologies. The MTCR continues to look for ways to strengthen controls over UAVs and related equipment and technology.

The U.S. government is considering additional measures to stop shipments of concern, both unilaterally and in consultation with others. However, it is too early in our deliberations to speculate what role international nonproliferation regimes might play.

Question 5. Please provide an update on the progress achieved by the G-8 Global Partnership against Weapons of Mass Destruction, including specific pledges made by participating nations and multilateral institutions and any projects initiated to date.

(*5a*). Have we been pleased with the pace and scope of commitments made by our international partners thus far? Are our allies pledging to assist projects with real nonproliferation impact, or are they looking for projects that will help their own industry?

(*5b*). How did the G-8 Global Partnership affect the FY04 budget proposal? Did the U.S. increase its funding for certain programs on account of the Global Partnership? Or did it allow us to reduce our national commitments in certain sectors because our allies are now stepping in?

(*5c*). The Global Partnership also called upon Russia to clear away existing obstacles related to access and transparency. How are the Russians doing on that score, and what are we doing to get them to do better?

Answers. There are still problems getting the Russians to agree to the implementing guidelines for the Global Partnership, particularly for taxation exemptions and liability protection. Until these issues are resolved, progress will be limited. Since the G-8 Leaders' agreement at the Kananaskis Summit last June. Under Secretary of State for Arms Control and International Security, John Bolton, has continued to lead U.S. efforts to ensure the success of the initiative. For the upcoming Evian Summit in June, G-8 efforts are focusing on securing financial commitments; agreement on implementation guidelines; initiation of new projects; and expansion of the Partnership to include additional donors.

From indications to date, we estimate that G-7 and European Union pledges total approximately $16 billion. The following pledges have been made public: Canada, $1 billion Canadian; Japan, $200 million, initially; UK, $750 million; Germany, 1.5 billion euros, and France 750M euros. In addition, the Russian Government plans to spend $2 billion. The U.S. is actively encouraging further financial commitments from G-7 donors to reach the $20 billion goal. In addition, the G-8 is reaching out to other potential donors to contribute to the Global Partnership. To this end, the G-8 Senior Officials have invited representatives of 17 countries to attend an information meeting in Paris on April 8, directly after the Senior Officials meeting the previous day.

The G-7 have been actively engaging Russia on the initiation of projects under the Global Partnership. Some projects have been initiated, while others are under discussion. In some cases, negotiation of implementing arrangements will be re-

quired. These projects include chemical weapons destruction, nuclear general-purpose submarine dismantlement, protection of nuclear materials and radiological sources, and other projects.

Answer (5a). We are still waiting for several countries to make their pledges public and would like to see more progress toward achieving the $10 billion from the other G-7. At the same time, our allies are focusing on chemical weapons destruction, dismantlement of general-purpose nuclear submarines, plutonium disposition, and nuclear safety. Benefits to industries in the contributing countries do not appear to be major criteria.

Answer (5b). For fiscal year 2004, about $1 billion was requested for nonproliferation and threat reduction assistance for Russia and other Eurasian States, about the same amount as the 2003 appropriations. The FY04 budget proposal is consistent with President Bush's pledge of $1 billion per year for 10 years toward Global Partnership initiatives. The object of the Global Partnership was to get others to match the already substantial commitment the U.S. has made and continues to make.

Answer (5c). Provisions for taxation exemption and adequate liability protections in implementation remain key outstanding concerns. Progress has been made recently with respect to taxation. The Russian Federation has agreed, in the context of the Multilateral Nuclear Environmental Program in the Russian Federation (MNEPR), to full taxation exemptions required to conclude MNEPR negotiations and begin the implementation of assistance projects. We hope this decision will be applied to resolve similar taxation issues in other implementation negotiations, such as plutonium disposition. We will continue to press Russia to address liability protections. While Russia has generally agreed to access in principle, specific access arrangements to sensitive sites for donors to ensure funds are being spent f or the purpose intended continue to be difficult for a number of G-7 members.

Question 6. In a statement submitted to the Committee, Ambassador Karl F. Inderfurth suggested that a National Office for Preventing Nuclear Terrorism be established in the White House. He envisions an office with a strong Director, appointed by the President with the advice and consent of the Senate and empowered to transfer funds and detail personnel between agencies. A similar proposal was made recently in a study entitled "Controlling Nuclear Warheads and Materials," by the Project on Managing the Atom in the Belfer Center for Science and International Affairs at Harvard University's John F. Kennedy School of Government, and also in the 2001 "Baker-Cutler Report" of the Russia Task Force of the Secretary of Energy Advisory Board.

- What would be the advantages and disadvantages of establishing such strong, central leadership in the White House?
- What steps have been taken to improve interagency coordination since enactment of the Nonproliferation Assistance Coordination Act of 2002?

Answer. The White House currently provides strong, central leadership in this area. U.S. nonproliferation policy and assistance programs are coordinated at senior levels with respect to both policy and implementation through the interagency Policy Coordination Committee (PCC) process, headed by the National Security Council. The PCC's, along with subordinate subcommittees and working groups, formulate effective policy solutions, and ensure their efficient implementation.

The Nonproliferation Assistance Coordination Act of 2002 focused on nonproliferation efforts in the states of the former Soviet Union (FSU). It called upon the President to establish a mechanism to coordinate U.S. Government efforts in formulating policy and carrying out programs for achieving nonproliferation and threat reduction. Such a mechanism is in place. The National Security Council staff chairs the Proliferation Strategy Policy Coordinating Committee, consisting of Assistant Secretary-level representatives from State, Defense, Energy, and other concerned agencies, including the Coordinator for U.S. Assistance to Europe and Eurasia. This group is charged with interagency policy coordination and oversight of nonproliferation and threat reduction assistance programs to Russia and the other countries of the former Soviet Union.

This Policy Coordinating Committee works to ensure that individual assistance programs are coordinated within and across agencies, and that they serve Administration nonproliferation and threat reduction priorities as effectively as possible. The Committee has also been charged to develop a strategic plan to guide near and longer term nonproliferation and threat reduction cooperation with Russia.

Question 7. In her testimony at the Committee's hearing of March 19, Dr. Rose Gottemoeller cited the need for "an effective interagency" and called attention to the success of high-level "tiger teams" in the day-to-day coordination of two past HEU

retrieval operations. Dr. Gottemoeller suggested that such teams be used more widely:

> "Flexible approaches of this type should be in constant use, making use of talented experts under high-level guidance. The proliferation problems that we face are urgent, and need more full-time, priority attention than the interagency leadership, saddled with many simultaneous demands and responsibilities, can give them."

Dr. Gottemoeller also asserted that "More flexibility in management arrangements will also be important as public-private partnerships take hold in the nonproliferation policy arena" and suggested that a "public-private tiger team" might be useful in cases where private involvement was sought.

What are your views regarding these suggestions?

What steps are you taking to increase the effectiveness of day-to-day interagency coordination, as opposed to the coordination achieved on a monthly basis?

Answer. I agree that the use of flexible and focused teams is vital to eliminate proliferation risks worldwide. The successful removal of poorly guarded fresh HEU fuel from the Vinca Institute near Belgrade to a more secure site in Russia in August 2002 vividly demonstrated our capability to respond to sensitive, high-risk situations. A small team of negotiators and experts, drawn from both the State Department and DOE, used traditional tools of diplomacy to accomplish this secret, secure and timely fuel transfer.

In the Vinca case, the private Nuclear Threat Initiative played a key role in providing funding for parts of the operation. We had the flexibility to work with the NTI in that situation and are prepared to work with such private organizations in the future, if the situation makes it appropriate.

I believe that day-to-day coordination in this Administration is excellent. Through the senior-level interagency Policy Coordination Committees (PCCs) and their subordinate subcommittees and working groups, we sustain vibrant policy discussions that expose a maximum number of options, formulate effective policy solutions, and ensure their efficient implementation. This PCC process takes place on a continuous basis, with appropriate level meetings and discussions on a daily, weekly, and monthly basis, as required by operational and policy matters.

Question 8. Dr. Gottemoeller also addressed the potential for extending non-proliferation assistance to countries beyond the former Soviet Union, making several suggestions:

> "We are more likely to have to start with civilian nuclear facilities, rather than with 'more critical' military facilities, because that is what the political traffic will bear in target countries. We should not shy away from this reality.
>
> "We should take proactive steps to accelerate . . . confidence-building among key political elites, . . . (possibly including) establishing cooperative projects that are beneficial to the political system as a whole, e.g. situation and crisis centers that are useful in national emergency response . . .
>
> "(W)e should be willing to work with a country to improve physical protection even of unsafeguarded nuclear facilities, if they are subject to urgent security threats.
>
> "(W)e will have to consider carefully how to develop the cooperation in a way that does not undermine the NPT regime. Nevertheless, I am confident that the legal and policy space exists for joint projects to go forward on the physical protection of nuclear assets in any country and at any facility where the cooperation can be established."

What are your views on these suggestions and observations?

Answer. Dr. Gottemoeller makes good points about extending non-proliferation assistance beyond the former Soviet Union. We are already engaged in such a process: through the Department of State's Nonproliferation and Disarmament Fund, Export Control and Border Security Assistance, and voluntary contributions to the IAEA. She is correct that host government officials will be more ready to accept such assistance with respect to civilian nuclear facilities, since these facilities bear on the safety and well-being of the host government's citizens. By contrast, nonproliferation assistance to "more critical" military facilities will be difficult. These facilities are inevitably a sensitive national security issue that touches on deeply embedded concepts of sovereignty.

We endorse confidence-building among political elites through cooperative projects. One example of such projects has been the removal of highly enriched uranium from Vinca in Serbia for safe storage in Russia, in which Russian, Serbian, U.S. and NGO officials worked together to make this quantity of fissile material

more secure. Another example of cooperative projects has been conferences that my Bureau sponsored in Warsaw, Tashkent, and Bangkok this past year for officials, from many nations, responsible for export controls and border security.

As for setting up situation and crisis centers, these would likely demand a level of sustained funding and qualified staffing that might not be feasible for many countries. Thus, I would expect that tense situations and crises will continue to be addressed mostly through traditional contacts and diplomacy, which include the foreign policy and military facilities that already exist in national governments.

With respect to the possibility of enhancing physical protection of nuclear facilities, we are of course very concerned about the theft or diversion of nuclear material. Clearly, dealing with countries that have unsafeguarded nuclear facilities raises issues related to the Nuclear Nonproliferation Treaty. Even in these cases, however, there are activities that could be undertaken to enhance physical security without undermining nonproliferation norms. In all cases, we carefully review the country's need for enhanced physical protection of nuclear material. Our response to a country's request for assistance takes into account a wide range of factors, including our NPT obligation not to assist in any way a non-nuclear-weapon state in the manufacture or acquisition of nuclear weapons.

Question 9. What steps have been taken to elaborate the National Strategy and produce the sort of detailed plan that these experts recommend?

Answer. U.S. agencies are actively implementing the President's *National Strategy* to Combat Weapons of Mass Destruction under NSC leadership. They oversee implementation of existing nonproliferation assistance programs and develop longer-term strategies for the overall effort. For example, the President recently submitted to the Congress a long-term plan for all U.S. nuclear-related nonproliferation assistance to Russia and other former Soviet states.

Particular care is given to ensuring that take a coordinated approach. To this end, the formed task oriented coordinating committees. coordinates DOD and DOE warhead security proj example. Others are charged with developing implement a strategy for USG border security to implement a new bio-security strategy for Eurasia. With NSC's concurrence, NP Bureau staff chair inter-agency committees which coordinate border security enhancement programs and our efforts to engage former Soviet chemical and bio-weapon scientists. These efforts build on the Administration's earlier review of nonproliferation and threat reduction programs in Russia and the New Independent States.

Question 10. In her testimony, Dr. Smithson recommended additional investments in security to lower the risks of insider theft and to harden Russian chemical weapons (CW) storage areas against outside attack. What is the Administration doing in this regard, and how is that reflected in the FY 2004 budget?

Answer. The Department of Defense is already implementing Cooperative Threat Reduction (CTR) projects to provide comprehensive security upgrades at CW storage facilities at Shchuch'ye and Kizner. These facilities contain modern, nerve agent-filled munitions which are in excellent, ready-to-use condition; small and easily transportable; and easily mated to Soviet-era delivery systems found throughout the world—both short-range missiles and artillery. This project will be completed during CY 2003 at a cost of approximately $20 million in prior year CTR funds. We are also arranging for members of the guard force at these facilities to undergo training at the Ministry of Defense Security and Assessment Training Center (established with CTR assistance) in Sergiev Posad to enhance their effectiveness in safeguarding weapons of mass destruction.

The three additional nerve agent storage sites (i.e., Pochep, Maradykovsky, and Leonidovka) contain heavy, bulky, and difficult to move aerial bombs and spray tanks that make them unattractive targets for would-be proliferators. We believe this factor combined with existing physical security measures makes it unnecessary to consider security enhancements at these sites. However, we are prepared to brief the Russian Munitions Agency (RMA) on the personnel reliability program that DOD has helped the Ministry of Defense establish for individuals who have access to nuclear weapons.

The remaining CW storage facilities at Kambarka and Gorny house blister agents in bulk containers and are thus are not perceived as likely targets for proliferators that warrant undertaking projects to enhance their security.

The FY 2004 CTR budget request does not include any funds for enhancing the security of CW storage facilities since current projects are already funded with prior year funds, and no future such security projects are envisioned.

Question 11. Dr. Smithson suggested increasing U.S. funds for projects that will strengthen security at chemical weapons (CW) storage sites, enhance safety and se-

curity at biological institutes, and enable dismantlement of specialized infrastructure at both chemical and biological institutes. She also recommended increased staff to manage the implementation of these programs. What is the Administration doing in this regard, and how is that reflected in the FY 2004 budget?

Answer. As indicated in the answer above, DOD already is conducting CTR projects to enhance the security of Russian CW storage facilities containing the CW nerve agent munitions that are the most likely to be proliferated.

In support of the Global War on Terrorism, DOD has significantly expanded its CTR efforts in the former Soviet Union (FSU) to enhance safety and security of dangerous pathogen collections at biological institutes and to dismantle biological warfare infrastructure.

In Russia, DOD is completing CTR safety and security enhancement projects at two biological research institutes, initiating projects at two additional sites and preparing to do so at a third site. DOD also is implementing CTR biosafety and biosecurity projects at two bio institutes in Kazakhstan and three in Uzbekistan. Additionally, DOD plans to undertake similar projects at biological? Institutes in Georgia and Ukraine once Biological Threat Reduction implementing agreements with those states are signed, in the case of Ukraine, and come into force. DOD has requested $13 million for biosafety and biosecurity assistance activities in its CTR budget request for FY 2004.

DOD also is continuing its EW infrastructure dismantlement efforts. DOD is dismantling infrastructure at the Vector facility in Novosibirsk and looking forward to additional efforts in Russia. In Kazakhstan, CTR is completing a project to eliminate the anthrax production facility at Stepnogorsk. In Uzbekistan, CTR has completed a project to destroy residual pathogens at the former Soviet BW testing facility on Vozrozhdeniya Island. DOD is working with Uzbekistan to determine whether to proceed with additional infrastructure dismantlement work at Vozrozdeniya. DOD has requested $9.0 million for BW dismantlement activities in its CTR budget request for FY 2004.

Regarding CW production facilities, CTR continues to assist Russia with dismantling and demilitarizing the former nerve agent production facilities at Volgograd and Novocheboksarsk. Also, DOD completed a project to dismantle the former Soviet CW research facility at Nukus, Uzbekistan in FY 2002 and is prepared to undertake a CTR project to demilitarize the former Soviet CW production facility at Pavlodar, Kazakhstan once the Government of Kazakhstan declares the facility pursuant to the Chemical Weapons Convention. DOD has requested $10 million in the FY 2004 CTR budget request for continued CW production facility dismantlement work in Russia and is prepared to obligate $3.5 million in prior-year CTR funds to demilitarize the former CW production facility at Pavlodar.

Question 12. Dr. Smithson made some recommendations regarding the administration of ISTC and related programs:

> "Since the launch of new research grants can take over two years, the ISTC should enact reforms to lessen the time needed to kickoff new projects, including shorter deadlines for proposal review by the host and funding governments, the formation of expert advisory committees to prescreen grant proposals prior to ISTC processing, and the modification of policy regarding work plan approval. Finally, Washington still needs to improve the overall architecture for brain drain programming, at the least identifying benchmarks that will enable progress to be measured."

- What is your view of Dr. Smithson's critique regarding the lack of benchmarks?
- What is your view of the administrative suggestions regarding the ISTC program?

Answer. Countries that are parties to the International Science and Technology Center (ISTC) Agreement have recognized for some time that new benchmarks are needed as the Center undergoes the transition from the initial phase of engaging the maximum numbers of former WND scientists and institutes in non-WMD research to the next phase of permanent, sustainable redirection of these scientists and institutes through civilian technology commercialization. For this reason, the parties funded a study by the IC2 Institute of the University of Texas at Austin with international participation during 2002 to help develop metrics towards this goal. The parties currently are discussing refinement of these results and plan to collect additional statistics, with a view toward developing benchmarks for measuring progress in "graduating" scientists and institutes from sole reliance on research grants through the ISTC to helping them develop the capacity to compete independently in the international scientific research arena, to protect and market technology developed from their research, and to acquire skills in business manage-

ment and commercialization. Within the past three months, the parties, with strong leadership from the United States, have also implemented a major reorganization of ISTC staff responsibilities and functions to aid in this transition.

Regarding Ms. Smithson's administrative suggestions, the ISTC has made some changes to streamline procedures for reviewing and initiating research projects over the past year. These changes include: shortening the project concurrence period for member states to 45 days; providing the ISTC Secretariat with greater authority to pre-screen research proposals before submitting them to funding members; instituting a simplified ranking system for use by the ISTC's Scientific Advisory Committee to aid funding countries' evaluations of project proposals; and requiring that project authors identify required collaborators prior to funding. These procedural changes have substantially reduced processing, review and project start-up times. At the same time, however, we acknowledge that further improvement is possible and plan to examine further ways of speeding up review and funding of projects, in coordination with other funding countries.

Question 13. What are your views on the likelihood that voluntary action of individual states would avoid the "uneven patchwork" problem that Dr. Smithson foresees?

What are your views on the feasibility of developing "common minimum standards that include penalties for infractions of biosafety, biosecurity, and genetic research oversight regulations?" What is the Administration doing to foster such standards, either universally or among like-minded states?

Answer. We do not share Dr. Smithson's analysis as it relates to the BWC work program. The biological weapons threat is most effectively addressed using approaches that are outside the realm of traditional arms control. That said, the BWC forum can play a useful role in the global effort to combat biological weapons. We believe the BWC forum should be used to encourage and take note of activities in other fora that help strengthen efforts to combat the biological weapons threat. The BWC forum can also promote the enactment of national measures to combat the biological weapons threat such as domestic implementing measures and biosecurity standards, the two topics for the 2003 Experts Group and Annual meetings.

We believe the decisions of the Fifth Review Conference set forth a well-focused and realistic agenda through 2006. Through established channels, we are encouraging states to review their national efforts and come to the 2003 meetings prepared to discuss domestic implementation in each area and improvements they are undertaking along with a notional timeline for implementation. We intend to provide papers outlining our national implementation measures and measures to enhance biosecurity. NP's Dangerous Materials Initiative aims to compliment this effort. Using the NDF, we will work with a variety of countries to improve regulatory practices and controls for pathogens.

Furthermore, the United States is following closely the World Health Organization's development of biosecurity standards through its Global Health Security Initiative. The United States is engaged with the WHO to find out how the WHO's plans in the area of security and of dangerous pathogens and toxins might fit in with the biosecurity agenda topic for the 2003 Experts Group and Annual meetings. We continue to review the work done by dependable Inter-Governmental Organizations and, where we believe it useful, would seek to have countries use it as guidelines.

RESPONSES OF RICHARD J.K. STRATFORD, DIRECTOR, NUCLEAR ENERGY AFFAIRS, BUREAU OF NONPROLIFERATION, DEPARTMENT OF STATE, TO ADDITIONAL QUESTIONS FOR THE RECORD SUBMITTED BY SENATOR JOSEPH R. BIDEN, JR.

Question 1. Mr. Stratford provided the Committee with a very informative set of questions and answers regarding the Joint Convention. This document states that the Joint Convention "contains provisions to ensure that national security is not compromised and that States have absolute discretion as to what information is reported on material from military sources." The document goes on to state that the Joint Convention "will not . . . affect ongoing U.S. military operations in any way, nor will classified information be covered in the U.S. National Report."

- Were these questions and answers interagency-approved?
- Are the Department of Defense and the Department of Energy confident that the Joint Convention poses no threat to sensitive U.S. information or activities?

Answers.

- Yes. The Department of Energy, the Nuclear Regulatory Commission and the Environmental Protection Agency participated in the drafting of the questions and answers, and interagency approval of the final version was obtained through the U.S. Office of Management and Budget.
- Yes. The Joint Convention poses no threat to sensitive U.S. information or activities. The United States will provide information in the national report that is already publicly available. The Joint Convention does not apply to military or defense programs, with the exception of spent fuel and radioactive waste permanently transferred to civilian programs.

Question 2. Recently, the Government of Iran indicated that it intends to develop an indigenous capability to manufacture nuclear reactor fuel and to reprocess spent fuel. While Iran has not signed the Joint Convention, there is nothing to prevent it from doing so. What is the risk that a country could use technical advice and assistance, including nuclear safety advice, to develop capabilities that were actually intended to contribute to a nuclear weapons program—even though the country might operate under IAEA safeguards until the decision was made to commence the production of fissile material for weapons purposes?

- How will the administration minimize the risk that advice given under the Joint Convention will be used by other countries to develop a "full fuel cycle" that is really intended as part of a nuclear weapons program?
- Are there steps that the international community should take to guard against such misuse of peaceful nuclear assistance? If so, are there recommendations in this regard that the Senate could usefully make in a resolution of ratification of the Joint Convention?

Answer. The Joint Convention does not involve advice or cooperation in sensitive areas of the nuclear fuel cycle. The type of information that will be considered by the Contracting Parties to the Joint Convention is not associated with nuclear weapons development. Indeed, the information being presented in the U.S. National Report is publicly accessible from U.S. government and other public sites. No internal or security-related information is being included in the U.S. National Report being prepared by the U.S. Department of Energy, with the assistance and cooperation of the Nuclear Regulatory Commission, the Environmental Protection Agency, and the Department of State. In addition, any comments the United States might have on other country's submissions would be limited to nonsensitive information. We believe that one of the benefits of the Joint Convention is that it operates on the basis of transparency as it makes information on other country's waste activities widely known. We see no need for the Senate to take further action in this regard in the resolution of ratification.

Question 3. Under the Joint Convention, country reports will be reviewed by subgroups—and the United States will receive only the reports of countries in its subgroup, unless it asks for others as well. Will the United States ask for all reports?

- Is there any reason why the Senate should not require this?

Answer. The United States will request copies of all national reports prepared for the review meeting under the Joint Convention.

The United States has the right to request this information under the Joint Convention, and it intends to ask for this information. We do not believe that this should be a requirement in the resolution of ratification.

Question 4. In its resolution of ratification for the Convention on Nuclear Safety, the Senate required that the United States formally comment on every report from a country that is a recipient of U.S. nuclear safety assistance. Under that convention—and also under the Joint Convention—such a formal comment is needed if the United States wants to attend the sub-group discussion of that report and the country is not a member of the same sub-group as the United States. Has the United States benefited from commenting on such reports in the Convention on Nuclear Safety?

- Is there any reason why the Senate should not require this approach to the Joint Convention as well?

Answer. Yes. We used the CNS process to identify key goals and objectives for the safety and regulatory programs in States of the former Soviet Union, such as Russia and Ukraine. The goals and objectives will provide targets for assistance programs to these countries. We also used the process to determine that additional progress can be made in nuclear regulatory oversight programs of Russia and the Ukraine, and identified in the nuclear regulatory programs of China, Armenia, and Pakistan, as warranting further attention.

- We intend to ensure that the United States takes advantage of the availability of information and the opportunity to provide comments as appropriate. We do not believe that this should be a requirement in the resolution of ratification.

Question 5. The Department of State indicates, in its questions and answers document, that the Department of Energy will absorb the $200,000 cost of preparing the U.S. report every few years and that the Department of State will absorb the cost of sending a 6-person delegation to meetings under the Convention. If we require the Executive branch to read and comment on all country reports, or at least on all reports from countries that receive U.S. nuclear safety assistance, will the cost of preparing for and attending meetings go up substantially?

- Will additional funds be needed for this, or will you still be able to handle those costs under current budget allocations?

Answer. There will be additional preparation cost associated with reviewing all national reports. We estimate the cost at $6,000 per additional report. We do not anticipate any additional costs for attending the meetings, since we are planning to have coverage for all the review sub-groups.

- We will strive to keep costs at a minimum and within the current budget allocation.

Question 6. Article 41 of the Joint Convention (on Amendments to the Convention) allows a meeting of the Contracting Parties to adopt an amendment by consensus, or to refer it to a Diplomatic Conference by a two-thirds vote of those present and voting.

When the Senate considered an identical provision in the Convention on Nuclear Safety, it required that the United States cast a vote on each proposed amendment, and submit each approved amendment to the Senate for its advice and consent to ratification. This was done to avoid a situation in which the Executive branch could refrain from voting on an amendment that it knew the Senate would oppose, or refrain from submitting it to the Senate, and still have it enter into effect for most of the Contracting Parties. Do you see any serious problem with our enacting similar language in the resolution on the Joint Convention?

- Under what circumstances might the United States *not* want to vote on a proposed amendment?
- Do you interpret the resolution of ratification for the Convention on Nuclear Safety as preventing the United States from allowing an amendment to be approved by consensus? If so, is that the Administration's concern?
- Under what circumstances might the President not want to submit an approved amendment to the Senate for its advice and consent to ratification?
- How would the Executive Branch handle a situation in which most of the Contracting Parties supported an amendment, but the United States did not? In that situation, why not submit it to the Senate with a recommendation to reject it?

Answers. It is important to remember that the United States will not be bound by any amendment unless the United States affirmatively accepts the amendment with the advice and consent of the Senate. Moreover, the single vote of the United States is unlikely to be the sole determinant of whether an amendment is adopted at a Diplomatic Conference by a two-thirds vote, nor would it prevent an amendment that has been adopted and ratified by two-thirds of the Contracting Parties to the Convention from entering into force for those Contracting Parties. The U.S. representative's affirmative or negative vote on an amendment and any subsequent Senate action on that amendment cannot prevent an amendment to the Convention on Nuclear Safety from entering into force for those Contracting Parties that have ratified the amendment, if two-thirds of the Contracting Parties have done so. The condition of the Senate's resolution of advice and consent to the Convention on Nuclear Safety therefore does not achieve the purpose stated here. Likewise, the inclusion of a similar condition in the resolution on the Joint Convention would not achieve the stated goal. By requiring that the United States cast an affirmative or negative vote on a proposed amendment, the Senate's condition also forecloses the United States from abstaining or absenting itself from a vote; both actions are sometimes useful diplomatic tools.

- Hypothetically, an abstention would be useful in a situation in which the United States does not have a compelling interest in the proposed amendment one way or the other, but its vote would needlessly antagonize the faction against which the United States would be forced to vote—and when the United States might want the support of that faction for or against a more important provision.

- We would consider associating the United States with a consensus action as equivalent to an affirmative vote. At a Diplomatic Conference, however, it is sometimes desirable to be able to abstain or deliberately be absent from a vote.
- The President might not want to submit an approved amendment to the Senate for advice and consent if the United States had opposed its adoption or if the final version of the amendment were considered inimical to United States interests.
- The Joint convention sets a very high standard—a two-thirds majority vote—for the adoption of amendments. In the unlikely case that an adopted amendment that the United States opposes enters into force for other Contracting Parties, the United States would not be bound by that amendment without its consent. We are unaware of a precedent for submitting a treaty that the President opposes to the Senate for rejection. The President has plenary authority not to ratify an amendment he opposes.

Question 7. The Committee understands that the Nuclear Energy Institute strongly recommends the expeditious ratification of the Joint Convention. Have any other industry groups endorsed ratification? Have any firms or groups warned that they will suffer in some way if this Convention is ratified and implemented?

Answer. Apart from the Nuclear Energy Institute's (NEI) support for ratification (on behalf of the nuclear energy industry), we are not aware of any other firms or groups taking a position on this issue. None have warned that they will suffer in some way if the Convention is ratified and implemented.

RESPONSES OF HON. JOHN S. WOLF, ASSISTANT SECRETARY OF STATE FOR NONPROLIFERATION, TO ADDITIONAL QUESTIONS FOR THE RECORD SUBMITTED BY SENATOR RUSSELL D. FEINGOLD

Question 1. During the debate surrounding Iraq, much was made of a report that Iraq had approached Niger about obtaining uranium. It now appears that this report was not valid, but it did raise an interesting set of questions. What does the U.S. Government currently do to help states with uranium reserves maintain appropriate control over that resource, and to ensure that such states have some incentive to act responsibly? What kind of engagement do we have with uranium-producers in Africa regarding proliferation issues?

Answer. The U.S. Government seeks through multiple ways to ensure that the uranium supply chain is protected against efforts to procure uranium as a source of material for weapons use. For example, the United States frequently consults with other governments to encourage them to investigate any information we receive that countries of proliferation concern are attempting to procure materials or technology relevant to a nuclear weapon program, whether it is African-origin uranium or other technologies.

Multilaterally, the United States works very closely to ensure that IAEA safeguards are applied effectively around the world. A key element of that is that states have in place an effective state system of accounting and control for nuclear material. One way we help is by holding a training course for IAEA member states on such state systems. The course is held every other year at Los Alamos National Laboratory. A representative from Niger attended the last course in 2001.

The United States uses every opportunity to urge NPT parties to fulfill their NPT obligation to conclude comprehensive safeguards agreements with the IAEA. Such agreements, *inter alia,* require reports on the export to nonnuclear-weapon states of any material containing uranium intended for any nuclear purpose. Niger's agreement was approved last year, although it has not yet been brought into force. Additionally, the United States, along with the IAEA and other like-minded countries, strongly encourages member states to conclude Additional Protocols with the IAEA. Among other things, Additional Protocols require declarations on uranium mining operations. Besides directly urging countries to negotiate Additional Protocols, we have also supported international conferences on that topic, including one in Africa last year.

Bilaterally the United States met with senior officials of Niger last month to reinforce the importance of Niger signing and implementing its IAEA safeguards agreement and the Additional Protocol, as well as taking any additional steps needed to ensure the security of the uranium supply chain.

Officials of Niger reassured us that they recognize the importance of this issue and are taking active steps to ensure the security of the uranium supply chain. The United States also met with senior government officials from Benin to urge similar

steps, and received high level assurances that Benin, too, will work to ensure the security of the uranium supply chain. We will continue to work actively with both Niger and Benin, and other friendly, western countries, to ensure the security of the uranium supply chain in Africa.

Question 2. What steps are you taking to ensure that international community development activities in Russia and the Former Soviet Union complement the Cooperative Threat Reduction Program and focus on the so-called "strategic cities?" As you may know, there are a number of sister city programs, including two in Wisconsin, that have developed community-to-community relationships with strategic cities in Russia. These groups have valuable experience in and good working relationships with these communities. Please tell me how the Administration can support the work that these groups are doing and can help them to build on their comprehensive, community-based approach.

Answer. State Department coordination with international community development activities helps to ensure those activities complement the Cooperative Threat Reduction program focus on "strategic cities" in Russia and the former Soviet Union. This year, the State Department plans to provide $164,000 in combined FREEDOM Support Act (FSA) and Support for East European Democracy (SEED) funding to Sister Cities International (SCI) to develop community-to-community linkages across Eurasia. The Office of the Coordinator of U.S. Assistance to Europe and Eurasia will encourage SCI to pay special attention to community-to-community relationships with strategic cities in Russia as SCI develops its plans for assistance funding. State Department representatives have been and will continue to be in touch with groups like the Wisconsin Sister Cities Project.

The State Department also supports government/nongovernmental coordination of cooperative projects with strategic cities through other channels. For example, Embassy Moscow's Regional Initiative Program supports a U.S. coordinator in the closed nuclear city of Tomsk. The U.S. coordinator works closely with Tomsk Governor Kress and other reform-minded local officials to improve living conditions and the economic/democratic climate of the area. USAID supports financial institutions that have disbursed approximately $3M to hundreds of small- and medium-sized enterprises in the Tomsk area. Another example of this coordination is the success of the Department of Energy's Nuclear Cities Initiative (NCI) in publicizing the Library of Congress' Open World Program, State Department International Visitors' Program, the Regional Initiatives Program, USAID's health programs, and the Commerce Department's Special American Business Internship Training (SABIT) program within the nuclear closed cities where they operate. Although NCI is no longer connected with these programs, the International Development Centers in the closed cities continue to support these outreach programs and exchanges through a series of outside grants they have received.

○