

**DEPARTMENT OF DEFENSE AUTHORIZATION FOR
APPROPRIATIONS FOR FISCAL YEAR 2011**

HEARING

BEFORE THE

COMMITTEE ON ARMED SERVICES

UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

ON

S. 3454

TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 2011 FOR MILITARY
ACTIVITIES OF THE DEPARTMENT OF DEFENSE, FOR MILITARY CON-
STRUCTION, AND FOR DEFENSE ACTIVITIES OF THE DEPARTMENT OF
ENERGY, TO PRESCRIBE PERSONNEL STRENGTHS FOR SUCH FISCAL
YEAR, AND FOR OTHER PURPOSES

PART 5

EMERGING THREATS AND CAPABILITIES

APRIL 21, 2010



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Printed for the use of the Committee on Armed Services

U.S. GOVERNMENT PRINTING OFFICE

62-158 PDF

WASHINGTON : 2010

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**DEPARTMENT OF DEFENSE AUTHORIZATION
FOR APPROPRIATIONS FOR FISCAL YEAR
2011**

WEDNESDAY, APRIL 21, 2010

U.S. SENATE
SUBCOMMITTEE ON EMERGING
THREATS AND CAPABILITIES,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

**NONPROLIFERATION PROGRAMS AT THE
DEPARTMENTS OF DEFENSE AND ENERGY**

The subcommittee met, pursuant to notice, at 10:12 a.m. in room SR-222, Russell Senate Office Building, Senator Bill Nelson (chairman of the subcommittee) presiding.

Committee members present: Senators Bill Nelson and LeMieux.

Majority staff members present: Madelyn R. Creedon, counsel; and Roy F. Phillips, professional staff member.

Minority staff member present: Dana W. White, professional staff member.

Staff assistants present: Paul J. Hubbard and Jennifer R. Knowles.

Committee members' assistants present: Greta Lundeberg, assistant to Senator Bill Nelson; and Brian Walsh, assistant to Senator LeMieux.

OPENING STATEMENT OF SENATOR BILL NELSON, CHAIRMAN

Senator BILL NELSON. Good morning. I want to welcome our witnesses.

The Subcommittee on Emerging Threats and Capabilities is meeting today to hear from the Department of Defense (DOD) and the Department of Energy's (DOE) National Nuclear Security Administration (NNSA) and their respective efforts to prevent the proliferation of nuclear weapons and materials.

We have with us this morning Dr. Michael Nacht, the Assistant Secretary of Defense for Global Security Affairs, and Ken Baker, the acting Deputy Administrator for Nuclear Nonproliferation.

Also, we have a group of Russian university students who are in the United States to further their nonproliferation studies. They were, unfortunately, able to spend some additional time in the United States—[Laughter.]

Therefore, they can attend our hearing this morning, thanks to the ash from the Icelandic volcano. I want to welcome you all, and I hope this experience in American democracy is valuable to you.

The President has embarked on a three-pronged effort to reduce the spread of nuclear weapons, nuclear materials, and nuclear technology. As he has said in the Nuclear Posture Review (NPR), "The threat of global nuclear war has become remote, but the risk of nuclear attack has increased. The most immediate and extreme threat today is nuclear terrorism."

Today, we will discuss the efforts at DOD and DOE to thwart the goals of these particular nuclear terrorists. Obtaining a global commitment to stop these potential terrorists is critical. The United States needs to have the global community, all of us, working together.

Last week's Nuclear Security Summit, of which I had the privilege of attending part, with the participation of 47 key countries, was a good start. Now, that commitment needs to be sustained. Several countries, such as Canada, the United Kingdom, and Russia, have been in the effort from the beginning. Others have come on board since. But, the effort has to be global in order to be successful. We look forward to hearing more about the summit from our witnesses.

To implement the renewed focus on securing materials and preventing proliferation, each of the two Departments has requested additional funds in fiscal year 2011. We fully support the non-proliferation efforts, and we also want to make sure that the additional funds are executable. We look forward to a good conversation this morning.

Let me turn to our ranking member, Senator LeMieux.

STATEMENT OF SENATOR GEORGE LEMIEUX

Senator LEMIEUX. Thank you, Mr. Chairman.

Thank you to the witnesses for being with us today and providing their valuable testimony.

I want to thank you, Mr. Chairman, for calling this hearing. It's a critical time for our country as the world grapples with how to manage nuclear ambitions of rogue states and state sponsors of terror, most notably, Tehran. The proliferation of nuclear, biological, chemical, or radioactive material to rogue nations or terrorist organizations is perhaps the greatest single threat to global security. So, with these challenges in mind, I look forward to hearing from the witnesses about how we're going to confront these issues, these 21st century threats, through nonproliferation.

While the United States and Russia and its former republics retain most of the world's nuclear technology, expertise, and material, the Cold War is over and nonproliferation regimes, practices, and mores of the past 50 years will not thwart the threats of the next 50 years. The time of mutual assured destruction is over. Whether we admit it or not, the world has accepted a nuclear North Korea, and I fear we are prepared to accept a nuclear Iran. We are hearing today in the news of Iranian shock troops being positioned now in Venezuela, something that we have talked about in this committee as an emerging threat to this country, as well.

We cannot talk about the future of nonproliferation without discussing our U.S. policy towards Iran, which is focused primarily on preventing Tehran from acquiring a nuclear weapon.

Again, Mr. Chairman, I look forward to the testimony of our witnesses. I welcome our guests today and submit the rest of my statement for the record.

[The prepared statement of Senator LeMieux follows:]

PREPARED STATEMENT BY SENATOR GEORGE LEMIEUX

Thank you, Mr. Chairman. I'd also like to thank the witnesses for joining us this morning and for their many years of distinguished service.

I want to thank the chairman for calling for this hearing. This is a critical time for our country as the world grapples with how to discourage Tehran's nuclear ambitions. The proliferation of nuclear, biological, chemical or radioactive material to a rogue nation or terrorist organization is perhaps the greatest single threat to global security. So, I look forward to hearing from the witnesses about how we are working to make our nonproliferation efforts relevant in the 21st century.

While the United States and Russia and its former republics retain most of the world's nuclear technology, expertise and material, the Cold War is over and nonproliferation regimes, practices and mores of the last 50 years will not thwart the threats of the next 50 years. The time of "mutual assured destruction" is over. Whether we admit it or not, the world has accepted a nuclear North Korea. I fear we are prepared to accept a nuclear Iran. We cannot talk about the future of nonproliferation without discussing the U.S. policy toward Iran—which has focused primarily on preventing Tehran from acquiring a nuclear weapon.

However, the record of the past year is discouraging. It is difficult to dispute that Iran is closer to possessing a nuclear weapons capability today than it was a year ago. According to Lieutenant General Burgess, the Director of the Defense Intelligence Agency, in his testimony before the full committee last week, he said that Iran could have enough weapon-grade uranium for one bomb within the next year. If Iran is allowed to possess a nuclear capability, it will result in a regional and possibly global cascade of proliferation.

Even the idea of Iran obtaining this capability has changed the balance of power in the Middle East, in reports last week there is evidence that the Syrian Government has transferred long-range Scud missiles to Hezbollah. This is a significantly destabilizing action.

Yet, we already hear some resigning themselves to a nuclear Iran. But are we prepared to manage this volatile region with deterrent concepts conceived during the Cold War? Would Iran's capability embolden violent groups currently engaged in terrorism and subversion in the region? At a time when the United States is reducing its nuclear arsenal, can we provide a credible extended deterrence to partners and allies who do not currently possess a nuclear capability? Given the possibility that Iran could acquire this capability within the next year, I hope our witnesses can help us understand how our current nonproliferation projects and programs can meet these near-term challenges.

Beyond Iran, it is imperative that the nuclear nonproliferation regime and the rules-based international order that the United States and our allies have spent more than 60 years building is both credible and relevant. Global security relies on the belief that the United States will meet its commitments and guarantee consequences. I look forward to your testimony.

Thank you, Mr. Chairman.

Senator BILL NELSON. Okay. We're going to start with Secretary Nacht, Assistant Secretary for Global Strategic Affairs, and then we'll go to you, Mr. Baker.

What I would like you all to do—your written statements are put in the record—is to take 5 or 7 minutes and share with us your ideas, and then we'll go to you, Mr. Baker, with the same thing, and then we'll get into some detailed questions.

Mr. Secretary?

STATEMENT OF HON. MICHAEL L. NACHT, ASSISTANT SECRETARY FOR GLOBAL STRATEGIC AFFAIRS, OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR POLICY

Dr. NACHT. Thank you, Chairman Nelson, Ranking Member LeMieux, and members of the subcommittee. It's my pleasure to appear before you today to discuss DOD's nonproliferation and threat reduction efforts, including the Proliferation Security Initiative (PSI) and the Cooperative Threat Reduction (CTR) Program.

DOD is working hard to build upon our legacy of nonproliferation and threat-reduction successes, and to expand and adjust our programs to meet today's proliferation and emerging threats.

A word about the changing strategic environment in DOD's strategy. Today, the threat environment posed by proliferation of weapons of mass destruction (WMD) is complex and unpredictable. President Obama recognizes the challenges of today's WMD threats, and he's pursuing a bold agenda to reduce proliferation dangers and to achieve the peace and security that comes from a world free of nuclear weapons.

The recent diplomatic initiatives and policy reviews have increased broad awareness and expectations for the United States, DOD, and our international partners to work collaboratively to reduce and counter WMD threats.

We have a threefold approach in DOD. First, we aim to support and rejuvenate multilateral nonproliferation initiatives and treaties. Second, we seek to reduce and eliminate WMD dangers at their source and in transit. Third, we seek to enhance our ability to detect and respond to emerging threats. Let me address each of these elements in turn.

On strengthening the nonproliferation regime, we are accelerating efforts to work with our allies and partners to rejuvenate and reinforce this regime, starting with a renewed commitment to the international legal frameworks that serve as the foundation for our efforts. We're actively working to strengthen the Nonproliferation Treaty (NPT), which is the cornerstone of the nuclear nonproliferation regime. At the upcoming NPT Review Conference, starting next month, we will seek an outcome that reaffirms parties' commitment to the treaty and shores up its three pillars: nonproliferation, disarmament, and peaceful uses of nuclear energy.

In addition, President Obama has committed his administration to pursue the ratification of a Comprehensive Test Ban Treaty (CTBT), because it restricts additional countries from developing, acquiring, and deploying nuclear weapons, and it hinders the ability of nuclear powers to develop new types of nuclear warheads. We will also seek a Fissile Material Cutoff Treaty (FMCT) that would ban the production of fissile material for use in nuclear weapons.

DOD fully supports these efforts; and, in particular, the fiscal year 2011 budget request from DOD recognizes the nonproliferation value of these international agreements. It aims to fund technological improvements in instrumentation and software used for detection of treaty violations, such as air sample monitoring, analysis of seismic events, and improvements in infrasound detection. These measures will ensure compliance with the NPT, the CTBT, and the FMCT.

The administration also recognizes the importance of a variety of multilateral activities and mechanisms that help to prevent proliferation, such as the PSI. PSI builds political support for counterproliferation, and it increases cooperation through multinational endorsement of the PSI Statement of Principles and participation in PSI exercises, 30 of which have been conducted since 2003.

The U.S. Government has taken on an important new role this year by serving as the PSI focal point, providing support, improving information flow, and coordinating schedules of international activities among partners, consistent with the President's desire to turn the PSI into a durable international institution.

The second element, on reducing and eliminating the threats, DOD's approach involves engaging in active international partnerships to reduce and eliminate WMD dangers, both at their source and in transit. The unprecedented gathering of 47 states to address these issues during the Nuclear Security Summit, just last week, represents a critical step in the President's commitment to secure vulnerable nuclear materials worldwide by the end of 2013.

Over the years, Congress has expanded CTR's authorities and created new opportunities for the program to embark on these important national and international security priorities. This legislation enables the CTR program to address emerging WMD threats and to achieve longstanding WMD nonproliferation goals more effectively and comprehensively. Accordingly, new funding mechanisms provide DOD with additional resources to think and act beyond traditional projects and activities. As we move forward, four broad principles will guide our evolution and expansion: integration, responsiveness, stewardship, and cooperation.

This year, we are taking real steps to exercise new legislative authorities that would expand the CTR program, across the globe, to reduce and eliminate emerging threats while simultaneously continuing our important work in Russia and states of the former Soviet Union.

In accordance with our authorities and with full coordination with our interagency partners, in consultation with Congress, we are seeking a determination from the Secretaries of Defense and State to conduct CTR projects and activities with new partner countries outside the former Soviet Union to meet the President's broader nuclear nonproliferation agenda.

The CTR program is DOD's mechanism to support the President's initiative, and the requested increase of \$74.5 million will support expanded security cooperation with Russia and additional efforts with new partner countries.

Working with partner countries, DOE and other interagency partners, and consistent with our Centers of Cooperation Engagement model, we plan to support a Nuclear Security Center of Excellence in China and a Nuclear Energy Center with a nuclear security component in India, as was announced at last week's Nuclear Security Summit. By using the centers, countries and agencies involved will be able to provide lessons learned and an exchange of best practices without requiring access to actual material or weapon sites.

DOD is similarly expanding our Biological Threat Reduction Programs (BTRPs), and we are requesting \$56.9 million in budget increase to meet our new global health security requirements in support of the President's National Strategy for Countering Biological Threats and the 2010 Quadrennial Defense Review (QDR) recommendations from DOD.

In addition to these expansion efforts, the BTRP continues to partner with former Soviet Union countries to enhanced biosafety and biosecurity and consolidate especially dangerous pathogens (EDPs).

Additionally, CTR's chemical programs continue to assist Russia with safe, secure, and environmentally sound destruction of a portion of its chemical weapons nerve-agent stockpile that is most vulnerable to theft or diversion.

The third element of DOD's approach, detecting and responding to emerging threats, involves improving our ability to respond to these dangers. For instance, instability resulting from the collapse of a nuclear-armed state would risk the global proliferation of nuclear material, weapons, or technology, posing a threat to our Homeland and the homelands of our allies. We must be prepared to detect threats and defend ourselves against WMD dangers. This includes enhancements to interdiction and elimination capabilities, as well as preparations to respond quickly to an attack, should our preventive and deterrent efforts fail.

Senator BILL NELSON. Dr. Nacht, I need you to wrap up.

Dr. NACHT. I am just about done, Senator.

Our QDR identifies preventing proliferation and countering WMD as one of the top priority missions of DOD, and we'll be working closely with Special Operations Command (SOCOM) ability to counter WMD operations in establishing a Joint Task Force on Elimination (JTFE) Headquarters to plan, train, and execute WMD elimination operations.

Other aspects of my testimony are included in my written statement in the record.

Thank you very much.

[The prepared statement of Dr. Nacht follows:]

PREPARED STATEMENT BY DR. MICHAEL NACHT

Chairman Nelson, Ranking Member LeMieux, members of the subcommittee, it is my pleasure to appear before you to discuss the Department of Defense's (DOD) nonproliferation and threat reduction efforts, including the Proliferation Security Initiative (PSI) and the Cooperative Threat Reduction (CTR) Program. The Department is working hard to build upon our legacy of nonproliferation and threat reduction successes and to expand and adjust our programs to meet today's proliferation and emerging threats.

STRATEGIC ENVIRONMENT AND DOD'S STRATEGY

Today, the threat environment posed by proliferation of weapons of mass destruction (WMD) is highly complex and unpredictable. As Director of National Intelligence Blair stated in his February 2010 testimony before the House Permanent Select Committee on Intelligence: pursuit and possible acquisition of WMD will continue well into the future. He recognized that the Intelligence Community "continues to assess that many of the countries that are still pursuing WMD programs will continue to try to improve their capabilities and level of self-sufficiency over the next decade. Nuclear, chemical, and/or biological weapons—or the technologies and materials necessary to produce them—also may be acquired by states that do not now have such programs; terrorist, insurgent, or criminal organizations, acting alone or through middlemen." Such an intent to acquire WMD, combined with pow-

erful cross-cutting global trends of the 21st century—such as technological advances, an increasingly interconnected global economy, the emergence of new strains of disease, the persistence of terrorism, black-market proliferation, and the frailty of strategically important states—create conditions that allow for dual-use technology, sensitive materials, and personnel with the scientific expertise to design and use those technologies to become increasingly accessible to potential state and non-state adversaries.

President Obama recognizes the challenges of today’s WMD threats and he is pursuing a bold agenda to reduce proliferation dangers and to achieve the peace and security that comes from a world free of nuclear weapons. Recent diplomatic initiatives and policy reviews have increased broad awareness and expectations for the United States, DOD, and our international partners to work collaboratively to reduce and counter WMD threats. Ongoing efforts include:

- Presidential-led diplomatic initiatives, such as the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, the Global Initiative to Combat Nuclear Terrorism, and the Global Nuclear Lockdown Initiative;
- Advancement of international nonproliferation and disarmament frameworks, including last week’s Nuclear Security Summit, the recently signed New START Agreement between the United States and Russia, and the upcoming Nuclear Nonproliferation Treaty (NPT) Review Conference;
- National-level strategies and policy reviews focusing on WMD threats, including the 2009 National Strategy for Countering Biological Threats, the 2010 Quadrennial Defense Review (2010 QDR), and the 2010 Nuclear Posture Review (2010 NPR); and
- Independent studies, such as the Commission on the Prevention of Weapons of Mass Destruction, known as the Graham-Talent report, and the congressionally-commissioned 2009 National Academy of Sciences (NAS) study and report titled, *Global Security Engagement: A New Model for Cooperative Threat Reduction*.

DOD is actively working to implement the President’s vision. We have undertaken a series of policy reviews to develop a comprehensive approach to advance these goals and we are aligning our strategies and approaches accordingly. The 2010 QDR identified preventing WMD proliferation as one of six key challenges faced by the United States, and it recommended that the United States increase its efforts to secure vulnerable nuclear materials and expand the biological threat reduction program. Most recently, the 2010 NPR elevated the prevention of nuclear proliferation and nuclear terrorism to the top of the U.S. policy agenda and aligned U.S. nuclear weapons policies and posture to address these most pressing security threats.

Combined, evolving and emerging WMD threats along with unprecedented efforts to reduce those threats have raised the profile and priority of the Department’s nonproliferation and threat reduction programs and tools. As President Obama made clear in his April 2009 speech in Prague, overcoming the twin dangers of WMD proliferation and WMD terrorism requires a comprehensive approach. DOD is aligning our programs to become more flexible, agile, and responsive to build upon our long legacy of securing our Nation and the world from WMD threats. Here our approach is three-fold: First, we aim to support and rejuvenate multilateral nonproliferation initiatives and treaties. Second, we seek to reduce and eliminate WMD dangers at their source and in transit. Third, we seek to enhance our ability to detect and respond to emerging threats.

STRENGTHENING THE NONPROLIFERATION REGIME

For years we have worked with our allies and partners to develop a global nonproliferation infrastructure that can reduce our collective vulnerability to these weapons. The current network of initiatives, regimes, and treaties offers some important tools for advancing this critical agenda—but much more remains to be done. Today, we are accelerating efforts to work with our allies and partners to rejuvenate and reinforce the nonproliferation regime, starting with a renewed commitment to the international legal frameworks that serve as the foundation for our efforts.

We are actively working to strengthen the Nonproliferation Treaty (NPT)—the cornerstone of the nuclear nonproliferation regime. At the upcoming NPT Review Conference in May 2010, we will seek an outcome that reaffirms parties’ commitment to the treaty and shores up its three pillars: nonproliferation, disarmament, and peaceful uses of nuclear energy. We want to discourage the abuses of the treaty withdrawal provision and ensure that there are real consequences for treaty violations. At the same time, we will emphasize our support for peaceful uses of nuclear energy that do not increase the risk of weapons proliferation. The NPT Review Con-

ference is not an end in itself, but a critical milestone in the effort to enhance nonproliferation efforts worldwide. Efforts this May will contribute to our ambitious nonproliferation agenda.

In addition, President Obama has committed his administration to pursue the ratification of the Comprehensive Test Ban Treaty (CTBT). The CTBT is important to the nonproliferation effort because it restricts additional countries from developing, acquiring, and deploying nuclear weapons, and it hinders the ability of nuclear powers to develop new types of nuclear warheads. In the meantime, as a sign of our commitment to the CTBT regime, we will continue to maintain our unilateral moratorium on nuclear weapons-testing. Finally, we will also seek a Fissile Material Cutoff Treaty (FMCT) that would ban the production of fissile material for use in nuclear weapons.

DOD fully supports these efforts. In particular, the fiscal year 2011 budget request recognizes the nonproliferation value of these international agreements. It aims to fund technological improvements in instrumentation and software—such as air sample monitoring, analysis of seismic events, and improvements in infrasound detection—used for detection of treaty violations. These measures will ensure compliance with the NPT, CTBT, and FMCT.

The administration also recognizes the importance of a variety of multilateral activities and mechanisms that help to prevent proliferation, such as the Proliferation Security Initiative (PSI). Since its establishment in 2003, PSI has grown to include 95 endorsing countries. PSI builds political support for counterproliferation and increases cooperation through multinational endorsement of the PSI statement of principles and participation in PSI exercises, 30 of which have been conducted since 2003. By endorsing the PSI, partners recognize the urgency of the WMD proliferation threat and commit themselves to taking action to stop shipments of proliferation concern on a voluntary basis, consistent with national legal authorities and relevant international law. The PSI also helps build the capacity of countries on the front lines of WMD transshipment to counter proliferation by hosting exercises in which countries share best practices, engage in scenario planning, and examine decision making processes. The U.S. Government has taken on an important new role this year by serving as the PSI “Focal Point,” providing support, improving information flow, and coordinating schedules of international activities among partners consistent with the President’s desire to turn the PSI into a durable international institution.

In addition, this administration is seeking Export Control Reform. Under the rubric of “Higher Walls Around Fewer Items,” our goal is to make exporting dangerous or sensitive items much more difficult, while at the same time lowering unnecessary barriers to profitable technology exports that pose no threat to our security. This broad-based interagency effort to review the current system and process of administering and enforcing U.S. export controls is close to making its final recommendations, and, with the cooperation of Congress, will then start the work of implementation.

Despite these efforts, we recognize that this nonproliferation regime is under serious strain, in large part because of countries that choose to violate both the letter and the spirit of their commitments and because some countries choose to live outside this regime altogether. Responding to this challenge, this administration has gone on the diplomatic offensive to address nuclear proliferation threats, seeking to reclaim lost ground with allies and partners. This outreach is paying real dividends. Our demonstrated commitment to engagement and our efforts to find diplomatic solutions is helping us to put more pressure on the world’s two greatest current proliferation threats, Iran and North Korea. In the case of North Korea, the successful implementation of United Nations Security Council Resolution 1874 has demonstrated the international community’s resolve to stem the DPRK’s ability to pursue nuclear, ballistic missile, and other WMD-related activities, and to prevent proliferation to and from North Korea. The United States has undertaken close coordination with partners on full implementation of the resolution, which provides for, among other things, enhanced provisions regarding inspection of suspect cargo.

REDUCING AND ELIMINATING THREATS

The second element of the Department’s approach involves engaging in active international partnerships to reduce and eliminate WMD dangers both at their source and in transit. Vulnerable nuclear, biological, and chemical materials that are secured or eliminated cannot be used for harmful purposes by terrorists or other hostile actors.

As this committee is aware, the CTR Program has been working to reduce nuclear, biological, and chemical threats since its inception in 1992, and has estab-

lished a successful track record. Building on that success, we are transforming and expanding the CTR Program to meet today's threats. Over the years, Congress has expanded CTR's authorities and created new opportunities for the program to embark on these important national and international security priorities. This legislation enables the CTR program to address emerging WMD threats and to achieve long-standing WMD nonproliferation goals more effectively and comprehensively. Accordingly, new funding mechanisms provide the Department with additional resources to think and act beyond traditional projects and activities.

Four broad principles—integration, responsiveness, stewardship, and cooperation—will guide our evolution and expansion. First, we are fully integrating CTR within broader whole-of-government counter-WMD approaches, as well as within productive and established bilateral and multilateral frameworks. Second, the CTR program is becoming both agile enough to accept targets of opportunity and flexible enough to utilize CTR in new regions and for new projects. Third, we are improving resource management and stewardship by better aligning expenditures with priorities, improving execution and accountability of funds, and developing sustainable, long-term solutions and capacity-building opportunities for our partner countries. Fourth, the CTR Program has renewed its focus on the cooperative components of our program, including establishing mutually beneficial projects with our partner countries and ensuring that the vision for any project includes common awareness of threats and solutions. Local vulnerabilities will be met with local solutions.

With these principles as our guide, we will engage with countries and regions to achieve common goals and provide sustainable capabilities. Depending on the vulnerabilities, local capacity, and status of our relationship with a given country, we could employ any of the following four models as a template to expand CTR engagements and related projects and activities. First, the "Traditional Model" has been employed with individual former Soviet Union (FSU) states to establish an exceptionally high level of capability and national proficiency to deal with various materials and various levels of vulnerability. Next, a "Tailored Model" seeks to work bilaterally with countries to tailor CTR projects to identify and address specific vulnerabilities within the context of political and capability realities. A "Regional Model" seeks to develop baseline capabilities across a region to reduce the potential for future threats to emerge and to provide countries with the capacity to recognize those threats if they do emerge. Although key international partners will be important in each of the four models, the regional model is likely to rely most heavily on the participation and engagement of the international community. Our final model, known as "Centers of Cooperation," will allow the Department to partner with key countries to increase information sharing and to develop best practices for appropriate CTR objectives. Instead of focusing our efforts on securing materials or building capacity at the source, our efforts will focus on developing long-term relationships that will have positive second- and third-order effects throughout the region.

Although I have discussed our broad strategy and new approaches to meet our requirements, we cannot do all that the President and the world demand without additional resources. The CTR budget has held steadily around \$430 million over the past 3 years. This year, however, we are taking real steps to exercise new legislative authorities to expand the CTR Program across the globe to reduce and eliminate emerging threats while simultaneously continuing our important work in Russia and FSU countries. This is why the President has requested a significant increase in the DOD CTR budget through fiscal year 2015. The overall fiscal year 2011 budget request for the DOD CTR Program is \$522.5 million, a 23 percent increase over fiscal year 2010. Program enhancements in fiscal year 2011 over the fiscal year 2010 baseline include an additional \$74.5 million to fund the Global Nuclear Lockdown Initiative and \$56.9 million to expand the Biological Threat Reduction Program. I would now like to describe some examples of recent successes and plans to implement this new strategy in several areas of our nuclear, biological, and chemical threat reduction efforts, as well as our Proliferation Prevention Initiative (PPI) and Defense and Military Contacts (DMC) programs.

As you are well aware, the CTR Program has been involved in reducing nuclear threats for a long time. It has been almost two decades since Congress passed the Soviet Nuclear Threat Reduction Act of 1991, the hallmark legislation that established the Nunn-Lugar Program. Within 6 months of its enactment, the United States and the Russian Federation signed the CTR Umbrella Agreement and began the arduous task of eliminating the enormous number of strategic offensive arms that had been built up by the Soviet Union. Although elimination work has largely been concluded in the other states of the former Soviet Union, it goes on to this day in Russia as ballistic missiles, launchers, and ballistic missile submarines continue to be dismantled. In addition, the Department continues to work closely with the

Department of Energy and the Russian Federation Ministry of Defense (MOD) to ensure the appropriate infrastructure is in place to enable Russia to sustain over the long term the hundreds of millions of dollars worth of modernized physical protection systems that have been installed at nuclear weapons storage sites. Finally, the Department continues to assist Russia in transporting nuclear warheads from operational locations to dismantlement facilities or more secure, consolidated storage sites.

Although we continue to focus on the Department's mission to reduce nuclear threats in Russia, we also are building upon our legacy of success to meet the President's broader nuclear nonproliferation agenda. The unprecedented gathering of 47 states to address these issues during the Nuclear Security Summit last week represents a critical step in the President's commitment to secure vulnerable nuclear materials worldwide by the end of 2013. The CTR Program is DOD's mechanism to support the President's initiative and the requested increase of \$74.5 million will support expanded security cooperation with Russia and additional efforts with new partner countries. As required by the fiscal year 2008 legislation, the CTR Program will seek a determination from the Secretaries of Defense and State to conduct CTR projects and activities with new partner countries outside the FSU. Working with partner countries, DOE, and other Interagency partners, and consistent with our Centers of Cooperation engagement model, we plan to support a nuclear security Center of Excellence in China and a Nuclear Energy Center with a nuclear security component in India, as was announced at last week's Nuclear Security Summit. By using the centers, countries and agencies involved will be able to provide lessons learned and an exchange of best practices without requiring access to actual material or weapons sites.

The Department is similarly expanding our biological threat reduction programs, and we are requesting a \$56.9 million budget increase to meet our new global health security requirements in support of the President's National Strategy for Countering Biological Threats and 2010 QDR recommendations. In Afghanistan, we are working at the request of the acting Minister of Public Health to help consolidate an independent collection of diagnostic laboratories under a new National Public Health Laboratory in Kabul. The Department is also considering expanding the program into Sub-Saharan Africa, where we believe there are opportunities to implement regional approaches for human and animal disease detection, diagnosis, surveillance, and reporting.

In addition to these expansion efforts, the BTRP continues to partner with FSU countries to enhance biosafety and security and to consolidate especially dangerous pathogens. In Georgia, we completed construction of a new Central Reference Laboratory (CRL) located in Tbilisi and also renovated other human regional diagnostic laboratories. In Kazakhstan, the CTR program is a member of a Kazakhstan Government cross-functional working group appointed to design a new Central Reference Laboratory. A successful CRL groundbreaking ceremony took place on March 30, 2010, and actual construction is expected to begin in a few months. Lastly, in Ukraine, the CTR Program is working with the Ministry of Health to consolidate all of Ukraine's human especially dangerous pathogens at a DOD-renovated interim human central reference laboratory, and we are developing plans to renovate facilities for a permanent human central reference laboratory for reference diagnosis and safe secure research. We are also planning to construct a veterinary central reference lab to consolidate all of Ukraine's animal especially dangerous pathogens and provide for reference diagnosis and safe and secure research.

CTR's chemical programs continue to assist Russia with safe, secure, and environmentally sound destruction of a portion of its chemical weapons nerve agent stockpile that is most vulnerable to theft or diversion. This year we also hope to complete elimination of on-site equipment at the former nerve-agent weapons production facility at Novocheboksarsk. Our efforts are intended to achieve U.S. chemical agent proliferation prevention goals while helping Russia comply with its Chemical Weapons Convention requirements. At Russia's request, and in our judgment to the mutual benefit of the people of the United States, we will continue some technical support for the Shchuch'ye Chemical Weapons Destruction Facility, which began eliminating chemical weapons in March 2009. The United States contributed more than \$1 billion to the construction of this facility, and our continued technical support will assist in maintaining the operational status of U.S.-furnished equipment, as well as equipment supplied by other donor countries, so that the elimination process continues expeditiously.

In addition to CTR's programs to secure nuclear, biological, and chemical material at the source, the WMD Proliferation Prevention Initiative (PPI) is CTR's means to enhance our partners' abilities to detect and interdict WMD "on the move." DOD has just completed a multiyear effort with Azerbaijan's State Border Guard Service-

Coast Guard and elements of its Navy to enhance maritime detection, surveillance and interdiction capabilities on the Caspian Sea and we will continue to provide sustainment to that project for another 2 years. In Ukraine, we are working with the State Border Guard Service to enhance maritime detection and interdiction capabilities on the Black Sea, as well as providing extensive assistance to land borders between the key ports of entry along the Moldovan border and in the Chernobyl Exclusion Zone.

Although not an element of CTR, the Defense Threat Reduction Agency (DTRA)'s International Counterproliferation Program (ICP) complements the capital-intensive investments of the WMD-PPI program through its modest yet effective "train and equip" efforts. The ICP is unique in its legislative authority to partner explicitly with the Federal Bureau of Investigation and U.S. Customs in furtherance of deterring the proliferation of WMD across the FSU, the Baltic states, and in Eastern Europe. We are currently working with DTRA to determine how best to expand the program globally.

The final element of the Department's threat reduction efforts is the Defense and Military Contacts (DMC) Program, which is currently transitioning to meet changed legislative guidelines and expanded authorities to support specific relationship building opportunities for CTR engagement in new geographic areas. Under this new approach, the CTR Policy Office will develop policy guidance in close cooperation and coordination with OSD's regional offices, AT&L/Treaties and Threat Reduction, and the Unified Combatant Commands. DTRA's CTR Program Office will administer the program in accordance with that guidance.

DETECTING AND RESPONDING TO EMERGING THREATS

The third element of the Department's approach involves improving our ability to detect and respond to emerging WMD dangers. Here the Department has a particular responsibility to our Nation, as well as to our allies and partners. For instance, instability resulting from the collapse of a nuclear-armed state would risk the global proliferation of nuclear material, weapons, or technology, posing a threat to our homeland and the homelands of our allies. We must be prepared to detect threats and defend ourselves against WMD dangers. This includes enhancements to interdiction and elimination capabilities as well as preparations to respond quickly to an attack should our preventive and deterrence efforts fail.

Our Quadrennial Defense Review identifies preventing proliferation and countering weapons of mass destruction as one of the top priority missions for the Defense Department, and our fiscal year 2011 budget request reflects that commitment. This request will fully fund efforts to enhance SOCOM's ability to conduct counter-WMD operations by increasing funding by \$60 million. It will also establish the standing Joint Task Force Elimination (JTF-E) Headquarters to plan, train and execute WMD elimination operations. The JTF-E works in conjunction with special operations forces to locate, characterize, secure, disable or destroy hostile WMD programs or capabilities in a non-permissive or semi-permissive environment. It will also provide nuclear disablement, exploitation, and intelligence capabilities with increased capacity to coordinate operations with Special Operations Forces. Currently the Joint Staff is developing several options for the command and control structure and force-sizing for the standing headquarters.

The budget request includes \$22 million to improve capabilities for national technical nuclear forensics technologies and the fielding of new capabilities, including funding for ground and air collection. Other key capability enhancements anticipated by this budget request include the modernization of WMD Civil Support Teams and CBRNE Consequence Management Response Forces to assist State and local governments in the event of a WMD attack, as well as enhanced technical reachback capabilities to ensure warfighters have real time access to information on WMD. We are also working to adapt our architectures, plans, and operations so that we can respond to WMD crises with greater speed and agility.

Additionally, we must engage partner nations, allies, and the broader international community to improve our ability to detect and respond to such dangers and reduce the risk of nuclear terrorism. Here we are working to support a number of multilateral efforts, including the Global Initiative to Combat Nuclear Terrorism (GICNT), an international partnership of nearly 80 states and 4 observers that enhances individual, regional, and collective capabilities to combat nuclear terrorism through deterrence, prevention, detection, and response objectives. Through multilateral activities and exercises, partners share best practices and lessons learned. The United States and Russia, co-chairs to the GICNT, are currently taking tangible steps that will transform the GICNT into an action-oriented and institutionalized program.

CLOSING REMARKS

The world is changing and the Obama administration is bringing a full court press to assemble like-minded countries to meet our collective national and international security obligations to make the world safe from all weapons of mass destruction. These efforts continue to underscore the need and relevance of the Department's nonproliferation, threat reduction, and WMD detection and response tools. The Department takes its responsibilities seriously and we are building on our legacy of success to evolve and expand to meet today's challenges.

Annex – CTR Budget Request

FY 2011 increases include \$+74.5 million for the new Global Nuclear Lockdown program and \$+56.9 million to expand the Biological Threat Reduction Program.

FY 2009-FY 2015 Budget (\$ in Millions)

Program	FY 2009	FY 2010	Δ FY 2011 and 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Total FY 2011 - 2015
Strategic Offensive Arms Elimination	39.0	66.4	.3	66.7	70.9	78.2	64.0	40.2	320.0
Strategic Nuclear Arms Elimination	6.4	6.8		6.8	6.8	0.0	0.0	0.0	13.6
Chemical Weapons Destruction	28.0	3.0		3.0	1.0	0.0	0.0	0.0	4.0
Nuclear Weapons Storage Security	16.2	22.1	-12.5	9.6	7.7	0.0	0.0	0.0	17.3
Nuclear Weapons Transportation Security	58.8	45.9	-.9	45.0	28.0	0.0	0.0	0.0	73.0
Biological Threat Reduction	177.5	152.1	56.9	209.0	253.3	287.6	293.6	311.9	1,355.4
WMD Proliferation Prevention Initiative	69.3	83.9	-4.1	79.8	52.3	54.9	54.7	55.0	296.7
Global Nuclear Lockdown			74.5	74.5	74.4	77.4	68.7	22.6	317.6
Defense and Military Contacts	8.0	5.0		5.0	5.0	5.0	5.0	5.0	25.0
New Initiatives	10.0	17.0	-17.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Assessments/ Administrative Support	20.1	21.4	1.6	23.0	24.5	26.4	26.8	26.8	127.5
Total	433.2	423.6	98.8	522.5	523.9	529.6	512.7	461.5	2,550.2

Numbers may not add due to rounding.

- **Global Nuclear Lockdown (\$74.5 million)**

This new initiative supports the President's goal to secure all vulnerable weapons-usable nuclear material within 4 years. The CTR Program, working with DOE and the Interagency, plans to establish Centers of Excellence for Nuclear Security. The purpose of these regional centers, which are not located at material or weapons storage sites, will be to assess equipment and manpower, provide material security training, and demonstrate enhanced security procedures and processes. The centers would provide lessons learned without direct site access. Additionally, ongoing nuclear security and nonproliferation efforts in Russia and Kazakhstan will continue.
- **Biological Threat Reduction (\$209.0 million)**

The additional \$56.9 million in FY 2011 supports the expansion of the Biological Threat Reduction Program efforts geographically to consolidate and secure dangerous pathogens, collections, and research in a minimum number of facilities; improve human and veterinary biosurveillance capacity to detect, diagnose, report, and respond to EDP disease outbreaks, either man-made or natural, including pandemics; and facilitate strategic research partnerships.
- **Strategic Offensive Arms Elimination (\$66.7 million)**

Continues the dismantling of Russia's Intercontinental Ballistic Missiles (ICBMs), including silos and road-mobile launchers, and Submarine Launched Ballistic Missiles (SLBMs), including SLBM launchers/compartments and defueling and sealing the reactor section of the strategic submarines, as well as overall WMD infrastructure dismantlement. As of October 2009, 767 ICBMs, 498 ICBM silos, 143 mobile ICBM launchers, 155 strategic bombers, 651 SLBMs, 476 SLBM launchers, and 32 Nuclear-Powered Ballistic Missile Submarines (SSBNs) have been eliminated. The FY 2011 funding eliminates 8 liquid fueled ICBMs and eliminates 33 ICBM silos, 40 road-mobile solid fueled ICBMs, and 36 road-mobile launchers; decommissions and removes infrastructure from 2 road-mobile ICBM regiments; and dismantles 1 strategic submarine.

- **Strategic Nuclear Arms Elimination (\$6.8 million)**
Assists Ukraine by supporting storage and elimination of SS-24 ICBM rocket motors from dismantled SS-24 ICBMs.
- **Chemical Weapons Destruction (CWD) (\$3.0 million)**
Supports the program's response to emerging CWD requirements and retains capability to rebuild within 12 months the core competency necessary to destroy chemical weapons and precursors if requested by a state outside Russia.
- **Nuclear Weapons Storage/Transportation Security (\$54.6 million)**
Enhances the security, control, and accounting of nuclear weapons stored in Russia. Supports movement and consolidation of nuclear weapons from Russian Ministry of Defense operational sites to weapons dismantlement or more secure storage facilities. Provides sustainment to include training, maintenance, and depot support for nuclear weapon storage sites.
- **WMD Proliferation Prevention (\$79.8 million)**
Enhances the capability of non-Russian FSU states to prevent the proliferation of WMD and related materials that could be smuggled across their land and maritime borders. Upgrades capabilities to detect and interdict illicit trafficking of WMD, enhances surveillance and patrol capabilities, provides related training, and coordinates activities with other related assistance projects such as the Department of Energy's Second Line of Defense Program, the Department of State's Export Control and Related Border Security Program, and related border security programs.
- **Other Threat Reduction Programs (\$28.0 million)**
Supports defense and military contacts. Supports Audit and Examination program to ensure CTR assistance is used for the intended purpose and is efficiently and effectively administered. Supports six DTRA/CTR offices at embassies across the FSU. Also, provides non-government advisory assistance and administrative support to DoD.

Senator BILL NELSON. Mr. Baker?

STATEMENT OF KENNETH E. BAKER, ACTING DEPUTY ADMINISTRATOR FOR DEFENSE NUCLEAR NONPROLIFERATION, NATIONAL NUCLEAR SECURITY ADMINISTRATION

Mr. BAKER. Mr. Chairman, I want to apologize up front; I caught a cold vacationing in Florida, but I assure you, sir, that it did not come from the great State of Florida. So, I apologize for the cold. [Laughter.]

Senator LEMIEUX. Mr. Chairman, I already corrected the record; he caught it at the airport before he came to Florida. We know that he could not have gotten a cold in Florida. [Laughter.]

Mr. BAKER. Yes, sir, it was in the airport or, in Virginia, but it was not in Florida. But, I enjoyed my vacation, even with the cold, in Florida.

Senator BILL NELSON. Mr. Baker, it's an oxymoron, "cold/Florida."

Senator LEMIEUX. Right.

Mr. BAKER. Yes, sir.

Thank you, Mr. Chairman. I'm Ken Baker, Principal Assistant Deputy Administrator of the NNSA's Office of Defense Nuclear Nonproliferation, and the Acting Deputy Administrator.

It's always a great pleasure to come before this committee to tell you about the NNSA's nuclear nonproliferation program. I'm prepared to make a formal written statement, Mr. Chairman, and, with your permission, I will submit that for the record. I do have about 3 or 4 minutes of oral testimony.

Senator BILL NELSON. That was already entered, 12 minutes ago.

Mr. BAKER. Thank you, sir.

The President is requesting \$2.7 billion for fiscal year 2011 for the nonproliferation program, an increase of 26 percent over the last year's funding levels. We are trying to prevent nuclear weapons from falling in the hands of terrorists, to stem the further proliferation of nuclear weapons, materials, and technology expertise to build them.

I'm not one to hype the threat. It's not easy to build a nuclear weapon. But, the consequences of any nuclear attack or nuclear incident would be so dire that it would greatly affect all of our American citizens. We must do everything we can, as quickly as possible, to ensure that this does not happen.

The President has challenged the United States and international community to accelerate our materials security efforts over the next 4 years. The fiscal year 2011 budget request reflects the initial investment from this challenge. Our fundamental priority is the security of nuclear materials because if terrorists are unable to acquire nuclear materials, a weapon cannot be fashioned. In fact, the largest portion of our budget is aimed at making sure that vulnerable nuclear material is protected, removed, and disposed of. These first-line-of-defense programs are the heart of the President's 4-year effort and drive the increases requested for the Global Threat Reduction Initiative (GTRI) and Material Protection, Control, and Accounting (MPC&A) program.

For example, the budget increase requested to allow the GTRI to remove an additional 530 kilograms of excess highly-enriched uranium (HEU) from countries such as South Africa, Mexico, Serbia, Ukraine, and Belarus, as well as to convert seven additional reactors from HEU to low-enriched uranium (LEU).

The Fissile Materials Disposition (FMD) program is also essential to our efforts toward nuclear disarmament and a world free of nuclear danger. This program works to dispose of surplus U.S. HEU and U.S. and Russian weapon-grade plutonium. Of the funds requested for the FMD program, 87 percent is for efforts to dispose of surplus U.S. weapon-grade plutonium. The largest part of this

involves the construction of a Mixed-oxide (MOX) Fuel Fabrication Facility in Aiken, SC, which has been underway for over 2 years, and it is on schedule and within budget. FMD has also made progress in the disposition of Russia surplus weapon-grade plutonium. Just last week, at the Nuclear Security Summit, Secretary Clinton and Russian Minister of Foreign Affairs Lavrov signed a protocol amending the Plutonium Management Disposition Agreement. This agreement commits both countries to dispose of no less than 34 metric tons of surplus weapon-grade plutonium, which, combined, represents enough material for approximately 17,000 nuclear weapons.

Our security work in Russia has been going on for many years, and the results are tangible. Thousands of nuclear warheads and hundreds of tons of weapon-grade plutonium are better secured today, due to our efforts. But, we have additional work to do. The job is not complete. We have identified some new areas that need to be addressed before we can conclude our efforts in Russia.

We're concerned about two things. First, the sustainability. It would do us little good to have spent years working to improve security in Russia if we fail to help our partners create a sustainability program in nuclear security. The second thing we must do is to look beyond Russia to create multiple sustainability levels of defense, such as providing radiation detection monitors and related response training over the world, and securing seaports away from our borders through our Second Line of Defense program. No security program is perfect, and any system can break down due to human error, equipment malfunction, or overwhelming attack. Multiple layers of defense help mitigate these issues.

Our elimination of weapon-grade plutonium in the three reactors that were remaining in Russia, I can say today, sir, is complete. Two reactors that make weapon-grade plutonium were shut down 1 year ago, and the last one was shut down last week. So, we have completed this program of shutting down all weapon-grade plutonium reactors in Russia.

This budget request will allow us to continue to provide vital support to the International Atomic Energy Agency (IAEA) and the Nuclear Suppliers Group. We want to continue to revitalize the U.S. nuclear safeguards technology and human base, which has suffered attrition over the years, through our Next Generation Safeguards Initiative.

Last, we want to continue using the investment in world-class capabilities of DOE's nuclear weapons labs to conduct research and development of new technology capabilities to support the Nation's arms control and nonproliferation efforts.

In summary, Mr. Chairman, I thank this committee for your continued support and longstanding and newly ambitious efforts. We are equipped to play a critical role in preventing terrorists, rogue states, and proliferators from acquiring a nuclear component.

Again, I appreciate this opportunity, and I'm ready to take your questions, sir.

[The prepared statement of Mr. Baker follows:]

PREPARED STATEMENT BY KENNETH E. BAKER

Thank you, Mr. Chairman, and Committee Members, for the opportunity to present the Department of Energy's National Nuclear Security Administration (NNSA) fiscal year 2011 President's budget request for the Office of Defense Nuclear Nonproliferation.

The Defense Nuclear Nonproliferation mission is both critical and multi-faceted: to provide policy and technical leadership to limit or prevent the spread of Weapons of Mass Destruction (WMD)-related materials, technology, and expertise; to advance technologies to detect WMD-related proliferation worldwide; and to eliminate, reduce, or secure surplus nuclear weapons-related materials. In short, we detect, deter, secure, or dispose of dangerous nuclear and radiological materials worldwide.

The President's fiscal year 2011 budget request for the Defense Nuclear Nonproliferation portfolio is \$2.69 billion, an increase of 25.8 percent from fiscal year 2010. As NNSA Administrator D'Agostino has stated, this budget request is a "direct and tangible display of the President's commitment to this mission, and a demonstration of the critical role NNSA plays in implementing the President's unprecedented nuclear security agenda." NNSA's Defense Nuclear Nonproliferation program is a key component of the President's nonproliferation vision, and we are working—together with our more than 130 international partners—to achieve these global security goals.

This comprehensive nonproliferation, nuclear security, and arms control agenda was outlined in the President's April 2009 speech in Prague, Czech Republic and consists of several key objectives, including:

- Implementing a new international effort to secure all vulnerable nuclear materials worldwide in 4 years;
- Taking concrete actions toward a world without nuclear weapons;
- Breaking up nuclear black markets and halting nuclear smuggling; and
- Strengthening the Nuclear Nonproliferation Treaty (NPT).

The fiscal year 2011 Defense Nuclear Nonproliferation Budget Request can be summarized into these four major categories of effort. This fiscal year 2011 request funds efforts to support the President's nuclear security vision, as an early step in meeting this multi-year initiative.

Additionally, within these four categories, we are making solid contributions in cross-cutting administration and NNSA priorities, including strengthening the Nation's Science and Technology (S&T) base, reinvigorating America's scientific and technical human capital, and upholding our strong commitment to effective project management.

Specifically, our \$2.69 billion fiscal year 2011 request includes:

- More than \$1 billion for the Fissile Materials Disposition (FMD) program to dispose of surplus plutonium and highly enriched uranium by constructing a MOX Fuel Fabrication Facility and a Waste Solidification Building, developing a capability to disassemble excess nuclear weapon pits, and supporting Russian plutonium disposition activities. The fiscal year 2011 request aligns management and funding responsibilities for the interrelated surplus plutonium disposition activities, in support of U.S. nonproliferation and arms control objectives, under a single appropriation. The fiscal year 2011 Russian Fissile Materials Disposition Request seeks \$100 million of a total \$400 million U.S. commitment to support plutonium disposition in Russia. On April 13, 2010, Secretary of State Clinton and Russian Minister of Foreign Affairs Lavrov signed the Protocol to amend the 2000 Plutonium Management and Disposition Agreement (PMDA).
- Over \$590 million for the International Nuclear Materials Protection and Cooperation (INMP&C) program (an increase of \$18 million) for additional Material Protection Control & Accounting (MPC&A) upgrades, expansion of MPC&A cooperation with countries outside of Russia and the former Soviet Union, and additional deployment of radiation detection systems to combat illicit trafficking of nuclear and other radioactive materials under the Second Line of Defense program;
- Nearly \$560 million for the Global Threat Reduction Initiative (GTRI) (an increase of 68 percent) to remove and secure high-priority vulnerable nuclear material around the world in 4 years, accelerate additional conversions of highly enriched uranium (HEU) fueled research reactors to the use of low enriched uranium (LEU) fuel, and to provide a comprehensive approach to permanently deny terrorists access to nuclear and radiological material at civilian sites worldwide;

- Over \$350 million for the Nonproliferation and Verification Research & Development (R&D) program (an 10 percent increase) to provide the key technical support for the President's arms control and nonproliferation agenda; and
- Nearly \$156 million for the Nonproliferation and International Security (NIS) program (a decrease of almost 17 percent, primarily the result of a reduction in activities to support verification of disablement of the Democratic People's Republic of Korea nuclear program) to safeguard nuclear material; control the spread of WMD technologies, equipment, and expertise; and verify nuclear reductions and compliance with international regimes, treaties, and agreements.

SECURING NUCLEAR WEAPONS AND MATERIALS FROM TERRORISTS

The President's April 5, 2009 speech in Prague presented a vision to address the international nuclear threat. His call to secure all vulnerable nuclear materials around the world within 4 years is a cornerstone of this strategy. Within the U.S. Government, the Office of Defense Nuclear Nonproliferation will perform a significant portion of this crucial nuclear security work. Implementing this nuclear security initiative will require expanding and accelerating our security cooperation with Russia and other key countries, pursuing new partnerships to secure nuclear materials, and strengthening nuclear security standards, practices, and international safeguards.

Our fiscal year 2011 budget request funds early efforts to support the administration's nuclear security vision, as a first step in meeting this multi-year initiative. Two Defense Nuclear Nonproliferation programs are providing sizeable contributions to this goal: the Global Threat Reduction Initiative and the International Nuclear Materials Protection and Cooperation programs.

The Global Threat Reduction Initiative (GTRI) mission is to reduce and protect vulnerable nuclear and radiological materials at civilian sites worldwide. To execute this mission, GTRI: 1) Converts research reactors and isotope production facilities from the use of highly enriched uranium (HEU) to low enriched uranium (LEU); 2) Removes and disposes of excess nuclear and radiological materials; and 3) Protects high-priority nuclear and radiological materials from theft and sabotage. These three key subprograms of GTRI—Convert, Remove, and Protect—provide a comprehensive approach to achieving its mission and denying terrorists access to nuclear and radiological materials.

The 68 percent GTRI increase in the President's fiscal year 2011 budget request accelerates these threat reduction activities to secure all vulnerable nuclear materials in 4 years. Among other priorities, the fiscal year 2011 budget request allows GTRI to initiate efforts to remove over 1,650 kilograms of excess HEU and convert an additional 7 research reactors to the use of low enriched uranium fuel. Additionally, as part of its mission to reduce the use of HEU in civilian applications globally, GTRI will address the anticipated supply shortage of the medical isotope Molybdenum-99 (Mo-99) by implementing projects demonstrating the viability of non-HEU based technologies for large-scale Mo-99 production.

The International Nuclear Materials Protection and Cooperation (INMP&C) program works in the former Soviet Union and other countries of concern to secure nuclear weapons and weapons-usable nuclear materials. The Material Protection Control and Accounting (MPC&A) program achieves this mission by providing security upgrades at nuclear sites, consolidating these materials at fewer sites that are more secure, and supporting the development of sustainable MPC&A systems. Beyond security upgrades, the MPC&A program also works with partner countries to develop regulations and procedures concerning the material control, accounting, and physical protection of nuclear materials, including in the areas of training, education, transportation, nuclear security culture, protective forces, material measurements, nuclear material accounting and inspections. In Russia, INMP&C partners include the Russian Ministry of Defense (MOD), the State Corporation for Atomic Energy (Rosatom), and Rostekhnadzor, the Russian nuclear regulatory agency.

As agreed under the Bratislava Nuclear Security Initiative of 2005, major progress was made on security upgrades in Russia, including completion of all MOD warhead storage sites by the end of 2008. As a result of this success, some important upgrade work was added to MPC&A's mission after February 2005, and that work is currently being accelerated to support the President's 4 year nuclear security goal. Although this particular program is one of our more mature threat reduction efforts and has made considerable progress in Russia and elsewhere, work remains to be done to secure other vulnerable nuclear materials around the world within 4 years.

The fiscal year 2011 INMP&C budget request allows this program to continue additional nuclear security upgrades at the 19 (out of 214) remaining Russian buildings within the program's scope where upgrades have not been completed, and to complete five of these 19 buildings in fiscal year 2011. It also provides for comprehensive sustainability efforts to continue transitioning maintenance of completed upgrades to Russia. Under the fiscal year 2011 budget request, the INMP&C program also would expand nuclear security cooperation to new partner countries outside of Russia and states of the former Soviet Union, in order to meet the administration's global nuclear security agenda.

TOWARD A WORLD WITHOUT NUCLEAR WEAPONS

The President has acknowledged that the goal of a world without nuclear weapons will not be reached quickly, but he stated that America will take concrete steps toward this goal. Our Nonproliferation and International Security (NIS) program is engaged actively in these efforts, including the support we provided for negotiating the new START treaty with the Russian Federation and supporting efforts towards ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT). In fiscal year 2011, NIS will build upon these current efforts by continuing to provide policy and technical support for nonproliferation and arms control treaties and agreements that strengthen the nonproliferation regime and promote transparent WMD reductions. In addition, NIS also will continue to develop and deploy transparency measures to ensure verifiable nuclear reductions and compliance with nonproliferation and arms control agreements. This includes work that benefits from support provided by the Nonproliferation and Verification Research and Development (R&D) program, to develop technologies that detect potential clandestine weapons programs or illicit diversions and provide options for the dismantlement of nuclear equipment, weapons, and components, and develop new monitoring tools to ensure that the obligations of foreign governments are being met. Particular emphasis will be placed on the development of scientifically sound verification approaches that meet the President's goal of an effectively verifiable Fissile Material Cut-Off Treaty (FMCT) while protecting critical national security equities.

Investments in NNSA's R&D program provide the core U.S. capability for advances in both U.S. and international capabilities to monitor arms control and nuclear-related treaty obligations, such as those conferred by the NPT, the FMCT, and the CTBT. The R&D program contribution includes research, development, production, and delivery of space- and ground-based sensors to detect nuclear detonations. Additionally, this program leads the nonproliferation community's R&D effort to advance next generation detection capabilities to detect foreign nuclear materials and weapons production facilities and processes. In keeping with the President's commitment for verifiable treaties, in fiscal year 2011 the R&D program will include test and evaluation activities to demonstrate new U.S. treaty monitoring technologies and capabilities.

Our Fissile Material Disposition (FMD) program is also a crucial component of the Defense Nuclear Nonproliferation contribution to the administration's nonproliferation and arms control agenda, through its mission to eliminate surplus U.S. highly enriched uranium and U.S. and Russian surplus weapon-grade plutonium. Of the funds requested for FMD, 87 percent is for efforts to irreversibly dispose of surplus U.S. weapon-grade plutonium. The largest part of this involves the construction of the Mixed-Oxide Fuel Fabrication Facility (MFFF) in Aiken, SC, which has been underway for over 2 years and is on schedule and within budget. The MFFF is scheduled to start operations to produce MOX fuel in 2016. Overall, the MOX project is 42 percent complete with two significant buildings (the 57,000 square foot administration building and the 38,000 square foot secured warehouse) completed in 2009, for a total of 10 out of 17 auxiliary buildings completed to date. The Waste Solidification Building (WSB) is scheduled to begin operations in 2013 to support MFFF cold start-up testing. Overall, the WSB project is 34 percent complete.

In addition to constructing the MOX Facility and the Waste Solidification Building, the Department of Energy is exploring combining NNSA's Pit Disassembly and Conversion Project and the Office of Environmental Management's Plutonium Preparation Project into a single project, to be managed by NNSA and located in the existing K-Area Facility at the Savannah River Site. As a result, the President's fiscal year 2011 Budget Request supports realigning funding and management of interrelated surplus U.S. plutonium disposition activities under a single appropriation within the Defense Nuclear Nonproliferation appropriation. Complying with the Department's project management order, DOE Order 413, FMD will develop a conceptual design report, along with the requisite project support documentation to move toward a Critical Decision 1 (approval of alternative selection and cost range)

determination. This preparatory work prior to alternative selection will be completed approximately 12–18 months from the start of such work.

In addition to progress on U.S. fissile materials disposition, FMD has also made much progress on disposition of Russian surplus weapon-grade plutonium. In 2009, the United States and Russia completed negotiations on a Protocol to amend the 2000 Plutonium Management and Disposition Agreement (PMDA), and on April 13, 2010 the Protocol was signed by Secretary of State Clinton and Russian Minister of Foreign Affairs Lavrov. Under the PMDA, each country commits to dispose of no less than 34 metric tons each of surplus weapon-grade plutonium—enough material for approximately 17,000 nuclear weapons. The amended PMDA reflects both Russia’s revised plan for disposing of its 34 metric tons of surplus weapon-grade plutonium using fast reactors under certain nonproliferation conditions and Russia’s commitment to implement its program independent of any assistance beyond the \$400 million U.S. financial contribution. The Protocol calls for both countries to begin disposing of their surplus plutonium in the 2018 timeframe. The fiscal year 2011 Russian Fissile Materials Disposition Request seeks \$100 million of the total \$400 million commitment to support plutonium disposition in Russia, with the balance of the more than \$2 billion in estimated remaining costs to be borne by Russia.

BREAKING UP BLACK MARKETS AND HALTING NUCLEAR SMUGGLING

As a complement to our facility-based physical security efforts that serve as a first line of defense, NNSA executes a number of programs that provide an additional layer of defense by detecting and preventing illicit transfers of nuclear-related materials, equipment, and technology. These programs help implement the President’s Prague speech call to build on efforts to break up nuclear black markets and detect and intercept dangerous materials in transit.

Within the Office of International Nuclear Materials Protection and Cooperation, the Second Line of Defense (SLD) Core program cooperates with foreign partners to install radiation detection equipment at borders, airports, and strategic ports in Russia, other former Soviet Union states, Eastern Europe, and other key countries, and to provide related training and support. The Core program is also teaming with foreign law enforcement agencies to provide equipment, develop training, conduct exercises, and exchange best practices in mobile detection. The SLD Megaports Initiative likewise cooperates internationally to deploy radiation detection equipment and provide related training to key, high volume and/or strategically located ports. The fiscal year 2011 budget request provides for SLD installations at an additional 55 sites in 19 foreign countries, and for the completion of Megaports installations and activities at 4 additional foreign seaports.

The Office of Nonproliferation and International Security (NIS) supports efforts to halt illicit trafficking by strengthening global capacity to prevent the theft, diversion, and spread of nuclear materials, technologies, and expertise. Specifically, NIS is training international partners in export control, licensing, enforcement, interdiction, and physical protection of nuclear materials. These programs include the International Nonproliferation Export Control Program (INECP), which works with foreign country partners as well as domestic USG export enforcement agencies to strengthen national export control systems, practices, and awareness. Additionally, the Cooperative Border Security Program (CBSP), focusing on building overarching border security system capacity, works with foreign country partners to create training programs and shape analytical methods and tools so that states can deploy sustainable capabilities to protect their borders. NIS also provides specialized support to domestic licensing, enforcement, and interdiction agencies through such efforts as the Interdiction Technical Analysis Group (ITAG). ITAG supports Department of State-led interagency interdiction working groups that review potential proliferation activity and transactions in the nuclear, missile, and chemical and biological fields, by providing technical analysis of proliferation-relevant commodities and technologies through reachback to the national laboratories. The fiscal year 2011 budget request supports the continuation of these efforts. Finally, the fiscal year 2011 budget request increase for the Nonproliferation and Verification R&D program will advance development, testing, and evaluation of next generation capabilities to detect the illicit diversion of special nuclear materials, both internal and external to nuclear facilities.

STRENGTHENING THE NUCLEAR NONPROLIFERATION TREATY

President Obama has also called upon America and its partners to strengthen the NPT as a basis for cooperation. The Office of Nonproliferation and International Security (NIS) will continue efforts to strengthen nonproliferation regimes and multi-lateral organizations, by providing international policy expertise and technical re-

sponses to address issues concerning the control of proliferation-sensitive items, in order to help shape

nonproliferation policy initiatives both domestically and multilaterally. NIS will also help develop a new international civil nuclear framework to further the President's energy security and environmental goals without jeopardizing national security. NIS will work within existing regimes and arrangements, including via peaceful nuclear cooperation agreements and the national NPT review process, among others, to help develop and advance this new framework.

In fiscal year 2011, NIS also will work to strengthen and support the International Atomic Energy Agency (IAEA)—and the international safeguards system it administers—to confront the challenges posed by nuclear proliferation and global nuclear energy expansion. NIS will continue to implement the Next Generation Safeguards Initiative (NGSI), which is working to revitalize the U.S. technical and human capital base supporting IAEA safeguards, and to develop the tools, approaches, and authorities needed by the IAEA to fulfill its mandate far into the future. This includes developing and implementing new safeguards concepts and approaches, and working with partners to develop nuclear infrastructure in countries pursuing nuclear energy programs that emphasizes safeguards, security, and nonproliferation obligations. NIS also will implement IAEA safeguards, including the Additional Protocol, at DOE facilities and continue to engage industry and the IAEA to incorporate safeguards requirements early-on in the facility design and construction phases. Additionally, NIS will continue bilateral safeguards partnerships to develop new safeguards approaches, help states implement their NPT safeguards obligations, and facilitate the nuclear safeguards and security infrastructures required for new countries to access the peaceful benefits of clean nuclear energy.

CROSS-CUTTING PRIORITIES

Integrated across these four broad categories of effort, the Defense Nuclear Nonproliferation program is also implementing over-arching administration and NNSA priorities, including:

- Strengthening the Nation's Science and Technology (S&T) base;
- Reinvigorating America's scientific and technical human capital; and
- Upholding our strong commitment to effective project management.

Increases in our fiscal year 2011 budget request directly support Presidential and NNSA priorities to strengthen the Nation's Science and Technology base. The increase in the Nonproliferation and Verification R&D budget by \$34 million, or 10 percent, for example, will expand the program's basic and applied research for nonproliferation and national security applications and fund new technical capabilities to meet the President's nonproliferation and arms control treaty monitoring objectives. The R&D program remains the Nation's largest long-term basic R&D program in this area and supports not only NNSA customers but also the Departments of Defense, State, Homeland Security, and the Intelligence Community.

As Administrator D'Agostino noted in his testimony last week, NNSA is working to develop and retain the next generation of scientists, engineers, and technical experts required to meet our critical mission. For example, through our Next Generation Safeguards Initiative, we will significantly develop human capital within the DOE National Laboratories by supporting over 100 Next Generation Safeguards Initiative summer interns at the Laboratories, funding postdoctoral fellowships in international safeguards, and sponsoring six safeguards courses. In fiscal year 2011 and beyond, our R&D program will continue developing the next generation of nuclear engineers and scientific researchers through a \$15 million per year, university-based program—the 10-year Integrated University Program. This program is coordinated with component efforts by the DOE Office of Nuclear Energy and the Nuclear Regulatory Commission.

To further develop scientific and technical human capital, the Office of Fissile Materials Disposition has co-sponsored (with DOE's Office of Environmental Management) several Regional Nuclear Suppliers Outreach events for American suppliers interested in providing services and products in the nuclear sector. At these events, U.S. companies are given insight into current and future markets for products and services. Additionally, they learn the requirements of the Nuclear Quality Assurance program applicable not only to DOE but to the commercial nuclear industry. This forum helps ensure that NNSA has an adequate number of qualified commercial suppliers, and helps more American companies become qualified to supply similar products and services to the commercial nuclear power industry. Currently, more than 1,800 people are employed by the project at Savannah River Site with more than 4,000 working on MOX-related activities in the United States.

As Administrator D'Agostino also noted last week, with the increased resources you provide us comes our increased responsibility to be effective stewards of taxpayers' money. The Defense Nuclear Nonproliferation program takes this responsibility seriously, and we implement the highest standards of project management practices to make our programs more efficient and more cost-effective. Our MOX Fuel Fabrication Facility effort is a good example. Despite their size and complexity, both the Mixed-Oxide Fuel Fabrication Facility (MFFF) and Waste Solidification Building (WSB) projects are progressing on schedule and within budget in accordance with their approved cost and schedule baselines. Additionally, the MFFF project recently celebrated a milestone of 3 million workhours without a lost day of work due to injury.

As another effective project management element, we are increasing our cost-sharing efforts, not just as a matter of fiscal responsibility to the American public but as a force multiplier to address high-priority international nuclear security and nonproliferation objectives. Our cost-sharing partnerships include both monetary transactions and in-kind contributions, and additional Defense Nuclear Nonproliferation programs are incorporating cost-sharing as part of their revised program model and project management practices. With respect to monetary donations, to date, Defense Nuclear Nonproliferation has received approximately \$60 million from seven overseas partners to execute our internationally-recognized nonproliferation work. However, our programs also utilize in-kind cost-sharing agreements. For example, under the Second Line of Defense Core Program, DOE/NNSA and Russia's Federal Customs Service have agreed to equip all of Russia's approximately 350 border crossings by 2011, and the costs for this effort will be split approximately evenly between DOE/NNSA and the Russian Federal Customs Service. The Second Line of Defense/Megaports Initiative has 12 cost-sharing arrangements in place for portal monitoring equipment installation and training. Under our Fissile Materials Disposition program, although the United States has committed to contribute \$400 million in support of plutonium disposition efforts in Russia, the Russian Federation bears responsibility for the approximately \$2 billion remaining required to implement its plutonium disposition commitment. Additionally, over the past 10 years, the Russian Federation has provided over \$30 million toward the cost of conducting research and development on the Gas Turbine-Modular Helium Reactor (GT-MHR) for plutonium disposition in Russia, and intends to continue to support that effort on a 50/50 cost sharing basis. As a final example, the Russian Government has committed to provide \$3 million to help remove the HEU spent fuel from the Vinca Institute in Serbia as part of GTRI's fuel removal work.

Since 1994, DOE/NNSA has spent approximately \$2 billion on Russian nuclear security work. Sustainability is the key to ensuring that these national security investments continue to be utilized to their full potential. We continue to stress to our Russian partners the importance of sustaining these systems, including the eventual need for Russia to take the full financial responsibility for sustaining completed nuclear security enhancements. To this end, the INMPC&A program recently reached agreement with Russia's Rosatom on a Joint Sustainability and Transition Plan. This plan identifies specific timelines for each site to take over financial responsibility for sustainability related activities in Organizational Planning, Human Resource Development, Regulatory Development, Operational Cost Analysis, Maintenance, Performance Testing, and Configuration Management. We believe that such sustainability efforts, combined with the other project management practices referenced, will return the maximum benefit to the American public for their investment in global security and America's national security.

CONCLUSION

In conclusion, I am proud of NNSA's nonproliferation accomplishments to date. The fiscal year 2011 budget request for Defense Nuclear Nonproliferation builds upon a strong foundation of past achievements that will help us reap genuine security dividends from our nonproliferation efforts in the future. We have a narrow window of opportunity here and now, making use of fleeting global momentum on nonproliferation already underway, to renew our commitment to nonproliferation and nuclear security. Although the challenges to nuclear security are many, the potential benefit from expanded and accelerated international cooperation to address these challenges is enormous. Together with our interagency and international partners, through concerted action, and the continued support of Congress and the American people, we can reach this shared goal. I thank the chairman and the committee for your time.

Defense Nuclear Nonproliferation**Funding Profile by Subprogram**

	(dollars in thousands)		
	FY 2009 Actual Appropriation	FY 2010 Current Appropriation	FY 2011 Request
Defense Nuclear Nonproliferation			
Nonproliferation and Verification Research and Development	356,281	317,300	351,568
Nonproliferation and International Security	150,000	187,202	155,930
International Nuclear Materials Protection and Cooperation	460,592 ^a	572,050	590,118
Elimination of Weapons-Grade Plutonium Production	141,299	24,507	0
Fissile Materials Disposition	41,774	701,900	1,030,713
Global Threat Reduction Initiative	404,640 ^b	333,500	558,838
Congressional Directed Projects	1,903	250	0
Subtotal, Defense Nuclear Nonproliferation	1,556,489	2,136,709	2,687,167
Use of Prior Year Balances	-11,418	0	0
Total, Defense Nuclear Nonproliferation	1,545,071	2,136,709	2,687,167

NOTES: FY 2009 funds appropriated in Other Defense Activities for the Mixed Oxide Fuel Fabrication Facility, and in Weapons Activities for the Waste Solidification Building and Pit Disassembly and Conversion Facility (FY 2009 and FY 2010) are not reflected in the above table.

Senator BILL NELSON. Thank you, gentlemen.

We'll turn to Senator LeMieux first.

Senator LEMIEUX. Thank you for your testimony. I want to say, as a prefatory remark, that I'm supportive of your efforts, and the administration's efforts, to reduce the amount of weapon-grade nuclear material in the world, to lock those materials down so that they don't get in the hands of rogue states. I also support the President's efforts—I know that he has come forward on trying—to get rid of tactical nuclear weapons because of the dangers that they could get into the hands of rogue states.

I want to focus specifically on a rogue state that we know, or at least we believe, is trying to arm itself with a nuclear weapon and that's Iran. We've heard testimony, in front of the full committee, that Iran may be able to produce a nuclear weapon in a very short time period, certainly less than 5 years, maybe from 1 to 3 years. We heard testimony, yesterday, that Iran may be able to develop an intercontinental ballistic missile within 5 years.

I want to focus if we can, to start off with on Iran, on Tehran's efforts. We have, of course, the knowledge that we gained months ago on the new facility that they have in Qom. It seems that despite the administration's overtures to have a diplomatic solution to this, that Tehran has snubbed its nose at us and is proceeding on the path of developing a nuclear weapon.

How concerned are you about Iran's acquisition of enough weapon-grade fissile material to make a nuclear weapon?

Mr. Secretary?

Dr. NACHT. It is a serious concern of DOD and the administration. It's a top priority of this administration to prevent Iran from developing or acquiring a nuclear weapon. Very recently, Under Secretary Flournoy and the Vice Chairman of the Joint Chiefs, General Cartwright, testified just last week, in fact, in front of the

full Senate Armed Services Committee, and cited the two central objectives of our policy, working to prevent Iran from acquiring these weapons and countering Iran's destabilizing activities and support for extremists in the Middle East.

Our primary focus continues to be enhancing regional security cooperation with Middle Eastern partners. We're working actively to counter destabilizing Iranian activities by strengthening the capacities of vulnerable states in the region. Through prudent military planning, we continue to refine options to protect U.S. and partner interests from Iranian aggression, to deter Iran's destabilizing behavior, and to prepare for contingencies, all while reducing the risks of miscalculation.

There is currently legislation in Congress that has passed the House and Senate overwhelmingly and which would levy new unilateral sanctions on Iran's importation of refined petroleum and also take away much of the President's flexibility to grant waivers. The Department of State and the White House are concerned because the extraterritoriality provision in the bill could undermine our attempts to levy multilateral sanctions. This is a highly sensitive issue, but we hope to move forward with it.

It's a combined effort at trying to limit Iranian capabilities and build support in the region to dissuade the Iranians from proceeding down this path. We have intensive discussions going on in New York now with the United Nations (U.N.) to craft language of a U.N. Security Council resolution which will provide meaningful sanctions against the Iranian Government.

Senator LEMIEUX. I think we all would like to see meaningful sanctions. Up until this time, that has not been achieved. We know that the President, from what we read, is working on it with China and Russia, and we hope that that comes about. But, we also know that the last time that we worked to bring the world community together to stop a rogue country from gaining a nuclear weapon, it didn't work. That was with North Korea. If we continue on this path, it may happen again. Hope springs eternal that sanctions will work and that we will change Ahmadinejad's mind, which seems unlikely to me. A moment ago, you talked about military planning and contingencies. Can you elaborate on that?

Dr. NACHT. I'll just state what Secretary Gates stated on Monday of this week, that he had written a memo that presented a number of questions and proposals intended to contribute to an orderly and timely decisionmaking process with respect to the Iranian nuclear weapons program. In support of the administration's pivot to a pressure track on Iran earlier this year, this memo identified next steps in our defense planning process, where further interagency discussion and policy decisions would be needed in the months and weeks ahead. That's all I'm able to say at this time about planning for contingencies with respect to Iran.

Senator LEMIEUX. Mr. Baker, do you have anything you'd like to add on this?

Mr. BAKER. We're just as concerned as you are, sir. What we're doing is looking at all the procurements that may be going into Iran, and trying to stop those procurements. They may be dual-use equipment used for nuclear capabilities, we're working that very hard with industry. We know, in an unclassified setting, that there

are many procurement lines. We're educating industry on the export control rules, on the licensing rules, and we're trying to cut off these networks going into Iran to help Iran build a nuclear weapon. We were and are concerned. We're doing everything in DOE, from an export-control standpoint and with industry, to try to stop any procurement that may be dual-use-type equipment.

Senator LEMIEUX. I can't stress enough how much this worries me. I hope, and I would assume, that this is a topic of daily conversation in your lives. I can't think of any other priority that would come ahead of this topic. This is a country that its leader is openly hostile to the United States of America, openly hostile to our allies in Israel, and says he wants to wipe Israel off the face of the map.

Mr. Chairman, I'd like to have entered into the record this Washington Times article from today, which was a front-page story, if I may?

Senator BILL NELSON. Without objection.

Senator LEMIEUX. It is about Iran boosting its Qods shock troops in Venezuela.

[The information referred to follows:]

Iran boosts Qods shock troops in Venezuela

Bill Getz
The Washington Times
April 21, 2010

Iran is increasing its paramilitary Qods force operatives in Venezuela while covertly continuing supplies of weapons and explosives to Taliban and other insurgents in Afghanistan and Iraq, according to the Pentagon's first report to Congress on Tehran's military.

The report on Iranian military power provides new details on the group known formally as the Islamic Revolutionary Guards Corps-Qods Force (IRGC-QF), the Islamist shock troops deployed around the world to advance Iranian interests. The unit is aligned with terrorists in Iraq, Afghanistan, Israel, North Africa and Latin America, and the report warns that U.S. forces are likely to battle the Iranian paramilitaries in the future.

The Qods force "maintains operational capabilities around the world," the report says, adding that "it is well established in the Middle East and North Africa and recent years have witnessed an increased presence in Latin America, particularly Venezuela."

"If U.S. involvement in conflict in these regions deepens, contact with the IRGC-QF, directly or through extremist groups it supports, will be more frequent and consequential," the report says.

The report provides the first warning in an official U.S. government report about Iranian paramilitary activities in the Western Hemisphere. It also highlights links between Iran and the anti-U.S. government of Venezuelan President Hugo Chavez, who has been accused of backing Marxist terrorists in Colombia.

The report gives no details on the activities of the Iranians in Venezuela and Latin America. Iranian-backed terrorists have conducted few attacks in the region. However, U.S. intelligence officials say Qods operatives are developing networks of terrorists in the region who could be called to attack the United States in the event of a conflict over Iran's nuclear program.

Qods force support for extremists includes providing arms, funding and paramilitary training and is not constrained by Islamist ideology. "Many of the groups it supports do not share, and sometimes openly oppose, Iranian revolutionary principles, but Iran supports them because they share common interests or enemies," the report says.

Qods force commandos are posted in Iranian embassies, charities and religious and cultural institutions that support Shi'ite Muslims. While providing some humanitarian support, Qods forces also engage in "paramilitary operations to support extremists and destabilize unfriendly regimes," the report says.

The report links Qods force operatives and the larger IRGC to some of the deadliest terrorist attacks of the past 30 years: the bombing of the U.S. Embassy in Beirut in 1983, the bombing of a Jewish center in Argentina in 1994, the 1996 Khobar Towers bombing in Saudi Arabia and many insurgent attacks in Iraq since 2003.

Qods forces in Afghanistan are working through nongovernmental organizations and political opposition groups, the report says. Tehran also is backing insurgent leaders Gulbuddin Hekmatyar and Ismail Khan.

"Arms caches have been recently uncovered [in Afghanistan] with large amounts of Iranian-manufactured weapons, to include 107 millimeter rockets, which we assess IRGC-QF delivered to Afghan militants," the report says, noting that recent manufacture dates on the weapons suggest the support is "ongoing."

"Tehran's support to the Taliban is inconsistent with their historic enmity, but fits with Iran's strategy of backing many groups to ensure that it will have a positive relationship with the eventual leaders," the report says.

In Iraq, Qods forces are supporting terrorists through Iranian embassies. The report says the outgoing Iranian ambassador to Iraq, Hassan Kazemi-Qomi, is a member, as well as the new ambassador in Baghdad, Hassan Danafar.

Iranian support for Shi'ite militants in Iraq has included the supply of armor-piercing explosively formed projectiles, as well as other homemade bombs, anti-aircraft weapons, rockets, rocket-propelled grenades and explosives.

The report says the elite Iranian fighters are controlled by Iran's government, despite efforts by the group to mask Tehran's control.

"Although its operations sometimes appear at odds with the public voice of the Iranian regime, it is not a rogue outfit," the report says. "It receives direction from the highest levels of the government and its leaders report directly, albeit informally, to Supreme Leader Ali Khamenei," the report says.

Kenneth Katzman, a Middle East specialist with the Congressional Research Service, said the report's identification of Qods force operatives in Venezuela is significant.

"The new information on an increased Qods Force presence in Venezuela ... amplifies the warnings of some experts about an increasingly close, anti-U.S. relationship between Iran and the government of Hugo Chavez," Mr. Katzman said.

Defense Secretary Robert M. Gates recently played down the growing Iranian influence in the Chavez government. Asked about Iran's ties to Venezuela, Bolivia and Ecuador, Mr. Gates said, "I think it makes for interesting public relations on the part of the Iranians, the Venezuelans."

"I certainly don't see Venezuela at this point as a military challenge or threat," Mr. Gates said during a visit to the region.

The report also states that Iran could conduct a test of a long-range missile by 2015 and now has missiles that can strike all of Israel.

"Iran continues to develop a ballistic missile that can (reach) regional adversaries, Israel and central Europe, including Iranian claims of an extended range variant of the [620-mile-range] Shahab-3 and a [1,242-mile] medium-range ballistic missile, the Ashura," the report says.

The report notes that Iran has the largest missile force in the Middle East, with about 1,000 missiles with ranges of between 90 miles and 1,200 miles. The missile program was developed and expanded with extensive help from North Korea and China, the report says.

The missiles have grown in sophistication with increased accuracy, warhead lethality and advanced technology that includes solid propellant for quick launches and anti-missile-defense capabilities for warheads.

The report says Iran is developing its military forces with some asymmetric weapons, including armed unmanned aircraft and coastal anti-ship missiles that can hit targets throughout the Strait of Hormuz, where up to 40 percent of the world's crude oil passes.

Iran's military is growing but "would be relatively ineffective against a direct assault by well-trained, sophisticated military such as that of the United States or its allies," the report says.

However, Iranian special forces, like the Qods force, "would present a formidable force on Iranian territory," the report says.

The report provides no new details on Iran's covert nuclear program that was described as geared toward developing nuclear weapons. Iran's purchase of advanced Russian S-300 air defense missiles, which so far have not been delivered, are for use at nuclear sites, the report says.

The U.S. is leading a U.N. Security Council effort to sanction Iran for its presumed attempts to develop an atomic weapon in violation of the Nuclear Non-Proliferation Treaty.

Senator LEMIEUX. At our last subcommittee hearing of this committee, we discussed, in detail—and I would hope that it's something that you all have focused on, and, if you haven't focused on, you will—the gathering storm and alliances between Caracas and Tehran. We know that President Ahmadinejad has visited President Hugo Chavez several times, that there is a direct flight from

Caracas to Tehran, with some sort of extra-airport-type arrangement, where they don't go through customs, and people can get off the plane and get on the plane without knowing who they are. We know that Hezbollah and Hamas are set up in Latin America. We know that our friends in Colombia are dealing with Venezuela, allowing narcotraffickers to fly over their airspace.

Senator Nelson and I have the great pleasure to have so many military installations in Florida. I had the opportunity to visit one in Key West this weekend, which is our Joint Interagency Task Force that does phenomenal work interdicting these narco-terrorists. If you look at the flight paths of these trafficking planes, they're all flying over Venezuela. We know that Venezuela is cooperating with the Revolutionary Armed Forces of Colombia. A Spanish judge has recently come out and said that, in a formal proceeding, Venezuela was working with the Basque Homeland and Freedom (ETA) to assassinate President Uribe and his predecessor. Now, we find out that Iran is going to put shock troops in Venezuela.

I want you all to focus on this topic because I'm worried about an Iranian attack from the south, not just from the east. I hope that this is something that you've at least focused on or talked about. I'd be happy to hear any response you'd like to make to that.

Mr. Secretary?

Dr. NACHT. I would just say that the issues you've raised are taken most seriously at the highest levels of DOD and our Government. DOD does not comment publicly on any military planning in which we are engaged. Any specific questions you might have on Venezuela we can take for the record and we'll get back to you with specific responses.

Senator LEMIEUX. Mr. Baker?

Mr. BAKER. Likewise, sir. Again, we're trying to work all the technology, and, like I say, all the procurement networks, which we know pretty well in DOE, and educating industry to stop anything going into Iran. We're working this hard, and in an unclassified setting, we know many of the networks. What we can do, from DOE, is use our capabilities at the laboratories, our technology capabilities, and our connections with industry, which is vast, to educate them on lines of procurement that goes into Iran, to try to stop any dual-use equipment that could be used to help them build the nuclear program.

Senator LEMIEUX. Thank you both, gentlemen.

Mr. Chairman, I have other questions, but I want to defer to you. I know that you'll have questions for our panel here and perhaps I'll have an opportunity to ask some more questions later.

Senator BILL NELSON. Thank you, Senator LeMieux.

Mr. Baker, in the programs that the NNSA has to prevent Iran from getting materials and technology, you mentioned the export controls. Talk to us about the support of the IAEA, and talk to us about preventing nuclear smuggling.

Mr. BAKER. We're doing very much on nuclear smuggling, sir. We have many programs that help this.

Number one, we have what we call a Second Line of Defense program where radiation detection units are put on borders of countries in Russia and also the former Soviet Union. What we do is

stop things at the border that may be smuggled out of the country. Right now, we have identified 650 sites that we're trying to put radiation detection in, and we have 400 of them completed.

What we're doing in Russia—and Russia is paying for half of this, and we're paying for the other half—or every spot around Russia, about 200 spots, is that we have put a fence around Russia with radiation detection to ensure things cannot be smuggled out easily.

We also are working seaports. We have 100 seaports from which things are coming to the United States that we are trying to put radiation detection in. We have finished 27 of them. We will have another 13 done this year. We'll have the whole system done by 2015, covering all the megaport issues.

We also work in export control. We are educating people on licensing of dual-use equipment. We're educating industry. We're educating the enforcers of export control laws on the danger of this stuff getting out.

We have, sir, as you probably know, some cases in the past—I can't say much here—that things have been already caught by our systems on the borders of Russia.

It is a system that is working pretty well. Like I say, we have to have triple phenomenology, if I can use that word, that we try to protect it at a source, but if that fails—and an insider is a big problem, we know, that could try to get this stuff out; they know the vulnerability of the system—we can stop them at the border or stop them at the seaports, and also educate everyone on export control rules. Hopefully—you don't ever know what you don't know—we're getting this done as quickly as we can. It's a very critical area.

Senator BILL NELSON. Would you please characterize the cooperation by Russia, and characterize the cooperation of the host countries in those seaports?

Mr. BAKER. With Russia, generally, I can't tell you; with the customs people in Russia, there is a better relationship. I have the relationship right with the head of customs. He is really, really good to work with. There are parts of Russia where it's tougher. But putting this border security system up around Russia, customs has been very cooperative. They're just as scared as we are. It's worked really well in the nuclear smuggling area.

On seaports, it's a little tougher but we know where they're at. When we go in and explain what we're trying to do to help to keep things coming from the United States, it's a little tougher, but we're succeeding. Just this last summit, we had a megaport agreement signed with Italy, and we had a megaport signed with Argentina. It is working. We have, if I can say this, sir, right now more agreements than we have money right now on megaports. So, it is working. It's a little different, a little more difficult than it is with Russia right now with customs, but it is working. I want you to know, we're doing everything we can to make it work even better.

Senator BILL NELSON. Please describe the historical relationship with Russia, going back to Nunn-Lugar.

Mr. BAKER. I've been working with Russia for a long time. In the Nunn-Lugar days, it was tougher. Russia didn't trust us. They knew that they needed our help. I've gone into Russia, sir, in the

middle-1990s, and I've seen things that I would like to tell you in person, that I don't want public. It was a scary time. When the Berlin Wall came down, many things became vulnerable, and Russia needed our help. They needed our help with giving clothing to the guards that guard the nuclear weapons. We had to build an accounting system for them. We had to build a regulation system for them. We worked really hard.

But now, today, it seems like Russia has gone on personalities many times. I've seen things that I've never thought I would see, and I used to be war-planning advisor to President Reagan in the White House, so I was the guy that held the football for the President, and I saw things I used to target. They would show me these things. They know my background. But, I've been working with them; they know we're there to help them, and they know we're there not as spies, even though I've been called that before. The relationship has really improved over the years. It got a little tougher after the invasion of Georgia. But, Russians said, and we said, regardless of what happens with things, our work has to continue. This is the security of two great countries. It's our national security. Many times people ask me, "Why are we doing this in Russia?" It's our national security that we're concerned about; one nuclear device getting over here.

It has been tough at times, but we've succeeded. Again, you don't know what you don't know, but they have shown us things that I'd never thought I would see. We've been in warhead sites. They took me to a place called West 19 not very long ago where all the warheads are. When Dr. Condoleezza Rice was here, she said that was the worst site she ever saw. We fixed it. Now it's just as good as Pantex or one of our other facilities. We're getting ready to take the Office of Management and Budget to that site to show them the type of work that we did on West 19. So, we've seen things. They opened up to us.

Now, when is the window going to close? I hope never. There's a great relationship between President Obama and President Medvedev. But, we know in 2½ years they're going to have an election in Russia, and there are two guys running, and one of them is going to win. I know the one who's going to win if they both run, but it is really a great relationship. President Medvedev and President Obama agreed in Prague, and they also agreed in this summit, that they will work closely together because nuclear terrorism is the biggest thing there is, and they both want to stop this.

Right now, we have a bilateral commission headed by Secretary Clinton and Foreign Minister Lavrov. My boss, Dan Poneman, Deputy Secretary of Energy, and I work all the nuclear security in Russia and the nuclear energy. What we do every 6 months is we lay out what needs to be done in Russia, from a security standpoint, and then we report on what we've done. Every 6 months. I just met with him 3 weeks ago, and we have another report. We'll do another report in June.

This checklist goes to Secretary Clinton and then goes to the President to show everything we're doing in Russia and how we're accomplishing—it's like a metric.

It's a long answer to your question, sir, but I'm optimistic the relationship will stay good for the next 3 years, and hopefully we can get all the work done in Russia very soon.

Senator BILL NELSON. How about the other parts of the old Soviet Union where nuclear weapons and materials were kept?

Mr. BAKER. The other parts of the Soviet Union have been pretty good. Right now we're blending down all the HEU in Kazakhstan. We're getting ready to do that with GTRI. We have an agreement that came out of the summit from Ukraine, where we can have all their HEU and bring it back. We're taking HEU out of Poland. We're also taking HEU out of Belarus.

They've been cooperating pretty well. I can't give you an example. It's hard sometimes. It's really hard, and we have to work with them. Sometimes you have to give them a little more money than you wish you could to get the stuff out. But, it's our national security. If you look at DOE's budget on this, compared to the defense budget, well, you can't even see it; it's a little squeak. It's very low for, in my opinion, the biggest threat this country faces, as Dr. Nacht said.

Senator BILL NELSON. All right. Let's address our support to the IAEA.

Mr. BAKER. Yes, sir.

We are building more and more support for the IAEA. The IAEA needs help. They need technical people. We're getting people from our laboratories to volunteer to go and work. Another thing they need, badly, is new safeguards. Right now, we have a new safeguards initiative that is educating more people, expertise, better technology, measurements, and also better concepts on safeguards.

For the last 30 years, we have lived with safeguards that should have been updated. But, now, during the nuclear renaissance, we have to build better safeguards for the IAEA, so we're building that. That's going very well. This committee has supported us very well in that. We have a 5-year window that we're building technology. We have 200 interns right now, post-docs, learning safeguards, so we won't have a brain drain on this for the IAEA. This is going very well with the IAEA.

What we're working with IAEA is the Convention on Physical Protection. They call it IAEA 225. That regulation is what the IAEA makes all countries that have nuclear material hold to; this is what they check. We're updating that to make it tougher. After September 11, we had to change things. We're almost there, in a new IAEA 225, Revision 5, we call it. The President said this. He got commitments out of all 47 members that were here at the summit that they would push Revision 5. It's in 120-day review period right now.

We're helping the IAEA have better safeguards. We're trying to give them more technology. The President said in Prague that he wanted to support the IAEA. I think we're doing that, to the best of our ability, to give them what they need to do their job.

Senator BILL NELSON. Thank you, Mr. Baker.

Mr. BAKER. Yes, sir.

Senator BILL NELSON. Senator LeMieux.

Senator LEMIEUX. In terms of trying to secure the nuclear stockpile of the world, HEU, for example, I would assume that, when

the Soviet Union fell and the Cold War ended, when we started our relations with Russia, that some kind of accounting was undertaken to determine where everything was. Do we have confidence that we know today where all the weapon-grade material is in the world?

Mr. BAKER. I think we do now. I think I can say in an open hearing that when we started this work in 1994, they didn't even know. We started it, and we've built procedures—I'm trying to keep this unclassified—that we know where the material was located. Now, again, sir, you don't know what you don't know, as I say. But, we think we have a good handle on it.

Russia, I think, would admit back in those days they did not have a handle. We saw this when we went in there. I think today we do in Russia.

We also think we know where all the HEU is in the world. We have a document, done by our Global Threat Reduction Agency, that shows where we think all the HEU is in the world also.

We feel we have a pretty good handle on that. One thing we have not been able to do in Russia is to get into their serial production plants. These serial production plants—they won't let us in—are where they build weapons. We've secured about everything, or we soon will; we have 19 buildings to go and then we're finished. Then, we'll get into the sustainability area, which we're working right now in Russia. We've completed 210 of the buildings. There's 229. In this fiscal year 2011 budget, we're asking for money to finish these 19 buildings in Russia. All the Ministry of Defense work is done. The warhead sites are done. We took half of those and secured those, and DOD took the other half and secured them. Like West 19 I was telling you about, it was a facility that we did. They're secure.

We think we have a fairly good handle on it. Matter of fact, I'll leave it at that. It is a fairly good handle. We don't know, maybe, if we got it all. But, we do have a document that shows where it's at in Russia. We do have a document that shows where the HEU is throughout the world. In our GTRI, our goal is to protect 200 reactors. That's our goal. Right now, we have converted 63 reactors. We converted or shut down 71 of them, together. Some of them just shut down; we didn't have to convert them.

Senator LEMIEUX. Can I interrupt you for a second?

Mr. BAKER. Yes, sir.

Senator LEMIEUX. The 200 reactors, is that focused on ones that can create material that can be used for weapon production, as opposed to just ones that are for domestic electric production?

Mr. BAKER. All of this is that they can make a weapon. This is HEU.

Senator LEMIEUX. Right. So, you've not only mapped out where all the material that's already existing may be, but then, are also trying to reduce that material. You're also trying to secure the areas where it could be created so that it doesn't get out into the world.

Mr. BAKER. Yes, sir. We are.

Senator LEMIEUX. What efforts, if any, has the United States undertaken with China to work in a similar collaborative fashion as we are doing with Russia?

Mr. BAKER. I can tell you what we do in China. China is a country that many people think ought to pay their own way. We have worked with the civilian sector of China; we have not worked with the military section. What we have done with the civilian sector of China, one, China has converted two of their reactors from HEU on their own to LEU; they paid the money, \$30 million. We have four neutron reactors in China that we want them to convert. They have to have a special type of fuel to convert these, so we're helping them build that special type of fuel to convert these reactors. From these neutron reactors, there are other places, like Pakistan and other ones, and we're going to try to convert them.

We have what we call a "Peaceful Uses of Nuclear Technology," called PUNT, in China, and that's to work with them on safeguards, to educate them on export control, and to educate them on nuclear technology and on dual-use equipment. We have worked that with China, and, basically, at no cost to us. We ran a prototype detector on a megaport in China. One megaport. They paid for the equipment. We provided the expertise. We hope to do more in China besides one megaport, but they wanted to see us demonstrate how to use one.

What we have right now is a goal that China will pay at least 60 percent of this, and maybe 70 percent of the work we do, and we pay the 30 or whatever percent left.

China is not going to be a Russia at all, but we are working with them on these things that are so important, like nuclear smuggling. It's gone fairly well, and we hope to do more. But, on the military side, they don't want any part of us.

Senator LEMIEUX. One final topic I'd like to raise with you goes back a little bit to what we first started with. We know that there are countries who are going to want to have nuclear power. There are peaceful countries. I have a list here of the countries around the world who have nuclear reactors, some in places that I didn't know had reactors, a total of 437, according to this document from March 31, around the world.

Right now, Iran's saying it wants nuclear energy for peaceful purposes. We doubt that very much. But what happens? What should we be doing going forward? I know, Mr. Secretary, you've made a career out of studying policy. This seems to be about as difficult of a policy question as one can imagine; when we have difficult states, when we have rogue countries, when we have Iran. But, it's not going to just be Iran, it's going to be Syria; it's going to be Venezuela; it's going to be other countries that are going to say that they're going down this same path that North Korea went down and Iran is on, which is, "Well, we want it for peaceful purposes," and then all of a sudden there's a bomb.

How do we, as part and leader of the international community, handle this trend, which we know will occur? Is there a way that we can set up some kind of international regime that will deal with these types of states wanting nuclear energy which we believe will be pretextual for them obtaining a weapon?

Dr. NACHT. Thank you for that question, Senator. The whole premise of the NPT was to facilitate the growth in the use of nuclear energy for peaceful purposes while closing off the nuclear weapons option. Despite all of our difficulties with Iran and North

Korea in recent years, actually all things considered up to now we've been rather successful. There are only a handful of countries that are not members of the NPT or have really not behaved properly with respect to the NPT.

We hope that in the NPT Review Conference next month in New York, one of the outcomes will be a strengthened treaty regime which will make it more difficult to withdraw from the treaty and which will provide more incentives by strengthening the IAEA for growth of peaceful programs while closing off the nuclear weapons option.

Also, in the NPR that DOD just recently produced, we note that countries that are non-nuclear weapon states and that are in full compliance with their nonproliferation obligations, that those countries would not be the subject of use or threatened use of nuclear weapons by the United States. Whereas, countries that are not in compliance with their nonproliferation obligations, as Secretary Gates said, all options for the United States are on the table. We are providing both incentives and disincentives for states not to go down the nuclear road.

We know that some states are concerned that, if Iran acquires nuclear weapons that their security is threatened; it might stimulate their own interests. We're working very hard, diplomatically and with our own counterparts at the military level, to ensure that they are—especially our allies and partners—secure.

Senator LEMIEUX. There is significant concern of an arms race in the Middle East with countries like Saudi Arabia and others who wanted weapons.

Dr. NACHT. Yes. Prominent figures in the field, like former Secretary of Defense Bill Perry and others, have characterized the current situation as a tipping point, where perhaps several additional states could go down the nuclear road if we don't solve this problem. We're very aware of this, and we have a wide variety of activities underway with every one of these governments to try to provide the incentives and assure them that it's really not the way to go, to go down the nuclear path.

This is even true with our NATO allies. We have several European countries that looked at nuclear options years ago, and they foreswore them because they're under the nuclear security guarantee of the United States as part of Article 5 of the NATO treaty. We don't want any of those countries to rethink their idea, so we want to, in fact, strengthen our extended deterrence relationships with every one of these countries. It's really a multifaceted strategy.

At the same time, we realize that because of climate change concerns, because of fossil fuel supply uncertainties, for a variety of reasons, nuclear energy for peaceful purposes is probably going to grow, and perhaps grow quite considerably over the next several decades. The challenge will only increase for us, increase for the IAEA, increase for DOE and DOD, to play a meaningful role, to make sure countries understand that: peaceful path, no problem; weapons, not desirable, not permitted. The strategy keeps evolving because the players evolve, the technology evolves, and some of the policy issues evolve.

Senator LEMIEUX. I think the challenge we have is that, as we progress in the modern world for some of these rogue states, having the capability of nuclear power even is a marquee; it is something that brands them in the higher echelon of states around the world. They want that branding. It's one thing for a country to agree and say, "We're not going to seek nuclear weapons," but when you can't trust the country to start with, and they're say a country like Syria, who we believe is further assisting in getting missiles to Hamas and Hezbollah; if a country like that says, "Okay, well, we want a nuclear power plant for peaceful purposes," just like with an Iran, you don't believe them. How does the world community set up a structure—and maybe this is part of what you're working on—ahead of the problem so that we're not being reactive to a country that now says, "We're building a reactor, we're building a nuclear power program." How do we get ahead of it so that there's some kind of sanctioning that's going to have to occur for, not just, "We want to have a weapon," but also, "We want to pursue nuclear energy"?

Dr. NACHT. The country that you mentioned, Syria, is a member and a part of the NPT. If they want to move further into the "nuclear energy for peaceful purposes" area, they have to work with the IAEA, which is to not only facilitate their work, but to also ensure that there's no weapons activity related to this peaceful purposes.

Mr. BAKER. There are hundreds of reactors

Dr. NACHT. We need to strengthen the IAEA, as Ken Baker has said, because they don't have enough resources and enough capability at the moment to do the kind of job we all think is needed. At the same time, we have to demonstrate, perhaps with other countries, like Iran—which Syria will pay close attention to—that, to move down the road will incur tremendous disadvantage, tremendous pain to them, so they should have no incentive of any kind to think about diverting any peaceful nuclear program for weapons.

Mr. BAKER. There are 189 countries that are members of the NPT, and Article 2 of the NPT says they can build nuclear power for peaceful uses. What we're doing—DOE's doing—is this Advanced Safeguards Program that we're trying to give the IAEA. Once a country gets nuclear power, proliferation becomes a bigger problem, so the IAEA challenge, as Dr. Nacht said, is greater. We have to give them better safeguards.

We also are helping countries have a better export control system. We're working with many countries getting tighter control on nuclear weapons. But, if they're a member of the NPT, and Article 2 says they can do that, as Dr. Nacht said, you can't very easily stop them, but you have to have controls, you have to give the tools and capabilities to the IAEA to make sure they're not doing something else.

Senator LEMIEUX. Iran's a signatory to the NPT, right?

Mr. BAKER. Yes, sir, they are.

Senator LEMIEUX. North Korea was, and then they backed out?

Mr. BAKER. They've withdrawn.

Senator LEMIEUX. So, there's no teeth on the back side of this?

Dr. NACHT. Sir, this is what we're engaged in right now, which is a tough sanctions program that we're developing toward Iran, and a tough sanctions program that's been implemented and may further be strengthened against North Korea.

To have targeted sanctions, to have penalties to the leadership, penalties to those who make the decisions, in order to, hopefully, change their policies.

Senator LEMIEUX. Thank you, Mr. Chairman.

Senator BILL NELSON. Dr. Nacht, the DOD CTR program is also going to play a role in the global lockdown effort. What is the DOD plan to achieve that goal?

Dr. NACHT. We're currently engaged in several activities, and we're seeking additional funding for CTR, specifically related to the global lockdown. Funding for spent naval fuel and fissile material disposition in Russia—several of them are Russia-related; site security enhancement in Russia; and automated nuclear warhead inventory control in Russia. These are building on longstanding CTR programs we've had with the Russians. By the way, I should add in response to some of the previous questions, DOD's relationships with the Russians at multiple levels are really quite good, from the very highest levels of military officials and political leaders to people in more technical capacities and people at the working level.

In addition, as part of the global lockdown we are seeking funds to establish Nuclear Security Centers of Excellence outside the former Soviet Union, one in India and one in China; each has somewhat different objectives. These centers will assess equipment and manpower; they'll provide material security training; they'll demonstrate enhanced security procedures and processes; and they'll provide lessons learned without having to be directly at the site of where weapons are located.

Again, it's an effort to work together and to enlist in these cases Indian and Chinese support, which is central as trying to facilitate the global lockdown.

By the way, I should also add in response to a previous question there was a strategy. In developing the strategy for the global lockdown, the work for the global lockdown that just happened has been in place for a long time; there was an interagency assessment that was commissioned, and a comprehensive classified assessment was done, of where the material is. We can't say for certain that we know where everything is in every country, but we're quite confident that it provides the sound basis for moving ahead on the global lockdown process.

A number of activities in Russia, and some new centers outside of Russia, are the elements of about \$74 million in additional funding for how CTR will contribute to the global nuclear lockdown.

Senator BILL NELSON. What about in those countries of the former Soviet Union outside of Russia?

Dr. NACHT. We've had longstanding activities there, where we've been involved in Kazakhstan, for example, and in a number of other countries of the former Soviet Union. We're also, as part of CTR that was not only nuclear, deeply involved on the biological and chemical weapons side as well. There's a lot of consultation activity in trying to identify sites, build support for the Biological Weapons Convention, and the Chemical Weapons Convention

verification procedures. It's a multifaceted activity in a number of countries for nuclear, chemical, and biological weapons.

Senator BILL NELSON. All of the areas that the Soviet Union had nuclear material and weapons, outside of what is today Russia, you feel good about a lockdown?

Dr. NACHT. We're very intent on achieving the President's goal of locking down this material in 4 years, but it's tough. We learned about uranium in Kazakhstan quite a long time ago, and it didn't actually initially come through the Intelligence Community. I think it would be misleading to say that it's going to be a totally comprehensive, air-tight system that we know of in advance. We're going to have to roll up our sleeves, work in these countries, work with them, build momentum, and show that cooperation in the global nuclear lockdown is in everybody's interest. I think as we do that we're very hopeful that we can achieve the President's goal.

Senator BILL NELSON. Would you provide to the committee, in classified form, your analysis, or analyses done previously, in between the time that the Soviet Union was disintegrating in late 1991 up to when the Nunn-Lugar program started, where you all, in Nunn-Lugar, were actually on the scene? Would you share with the committee in classified form the answers to the obvious questions? Was that material secured? What possibly was not secured? What is its viability today, if it were unsecured, and so forth?

[The information referred to follows:]

[Deleted.]

Senator BILL NELSON. Thank you very much for doing that.

Now, are the global lockdown activities of the CTR program and the NNSA programs coordinated?

Mr. BAKER. I can start. I can say: absolutely. Coordination has been good the last few years. One example is the Ministry of Defense sites in Russia. When Russia said, "Come in and do our war-head sites," we worked with DOD. Like I told you, sir, we did half of them, they did half. We coordinated very well together. On this 4-year lockdown, as Dr. Nacht said, we will get the job done. We have decided, basically, what lanes we're in, who's going to do what, and where. We meet with DOD quite often. Matter of fact, we have a big meeting with DOD just tomorrow to discuss this 4-year plan even more. In my opinion, from a DOE perspective, it is working extremely well.

Dr. NACHT. Yes, and I would say, really, the same thing. Sometimes cooperation in some areas leads to cooperation in other areas. For example, we've just gone through a very intensive experience producing the NPR, and there was really intimate involvement by NNSA, the NNSA leadership, and the DOE leadership in the production of that report. All the signals, all the incentives, from the top leadership of our departments is to encourage more collaboration at other levels, including in CTR, which has been going on very well for many years. We know we have to work together because we each bring different perspectives and different expertise to the table.

Senator BILL NELSON. Mr. Secretary, does DOD know the full extent of the material involved in this effort for which you all have responsibility?

Dr. NACHT. For the global nuclear lockdown? Yes, as I mentioned, there was a major study—it's a classified study—done before the rollout for the global nuclear lockdown, and that is really the basis for our understanding of what we have to go after to achieve the President's goal in 4 years. That's been shared with the interagency.

Senator BILL NELSON. Your testimony is that you think that other countries are sharing our concern about these materials?

Dr. NACHT. Absolutely. I think the President has been extraordinarily effective in communicating the seriousness of this problem. Even as recently as a few years ago, prominent Russian figures spoke openly about their skepticism about nuclear terrorism. They were happy to work with the United States on securing some of their own sites, but they didn't really think that problem at least was their problem. Now, I think they're fully aware; I know that they're fully aware of the seriousness of the problem, both because of the nuclear proliferation issue that we've discussed already, and also because of the terrorism issue that they've experienced in their own Moscow subways.

The President, through the combination even recently of the NPR and completing the New START and the Nuclear Security Summit, all leading up to the NPT review conference, and his statement earlier last year in September at the U.N. at the opening of the General Assembly, all are really having an effect on heightening awareness and support around the world for this problem. As we know, 47 national leaders met in the United States; it was the largest group of its kind since San Francisco in 1945.

Senator BILL NELSON. I must say that I was pleasantly surprised that, on fairly short notice, that many leaders showed up.

Dr. NACHT. Right.

Senator BILL NELSON. It does, indeed, express their concern.

Mr. BAKER. I think, sir, that this summit, at least in my experience in nonproliferation, was the biggest thing to ever happen. I do believe, like Dr. Nacht, that they all are committed; they all are just as scared as we are. If you look at the initiatives that came out of the summit, it was more than we expected. Some people in the White House said it was five times better—I won't name names—than they ever thought it would be. If they're going to do this again in 2 years in South Korea, it's going to keep emphasis high in nuclear security.

Senator BILL NELSON. I think you're right. I think what they're waking up to is, if a terrorist attack can occur in the Moscow subway, it can occur anywhere.

Mr. Baker, is Russia fully committed to taking back the original Russian material?

Mr. BAKER. Yes, sir. We have taken back most of it. We have some left. But, they have been really easy to work with. What we have, every 6 months we go to Russia or they come here—most of the time we go to Russia—we lay out the schedule for the 6 months on takeback of Russian fuel. This has worked very well. We had some complications, like we can't pass fuel through Kazakhstan, so we had to take some of it by train and then by boat around to Mayak, Russia, where it was going to be stored. We have it there. Russia is on board with us, sir, 100 percent.

Senator BILL NELSON. Are other countries willing to pay part of the cost to secure this material?

Mr. BAKER. On this, most of the costs have been with us. They're willing to give up the HEU if we can convert the reactor to LEU, but most of the cost, on this Russian takeback, has been on our shoulders.

Senator BILL NELSON. What about plutonium?

Mr. BAKER. Plutonium, we have a little plutonium that we're trying to bring back, or bring back someplace, from one of these countries of which I'd rather not say in public. But, plutonium will take time. We have this agreement with Russia now to get rid of 34 tons. I know that's not all of it, but, I think, as this goes along and they burn 34 tons and we burn 34 tons—like I said, that can make 17,000 weapons—in my opinion, time will tell, they will continue to burn more and more plutonium in the reactors, just like we will continue. Hopefully, the momentum will not stop with 34 tons of plutonium in each country.

Senator BILL NELSON. Mr. Baker, you had talked earlier about the disposition of 34 metric tons of weapon-grade plutonium by converting it to the fuel for the commercial power reactors. The facilities were originally supposed to be operational by now, but now they've been delayed until 2016. It's a hefty cost. The Government Accountability Office completed a report that found that the project may not have enough plutonium feedstock. What is NNSA planning to do to make sure the plutonium is available?

Mr. BAKER. Sir, we're working that problem right now. We have, we know, 9.6 metric tons of plutonium right now that we can burn. It depends on how fast you burn it through the MOX system. The MOX system is able to burn 3 metric tons of plutonium a year in their reactor. So, we do have a problem on feedstock. We're working that right now. We're trying to find out where because the pit disassembly plant has been delayed, and we haven't even gone to Critical Decision-1 with the pit disassembly plant. We're concerned, but we're working that problem hard. We have both environmental management people, in DOE and NNSA, working together to make sure we have feedstock to burn through that MOX system when it comes on in 2016.

But, it is a problem, and I will keep you advised, sir, how we're working this. Hopefully, we'll find a solution for it.

Senator BILL NELSON. Dr. Nacht, DOD is now doing a task force that is going to be available to destroy WMD. Tell us how it's going to be organized, who's going to participate, how are they going to be trained, and what is the needed funding.

Dr. NACHT. Thank you, Senator. Yes, we've requested \$22 million initially against this effort. This is the JTFE headquarters, which would be developed in conjunction with SOCOM, to locate, characterize, secure, disable, or destroy WMD in, potentially, a conflict or other semi-permissive environment, not a peaceful environment.

Our QDR identified preventing proliferation in WMD as a top priority for DOD. This is the first time, really, that this has happened. That's also having an effect on senior civilians in DOD, senior military, the combatant commanders, and others. They are elevating in their own minds, their own activities, and their own planning: stopping and dealing with WMD in their daily work.

Having called it a top priority for DOD, we're now establishing this study headquarters for WMD elimination. The Joint Chiefs of Staff study is underway. The Secretary of Defense will make a decision down the road about the precise nature or the characteristics of the center. All I can say is, we're in the early stages of studying how this would be set up.

SOCOM will be a central player in these activities.

Senator BILL NELSON. How does this fold into the lessening of warheads that will be required under the new treaty?

Dr. NACHT. That's a somewhat separate activity. We have a treaty with the Russian Federation, assuming it's ratified by the Senate and the Russian Duma, that will enter into force sometime this year and will lead to the reduction of the number of deployed strategic nuclear warheads. Those reductions will take place by the respective governments and will be verified, both collaboratively and by national technical means, on both sides. That's something we have a lot of experience on, going back to SALT I, back in 1972. We have almost 40 years of experience of doing this with the Russians. This treaty has its own special characteristics, but I think we're very confident it's a highly verifiable treaty. That's separate from this activity, which is really to, if necessary, disable or destroy WMD in the hands of folks that we think are very antithetical to U.S. national interests. It's much of a special ops kind of activity.

Senator BILL NELSON. All right. I think what you ought to do is come also to the committee in a classified session and go through some of that with us.

Dr. NACHT. On the JTTF, yes? I'm happy to do that.

Senator BILL NELSON. Yes, and perhaps bring in Admiral Olson's folks on that as well. Is the CTR program going to play a role in any aspect of that task force?

Dr. NACHT. Yes, I think, absolutely. The work on CTR and related aspects of dealing with WMD proliferation is a community within DOD. Some of our experts are sitting right behind me, such as Deputy Assistant Secretary Hersman and her team in Policy; we have other key people on the Joint Staff that we work with in the Services, in Under Secretary Carter's organization, Acquisition, Technology, and Logistics, including Mr. Weber, the Assistant to the Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs. We have a whole community, and we work on all of these activities really very closely together.

There's also an international dimension. We talk to NATO about this. We're involved with countries around the world through PSI. It's quite comprehensive, but it's really quite coherent. I think, unquestionably, it is a growing priority for DOD, reflecting what the President has said, that the likelihood of global nuclear war is low, but nuclear attack is not low, and we need to elevate nuclear proliferation and nuclear terrorism as the top security concerns in the nuclear area.

DOD is responding. It is responding to this directive.

Senator BILL NELSON. You spoke as if the treaty just announced by the U.S. and Russian Presidents was going to be confirmed later this year. Do you know something that I don't know?

Dr. NACHT. "Hopefully." I said "hopefully" that you would consent to ratification in this calendar year. Whenever you consent to

ratification. We can't move forward with the elements of a treaty until it's in force. It doesn't enter into force until the treaty has been consent to ratified and has been deposited in the national capitals and in Geneva. Until that is done, there won't be any action taken. We're hopeful that Senate consent to ratification will be done in calendar year 2010, but you would know far better than I.

Senator BILL NELSON. I'm hopeful, as well.

Are both the CTR and the NNSA nonproliferation programs executable? Both of you have requested additional funds for fiscal year 2011. Can you use those funds in a timely fashion?

Mr. BAKER. The short answer is, yes, sir. We had very low—last year, in our program that is part of the 4-year plan—uncosted balances. In GTRI last year, we had \$8.6 million remaining uncommitted. The MPC&A program, which is securing things in Russia and other places, we had \$7.6 million. We think every penny that the President is asking for can be spent, or most of it can be spent. We will have uncommitted down below double digits. We are off, as hard as we can, working the 4-year plan.

Dr. NACHT. In DOD, by far the two biggest areas where we're seeking additional funding are to support the global nuclear lockdown, which we've discussed now at some length, and in BTRP. We've actually cut funding in a number of other areas to reduce the additional amount of funds that we are requesting. I can tell you, as someone who's personally involved in this, this went through an incredibly intensive scrubbing within DOD with folks who, in the comptroller's office, look at program analysis and evaluation, with folks who look at technical feasibility, the policy community, the acquisition community; they all worked very intensively to come up with requested funds that were fully executable, and they're fully consistent with the President's top priorities.

They also, and I would say, funding reflects importance to some degree; the fact that there's increased funding for these areas is another tangible signal that DOD is really taking these areas as very high priorities. The Secretary of Defense is extraordinarily supportive of this effort.

Senator BILL NELSON. In the DOE budget you have included funds for space-based nuclear detectors. Your budget says that these sensors are going to fly on Global Positioning System (GPS) satellites and on Space-Based Infrared System (SBIRS). There is legislation mandating the maintenance of the capability provided by these detectors. Yet, the Air Force no longer has the nuclear detection sensor manifested on a SBIRS satellite. What do you understand is the status of these nuclear detection sensors on the SBIRS satellite?

Mr. BAKER. We are still building. If I can, sir, I'll give you a more expanded answer for the record, if it's okay.

But, we have expanded, and we have continued to build, nuclear detection sensors. You are right; it's been a struggle with the Air Force on launching these things. We're trying to work that right now. We have a commitment in DOE to continue to build these sensors, and hopefully they will fly on SBIRS one day, or however they get up there. But, if I can, I'd like to provide you a more de-

tailed classified answer to that question. There is a problem here, and I agree with you.

[The information referred to follows:]

[Deleted.]

Senator BILL NELSON. Thank you. We've had some problems with the SBIRS also, so let's get into that in an appropriate setting.

Mr. BAKER. Yes, sir.

Senator NELSON. Now, let me ask you, Mr. Baker, the Library of Congress is running a program called the Open World Program. It works with Russia to develop broader understandings between Russian folks and American folks. It's focused on civil society with extensive judicial, legal young leaders, and regional and local governmental exchange programs. It's sponsored nonproliferation programs focused on export controls and technical safeguards.

The Russian participants in these programs have visited our national laboratories and had discussions about the nonproliferation programs. The Library of Congress would like to continue to partner with NNSA to expand the program to the Ukraine.

Are you willing to discuss this initiative with the director of the program, to see if there are areas of mutual interest?

Mr. BAKER. Absolutely, sir. It's a good program the Library of Congress is running. The Library of Congress has been working with Pacific Northwest's lab and our lab in Oak Ridge. We support our national labs' involvement, and we will continue to support this endeavor by the Library of Congress.

Senator BILL NELSON. Does any of the staff have any more questions? [No response.]

Okay, gentlemen, this has been a very illuminating hearing. We want to thank you for the hearing. We want to thank you for your public service.

The hearing is adjourned.

[Whereupon, at 11:46 a.m., the subcommittee adjourned.]

