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NUCLEAR COOPERATION AND NON-PROLIFERATION AFTER KHAN AND IRAN: ARE WE ASKING ENOUGH OF CURRENT AND FUTURE AGREEMENTS?

HEARING

BEFORE THE

COMMITTEE ON FOREIGN AFFAIRS
HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

SEPTEMBER 24, 2010

Serial No. 111–124

Printed for the use of the Committee on Foreign Affairs

Available via the World Wide Web: http://www.foreignaffairs.house.gov/

U.S. GOVERNMENT PRINTING OFFICE

58–431PDF WASHINGTON : 2010

For sale by the Superintendent of Documents, U.S. Government Printing Office
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NUCLEAR COOPERATION AND NON–PROLIFERATION AFTER KHAN AND IRAN: ARE WE ASKING ENOUGH OF CURRENT AND FUTURE AGREEMENTS?

FRIDAY, SEPTEMBER 24, 2010

HOUSE OF REPRESENTATIVES,
COMMITTEE ON FOREIGN AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 10:10 a.m., in room 2172, Rayburn House Office Building, Hon. Howard L. Berman (chairman of the committee) presiding.

Chairman BERMAN. The committee will come to order. There is no particular reason why you would know, since I didn't know until this morning, but the House recessed for the week last night. So your testimony is greatly valued, but there will only be a few of us here to value it. But we will get the word out to everybody because a number of members have gone back to their districts.

The committee will come to order. In a moment I will recognize myself and the ranking member for up to 7 minutes each for the purposes of making an opening statement. I will then, if they are here, recognize the chair and ranking members of the Terrorism, Nonproliferation and Trade Subcommittee for 3 minutes each to make their opening statements. We have to end today's hearing by noon because of another matter that members of the committee who are here will be participating in.

Without objection, all other members can submit opening statements for the record.

The Atomic Energy Act requires that this committee hold hearings on pending U.S. nuclear cooperation agreements with other nations. Today's hearing fulfills that requirement for the Australia and Russia agreements, which were submitted to the Congress in May.

However, this hearing is really intended to serve a larger purpose—to consider changes that might be made in future nuclear cooperation agreements, and to the Atomic Energy Act itself.

The global non-proliferation regime has received two major jolts in the last 6 years. The first was the revelation that Pakistani scientist A.Q. Khan had been running a clandestine nuclear black market, which accelerated the spread of sensitive nuclear facilities and nuclear weapon designs around the world. The second has come from one of Khan's clients, Iran, where centrifuges obtained from the Khan network continue to spin, making enriched uranium that could be refined into fuel for nuclear bombs.

U.S. non-proliferation policies are adapting to counter these shocks to the global system. Congress has played a role in this effort by passing legislation, including the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010. This law is already helping to ratchet up the economic pressure on Tehran, raising the cost for its defiance of the world's demand that it cease its illicit and dangerous nuclear activities.

Regrettably, U.S. law and policy regarding civil nuclear cooperation with other countries has not undergone a similar evolution. The Atomic Energy Act was last amended in 1978 when Congress added the current set of nine conditions that any nuclear cooperation agreement—also known as 123 agreements—must satisfy. Many argue—and I believe with great justification—that the law is now sorely out of date.

Many suggestions have been offered to update the Atomic Energy Act for the post-Khan, post-Iran environment. Some of these include: A requirement for the foreign government to have agreed to and implemented the IAEA'S additional protocol for safeguards, which gives the IAEA more authority to inspect the country's nuclear-related activities and facilities; another suggestion is that the recipient country be willing to accept near-real-time video monitoring of its IAEA safeguarded facilities and activities, if the agency thinks it would be useful to verify that no diversion of nuclear material from civil purposes has occurred; if the recipient is a state that supplies civil nuclear technology to other countries, that its policies, practices, and regulations are comparable to, or at least do not undermine, U.S. law and policy; and if the recipient country, if it doesn't already possess uranium enrichment and/or spent-fuel reprocessing facilities, undertake a legally-binding commitment not to engage in such activities or develop such facilities.

We have had five new or renewed nuclear cooperation agreements submitted to Congress in the last 4 years—and one before us today, Russia, twice. We will be seeing a raft of new or renewed nuclear cooperation agreements in the next 4. Nine existing agreements will expire between 2012 and 2015, including the U.S. agreement with China; presumably, all those will be renegotiated and submitted to Congress for review. We may see new agreements with Jordan and Vietnam in the next Congress. That makes at least 11 new or renewed agreements. In addition, the U.S. has concluded Memorandums of Understanding with Saudi Arabia and Kuwait, and we could eventually see nuclear cooperation agreements with them, as well.

Given all this, it is clearly time to review whether U.S. nuclear cooperation agreements are fully serving U.S. and global non-proliferation objectives. This hearing continues a process begun by Mr. Sherman and the Terrorism, Nonproliferation and Trade Subcommittee at their hearing in May on the future of nuclear cooperation agreements.

The linkage between civil and military nuclear applications has never been clearer, or more pressing. The key linchpins are uranium enrichment and spent fuel reprocessing facilities.

For the majority of nuclear power reactors, natural uranium needs to be "enriched." This is usually accomplished through the use of highly-sophisticated centrifuges—exactly what Iran, by way

of Khan, is using. Unfortunately, the same basic process can be used to produce highly enriched uranium that can be used in a bomb. Another process—called "reprocessing"—allows weapons-grade plutonium to be extracted from spent reactor fuel.

The Khan network trafficked in the technology and hardware of enrichment to Iran, Libya, North Korea, and possibly elsewhere. In 2004, 2 months after the network was exposed, President Bush announced that the U.S. would seek to prevent the spread of enrichment or reprocessing facilities to any state that did not already possess such technologies.

Regrettably, this approach ran into an immediate wall of opposition from many developing countries, which viewed it as an effort to deny their "inalienable right" to the benefits of peaceful nuclear energy under the NPT. The Bush effort was soon abandoned, and replaced by a drive to convince other members of the Nuclear Suppliers Group to institute more-restrictive criteria when deciding whether to transfer enrichment and reprocessing technology to others.

In this context, it is worth highlighting the importance of the recent U.S. nuclear cooperation agreement with the UAE. On its own, the UAE decided to forswear enrichment and processing, and agreed to make that a legally-binding commitment in the nuclear cooperation agreement itself.

Even though the UAE ultimately decided to purchase nuclear reactors from a Korean vendor, the commitment in the U.S.–UAE agreement applies unconditionally, regardless of who provides equipment and material to the UAE.

The State Department has since described this agreement as the "Gold Standard" for such agreements, and I agree. The U.S. should seek the same commitment for every nuclear cooperation agreement that it negotiates in all regions of the world. We should also consider making this an additional statutory requirement in the Atomic Energy Act.

I am going to put the rest of my opening statement into the record because my time has expired, and yield to the ranking member.

[The prepared statement of Chairman Berman follows:]

Friday, September 24, 2010

Verbatim, as delivered

Chairman Howard L. Berman's opening statement at hearing, "Nuclear Cooperation and Non-proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?"

The Atomic Energy Act requires that this Committee hold hearings on pending U.S. nuclear cooperation agreements with other nations. Today's hearing fulfills that requirement for the Australia and Russia agreements, which were submitted to the Congress in May.

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Many suggestions have been offered to update the Atomic Energy Act for the post-Khan/Iran environment. Some of these include:

• a requirement for the foreign government to have agreed to and implemented the IAEA's Additional Protocol for safeguards, which gives the IAEA more authority to inspect the country's nuclear-related activities and facilities;

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• if the recipient is a state that supplies civil nuclear technology to other countries, that its policies, practices, and regulations are comparable to, or at least do not undermine, U.S. law and policy; and

• the recipient country, if it doesn't already possess uranium enrichment and/or spent-fuel reprocessing facilities, undertake a legally-binding commitment not to engage in such activities or develop such facilities.

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Ms. ROS-LEHTINEN. Let me begin by expressing my great disappointment regarding the missing subject of today's hearing; namely, the proposed nuclear cooperation agreement with Russia. As we understand it, the administration, despite being informed of this hearing weeks in advance, has refused to provide a witness. The result? The Russia and Australia agreements will not be addressed. Apparently, it is as simple as that. As a result, this committee is in danger of violating the statutory requirements in section 123(d) of the Atomic Energy Act which states that during the current period of congressional review, "the Committee on Foreign Affairs of the House of Representatives and the Committee on Foreign Relations of the Senate shall each hold hearings on the proposed agreements for cooperation and submit a report to the respective bodies recommending whether it should be approved or disapproved."

Mr. Chairman, this hearing does not fulfill the statutory requirement to hold a hearing on the Russia 123 and Australia 123 Agreements. You can call it whatever you wish, but it does not fulfill the requirement.

We can understand why the executive branch wanted to kill a hearing on the Russia 123 Agreement. Certainly, none of us who have been following the overtures to the Russian Government, including the removal of sanctions on Russian entities assisting Iran's nuclear missile program, are surprised. After all, it is abundantly clear that the Russia 123 Agreement is a political payoff to the Russians, pure and simple, and cannot be defended on its merits.

The administration has as much admitted this by promoting the nuclear deal as part of the "reset" of our relationship. But the U.S. has no business engaging in nuclear cooperation with any country with a record like Russia's, especially one that continues to provide assistance to Iran's nuclear program.

From the outset, there has been strong opposition by many Members in both Chambers to the Russia 123 Agreement, even prior to its first submission to Congress by President Bush in May 2008. The principal objection has been the inability of the previous and the current administrations to certify that the Russian Government, businesses, and individuals were no longer assisting Iran's nuclear and missile program and that the Russian Government was fully cooperating with the U.S. in our efforts to stop Iran from acquiring a nuclear weapon.

Does that not sound reasonable? Are these not the types of requirements that should be met before a country is rewarded with a nuclear cooperation agreement with the United States?

Faced with the reality that both administrations were determined to push through this agreement regardless of Russian behavior, and to say nothing about similarly troubling agreements such as the one with the United Arab Emirates, it has fallen to Congress to shore up U.S. non-proliferation policy. Even before President Obama resubmitted the Russia 123 Agreement to Congress in May of this year, Chairman Berman and I, along with several other members of the committee, introduced H.R. 2194, the Iran Refined Petroleum Sanctions Act, subsequently known as the Comprehensive Iran Sanctions, Accountability, and Divestment

Act, or CISADA, which was signed into law, as we know, on July 1. The House-passed legislation included a prohibition on the entry into force of any 123 agreement with any country that was assisting Iran's nuclear missile and other weapons program.

Now, while the administration requested that this be removed and while the provision was weakened as the bill proceeded through the House and the Senate conference discussions, some limitations did survive. A key provision of the act prohibits the issuance of export licenses or approval of transfers under a 123 agreement for any country whose nationals have engaged in assisting Iran's nuclear weapons and missiles program, among others.

Nevertheless, the Russia 123 Agreement is moving forward. The political pressure driving the agreement was underscored by the latest report from GAO, the Government Accountability Office, regarding the Nuclear Proliferation Assessment Statement, or NPAS, that is required of all 123 agreements. The GAO had found in its previous report on the Russia 123 Agreement submitted in 2008 by President Bush that the original NPAS had been rushed through the vetting process and that the intelligence agencies in particular had not been given sufficient time or opportunity to thoroughly review the final assessment. Then, in the report released last week on the most recent NPAS submitted by the Obama administration, GAO found that its recommendations to prevent a repeat of this flawed preview had not been fully implemented and that once again the process had been rushed to meet a suddenly urgent political deadline. It's déjà vu all over again.

So just what has the reset gotten us? Well, the nuclear fuel is being loaded into the Bushehr reactor, which certainly makes the Iranians very happy. And Russia has reiterated that it wants to build several more reactors for Iran.

But the problem is far broader than simply Iran's nuclear program, as disturbing as that might be. Just last week, Russia announced it would proceed with the delivery of anti-ship missiles and other weapons to Syria, despite U.S. protests that these destabilizing weapons are a threat to the region and especially to our ally, Israel. Brushing U.S. concerns aside, Russia has said it will likely sell even more advanced weapons to Syria even though that country continues to arm Hezbollah and pursue chemical, biological, and nuclear weapons.

I wish we had the opportunity today to have the administration explain Russia's behavior, give us assurances that Congress will be provided with the information members have repeatedly sought on Russia's cooperation regarding Iran and other adversaries, and reassure us that the provisions of CISADA and Iran non-proliferation sanctions laws will be faithfully implemented and enforced. But it appears that this committee's responsibilities are to be determined by the Department of State, and members will simply have to accept that.

I hope that our constituents will let us know how well they think we are carrying out our oath of office.

Turning to the expert witnesses before us today, we look forward to receiving your recommendations on this vital subject. And I have the rest of my opening statement to be placed into the record.

Mr. Chairman, I ask unanimous consent, if you please, to enter into the record written testimony and two short articles by Henry Sokolski on the subject of today's hearing. Mr. Sokolski is not able to be here today, but is well known to this committee both as a valuable witness and a trusted resource. I look forward to working with him on revising the Atomic Energy Act and other measures to strengthen U.S. non-proliferation policy.

I thank the chair.

[The prepared statement of Ms. Ros-Lehtinen follows:]

Remarks of the Honorable Ileana Ros-Lehtinen
Ranking Member, Committee on Foreign Affairs
Hearing on: "Nuclear Cooperation and Non-proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?"
September 24, 2010

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But it appears that this Committee's responsibilities are to be determined by the Department of State, and Members will simply have to accept that.

I hope that our constituents are watching and will let us know how well they think we're carrying out our oath of office.

Turning to the expert witnesses before us today, we look forward to receiving your recommendations on the vital subject of how to ensure that the nuclear cooperation agreements the U.S. enters into with other countries, will actually advance our nonproliferation goals instead of undermine them.

The most urgently needed change is a requirement for an affirmative vote by Congress to approve future 123 agreements in order for them to enter into force.

This will ensure that politically-driven agreements such as that with Russia and the UAE do not recur and that we do not turn a blind eye to countries that undermine our efforts to stop Iran's nuclear program and our nonproliferation policy in general.

I plan to introduce legislation to revise the Atomic Energy Act to include this provision.

In addition, the draft bill I am working on would require that our potential partners permanently forego the manufacture of nuclear fuel and that they ratify and fully implement the International Atomic Energy Agency's Additional Protocol, among several other necessary measures.

I look forward to working with other Members both on and off this Committee in that effort.

Chairman BERMAN. As to the Sokolski statements, without objection, they will be introduced and included in the record of this hearing.

Now I am pleased to recognize the ranking member of the Terrorism, Nonproliferation and Trade Subcommittee, Mr. Royce of California.

Mr. ROYCE. Thank you, Mr. Chairman. I am going to make three quick points.

First, I would just join the ranking member in her observation and her concerns over the administration's absence today. The administration really should be here to discuss and debate the pending nuclear agreements, especially with Russia. This is a very difficult time for nuclear non-proliferation. The blurry line between commercial and military use of nuclear technology makes it possible to run right up in having that capability to manufacture nuclear fuel and then you are just one step away from having a nuclear weapon. And that is because the NPT has been distorted, really, to allow that practice.

I am glad that Mr. Henry Sokolski's testimony is being put in the record. There are many out there in think tanks that have looked at this that have urged the U.S. and the international communities to address this issue in the past because that is the game that Iran is playing here.

It is very unfortunate that the past administrations and that the Obama administration has done nothing to challenge this very critical weakness. I am not sure it is a weakness of the NPT. It is the way in which it is being interpreted. Right? It is the assertion. Congress needs to be more involved in nuclear export policy.

We should pass legislation to reclaim powers surrendered to the executive back when the world was a much simpler place. And we should be made to positively, not passively, okay a 123 agreement.

The administration has embarked on striking a nuclear agreement with Vietnam. It is reported that we would allow Vietnam to manufacture nuclear fuel and that there would be no requirement that it beef up IAEA nuclear inspections; in other words, the additional protocol. That would be far from a model agreement if we do that that way.

Vietnam's human rights record is abysmal. I have a resolution calling on the State Department to designate that country as a country of particular concern for its religious persecution, and I think the State Department so far has resisted this. I would suggest to our diplomats that they can press human rights aggres-

sively and still deal with nuclear issues. It is called using leverage and standing up for human dignity.

Lastly, the title of this hearing, which is "Nuclear Cooperation and Non-Proliferation after Khan and Iran," that is basically a focus on the notorious Pakistani proliferator, A.Q. Khan. Pakistan greatly damaged global security by allowing this rogue free rein in that country. China's plan to build another two nuclear reactors in Pakistan violates Nuclear Suppliers Group rules. It should be stopped.

I remember years ago raising the issue of the ring magnets that China was transferring to Pakistan to develop a nuclear weapon. That was obviously what was intended on the part of Pakistan. And now we know that yes, China's responsibility in proliferation, and that gave rise to the capability of Pakistan, which subsequently trumped China's irresponsibility with its own because that knew no limits in terms of A.Q. Khan's ability to proliferate.

So the fact that A.Q. Khan, supposedly Pakistan's most popular man, 2 weeks ago went on Pakistani television and spoke about his future as the nation's President—as the nation's President—that should be more than troubling to us in terms of Pakistan and the future. The government there just is not a responsible nuclear power. That needs to be addressed.

Thank you, Mr. Chairman.

Chairman BERMAN. The time of the gentleman has expired. I think regular order would require me now to introduce the witnesses rather than respond to all the things that are said, and so I think I will do that.

Ambassador Thomas Graham, Jr. is executive chairman of the board of the Lightbridge Corporation and is a former special representative for arms control, non-proliferation, and disarmament to President Clinton. He was general counsel of the Arms Control and Disarmament Agency for 15 years. He has advised five U.S. Presidents on these issues and led the U.S. delegation in 1995 that achieved the permanent extension of the Treaty on the Non-Proliferation of Nuclear Weapons.

Sharon Squassoni is a senior fellow and director of the Proliferation Prevention Program at the Center for Strategic and International Studies. Prior to joining CSIS, Ms. Squassoni was a senior associate at the Carnegie Endowment for National Peace. Ms. Squassoni served as an adviser to Congress from 2002 to 2007 as a senior specialist in weapons of mass destruction at the Congressional Research Service and was director of policy coordination for the Nonproliferation Bureau at State.

Did I pronounce your name right? Okay.

Jamie Fly is executive director of the Foreign Policy Initiative, a nonprofit, nonpartisan organization to promote U.S. international engagement. Prior to joining the FPI, Mr. Fly served in the Bush administration at the National Security Council as the director for counterproliferation strategy and in the Office of the Secretary of Defense. He was an assistant for transnational threats policy.

It is really an excellent panel on a very important subject.

Ambassador Graham, why don't you begin with your testimony.

Your entire statements will be included in the record. So feel free to summarize as you choose.

STATEMENT OF THE HONORABLE THOMAS GRAHAM, JR., EXECUTIVE CHAIRMAN OF THE BOARD, LIGHTBRIDGE CORPORATION (FORMER SPECIAL REPRESENTATIVE TO THE PRESIDENT FOR ARMS CONTROL, NON–PROLIFERATION, AND DISARMAMENT)

Ambassador GRAHAM. Thank you, Mr. Chairman. I just want to say to you, Mr. Chairman, and to Ms. Ros-Lehtinen and other members of the committee how pleased and happy I am to be here. I have been coming to this committee off and on for many, many years, back into the eighties, and it is always a pleasure. I have known your staff assistant, David Fite, for many years and it has been a pleasure working with him.

Today's subject, principal subject, is the 123 agreement concept in the context of non-proliferation. So I am going to talk a little bit about non-proliferation first and then move into the way I see the 123 agreement issue and then perhaps at the end a few comments on Russia and Australia.

John F. Kennedy, when he was President, in a press interview in 1963, said that he was haunted by the concern that by 1970 there would be 10 nuclear weapon states in the world and by 1975, 15 or 20. He said he regarded that as the "greatest possible danger and hazard." I think those words are ones that are worth remembering.

Later on, Mohamed ElBaradei, the distinguished Director General of the IAEA, opined that more than 40 countries have the capability to build nuclear weapons. If nuclear weapons had spread that widely, every conflict would have run the risk of escalation into nuclear weapons and it would have been very difficult to keep nuclear weapons out of the hands of terrorists they would be so widespread. It would have created a security situation that would have made today's world seem like paradise to have nuclear weapons all over the world, such as President Kennedy feared.

But the principal reason that this didn't happen—and it didn't happen, as we all know—was the 1970 entry into force of the Nuclear Non-Proliferation Treaty, accompanied by the extended deterrence policies of the U.S. and the Soviet Union. Really, only two countries have acquired nuclear weapons since that date. Israel already had a nascent capability in 1970, as did India, and you can add Pakistan and North Korea to that list—far from what President Kennedy feared.

But the NPT is based on a central bargain: Non-proliferation for most of the world in exchange for nuclear disarmament and peaceful nuclear cooperation by the NPT nuclear weapon states. There has been a lot of difficulty in implementing the commitment by the nuclear weapon states to effectively pursue disarmament. The number one disarmament issue that the nonnuclear weapon states wanted was the comprehensive test ban. It goes back to 1968. We still don't have it today. There was fissile material cutoff. We still don't have that today. Much of the disarmament agenda that was the quid pro quo for preventing nuclear weapons from spreading all over the world has not been realized.

The other half of the obligations of the nuclear weapon states—peaceful cooperation—has gone better. In my judgment, it is impor-

tant to support that process, not only for its own sake but for the health of the NPT bargain.

We now are concerned as a society, as a world community, about climate change. As a result, it is quite possible that nuclear power will spread more widely than before. This is consistent with the NPT, as I just indicated. But if this is to happen, it is very important that we safeguard the non-proliferation norm.

The standard 123 agreement that the U.S. uses follows closely NPT obligations and thus doesn't have things in it such as a prohibition on uranium enrichment. But while this has worked well for years, perhaps it is in today's world no longer sufficient.

The United Arab Emirates has embarked on a very significant nuclear program. They are in the business of selling oil and they import gas. In a few years they will face a great energy shortfall. They didn't want to use coal. They looked at all technologies and settled on nuclear energy as the soundest and best choice for them to make on economic grounds. But they wanted to make their anticipated quite large program a model. I have heard that from many UAE officials, beginning with the Crown Prince.

Working with Lightbridge Corporation, my company, the UAE forswore, first on a nationally legally binding basis, and then on an internationally legally binding basis uranium enrichment and plutonium reprocessing. That obligation, as was stated a few moments ago, is in the U.S.–UAE 123 Agreement, but it is not yet a model as had been anticipated.

The NPT is the centerpiece of world security. Article VI, even with President Obama's strong commitment, remains uncertain. It is important that Article IV remain strong to help the NPT. We need nuclear power now more than ever, but proliferation remains a serious threat.

With respect to the specific issues, certainly a requirement that the IAEA additional protocol added to the 123 agreement could be a useful addition. The United Arab Emirates made it clear that it hoped its program, including the non-proliferation commitments that they have made, which are enshrined in the U.S.–UAE 123 Agreement, would be a model for others. Thus far it has not been. There are no indications that U.S. 123 agreements with other countries will follow this model. But they should. While, of course, recognizing in some cases there are difficulties.

It is not desirable that enrichment and reprocessing technology spread more widely, as Mr. Royce said in his comments. This is an issue on which both President Bush and President Obama agree. Other efforts, such as the nuclear fuel bank at the International Atomic Energy Agency, have been pursued to reduce the incentive for additional countries to acquire the full fuel cycle. Legislation requiring that the UAE model be followed in future 123 agreements, perhaps absent Presidential waiver, could help further to inhibit the spread of fuel cycle technology. In my judgment, it is a good idea. In today's interdependent world, such a change would make sense and new technology can work with a non-proliferation system to make nuclear power even more available to serve humanity, as envisioned by the NPT.

So I applaud very much the committee's interest in this subject and urge you to pursue it.

With respect to the Russian agreement, in my judgment, the adoption of the U.S.-Russia 123 Agreement will correct an historical anomaly. I understand the politics and the difficulties we had 2 years ago and at other times. But nevertheless, we traditionally over many years have done more nuclear trade, more nuclear work with Russia than any other country, both trade and cooperation.

There was a program nearly 20 years ago now called Megatons to Megawatts. It has resulted in some 15,000 Russian nuclear weapons being dismantled, the HEU and the weapons blended down, which now provides about 50 percent of the nuclear fuel in U.S. nuclear reactors. I was part of the delegation that negotiated that agreement. But there were many other examples. And Russia is our number one non-proliferation partner.

I have heard from many serious analysts of the situation, such as former Secretary Defense Bill Perry, that we could be on the verge of a whole new wave of proliferation. As has been mentioned earlier, we have everything that A.Q. Khan did. We have the Iranian situation, we have the North Korean situation, and the possibility that those countries could trigger wider proliferation throughout the Middle East or Northeast Asia.

Chairman BERMAN. Ambassador Graham, if you could just bring it to a conclusion.

Ambassador GRAHAM. 1 minute. In my judgment, we can't succeed with our non-proliferation program without the help of Russia. They are indispensable, and I think it is important to have this agreement with them.

Australia has always had an outstanding non-proliferation record, and they have a significant nuclear industry that serves themselves and many other countries.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Graham follows:]

Ambassador Thomas Graham, Jr.
Executive Chairman, Lightbridge Corporation
Committee on Foreign Affairs
U.S. House of Representatives
September 24, 2010
Nuclear Power and Nuclear Non-Proliferation

Mr. Chairman, members of the Committee, thank you for the opportunity to address the committee. It is a pleasure to be here again. The principal question before the committee today is whether the "standard model" of civil nuclear cooperation with the U.S., absent further new nonproliferation conditions on supply, undermines U.S. nonproliferation and national security objectives. I will address this issue in my statement.

President John F. Kennedy truly believed that there was a serious risk that nuclear weapons were destined to sweep all over the world. In March of 1963 in response to a reporter's question at a news conference, he said, "Personally, I am haunted by the feeling that by 1970 . . . there may be 10 nuclear powers instead of 4 and by 1975, 15 or 20. . . . I would regard that as the greatest possible danger and hazard." He spent much of his presidency pursuing the cause of nonproliferation. President Kennedy had been told by the outgoing Secretary of State, Christian Herter, in December of 1960 that nuclear weapons would spread to additional countries and that the most likely next nuclear weapon states were India and Israel. He took this very seriously.

If such anticipated proliferation had in fact happened, there could be significantly more than two dozen nuclear weapon states in the world today, with nuclear weapons integrated into their national arsenals. Dr. Mohamed El Baradei, the distinguished former Director General of the International Atomic Energy Agency, was quoted in 2004 in a speech in Washington DC, as follows, "The danger is so imminent...not only with regard to countries acquiring nuclear weapons but also terrorists getting their hands on some of these nuclear materials- uranium or plutonium." Director General El Baradei was also quoted in another speech more or less around

the same time to the effect that more than 40 countries perhaps have the capability to build nuclear weapons. Thus, if such proliferation to which President Kennedy referred had in fact taken place, under the circumstances with that many nuclear weapon states in existence, potentially every significant conflict could have brought with it the risk of going nuclear, and it might have become extremely difficult to keep nuclear weapons out of the hands of terrorist organizations, they would have become so widespread. Illustrating this danger of nuclear weapon proliferation and the threat of terrorist acquisition, former U.S. Defense Secretary William Perry, a scientist not given to exaggeration, has often said that in his judgment nuclear terrorism, which could involve a nuclear detonation in a major city, is today's gravest security threat.

When President Kennedy became so concerned about nuclear weapon proliferation, the United States had approximately 22,000 nuclear weapons in its arsenal, the Soviet Union nearly 2,500 and the United Kingdom 50. This total is a smaller number of nuclear weapons than exist in the world today. But, from the earliest of days in the nuclear era it had been clear that it was necessary to prevent the spread of nuclear weapons, although early attempts to prevent proliferation of nuclear weapons did not succeed.

However, in 1965 the UN General Assembly took up the subject. A resolution was passed which over the next few years proved to be the blueprint of the Nuclear Nonproliferation Treaty, The NPT. Among other things this resolution called for "balanced obligations" between nuclear weapon and non nuclear weapon states in the treaty to be negotiated. The NPT was signed in 1968 and entered into force in 1970, and came to be recognized as the principal reason- along with the parallel extended deterrence policies of the United States and the Soviet Union- that President Kennedy's darkest fears have thus far not been realized.

But the success of the NPT was no accident. It was based on a carefully crafted central bargain which incorporated the "balanced obligations" concept. In exchange for a commitment from the non nuclear weapon states (today more than 180 nations, most of the world) not to

acquire nuclear weapons and to submit to international safeguards to verify compliance with this commitment, the NPT nuclear weapon states pledged unfettered access to peaceful nuclear technologies and undertook to engage in nuclear disarmament negotiations aimed at the ultimate elimination of their nuclear arsenals. It is this central bargain that for the last four decades has formed the central underpinnings of the NPT and the international nonproliferation regime. The entry into force of the NPT thus established the most important bulwark of international security.

However, one of the principal problems with all this has been that the NPT nuclear weapon states have never fully delivered on the disarmament part of this bargain. In the short term this meant interim steps, most importantly agree to a treaty prohibiting all nuclear weapon tests, that is a comprehensive nuclear test ban; and also negotiating an agreement prohibiting the further production of nuclear bomb explosive material; undertaking obligations to drastically reduce nuclear arsenals; and giving legally binding commitments that the NPT nuclear weapon states would never use nuclear weapons against NPT non-nuclear weapon states. Much of these disarmament elements of the NPT basic bargain have not been actually accomplished forty years later. Access to peaceful nuclear technologies is also important as well. It received much attention during the negotiation of the NPT and there would have been no NPT without it. It is essential that this part of the bargain at least remain sound.

The NPT is essentially a strategic international political bargain which should be observed, it is not a gift from the non-nuclear weapon states. The question is how long can the NPT remain viable as an unbalanced treaty with an important part of its basic bargain unrealized and a significant part unraveling as North Korea and Iran pursue the bomb. There also has been concern expressed by non-nuclear weapon states with respect to peaceful nuclear technologies as well, but it has eased in recent years. It is true that the norm of nonproliferation runs deep after forty years. It may be that the NPT can limp along for some years with only limited further proliferation or maybe not. Nuclear commerce open to all NPT parties in good standing will help.

No statesman has spoken out more eloquently and in such a comprehensive way on the subject of strengthening the NPT as did President Obama in Prague a year ago April. He declared his strong support for a replacement START Treaty (the New START Treaty) to be followed by deeper cuts in nuclear weapons leading to a multilateral nuclear weapon reduction negotiation involving all of the nuclear weapon states. He reiterated his support for U.S. ratification and entry into force of the Comprehensive Nuclear Test Ban Treaty, as Vice President Biden reaffirmed in his speech February 18 in Washington, and confirmed his support for a process leading to a nuclear weapon free world. He underscored his commitment to the strengthening of the NPT, along with measures to do more to safeguard fissile material around the world. And he urged the prompt negotiation of a treaty prohibiting the further production of fissile material. And the President supported cooperation in peaceful nuclear technologies, specifically nuclear power. There was a successful nuclear materials summit in Washington this past spring and in September 2009, with President Obama in the chair, the United Nations Security Council endorsed the goal of the elimination of nuclear weapons.

President Obama said in his speech and the NPT itself makes clear an essential part of the NPT basic bargain which underlies the effort to eliminate nuclear weapons is international support for the peaceful use of nuclear energy. This is increasingly important as the world is threatened by climate change. But realizing the potential of nuclear power to meet the world's growing energy needs and the same time help to combat global warming is only possible if the nonproliferation norm is vigorously upheld.

The United Arab Emirates is about to begin the most notable nuclear power program in the last 20 years. To implement this program the UAE has selected the Korean nuclear power industry. The UAE program in addition to being large could also be a model for future programs. The UAE has renounced on a legally binding basis, in its White Paper on Peaceful Nuclear Energy Policy, in its basic law concerning the peaceful uses of nuclear energy, and in its agreement for nuclear cooperation with the United States, both domestic uranium enrichment as well as plutonium reprocessing. The inclusion of these commitments in its Agreement with

the U.S. makes them internationally legally binding. In addition in the White Paper the UAE expresses strong support for proliferation-resistant nuclear technologies stating "As the UAE seeks to explore technology options for any nuclear program, high importance will be placed on innovative reactors and fuel cycle technologies that exhibit enhanced proliferation resistance." My Company, Lightbridge Corporation, has been strategic advisor to the UAE nuclear program since its inception. Lightbridge serves as advisors to countries that do not have nuclear power but are considering seeking it, if such country is completely committed tonuclear nonproliferation.

In assessing the UAE program, keep in mind that the UAE is in the business of selling its oil, not using it for power generation. The UAE faces an enormous electricity shortfall in less than a decade because of its rapid growth. Its choices: importing coal at great cost, burning oil, deepening dependence on foreign natural gas (of which it is a net importer)--or building nuclear power plants. On purely economic grounds the government of the UAE decided to build nuclear power plants as the best available technology to secure its long–term energy future on a carbon-free basis.

To make its nonproliferation intentions clear, the UAE has signed up to every international agreement that exists safeguarding nuclear power production and controlling nuclear weapon proliferation. As part of this as I said, it has gone well beyond its NPT obligations by formally foreswearing uranium enrichment and plutonium reprocessing on a permanent, legally binding basis.

The "standard model" for an Agreement for Civil Cooperation on the peaceful use of nuclear energy under section 123 of the Atomic Energy Act- a so called 123 Agreement- has served the United States for a long time. It is based closely on NPT obligations and accordingly does not prohibit the acquisition of uranium enrichment or plutonium reprocessing technology as the NPT itself does not. But the threat of nuclear proliferation is growing and the NPT as I have indicated is not as strong as it should be. Nuclear power now is all the more important to

the world economy because of the growing threat of climate change to our planet. North Korea has conducted two nuclear tests, Iran is pressing ahead with its nuclear weapon program, and there are other states in the wings potentially interested in nuclear weapons depending on developments, for example, in North East Asia and the Middle East. Thus, perhaps the "standard model" is no longer good enough. If the United States were simply to make such a change much of the NPT community might regard such action as contrary to the central bargain. But with the UAE- on its way to a highly significant nuclear power program- having already adopted this change such a reaction is much less likely.

The United Arab Emirates made it clear that it hoped its program, including the nonproliferation commitments that they have made which are enshrined in the U.S-UAE 123 Agreement would be a model for others. Thus far it has not been, there are no indications that U.S. 123 Agreements with other countries will follow this model. But they should. It is not desirable that enrichment and reprocessing technology spread more widely. This is an issue on which both President Bush and President Obama agree. Other efforts, such as the Nuclear Fuel Bank at the International Atomic Energy Agency have been pursued to reduce the incentive for additional countries to acquire the full fuel cycle. Legislation requiring that the UAE model be followed in future 123 Agreements, absent a Presidential waiver, could help further to inhibit the spread of fuel cycle technology. And in today's interdependent world, such a change would make sense. And new technology can work with the nonproliferation system to make nuclear power even more nonproliferative and more abundant

On the note of new technology Lightbridge Corporation is developing a new type of nuclear fuel based on a 60 percent /40 percent thorium/uranium mix which does in fact exhibit "enhanced proliferation resistance." This fuel is designed so that no weapons usable material – plutonium, uranium 233, or anything else- will be present in its spent fuel in either an isotopic mix or in quantities that could ever permit it to ever be used in weapons. In addition, this fuel has much reduced waste: a 70 percent reduction in volume and a 90 percent reduction in radio toxicity. An offshoot of this original program has led to the development of a new general type

of metallic nuclear fuel design which will permit an uprate in power production from a given fuel bundle of up to 30 percent thereby permitting the savings of billions of dollars in construction costs by requiring fewer reactors to produce the same amount of electricity.

The nuclear renaissance is a reality. With global warming on the horizon, the potential for serious world-wide air pollution, the political problems surrounding fossil fuels and the enormous increase in energy demand throughout the world, nuclear power must be a growing part of the energy production mix. With effort and consistent world-wide cooperation, perhaps to include new non-proliferation conditions in the form of U.S. 123 Agreements, the peaceful atom can be made available everywhere as envisioned by the NPT and at the same time further nuclear weapon proliferation can be prevented, the NPT strengthened, and progress made toward the world-wide, verifiable and enforceable elimination of nuclear weapons.

Chairman BERMAN. Thank you, Ambassador.

Ms. Squassoni.

STATEMENT OF MS. SHARON SQUASSONI, DIRECTOR AND SENIOR FELLOW, PROLIFERATION PREVENTION PROGRAM, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES

Ms. SQUASSONI. Thank you, Mr. Chairman, Ranking Member Ros-Lehtinen, and members of the committee, for inviting me to speak today about nuclear cooperation and non-proliferation. I have a prepared statement that I would like to submit for the record.

Chairman BERMAN. It will be included in its entirely in the record.

Ms. SQUASSONI. Thank you. May I also submit for the record an article from the Arms Control Today on the impact of the U.S.-India nuclear cooperation agreement.

Chairman BERMAN. Without objection, that will be included.

Ms. SQUASSONI. Thank you.

I focus my remarks today on the challenges of restricting transfers of uranium enrichment and reprocessing. We have been working on this for decades, but the task is more urgent today, as you have noted, because of A.Q. Khan and Iran and because more states are interested in acquiring nuclear power and less interested in restricting their fuel cycle options.

One exception to this is the United Arab Emirates, which agreed to rely on the international fuel market and not to develop domestic enrichment or reprocessing. I say it is an exception because other countries don't appear to be following its lead.

As the path-breaker for nuclear energy in the Middle East, the UAE had much to gain. Other STATES that follow have less to gain, and all have other nuclear supply options. Jordan has signed nine nuclear cooperation agreements, but none yet with the United States. It is considering reactors offered by Canada, Russia, and Japan, and none of those suppliers will be seeking commitments to forego enrichment and reprocessing by Jordan.

This U.S. bilateral approach appears to be losing momentum elsewhere. Turkey and Vietnam apparently do not intend to give up their fuel cycle rights, which Turkey made very clear in a most recent Nuclear Suppliers Group plenary meeting in June.

Well, if the U.S. can't do this alone, how does it seek to persuade other suppliers to join it? The International Framework for Nuclear Energy Cooperation—it is a funny acronym, IFNEC, which is the successor to the Global Energy Nuclear Partnership, that is one approach, and the other approach is the Nuclear Suppliers Group. IFNEC, like its predecessor, does not require partners to give up any rights. Unless IFNEC promotes cradle-to-grave fuel supply, that is, where countries are provided incentives to rely on the international market, its value in this area will be extremely limited.

As for the Nuclear Suppliers Group, 6 years of discussion on new criteria for sensitive transfers have yielded no consensus. At this point, the new criteria appear less helpful than the old policy of restraint.

I would like to make one other point about the UAE agreement as a model. This agreement included advance consent for storage

and/or reprocessing the UAE's spent fuel abroad, and this is a unique feature in an agreement for a state like the UAE. It would be unfortunate if other states concluded from this that even modest reliance on nuclear power could require reprocessing for spent fuel management. Reprocessing is costly, creates more and different radioactive waste streams, and is unnecessary.

Before my recommendations, I would like to briefly comment on the Russian and Australia 123 Agreements. The Russian agreement is critical to several U.S. objectives, especially pursuing this kind of cradle-to-grave fuel supply system. It is necessary but not sufficient. Russia and other states will need to be persuaded to become such full service suppliers.

The Australian agreement is vital for another reason. As Ambassador Graham pointed out, the U.S. procures significant uranium supplies from Australia.

I have a longer list of recommendations in my prepared statement, but I will summarize them here.

The additional protocol is a critical component of the non-proliferation regime. All U.S. 123 agreements should require it, and so should the Nuclear Suppliers Group. Congress should amend the Atomic Energy Act to include the additional protocol as a requirement in Section 123. To get agreement at the Nuclear Suppliers Group, the U.S. should abandon current discussions on enrichment and reprocessing criteria, which have gotten in the way of NSG consensus on the additional protocol.

My second recommendation is that we should focus internationally on the full nuclear fuel cycle and on multilateral solutions. It is not enough to suggest that cradle-to-grave fuel cycle assurances would be a good thing. We need to create opportunities in this country and abroad. And if you were listening to the Blue Ribbon Commission on America's Nuclear Future this week, we heard some of these recommendations to that group.

The U.S. should explore paths to ending national ownership of uranium enrichment and reprocessing facilities. It is not enough to require new facilities to be multinational, since this would be viewed as discriminatory. An agreement that ensured that all facilities would be required to be multinational would reduce the risks of states developing latent nuclear weapons capabilities and then breaking out of the Non-Proliferation Treaty.

A fissile material production cutoff treaty could include such a provision. So structured, the FMCT could fulfill both its disarmament and non-proliferation missions, level the playing field, and help ease the tension within the NPT about perceived rights to fuel cycle capabilities.

And lastly, Congress and the executive branch need to implement current legislation and close some gaps. Funding, implementing, and monitoring Title V of the 1978 Nuclear Non-Proliferation Act, which requires the U.S. to conduct nonnuclear energy cooperation and energy assessment assistance with developing states, could provide incentives for developing countries to focus on nonnuclear solutions to their electricity needs, and this would take the pressure off somewhat the non-proliferation regime.

Finally, there is a provision in the Arms Export Control Act, the so-called Symington Amendment, that restricts foreign military

and export assistance to countries that deliver or receive enrichment equipment, materials, or technology unless the recipient has full-scope safeguards and unless the supplier and recipient have agreed to place all such items under multilateral auspices and management when available. This provision could be tightened by deleting the phrase "when available." If we are serious about multinationalizing the fuel cycle, this could help.

Thank you very much, and I look forward to your questions.

[The prepared statement of Ms. Squassoni follows:]

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Statement before the House Foreign Affairs Committee

"NUCLEAR COOPERATION AND NONPROLIFERATION: RECONCILING COMMERCE AND SECURITY"

A Statement by

Sharon Squassoni

Senior Fellow and Director

CSIS Proliferation Prevention Program

Center for Strategic and International Studies (CSIS)

September 24, 2010

2172 Rayburn House Office Building

Thank you, Mr. Chairman, Ranking Member Ros-Lehtinen and members of the Committee for inviting me to be a witness today on the subject of nuclear cooperation and nonproliferation. Your committee is providing vital oversight of nuclear commerce and controls, which sometimes seem at odds with each other. The task before us is to ensure that peaceful nuclear energy remains just that – and not a pretext for developing a latent nuclear weapons capability.

The title of this hearing, "Nuclear cooperation after Khan and Iran: Are We Asking Enough of Current and Future Agreements" suggests that we might need to alter the way we conduct our own nuclear cooperation in response to proliferation developments. And it is certainly true that the Khan network and Iran's clandestine program have highlighted the proliferation risks of the diffusion of sensitive technology, such as uranium enrichment and spent fuel reprocessing.

The unfortunate truth is that for the past seven years since the discovery of the Khan network and Iran's program, efforts to create real restrictions on the nuclear fuel cycle have encountered roadblocks. Some of these have been from U.S. allies and competitors. Some have been from states that do not even now have nuclear power. Both supply-led and demand-led attempts have largely failed.

There are several reasons for this. *First,* global enthusiasm for nuclear energy is at an all-time high, as it is seen by many as an antidote to climate change and energy dependence. *Second,* although top suppliers agreed for a few years to restrict enrichment and reprocessing transfers, efforts failed because consensus within the Nuclear Suppliers Group (NSG) has dangerously eroded. One has only to look at China's intended sale of reactors to Pakistan, and to the objections to more stringent requirements for enrichment and reprocessing transfers raised by Canada, Argentina, Brazil, South Africa, and Turkey, among others. The failure of the NSG to reach a consensus is not surprising after the U.S.-India nuclear cooperation deal. *Third,* most of the proposals under discussion for the past five years, from fuel banks to enrichment bonds and multinationalization of facilities, involve marginal changes to the current system of supply, offered by the supplier states. On the front end of the fuel cycle – enrichment and fuel fabrication – the message from the advanced nuclear suppliers is that the market works and we should not distort competition. On the back end of the fuel cycle, the message has been that if you want nuclear power, you have to take care of the waste yourself.

The newcomers to nuclear power – those states that do not now have nuclear power but have declared an interest in acquiring nuclear power reactors -- (and there may be as many as 60 of them, according to the International Atomic Energy Agency) approach the restrictions differently. They see the global nuclear industry as an oligopoly, and most fuel assurance efforts as a way to keep them dependent on the advanced nuclear states. If they have to deal with the waste, they may consider all their options, including sending it abroad for reprocessing or reprocessing it at home.

Many non-nuclear weapon states are anxious to keep their fuel cycle options open as the nuclear industry talks up the prospect of a nuclear renaissance. And with few legal restrictions in place, it is unclear how far sensitive technology might spread in the future. In its 2003 report

on the Future of Nuclear Power, a Massachusetts Institute of Technology study group suggested that as many as 54 countries could have a nuclear capacity above 10 GWe (about 10 large reactors) by 2050, creating a case for domestic enrichment of uranium. And although 30 countries plus Taiwan now have spent nuclear fuel, not a single one – including the United States – has directly deposited that spent fuel in a long-term, geologic repository. States are currently debating the pros and cons of recycling their spent fuel to get additional fissile material resources out of it, to expand packaging options for high level waste, and possibly, to reduce the footprints of geologic repositories. Although the United States continues to advocate long-term storage (100+ years) of spent nuclear fuel, it is not clear which states will be following us.

U.S. Leadership and Nuclear Industry

In 1978, when the Nuclear Nonproliferation Act was passed, U.S. commercial nuclear leverage was still considerable. In 1974, U.S. reactor exports accounted for close to 60% of the world market and four companies produced reactors – Babcock & Wilcox, Combustion Engineering, General Electric, and Westinghouse. While the development of nuclear power in the United States slowed down, development elsewhere, particularly in France, Russia, Japan, and Korea ramped up. The gaseous diffusion process for uranium enrichment developed in the United States is now obsolete, and the gas centrifuge process that was developed in Europe and Russia is predominant. Fuel fabricators in the United States are led by Westinghouse, a company owned by a consortium led by Toshiba. And General Electric has become GE Hitachi. The Toshiba subsidiary Westinghouse is the only nuclear reactor vendor that is successfully selling reactor technology developed in the United States. In 2008, the U.S. nuclear energy industry exported $285.7 million, most of it in fuel and fuel-related supplies.[1] This compares to a $14 billion procurement from domestic sources for U.S. nuclear power plants.

On the back end of the fuel cycle, commercial reprocessing halted in the United States more than thirty years ago and despite efforts of the Bush Administration, has not really been resuscitated. In its place, there is research and development conducted by the Department of Energy on a "modified open" fuel cycle, which could include recycling techniques deemed to be more proliferation-resistant than the dominant PUREX process.

Nonetheless, strong U.S. patent and export laws will continue to exert leverage over some nuclear commerce. In the words of one UAE official, without a U.S. nuclear cooperation agreement, "you find yourself in a licensing scenario where every component and every piece of material has to be licensed separately. It is very difficult to manage a project in those circumstances." Moreover, "ultimately much of the technology has a US thumbprint on it."[2] This is why Westinghouse will be involved in Korea's construction of four nuclear power plants for the United Arab Emirates. This leverage may not last for long, however, as South Korea plans to sell completely indigenous reactors abroad by 2015.

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[1] See "Trade Mission, Agreements Promote U.S. Nuclear Technology in Eastern Europe," available at: http://trade.gov/publications/ita-newsletter/0810/nuclear-tech-trade-mission.asp

[2] "UAE set nuclear precedent as "gold standard," *The National*, August 23, 2010, found on-line at UAE Interact, http://www.uaeinteract.com/docs/UAE_set_nuclear_precedent_of_â€˜gold_standardsâ€™/42290.htm.

Another potential source of leverage is foreign interest in new nuclear power development in the United States. The French company AREVA is now a major fuel fabricator in the United States, and other foreign countries are exploring opportunities to fabricate nuclear fuel in the United States. Korea Nuclear Fuel has contracted with Westinghouse to provide fuel for U.S. reactors.[3] Mitsubishi and AREVA have also announced sales of nuclear power plants to operators in the United States. The table below gives examples of foreign interests in U.S. nuclear concerns.

TABLE 1: Foreign investment in U.S. nuclear capacity, 2010

Project	Operator / Owner	Foreign investment	Domestic Ownership	Reactor Supplier
Calvert Cliffs, Unit 3	UniStar Nuclear (a joint venture by Constellation Energy and EDF)	EDF (85% owned by French govt) EDF owns 50% of UniStar; EDF also owns 9.5% of U.S. firm	Constellation Energy	AREVA***
South Texas Project, unit 1&2	Attempt by CAMECO (Canadian firm) to acquire 25.2% of South Texas Project unit 1 & 2 was unsuccessful			
South Texas Project, unit 3&4	Nuclear Innovation North America (NINA): nuclear company jointly owned by NRG Energy and Toshiba NRG owns 88%, Toshiba 12%	NINA's: 83.175% Toshiba: about 10% Tokyo Electric Power Company (TEPCO): 9 % Total foreign: 19 %	CPS Energy: 7.6%	Toshiba
Nine Mile Point, Unit 3	UniStar Nuclear (a joint venture by Constellation Energy and EDF)	At least half	Constellation Energy	AREVA
National Enrichment Facility (New Mexico)	URENCO	URENCO owns 100% of the National Enrichment facility		
IDAHO Enrichment Facility	AREVA joint venture with Northrop Grumman	At least half is reported to be owned by AREVA		
USEC		Noble Group = 5.1% Chinese sovereign wealth fund = 15% of Noble		

Source: Various, including New York Times, Nuclear Information & Resource Service.

U.S. Nuclear Cooperation and Nonproliferation Objectives

The United States has long had a global policy of discouraging enrichment and reprocessing by states that do not already have the technology.[4] More than thirty years ago, President Ford called on all nations to avoid transfers of sensitive nuclear technology for a period of at least

[3] Personal communication from KNF officials, July 2010.

[4] Statement of James Timbie, U.S. State Department, before the Blue Ribbon Commission on America's Nuclear Future, September 21, 2010, available at www.brc.gov

three years.[5] When the United States could not get the Nuclear Suppliers Group, newly formed then, to agree to a moratorium on such transfers, it settled for a policy of restraint.

In U.S. nuclear cooperation agreements, there is generally a provision that prohibits the transfer of restricted data (some enrichment technology is classified as restricted data) and sensitive nuclear technology unless provided for in an amendment to the agreement. U.S. 123 agreements therefore do not generally include provisions for sharing enrichment or reprocessing technology. An exception is the 1999 U.S.-Australian agreement to allow for SILEX enrichment technology transfer from Australia to the United States.

However, there is another issue at stake here – encouraging the use of reprocessing through providing programmatic consent for reprocessing. For a few countries, the United States has provided programmatic consent to reprocess U.S.-origin spent fuel. Some Members of Congress argued in the past that that policy, adopted in the 1980s, is at odds with the intent of the 1978 Nuclear Nonproliferation Act.[6] Japan and EURATOM enjoy this privilege, and pursuant to the subsequent arrangement recently negotiated, so will India. It is worth noting that the United States provided advance consent in the U.S.-UAE agreement for storage and reprocessing abroad and will confront this challenge when it renegotiates the U.S.-South Korean agreement.[7]

The "UAE Model" and Lessons from the US-India Deal

The U.S.-UAE nuclear cooperation agreement has been called the "gold standard" and the UAE's nuclear program called "peaceful by design." Its principle virtues are the UAE's renunciation of domestic enrichment and reprocessing in favor of external fuel supply, both in the preamble and in Article 7, and a provision to terminate the agreement should the UAE conduct domestic enrichment or reprocessing, among other things. Two potential drawbacks, however, are provision of advance consent for the UAE to send its spent fuel overseas, either for storage or reprocessing and the inclusion of a provision for amendment should an agreement signed by the United States with another Middle Eastern country be less restrictive. This last provision was adopted from the 1981 U.S.-Egypt agreement and is likely to be a feature of all future agreements in the Middle East. Reportedly, Jordan, which has signed nine

[5] See the detailed analysis by Fred McGoldrick, "The Nuclear Suppliers Group and Multinational Arrangements for Uranium Enrichment Facilities: Past, Present and Future," prepared for the MIT Workshop on Internationalizing Uranium Enrichment Facilities, October 20-21, 2008, p. 3.

[6] In the Nuclear Proliferation Assessment Statement prepared for the UAE agreement, and submitted by the Secretary of State, which can be found in House Document 111-43, there is an analysis on pages 16 to 18 of how advance consent for reprocessing is not at odds with the 1978 Nuclear Nonproliferation Act. The analysis even suggests that "timely consideration of prior approval" can be equated with programmatic consent.

[7] According to President Obama's letter transmitting the UAE agreement to Congress on May 21, 2009, "The Agreed Minute to the Agreement provides U.S. prior approval for retransfers by the UAE of irradiated nuclear material subject to the Agreement to France and the United Kingdom, if consistent with their respective policies, laws, and regulations, for storage or reprocessing subject to specified conditions, including that prior agreement between the United States and the UAE is required for the transfer of any special fissionable material recovered from any such reprocessing to the UAE." Available at http://www.whitehouse.gov/the_press_office/Message-from-the-President-on-the-US-UAE-Peaceful-Uses-of-Nuclear-Energy-Agreement/

nuclear cooperation agreements with other states but none with the United States, has balked at renouncing domestic sensitive fuel cycle facilities. The United States is faced with two choices: abandon the more restrictive formulation of its 123 agreements and risk the UAE abandoning its commitments, or only sign nuclear cooperation agreements in the region with such restrictions. This could limit U.S. influence on the development of nuclear energy in the region, or place pressure on the United States to provide similar benefits to those included in the UAE agreement to other Middle Eastern states – namely, fuel supply assurances and programmatic consent for reprocessing.

On programmatic consent for reprocessing, the UAE agreement sets a troubling precedent. Until the India cooperation agreement, the United States did not give programmatic consent for reprocessing U.S.-origin fuel unless a country already had an advanced nuclear program, including reprocessing and enrichment plants; did not pose a proliferation risk; was not located in regions of proliferation concern; and had excellent nonproliferation credentials. Japan and EURATOM countries were the only countries accorded this privilege. One could argue that the proliferation risks were minimal in the case of India because it already had reprocessing and nuclear weapons. In the case of the UAE, the proliferation risk is minimized by the fact that the UAE will not be doing the reprocessing itself because the UAE has committed to relying on the international market for fuel services. However, the disposition of special fissionable material recovered from any reprocessing (in the UK or France) "shall require the further agreement of the Parties."[8] The United States did not require the material to remain in a third country or be returned to the United States, but the agreement reflects its right to do so, if warranted.

Countries need permanent solutions for nuclear waste, which permission for overseas storage and/or reprocessing does not provide. It is important to remember that while the UAE committed to using the international market, it did not commit to pursuing an open fuel cycle – one in which spent fuel would be directly deposited in a geologic repository. The 2003 and 2010 MIT reports on the *Future of Nuclear Power* and the *Future of the Nuclear Fuel Cycle* advocate the pursuit of an open fuel cycle – one that does not include reprocessing – primarily to reduce the risk of proliferation that could result from an expansion of nuclear energy. The U.S.-UAE agreement suggests that a country that may have as few as 10 nuclear power plants in the future could require reprocessing, which does not support U.S. policy to discourage reprocessing.

The UAE is not alone in its desire for autonomy for fuel cycle decisions. The notion of fuel cycle autonomy has long played a part in international nonproliferation discussions. At the 2010 NPT Review Conference in May, the language in the action plan referring to states' fuel cycle decisions called on treaty parties to "[r]espect each country's choices and decisions in the field of peaceful uses of nuclear energy without jeopardizing its policies or international cooperation agreements and arrangements for peaceful uses of nuclear energy and its fuel cycle choices.

[8] Agreed Minute to the Agreement for Cooperation between the Government of the United States of America and the Government of the United Arab Emirates Concerning Peaceful Uses of Nuclear Energy.

The UAE has clearly positioned itself to be a nuclear energy and nonproliferation leader in the Middle East and its negotiations with the United States indicate it understands just how important it is to get a U.S. stamp of nonproliferation approval. There is a parallel here to the U.S.-India deal.

Just four years ago, this committee debated whether or not to exempt India from critical requirements of the Atomic Energy Act. India, which had been cut off from international nuclear trade from NSG members since 1992, sought a U.S. exemption first before going to the NSG.[9] India agreed to many conditions required by the Hyde Act, but the Nuclear Suppliers Group decision to allow nuclear trade with India was open-ended. This means that India's other nuclear partners have few restrictions. While Russia has apparently decided not to engage in sensitive nuclear transfers, France's 2008 cooperation agreement with India contains such provisions.[10] Although a nuclear test by India will halt U.S.-Indian nuclear cooperation, it's not clear what other countries will do. Japan is facing stiff opposition from India on its insistence on no new nuclear tests. Meanwhile, the lack of suitable liability protection is keeping U.S. reactor vendors out of the Indian nuclear power market, but other vendors with government protection are moving ahead.

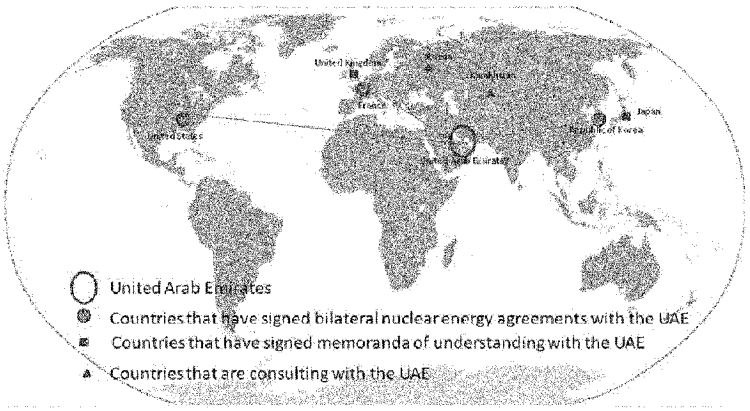
The UAE, while signing nuclear cooperation agreements with France and the United Kingdom, sought to establish its nonproliferation credentials with the United States, committing itself to reliance on the international fuel market rather than acquiring domestic enrichment and reprocessing capabilities. Yet the UAE will purchase its power reactors from a Korean consortium. Korea, a member of the Nuclear Suppliers Group, does not require the same kinds of restrictions as the United States. However, the inclusion of Westinghouse in the contract for the first four UAE reactors will ensure the UAE remains committed to using the international fuel market for some time.

Limits to U.S. Influence

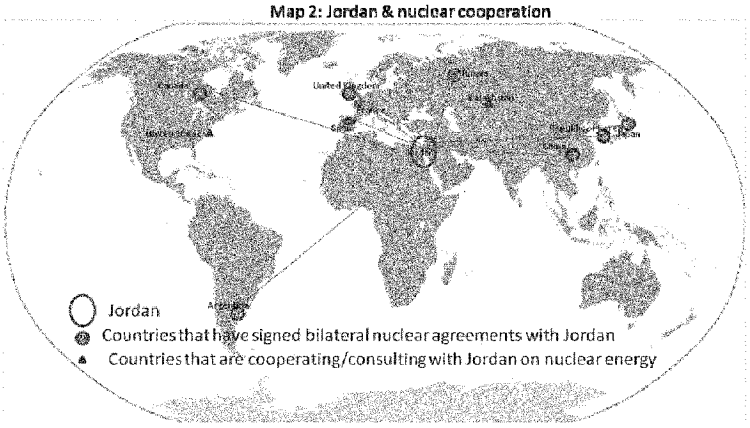
As noted above, the United States government is not the only government pursuing nuclear cooperation around the globe. This past year, the Korean government announced it had plans to export 80 nuclear power reactors by 2030. The French government has avidly promoted nuclear energy, and so have the Russians, Chinese, Japanese, and Indians. With the exception of India, all of these countries are NSG members. However, their legal requirements for nuclear cooperation vary significantly. The two maps below show the UAE's other potential nuclear partners, and Jordan's potential nuclear partners.

[9] For a more detailed analysis, see Sharon Squassoni, "The US-Indian Deal and Its Impact," *Arms Control Today*, July-August 2010, available at http://www.armscontrol.org/act/2010_07-08/squassoni
[10] For text of the Indo-French deal, see www.dae.gov.in/sectt/indofrench.pdf

Map 1: UAE nuclear cooperation



Map 2: Jordan & nuclear cooperation



It's fairly clear that the UAE chose the KEPCO APR-1400 reactors based on cost and demonstrated manufacturing expertise. The project is likely heavily subsidized by the Korean government. It is not clear that Jordan, which is moving ahead with nuclear cooperation agreements with other states, but not the United States, is basing its decisions similarly. Reportedly, Jordan is considering three reactor designs: the Canadian CANDU-6,

AtomStroyExport's AES-92 model of its VVER-1000; and the Atmea-1 pressurized water reactor (PWR) design proposed by a joint venture between Areva and Mitsubishi Heavy Industries (MHI). None of these manufacturers have the solid, recent experience of the Korean consortium.

This dilemma of U.S. firms losing nuclear business to competitors with less restrictive technology transfer policies is one concern, but is likely outweighed by the ability of foreign firms, many of them owned or subsidized by their governments, to present more affordable contracts. A more disturbing proposition would be for the United States to implement restrictions for some states and not for others. Recent press about U.S. negotiations with Vietnam made it seem as though the United States, because it apparently is having difficulty getting Vietnam to agree to renounce domestic enrichment and reprocessing, would apply a different set of rules in Asia than in the Middle East.[11]

What is essential, however, is to raise the technology transfer threshold for all nuclear suppliers.

A critical question is how high to raise the bar. Nuclear security would be much improved with the elimination of highly enriched uranium and separated plutonium around the world. There is a spectrum of restrictions, ranging from most restrictive to least:

- Elimination of reprocessing by existing states
- Adoption of proliferation-resistant recycling (when it is developed) by existing reprocessing states
- Multinational proliferation-resistant recycling by all states
- Multinational proliferation-resistant recycling by new states
- Proliferation-resistant recycling by new states
- No more reprocessing by existing states of other states' waste (no more clients)
- No limits on reprocessing for any state

Currently, there are no formal limits on reprocessing or enrichment for any state beyond that which is contained in bilateral nuclear cooperation agreements or informally agreed among Nuclear Suppliers Group members. My recommendations, covered in more detail below, chart a middle path among these.

The Russian and Australian Nuclear Cooperation Agreements

The 123 agreements signed with Russia and Australia could enter into force during this Congress or may have to be reintroduced next Congress, if there are not enough legislative days remaining this year. The most promising aspect of the Russian agreement, should it enter into force, would be the ability for U.S. scientists to be able to use Russian fast reactors to test materials and fuel. If implemented fully, the agreement will allow the United States to permit the transfer of U.S.-origin spent fuel to Russia for storage. The U.S.-Russia 123 agreement is

[11] Jay Solomon, "US, Hanoi in Nuclear Talks," *Wall Street Journal*, August 3, 2010, available at http://online.wsj.com/article/SB10001424052748704741904575409261840078780.html

necessary to make any "cradle-to-grave" approach to fuel services work, since Russia is one of the few countries that has passed a law allowing the import of spent nuclear fuel . However, Russia has only applied this policy in a few cases, including Iran, and has not adopted this on a broad basis as part of its nuclear cooperation agreements.

In the case of Australia, the 123 agreement is vital to continued U.S procurement of Australian uranium, which accounts for about 13% of U.S. imports.[12] The transfer of sensitive nuclear technology, from Australia to the United States, was handled in a separate agreement sent to Congress in 1999.

Recommendations

1. Make the Additional Protocol a condition of nuclear supply, in U.S. law as well as in policy.

U.S. policy now requires new recipients of U.S. nuclear cooperation to sign and ratify an Additional Protocol. Japan also requires the Additional Protocol as a condition of supply, but other suppliers like France and Korea will not move forward unless there is universal acceptance. The first step is transitioning from a policy into law. This could be done relatively easily through amending Section 123 (b) of the Atomic Energy Act.

2. ***Abandon existing discussions within the Nuclear Suppliers Group on enrichment and reprocessing restrictions in favor of a solid consensus on requiring the Additional Protocol as a condition of supply*** NSG restrictions on enrichment and reprocessing have gone nowhere because member states are wary of giving up their "rights." The NSG has had a presumption of denial for these kinds of transfers for decades, which, by and large, has worked. Resuming this policy at this point could be more effective in restricting transfers than further watering down criteria.

Reaching consensus on making the Additional Protocol a condition of all nuclear supply will likely be easier than consensus on new enrichment and reprocessing restrictions. Only Argentina and Brazil do not have Additional Protocols in place. Reportedly, Argentina and Brazil want to preserve the importance of their bilateral inspections under ABACC, objecting to a situation in which IAEA inspectors would have more rights and access than ABACC inspectors. However, the solution is not to jettison the Additional Protocol, but to amend ABACC provisions to mirror the additional inspection and information rights accorded to the IAEA under INFCIRC/540.

3. ***Get serious about back-end solutions*** It is not enough to suggest that cradle-to-grave fuel cycle assurances would be a good thing; it is imperative to create opportunities both in this country and abroad. As witnesses before the Blue Ribbon Commission on America's Nuclear Future stated earlier this week, countries with large nuclear programs could absorb the small amount of spent nuclear fuel from other countries. This is far superior to seeing a proliferation of scores of reprocessing plants and geological repositories overseas. More than half a century

[12] CRS report

after the advent of peaceful nuclear power, it is time to come to grips with nuclear waste, approaching the problem beyond national bases.

4. ***Get serious about multinationalizing the fuel cycle*** The United States is building four new enrichment plants, three of which will have significant foreign ownership. Although there are NRC restrictions on licensing plants that have foreign ownership, control or dominance, there are ways to ensure that no single party would be able to dominate operations. The United States should lead the way in demonstrating that its energy security is not compromised by multinational control of enrichment facilities.

The United States should also explore paths to ending national ownership of sensitive nuclear fuel cycle facilities like uranium enrichment and spent fuel reprocessing. A good candidate vehicle for leveling the playing field would be a fissile material production cutoff treaty. If all states agree to ban the production of fissile material for weapons, there is little rationale for national facilities. It is not enough to require new facilities to be multinational, since this would be viewed as discriminatory. Under such an approach, the FMCT could fulfill both its disarmament and nonproliferation missions and go a long way toward easing the tension within the Nuclear Nonproliferation Treaty about perceived rights to fuel cycle capabilities.

5. ***Drop the use of advance consent to reprocess U.S.-origin fuel as a reward for nonproliferation assurances*** Providing new nuclear states with options to send their spent nuclear fuel abroad for reprocessing will increase shipments of plutonium overseas, questions about the final disposition of that plutonium (unclear in the UAE case), and support otherwise unprofitable reprocessing plants. It is possible to provide advance consent for storage, but the United States should continue to discourage reprocessing (using existing PUREX methods) as a technique for spent fuel management.

6. ***Implement current legislation and close some gaps*** Title V of the 1978 Nuclear Nonproliferation Act should be funded, implemented, and monitored by Congress. This requires the United States to conduct non-nuclear energy cooperation and energy assessment assistance with developing states. Nuclear energy is unlikely to be the best choice for all of those 60 countries seeking it. Such countries do, however, need help pursuing low-carbon, renewable options for generating electricity.

There is a provision in the Arms Export Control Act (the so-called Symington Amendment) that would restrict foreign, military, and export assistance to countries that deliver or receive enrichment equipment, materials or technology unless the supplier and recipient have agreed to place all such items under multilateral auspices and management *when available* and unless the recipient has full-scope safeguards. This provision could be tightened by deleting the phrase "when available."

Chairman BERMAN. Thank you.
Mr. Fly.

STATEMENT OF MR. JAMIE M. FLY, EXECUTIVE DIRECTOR, THE FOREIGN POLICY INITIATIVE

Mr. FLY. Thank you. I would like to begin by thanking Chairman Berman, Ranking Member Ros-Lehtinen, and other members of the committee for the invitation to appear today at this very important hearing.

I am going to summarize key points from my written testimony. The main point I want to convey today is that I increasingly fear that we are on the precipice of proliferation of nuclear weapons unlike anything we have witnessed since the development of the atomic bomb. Ambassador Graham went into some of the historical points about this issue, and others have noted the jolt to the nonproliferation regime that we have witnessed in recent years.

In addition to those that have already been mentioned, I would like to add to that North Korea's actions over the last decade. We have seen North Korea withdraw from the NPT, develop nuclear weapons, transfer sensitive nuclear technology to Syria, a state sponsor of terrorism, and now possibly do the same thing with Burma, according to press reports. This action by North Korea has added to the concerns that we should currently have because of the actions of A.Q. Khan and Iran's continued illicit nuclear weapons program.

Administrations of both political parties have failed to prevent this proliferation, so this should not be a partisan issue. My fear going forward is that in addition to just failing to prevent this proliferation, we are contributing to the problem by failing to refute the notion that all states have the right to sensitive nuclear technology and processes, and this will result in an additional cascade of proliferation, especially if Iran develops nuclear weapons.

That is why it is so important for this committee and this Congress to engage in a serious debate about our nuclear cooperation policy.

The fact that we are meeting today to in part discuss the Australia and Russia 123 Agreements without anyone from the executive branch present, I believe says much about what is wrong with the current state of affairs with the Atomic Energy Act.

In my written testimony I go into greater detail about concerns that I have with the timing of the Russia 123 Agreement. Some of the facts are that Russia still occupies Georgian territory and continues to threaten its neighbors, including our NATO allies. Despite the positive step this week, where Russia announced that for now it will not fulfill its contract to deliver the advanced S–300 air defense system to Iran, other Russian officials have announced they will still maintain their extensive military relationship with Iran, and as others have noted, Russia recently announced that they would send advanced cruise missiles to Syria.

There are ongoing questions about past Russian assistance to Iran's nuclear program and, as others have already noted, its cooperation with the nuclear reactor at Bushehr.

In recent weeks, on the human rights front, we have witnessed a series of crackdowns on the Russian political opposition. Prime

Minister Putin, who is widely rumored to be on his way back to the presidency in 2012, was quoted as saying that peaceful protesters would "be beaten upside the head with a truncheon, and that's it."

I believe all of this should give us pause and should mean that we have a serious debate, including administration officials explaining how the U.S.-Russia 123 Agreement fits into our overall strategy toward Russia and why it is in our interest to conclude it now.

Moving beyond Russia, I have four recommendations about how this committee and Congress can ensure that we have a more fulsome debate about future 123 agreements as well as actions Congress could take to move away from the nuclear precipice I described at the outset.

My first recommendation has already been mentioned by others. It is to modify the Atomic Energy Act to allow greater congressional scrutiny of future 123 agreements. As Congress did with the U.S.-India agreement, I would suggest that Congress require an up-or-down vote on all agreements that do not conform to the UAE model, and as others again have noted, I believe that this is especially important given press reports about the agreement in the works with Vietnam.

My second recommendation is that we as a country need to get serious about stopping proliferation. I, unfortunately, believe that administrations of both parties have become fundamentally unserious about punishing proliferators. The current administration's focus on disarmament and nuclear security is only one aspect of the problem. We must punish proliferators severely. I think that we as a country have failed to use the case of Syria as a teachable moment. To this date, under my understanding, there have been no Syrian entities designated by the U.S. Government for their construction of an illicit nuclear reactor. North Korean entities have been designated, but some of them only years after the fact.

I would suggest that the committee explore ways to make sanctions automatic in such cases or require the executive branch to designate certain entities and individuals involved in proliferation or to justify to the Congress why they are unable to do so.

My third recommendation is to restore the balance between proliferation concerns and promotion of the U.S. Nuclear industry. I do not think that we should be chasing after the latest exotic market just because other countries' nuclear industries are entering. We also need to work with countries expressing an interest in nuclear energy to determine if it is truly in their best interest, and I would suggest the committee explore options for using international companies' interest in operating in the United States to hold them to certain standards.

I also would suggest to the U.S. Nuclear industry that they first focus on existing markets before expanding. I was recently on a trip through Central Europe where two of our allies have bids out for nuclear reactors, and I heard frequent complaints that U.S. companies are not doing enough to compete for their business.

My fourth and final recommendation is that we should take all actions necessary to prevent Iran from developing nuclear weapons. If Iran goes nuclear, others in the region will follow, including several U.S. allies currently interested in civilian nuclear cooperation.

The only way to avoid this scenario is to prevent Iran from reaching that point.

The committee has passed significant legislation invoking sanctions on Iran, but to date we have not been successful in altering Tehran's calculus. I would thus advocate a serious exploration by the Obama administration and this Congress of all available remaining options, including the use of military force, because the consequences of a nuclear Iran are truly unthinkable.

Mr. Chairman, the challenges we face in this area are truly unprecedented, but by recognizing that we need a serious bipartisan examination of the pros and cons of future nuclear cooperation agreements, I believe we can take a small step toward a more sensible U.S. non-proliferation policy.

Thank you.

[The prepared statement of Mr. Fly follows:]

Standing at the Precipice: Nuclear Proliferation in the Age of Khan and Iran

Testimony before the House Committee on Foreign Affairs
September 24, 2010

Jamie M. Fly
Executive Director
Foreign Policy Initiative

I'd like to begin by thanking Chairman Berman, Ranking Member Ros-Lehtinen, and the other members of the committee for the invitation to appear today at this very important hearing on "Nuclear Cooperation and Non-proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?"

If I convey nothing else today, I'd like to make the point that I fear that we are on the precipice of proliferation of nuclear weapons unlike anything we have witnessed since the development of the atomic bomb. I don't make this statement lightly, because ever since the Enola Gay dropped its payload over Hiroshima, analysts have predicted that nuclear weapons would rapidly proliferate. Dr. Henry Kissinger famously wrote in his seminal 1957 book *Nuclear Weapons and Foreign Policy* that:

> "Within a generation the peaceful uses of atomic energy will have spread across the globe. Most nations will then possess the wherewithal to manufacture nuclear weapons. Foreign policy henceforth will have to be framed against the background of a world in which the 'conventional' technology is nuclear technology."

Thankfully, at the time, Kissinger was incorrect. The uneasy deterrence between our country and the Soviet Union during the Cold War as well as mechanisms such as the 1970 Nuclear Non-Proliferation Treaty (NPT) helped to keep proliferation of nuclear technology, until recently, at the margins.

Unfortunately, over the last decade, that has begun to change. During this period, we have seen North Korea withdraw from the NPT and go nuclear despite our repeated efforts to prevent this

outcome. Pyongyang has proliferated sensitive nuclear technology and know-how to Syria, a state sponsor of terrorism, with few repercussions, and there are now press reports that it is doing the same with Burma, another despotic regime. We have just begun to unravel the nefarious trafficking of nuclear materials and expertise by Pakistani scientist Abdul Qadeer Khan to a whole host of countries including Libya and Iran. And now we are watching Iran repeatedly flout the international community's demands that it halt its illicit nuclear program.

Unfortunately, successive administrations of both political parties have failed in their efforts to prevent this proliferation. I would argue that the U.S. government has not just been unable to address these proliferation challenges, but has actually contributed to them by not successfully refuting the now prevalent notion that all states have the right to sensitive nuclear technology and processes. The Bush administration attempted to shift the debate by developing programs such as the Global Nuclear Energy Partnership and attempting to get the Nuclear Suppliers Group (NSG) to limit the transfer of enrichment and reprocessing technology, but these efforts appear to have fallen by the wayside. This focus on promoting nuclear cooperation, albeit peaceful cooperation, is leading us down the path to the very uncertain nuclear future I now fear our children and grandchildren will face. That is why it is so important that this committee and this Congress engage in a serious debate about our nuclear cooperation policy.

The fact that we are meeting today to in part discuss the administration's proposed nuclear cooperation or "123" agreements with Australia and Russia without representatives from the Executive Branch present, unfortunately says much about what is wrong with the current state of affairs. As you well know, the Atomic Energy Act requires the Executive Branch to submit proposed agreements to Congress for review. As you also know, it is incredibly difficult for Congress to then block such agreements unless a resolution of disapproval is passed by a veto-proof majority.

Despite having spent my time in government primarily in the Executive Branch, I feel strongly that because we stand on the cusp of a highly proliferated world, we need to have a serious debate about each and every 123 agreement we enter into, even if this means increased authorities for the legislative branch. Agreements with treaty allies, such as Australia, should obviously not be as controversial as those with countries where our long-term interests are less clear, but if the United States is serious about moving toward a world without nuclear weapons

instead of one with even more nuclear weapons states, we need to carefully consider the consequences before we share sensitive technology and conduct nuclear cooperation with additional countries.

Russian Nuclear Cooperation Agreement

First, let me examine the situation surrounding the proposed 123 agreement with Russia. The agreement has been, and is, essentially a political concession to the Russian Federation. I am not here today to oppose the agreement outright, but believe that the Congress and the Obama administration should be having a debate about the timing of the agreement, why it is in the interest of the United States, and what it means for our efforts to coax Russia into the family of democratic nations.

As you know, the Bush administration rightly withdrew the agreement from congressional review after Russia's August 2008 invasion of Georgia. What events, despite the passage of time, have changed the strategic situation with Russia that would support this agreement's approval in 2010? Have Russian troops withdrawn from Georgian territory per the ceasefire negotiated by French President Sarkozy? Has Russia abandoned its threatening rhetoric against our NATO allies? Is it no longer in violation of arms control agreements such as the Biological Weapons Convention and the Chemical Weapons Convention? Has it halted its transfers of conventional weapons to some of the world's most odious regimes, including state sponsors of terror?

The answer to all of these questions is clearly no. I would argue that on its current course, the situation in Russia is deteriorating, not improving. Many Russia analysts now expect Prime Minister Vladimir Putin to seek to return to the Presidency in 2012. In recent weeks, Russian security forces have quashed peaceful democratic protests, arrested opposition figures, and raided independent newspapers. These were not aberrant acts, but were orchestrated by the highest levels of the Kremlin. Asked about recent protests, Putin sanctioned violence against the opposition, saying that if they continued to take to the streets, "You will be beaten upside the head with a truncheon. And that's it."

Of course, the United States routinely enters into agreements with countries that do not share our respect for fundamental human rights. We have, for example, a nuclear cooperation agreement

with China. So this alone is not reason to reject nuclear cooperation with Russia, but I highlight these recent events to make clear who we are dealing with and to question what our long-term strategy is toward Russia and how this agreement fits into that strategy.

The Obama administration's "reset" with Russia has been predicated on the notion that by easing tensions with Moscow, we will gain a partner in our efforts to halt Iran's nuclear program, win the war in Afghanistan, and move toward global nuclear disarmament. The administration likes to cite gains in all of these areas.

Look below the surface, however, and it becomes clear that the "reset" has produced negligible results. Despite Russia's support for United Nations Security Council Resolution (UNSCR) 1929, Iran continues to make steady progress toward a nuclear weapons capability and Russia continues to conduct an extensive weapons trade with Iran, including its unfulfilled contract to deliver the advanced S-300 air defense system to Tehran. This system would not just pose a threat to our ally Israel, but could also threaten U.S. forces stationed in the region. Just this week, press reports indicate that Russia has concluded a deal to deliver the P-800 Yakhont anti-ship cruise missile to Syria, another state sponsor of terrorism. The Israeli government is rightly concerned that this advanced weaponry will end up in the hands of terrorist groups such as Hezbollah. A number of Russian entities also have a history of providing assistance to the Iranian nuclear program. The administration reportedly maintains that such assistance has ceased.

On Afghanistan, the number of U.S. transit flights over Russian territory into Afghanistan has been well below the number promised when the agreement was concluded in July 2009. In addition, Russia has undermined U.S. and NATO capabilities in other countries in Central Asia, raising the costs of our leasing agreements and possibly putting our ability to move personnel and material into Afghanistan at risk.

On nuclear disarmament, the Senate is reviewing the New START agreement signed by President Obama and President Medvedev in April in Prague. Putting aside the question of whether ratification of New START is in our interest, the fact of the matter is that this is an agreement under which the United States, which has global alliance responsibilities, will make

cuts to our strategic forces while few cuts will be made to Russia's nuclear forces and its vast arsenal of tactical nuclear weapons will go untouched.

The "reset" has also caused some of our allies in Central and Eastern Europe to question our commitment to them and their security in the wake of Russia's invasion of Georgia. For many of these allies, Russia is not an academic concern; it is a very real problem they need to deal with on a regular basis. Their experience with Russia ranges from threats of nuclear annihilation, to cyberattacks, to Russian organized crime, to the use of energy and natural resources as a weapon.

So, given all of the above, I am not surprised that there are no administration officials here today to defend this nuclear cooperation agreement with the Russian Federation. They would likely be asked to explain how the agreement fits into the broader "reset," and what exactly what the United States gains. In reality, this administration's Russia policy increasingly appears to be a series of concessions to Moscow for very little in return. Indeed, when it was reported in the Wall Street Journal in August that administration officials had given Russia the go ahead to begin fueling the Bushehr nuclear reactor as part of our efforts to convince Russia to support UNSCR 1929, it was just the latest in a long list of concessions that ranges from our abandonment of missile defense sites, to delisting Russian entities, to unwillingness to speak out about human rights abuses, to our anemic support for an ally with Russian forces occupying its territory.

Again, despite all of these facts, it still might be in the interest of the United States to pursue nuclear cooperation with the Russian Federation. But we should first have a public debate, a debate that in this case has not occurred.

I thus have several recommendations for the committee that would ensure that the frustrating situation we face today with the Russia 123 agreement does not repeat itself and also put us on a path toward a world with fewer, not more, states possessing nuclear weapons.

Recommendations

1. **Modify the Atomic Energy Act to allow greater congressional scrutiny of future 123 agreements.** Much as Congress required that the Bush administration submit the U.S.-India 123 agreement for Congressional approval, in the future, administrations should be required

to submit each agreement that does not follow the United Arab Emirates model (i.e. limit the country's ability to conduct indigenous enrichment) for Congressional approval. This will hopefully ensure that such agreements are kept to a minimum and put the onus on the Executive Branch to convince potential partners that it is in their interest to forgo enrichment or to justify why this was not possible. Given recent press reports that an agreement is in the works with Vietnam that does not conform to this standard, Congress should act quickly to enact this requirement. We should not forgo peaceful nuclear cooperation with countries that have a legitimate need for civilian nuclear energy, but given the options available to most countries today, the rationale for indigenous fuel production is weak.

2. **Get serious about stopping proliferation.** We face the challenges I described at the outset because we have become fundamentally unserious about nonproliferation. It is fine to talk about disarmament or nuclear security, but that is only one side of the coin. Bilateral arms control is not going to prevent a polynuclear Middle East or convince Iran, Syria, Burma, or North Korea, of the error of their ways. We must punish proliferators severely. We have routinely failed to make clear to rogue regimes and states that support their activities that their efforts will be met with serious consequences.

   One of the most damaging lapses in recent years was the failure by the United States and our allies in the wake of Israel's bombing of Syria's covert nuclear reactor at Al Kibar in September 2007 to use Syria's covert activities as a teachable moment. To this day, I am not aware of one Syrian entity or individual that has been designated by the U.S. government for their involvement in this flagrant violation of the NPT. A number of North Korean entities have been designated by the Treasury Department, including some recently, but it is not enough. The International Atomic Energy Agency (IAEA) has vigorously pursued an investigation of Syria's activities, but has not gotten the support it deserves from the United States and our allies. I would urge this committee to call on the Obama administration to support an IAEA Special Inspection of Syria at the soonest possible time. Our current policy toward Damascus is one of engagement, sending the message to future would-be violators of the NPT that you can covertly develop a nuclear weapons program for years and be caught, only to have it swept under the rug.

U.S. policy under both the Bush and Obama administrations in the aftermath of this event has done nothing to deter North Korea from doing the same thing again and I fear it has made it clear to other prospective violators that the NPT and U.S. rhetoric about nonproliferation are of little value. To forestall future Syrias, I would suggest that the committee explore ways to make additional sanctions automatic in such cases or even require the Executive Branch to designate certain entities and individuals involved in proliferation, or justify to Congress why they are unable to do so.

Another troubling example of the fraying of the nuclear nonproliferation regime is China's announced plans to build two new nuclear reactors in Pakistan, a clear violation of its NSG obligations. China likely argues that this deal is grandfathered given agreements in place at the time it was invited to join the NSG and is nevertheless warranted given the exception granted to India by the NSG in 2008. China has apparently endured little more than stern demarches from the United States on this issue. Congress should call on the administration to make clear to China that this deal will have severe consequences for U.S.-China relations and perhaps explore whether this action should impact the U.S.-China nuclear cooperation agreement.

Finally, we should examine whether our current tools are adequate to prevent proliferation once our persuasive abilities have failed and a state has made the decision to proliferate. We should utilize instruments such as the Proliferation Security Initiative and strengthen our legal authorities to allow inspections of suspect shipments by air and sea from known proliferating states and entities. The administration says it has pursued a policy of "strategic patience" coupled with a strategy of containing proliferation when it comes to a serial proliferator such as North Korea, but I would question how confident we are that we are effectively able to prevent proliferation using our current set of tools.

3. **Restore the balance between proliferation concerns and promotion of the U.S. nuclear industry.** It is obviously in the interest of the United States to ensure that U.S. companies can compete in the nuclear trade, including that of sensitive nuclear technology. For instance, there are clearly some commercial benefits for U.S. companies if we conduct nuclear cooperation with Russia that should be taken into account. However, I fear that the

balance we have struck to date has not been a sensible one. As more and more countries express interest in nuclear power, we appear to be rushing to conclude nuclear cooperation agreements without first examining the underlying rationale for their interest in nuclear energy. The fact that other countries, such as France and Russia, are often moving to conclude agreements with the same countries is frequently cited as a reason that the United States must also act or run the risk of being left behind.

This is an understandable concern, but we cannot lead global nonproliferation efforts while chasing the next reactor deal. Nor can we lead if we are subjugating our standards to those of other countries. We should be fully engaged in efforts to develop best practices with these countries but cannot always follow their lead. Syria is a case in point. Less than a year after Israel destroyed Syria's reactor at Al Kibar, press reports indicated that the French company Areva was exploring the possibility of building a nuclear reactor in Syria. Thankfully, it appears that the French government and Areva decided that this was dangerous territory. Should the United States explore nuclear cooperation with Syria just because others are?

Not all cases will be this clear cut, but I would recommend that the committee explore options for using international companies' interest in operating in the United States to hold them to certain standards about their practices abroad. I would also note that there are a number of U.S. allies that are currently building new nuclear reactors, such as the Czech Republic and Hungary, just to name two, that desperately are interested in U.S. business despite active competition from other international firms. On a recent visit to the region, I heard frequent complaints that the U.S. nuclear industry was not making every effort to put forward the most competitive and cost effective proposals. It would behoove the U.S. nuclear industry to focus first on areas in which nuclear cooperation will ensure that there is no onward proliferation before chasing after the next exotic market.

4. **Take all actions necessary to prevent Iran from developing nuclear weapons.** In many ways, the nightmare scenario I outlined earlier hinges upon our ability to prevent Iran from developing nuclear weapons. In addition to the threat a nuclear Iran would pose to U.S. allies and interests, it would likely result in a cascade of proliferation and the beginnings of a polynuclear Middle East. As I've noted, Syria already was developing a covert nuclear weapons program. Other countries in the region, a number of them U.S. allies, would likely

follow. It is many of these of countries that are now also expressing interest in civilian nuclear programs. Setting aside the issue of how you supposedly contain a nuclear weapons state run by messianic fanatics who support terrorist groups, how will we be able to assure our allies in the region that the United States will defend their interests when U.S. policymakers have now stated for years that a nuclear Iran is unacceptable with little result? Even if we were to extend a nuclear umbrella to Israel, would the American people support such reassurance with Saudi Arabia or Jordan? Would Americans agree that an Iranian attack on Cairo, Amman, or Riyadh should be treated in the same way as an attack on Chicago?

The way to avoid this frightening scenario is to ensure that Iran does not develop nuclear weapons. Despite our tough rhetoric and round after round of sanctions, including significant legislation passed by this committee, to date we have not been able to influence Tehran's calculus. I would thus advocate a serious exploration by this administration and by this Congress of all available options, including the use of military force because the consequences of a nuclear Iran are truly unthinkable.

As I stated at the beginning of my testimony, the challenges facing us in this area are unprecedented. But they are not insurmountable. By recognizing that we need a serious bipartisan examination of the pros and cons of future nuclear cooperation agreements, we will take a small step toward a more sensible U.S. nonproliferation policy.

Chairman BERMAN. Well, thank you, and thank all of you very much. There are a lot of suggestions in all of that.

I will yield myself 5 minutes to begin the questioning.

I want to focus on a point that Ms. Squassoni referred to, and her written testimony lays it out a little more fully, but I think it is good to get all of you commenting on it.

Mr. Fly's testimony perhaps was a little broader, but I think all of you seem to think that—well, let me ask you. Do you buy, as a legal matter, the notion that the rights under the NPT and the right to peaceful nuclear energy demands there be a right to in-country enrichment and reprocessing?

I know one individual who has been mentioned here, Henry Sokolski, has argued for a long time that that is not a right within the meaning of the treaty. I am curious about your opinions on that.

Ambassador Graham.

Ambassador GRAHAM. Well, I regret differing with Henry Sokolski, but the negotiating record of the NPT makes it abundantly clear in spades over and over and over again that many countries, such as Germany, Spain, Switzerland, would not have joined the NPT if the Article IV inalienable right and other inalienable right language and other provisions did not give them access to that.

Chairman BERMAN. Access to?

Ambassador GRAHAM. To sensitive nuclear technology, among other things, not just that. But then after the NPT, the Zangger Committee was created to provide some limitation on such access, and then subsequently the Nuclear Suppliers Group put still more constraints on it. The NPT itself does give that right, but it has been significantly limited by the evolution of the Nuclear Suppliers Group.

Chairman BERMAN. Do any of you disagree with that? Ms. Squassoni.

Ms. SQUASSONI. I would just add to Tom's statement that when the NPT was under negotiation gaseous diffusion was the technology for uranium enrichment. It was incredibly expensive, a huge industrial undertaking, and so the assumption there was that many states would not go down that route. Clearly, that has changed over the years, and I suppose because I am maybe a purist on arms control, having worked for Tom at ACDA many years ago, that it is better not to approach this problem as taking away a right but to level the playing field. We should come to an understanding as an international community that this is a sensitive technology, and multinationalize it for everyone.

Chairman BERMAN. Mr. Fly, do you have anything to add to that?

Mr. FLY. I certainly would not question Ambassador Graham's knowledge on this issue. I would just say, even if it is a right under the NPT, going back to what was in my statement, I believe it is imperative that we work with other countries that want this technology to find alternatives, as Ms. Squassoni just mentioned, whether it is fuel banks, multinational enrichment centers, things like that. I think those are the ways that we should go.

Chairman BERMAN. Taking that then to the point that Ms. Squassoni specifically addressed in her testimony, what is our leverage to get the UAE-type of provision not simply as part of our agenda for new nuclear cooperation agreements, such as we are now negotiating with Jordan and Vietnam, but to get other countries who are being approached to have nuclear cooperation agreements with these countries to insist on the same provision, and what is our leverage to in a sense—how central is a nuclear cooperation agreement with the United States to these countries' pursuit of nuclear energy?

Ambassador.

My time is—I am going to be a little looser, if it is all right. That is my last question, but I would like to hear the answers, and we will give, obviously, the other members the same latitude.

So why don't we just answer that question?

Ambassador GRAHAM. Mr. Chairman, that is a very important question that to accurately answer it would take a small book, but it is a very important question and one that needs to be thought about very carefully. It is different for different countries. A country like the UAE, it wants to demonstrate its close relationship with the United States. It wants to demonstrate that it is not pursuing this technology because of Iran. It is because they want the nuclear power. There are reasons why it makes sense for them.

I think that kind of argument might apply to some other countries in that region, but perhaps not all. The issue is, of course that—and this actually came out in the NPT negotiations, to which I referred to before—as the Italian delegate said that we have one level of discrimination with nuclear weapons; we shouldn't have another with the fuel cycle.

So many countries see the fuel cycle as their sovereign right, even though they don't intend to ever utilize it. I don't know if there is any sort of magic formula. I think it is probably just that the United States should champion this outcome and should try to persuade, as Sharon said, some of our allies, who are suppliers, that this is good for everybody, that fuel cycle technology has spread far enough, and gradually try to persuade countries such as Jordan that it would be a good thing for them in various ways and then make the same argument with countries in Asia.

For many countries, having an agreement with the United States is politically a good thing. That can help. Not all countries, but many.

But it is a very important question and one that needs careful analysis and answer in detail.

Chairman BERMAN. Ms. Squassoni.

Ms. SQUASSONI. I agree largely with Ambassador Graham. It is a tough question. From a non-proliferation perspective, a U.S. 123 agreement is kind of the gold stamp. That is what India found out, that is what the UAE found out. So from a political perspective, these U.S. nuclear cooperation agreements are still important.

On the supply side—you asked the question in the summary of the hearing, What can we do with vendors? This is a topic a lot of people have debated. I think my answer is "not much," because the vendors themselves will follow the leads of their governments. So AREVA will not require—will do business with a country that

doesn't have an additional protocol until the Government of France says, "You shall not do that." France is not going to do that until the Nuclear Suppliers Group comes to that agreement. Then you face the problem of the Nuclear Suppliers Group and China and Pakistan. Consensus has eroded, I believe, dangerously, since the U.S.-India deal because of the pressure placed on other suppliers.

So I think we need to be creative in dealing with the other suppliers, and it is not just the advanced suppliers. It is China, South Korea, and India, also. So now is the time. India is prepared to export its reactors. Now is the time to get serious about India's commitments from the U.S. Agreement and make sure that it does the right thing in terms of its export.

Chairman BERMAN. Mr. Fly, quickly, if you could, just because my time has so expired.

Mr. FLY. Just very quickly, I would say I agree with what has been said. We need to certainly use every element of persuasion that we have to try to convince other countries to adopt that standard.

I would also say though we need to be prepared to not conclude cooperation agreements when necessary if we are unable to conclude agreements that fit that model, and I understand the argument that other countries will rush in, but we cannot be the leader of global non-proliferation efforts if we are chasing after AREVA and Rosatom.

My second point would just quickly be that we can't let the market drive this.

One note I included in my testimony is, less than a year after Israel bombed the al Kibar reactor in Syria, there were press reports that AREVA was interested in building a nuclear reactor in Syria. I think it is pretty clear cut, and most Americans would agree, that that does not mean that we, the U.S., should suddenly be conducting nuclear cooperation with Syria. We cannot follow these other countries' standards.

And finally I think, as I mentioned as one of my recommendations, we need to find points of leverage with these foreign companies, whether we can somehow limit their ability to do business in the U.S. if they do not follow these standards. But I think all aspects of this need to be pursued in addition to trying to work with members of the Nuclear Suppliers Group and our allies.

Chairman BERMAN. Well, thank you very much.

Mr. Wilson, the gentleman from South Carolina, is recognized for at least 5 minutes.

Mr. WILSON. Thank you, Mr. Chairman; and I thank all of you for being here today.

Ambassador Graham and Ms. Squassoni, a question: If China proceeds with the sale of the two new reactors to Pakistan, what is the likely impact on the Nuclear Suppliers Group? Should the U.S. attempt to persuade the NSG to disapprove the sale? Should China be expelled from the NSG? What is the cost of doing nothing?

Ms. SQUASSONI. The Nuclear Suppliers Group can essentially not disapprove a sale. It is a voluntary gathering of nuclear suppliers. There is nothing that the Nuclear Suppliers Group can do as a body. And one example is, right before President Bush went to New

Delhi, Russia decided in advance of the exemption for India that it would resupply the Tarapur reactors with fuel. So it decided, well, you know, the game is up. We can all go ahead and do what we want.

We shouldn't throw China out of the Nuclear Suppliers Group. Even though that might be attractive, they are building nuclear power reactors like crazy domestically, and they will be a major exporter. So I think we need to keep them in that group. There may be other ways outside of the nuclear realm that we can influence their actions, but I think those reactors are a done deal.

Mr. WILSON. And I would hope it would be in China's interest to consider the consequences of what they are doing.

Ambassador GRAHAM. Mr. Wilson, I entirely agree with what Sharon just said. In addition, I might just say that for a long time the Nuclear Suppliers Group held the line pretty well with respect to most transfers. Prior to the U.S.-India agreement, there was some Russian playing around with the guidelines, but, overall, the record was reasonably good.

The U.S. has now made the exception for India, pursuant to the Indian agreement, and pushed that through the NSG. It is difficult to see how a proposal like China's could be stopped within the NSG, given the Indian precedent. Perhaps—perhaps the NSG can be persuaded that this exception for India is India only and won't apply to any other country, most especially Pakistan. But where does that leave China? And my guess is that they probably go ahead and sell them anyway. It is not a situation over which we have much control. The NSG is not quite the effective instrument it was, in my judgment, a few years ago because of various developments.

Mr. WILSON. Well, I appreciate both of your input; and, Mr. Fly, I share your concern about the consequences of a nuclear Iran being truly unthinkable. Even though it is unthinkable, the American people need to know of what some of those consequences would be, consequences to our country and to our regional allies that are also important to us. So could you expound a bit on the unthinkable?

Mr. FLY. Certainly. I guess my concern would be that, setting aside the issue—and there is an active debate about this—whether Iran can be contained in terms of its actual use of a nuclear weapon. My concern is that, given its history of sponsorship of terrorist groups like Hamas and Hezbollah, it would certainly allow those terrorist groups—regardless, again, of whether it actually transferred any sensitive material—it would allow those terrorist groups to be emboldened in terms of their attacks on a country, one of our closest allies, Israel.

One of my greater concerns is actually the cascade of proliferation I described previously. I don't see any way around the fact that countries in the region will feel that they need to develop their own nuclear weapons programs in response. Many of them are U.S. allies. But I cannot come up in my mind with a system under which the U.S. will be able to convince countries like Saudi Arabia, Jordan, Egypt that we are going to extend our nuclear umbrella to those countries; and I doubt that the American people are willing to extend our nuclear umbrella to those countries. I doubt the

American people are ready to commit to defend Riyadh as we would respond to an attack on Chicago. I just don't think that is going to happen.

So I see think we will see a polynuclear Middle East. And it is the sort of situation which I don't think nuclear strategists in the past have had to deal with, and I just think it is a frightening scenario. That is why I argue that we need to take every action possible to make sure that Iran does not develop nuclear weapons.

Mr. WILSON. Again, thank you for your input; and I agree with your assessment. Thank you all for being here.

Chairman BERMAN. The time of the gentleman has expired.

The gentlewoman from California, Ambassador Watson, is recognized for 5 minutes.

Ms. WATSON. Yes, I thank you for holding this hearing. This is information that we need to start dealing with, and I see that our members have gone back to their districts.

But, really, there is a bottom-line question in my mind, and what forms of influence should we, as the United States, use with foreign supplier countries and their nuclear vendors to convince them to adopt these non-proliferation criteria in their foreign sales or at least not undercut the U.S. goals? I mean, what can we do? Mr. Graham.

Ambassador GRAHAM. That is another very good question. I don't have really a particularly good answer.

Ms. WATSON. We are just kind of winging it, huh?

Ambassador GRAHAM. We have to just use diplomacy and negotiate with them and try to persuade them that nuclear bombs in their backyards are not any better than in our backyard and that we shouldn't want the fuel cycle to spread any further. It is in their interest just as much as it is in our interest. That kind of diplomacy, it might work with some countries. It might work with all of them. But I don't see any other alternative to just classic diplomatic discussions to try to bring the governments around to our point of view.

Ms. WATSON. Well, with Ahmadinejad's speech that he made yesterday, I would hope that people would see the danger that Iran offers not only us but the world. I mean, with the kinds of remarks he made about 9/11—in some way, we were involved in that? I would hope they would see what a true danger Iran would offer not only us—you know, we are a little ways away—but areas in——

But can I hear from the rest of you? What kind of an approach can we use to convince? I hope everyone was tuned in to Ahmadinejad's words yesterday because I think that really would chill them, what an irrational human being he is. Do you want to comment?

Ambassador GRAHAM. Well, I think—maybe I am naive, but I think statements like that are so extreme and so off the wall that him saying them and giving them worldwide treatment is only going to damage Iran. More and more countries are going to think that Iran is led by a leader who is crazy, and that is not good for a country. Now there may be a few countries that liked what he said, although I offhand can't think of who they might be. But, generally speaking, I don't see how Iran gains from such incredibly, apparently, irrational behavior. Now I assume, on the other hand,

what his objective is is to be as widely known as possible, and he is definitely succeeding in that.

Ms. WATSON. I kind of got the sense in the beginning that maybe there was an issue with allowing him to develop it for domestic use. But the more I watch the behavior coming from him over the last year or so, I see that there is not a scintilla of hope that that is going to change. I think he is really being isolated, I feel, from people in his own country. He is just kind of speaking off the top of his head, am I correct?

Ambassador GRAHAM. He just damages his cause, I think. Those kinds of statements are so absurd.

Ms. WATSON. Please, I still have 15 seconds.

Ms. SQUASSONI. I would say, it is exactly Iran and the danger of Iran that causes some states to want to develop certain capabilities as a way to hedge against Iran.

But I would like to make a few points. One is, you attack this problem of how do we convince other countries to do the same thing we are doing from the supply side and from the demand side. On the supply side, you support allies, like Japan. It is one of the few countries that requires the additional protocol as a condition of supply. Support them and urge other countries to join them.

On the demand side, fuel leasing, and multinationalizing fuel facilities dampen this demand for domestic enrichment and reprocessing and, in fact, take away the prestige that has accrued to these highly technical endeavors. The UAE is very proud of its nuclear program because it will be the first to do this in the Middle East.

And, lastly, there is a question about can we exert commercial pressure on some of the other nuclear firms? And Henry Sokolski had a very creative idea, which is we have a lot of foreign investment in the nuclear energy in this country. I would put a slight twist on that and say, well, are there ways to give countries—firms from countries that adopt the same requirements, as we do, preferential treatment? There are certainly a lot of subsidies for the nuclear industry. Maybe we can use those to our advantage.

Ms. WATSON. Mr. Fly?

Mr. FLY. I actually agree with everything Ms. Squassoni just said.

One additional point, I agree we need a multifaceted approach to this problem. The one recommendation I would have—and it is not a criticism of just this administration. I know many outside observers accused the Bush administration of focusing too much on counterproliferation and not focusing enough on arms control. I would argue we have now reversed this problem, and this administration has focused its efforts on disarmament and arms control. And although it does still have some of these programs to gain international agreement to limit proliferation of the fuel cycle, I don't hear the President or other senior members of the administration talking about those programs on a regular basis and I would encourage them to do so. We need to talk about both sides of the coin more frequently.

Ms. WATSON. Thank you, Mr. Chairman.

Chairman BERMAN. The time of the gentlelady has expired.

The gentleman from California, Mr. Royce, is recognized for 5 minutes.

Mr. ROYCE. Thank you.

Mr. Chairman, I will follow up with Ms. Squassoni's observation there on the carrot approach. But I wonder if what Henry Sokolski was thinking about was more the stick approach.

Chairman BERMAN. Sounds like it.

Mr. ROYCE. You know, that we use their access to the U.S. market and the U.S. Government loan guarantees and so forth to try to leverage these countries' support for our non-proliferation policies, especially with respect to Iran. And I would just ask you briefly what you think of strategy. More of the stick end of this.

Ms. SQUASSONI. I am sorry. Could you repeat that? As applied to——

Mr. ROYCE. Well, you know, there is access to U.S. Government loan guarantees, to the U.S. market, to the necessity of interacting with our own industry on this front. What if we were to use that basically as leverage to say, if you want to continue that relationship with the United States—there are certain players here that we are talking about that are the ones that aren't stepping up in the international community and doing what needs to be done.

Ms. SQUASSONI. I think there is some merit in that approach. I think it would be controversial for the U.S. nuclear industry, which does not have the capital it needs to go out there and build these plants itself. I mean, one of the reasons why EDF, the French electric utility, is involved in the new reactor or the proposed reactor at Calvert Cliffs is because U.S. utilities don't have the kind of money.

Mr. ROYCE. Because GE is really the only American company still on the field, right? And it runs in last place, if we take the half dozen major companies.

Ms. SQUASSONI. There are two parts to this. One is foreign investment in U.S. nuclear activities here, including manufacturing. AREVA has built a facility down in Lynchburg. They are pouring millions of dollars into our economy, and you know better than I do the impact of that.

The other part is the reactor vendors like GE and Westinghouse. And there it is hard to see how——

Mr. ROYCE. But the French are on board anyway.

But here is my other question to you.

Chairman BERMAN. The French are on board?

Mr. ROYCE. Well, in terms of—vis-á-vis Iran.

Chairman BERMAN. Oh, yes.

Mr. ROYCE. But my other question, the worry I have is that our one player might quit the business at some point; and I think that is a result of some policy decisions, bad decisions that we made decades ago and have continued in terms of abandoning nuclear power and also the red tape that the industry faces today that really hasn't been addressed. I would ask, does the U.S. nuclear industry's low standing weaken our ability to shape the rules of the international nuclear game going forward?

Ms. SQUASSONI. I would say our standing is certainly not what it was in the 1970s. That is absolutely clear. We do have some leverage through patents, through the fact that many of the reactors

around the world were based on U.S. designs. And it is true that, you know, when the UAE made its decision and bought a Korean reactor, that Korean reactor was based on a Westinghouse design. So there is a window I think in which we have some leverage through these complicated relationships. But I would agree with your assessment that that is definitely dwindling.

Mr. ROYCE. Now I wanted to ask Mr. Graham a question and Mr. Fly. Mr. Graham, in discussing the NPT, you suggest that the treaty is strengthened to the extent that the nuclear weapons—that those states involved with nuclear weapons, if they ultimately eliminate their nuclear weapons, that is going to move us forward. Using that logic, are you suggesting that North Korea or Iran may react this way?

Years ago, Hwang Jang Yop was the minister of propaganda who defected; and in South Korea I had a chance to talk to this former North Korean minister. He had told me that for 40 years this was their objective. It is kind of like the old adage: We build, they build; we have stopped building, they build. They had one thing in mind, according to him, and that was developing this nuclear capability. So I am just wondering, are you sure with respect to Ahmadinejad or North Korea that that is the logic?

And then, lastly, Mr. Fly, the 123 agreement with the UAE is supposed to be the model, and its prohibition on the UAE enriching nuclear material is a good thing. That was supposed to be the cornerstone of other agreements. I think it was supposed to be a cornerstone of the Vietnam agreement, but that doesn't seem to be happening, and I was going to ask you why.

So, gentlemen, if you could respond. Thank you.

Ambassador GRAHAM. Thank you, Congressman Royce.

I would just like to address briefly the previous question before I answer that question.

In terms of the Henry Sokolski approach, I think it would have merit as long as it is done in a very subtle, diplomatic way. You don't just hit them over the head with it. What it is that Teddy Roosevelt said, "Speak softly but carry a big stick."

Yes, of course, various things like loan guarantees can play a part. But that is not what you open with. You try to work the problem with each one of these countries; and, in the end, it might prove to be possible. Because, fundamentally, it is in their interest to do these sort of things. It is in their security interest, perhaps not their economic interest as much.

And the nuclear industry—I have been involved in that to some degree in the last several years. And the United States, primarily because of our 30-year hiatus with nuclear power, has pretty much abandoned the field. The field today is dominated by AREVA, the French company, and by the Koreans, using a derivative of Westinghouse technology to be sure but moving on. Westinghouse is owned by a Japanese company. GE does most of their deals with another Japanese company, and it still only represents about 1 percent of their earnings. Nuclear is a small part of GE. And then, of course, there are the Russians who are trying to get into various markets. So if the U.S. wants to play a major role in nuclear commerce, it is going to have to really change things.

Lastly, with respect to nuclear weapons and strengthening the NPT, essentially what I was talking about was the basic bargain that created the NPT, that it was nuclear disarmament by the five nuclear weapons states and peaceful nuclear cooperation in exchange for the rest of the world not having nuclear weapons. So it was arguably a balanced treaty.

But not much was ever done with respect to the disarmament. But the prevailing view at the time the treaty was signed and the prevailing view when the treaty was indefinitely extended in 1995 from the nonnuclear weapons states was not so much we want to see zero nuclear weapons but we understand that that is going to take a very, very long time. But at least you can stop testing. That was kind of the attitude.

I think it is very important to strengthen the NPT to do some of these interim measures, like the test ban, like the fissile material cutoff treaty, and so forth. Zero is a very long way off. And many problems, such as the one you mentioned with North Korea, the one you mentioned in Iran, and a number of others will have to be addressed over a long period of time before the world community can get there.

Mr. FLY. Congressman, on the question about why the UAE model may not be what the Congress ends up seeing in the Vietnam 123, I don't have any information on the status of the Vietnam agreement, other than what I have read in the press. So I will just say, my sense is, as someone who just has limited experience in some multilateral arms control negotiations, Ambassador Graham probably experienced the same thing during his years at ACDA. The party that is willing to walk away in the end is the one that is going to be able to achieve whatever principle they hold dear and whatever principle they want to maintain through the agreement. So my guess is that, in the case of Vietnam, the political concerns and our interest in moving closer to Vietnam and improving ties between the U.S. and Vietnam are probably outweighing our interest in maintaining the UAE model.

Mr. ROYCE. It is a bad precedent, Mr. Fly.

Mr. FLY. Yes, and I completely agree.

Mr. ROYCE. I understand your point.

Mr. FLY. I completely agree.

One additional note I would add, just from my experience working on these issues in the U.S. Government, unfortunately, I think the proliferation bureaus and the various offices in the U.S. Government that work on non-proliferation are treated much like a lot of the other functional bureaus, including those who work on democracy and human rights, which is an issue this committee has done a lot on and our regional bureaus often hold more sway over policy decisions. And I think if we as a country are actually concerned about the potential proliferation of nuclear weapons, that is going to have to change.

Mr. ROYCE. We are undermining it while we undermine human rights there, and we have failed to use what leverage we could have even to obtain a modicum of change in behavior in Vietnam. It is very unfortunate.

I yield back, Mr. Chairman. Thank you.

Chairman BERMAN. The Vietnam story is not over yet. Keep hope alive.

I am going to ask the chair of the Subcommittee on Terrorism, Nonproliferation and Trade if he would be willing, at least for a while as he recognizes himself, to sit here and recognize himself while I make a phone call.

Mr. SHERMAN [presiding]. The chair recognizes himself for 5 minutes.

The Convention on Supplementary Compensation for Nuclear Damages, the CSC, establishes an international liability regime for compensation for nuclear damage. Some have argued that the U.S. nuclear industry is at a competitive disadvantage for nuclear contracts because competitors such as French AREVA and the Russian Rostam are at least partially state owned and consequently allegedly enjoy sovereign immunity from liability in the wake of a nuclear accident.

Can the U.S. nuclear industry be competitive for nuclear contracts in countries that have not signed on to the Convention on Supplementary Compensation for Nuclear Damages? What are the benefits and drawbacks of an international nuclear liability regime such as the one described by the Convention on Supplementary Compensation? And should the United States establish some sort of state ownership in order to compete and to provide sovereign immunity to those American workers who would like a piece of this world economic pie?

I am trying to determine—why don't I address that to Ambassador Graham, unless I see any of you volunteer—and I do not.

Ambassador GRAHAM. Well, I will begin, Congressman, and then perhaps Sharon could weigh in here.

In terms of state ownership, I mean, that is just not going to happen in the United States. But we do have to face the fact that all of our competitors are virtually state owned, if not actually state owned. AREVA is 96 percent owned by the French Government. The Russian program is entirely owned by the Russian Government. The Korean program is very close to the government.

Mr. SHERMAN. Close enough to enjoy sovereign immunity?

Ambassador GRAHAM. I don't know. I would have to ask a lawyer. But their bid in the United Arab Emirates was 50 percent subsidized by the government.

Mr. SHERMAN. I am not talking here about government subsidies, although that could have been a separate question.

Let me build on this. Should the United States Government build on a 123 agreement with any country which fails to adopt the CSC?

Ambassador GRAHAM. I think we shouldn't. But, I mean, that is something we need to have. But it is unquestionably a disadvantage that we have in dealing with these state-owned companies, although even they worry a bit about unlimited nuclear liability.

So, Sharon, do you want to add more detail there?

Ms. SQUASSONI. Sure. I think there are two things. The Convention on Supplementary Compensation is something that improves on the two existing conventions, the Paris and the Vienna. So I am not sure—it is just essential that a country with which we conduct nuclear trade has a liability, has signed one of the conventions. A

123 agreement is just a framework for cooperation. It doesn't guarantee——

Mr. SHERMAN. But it is the one opportunity for Congress to have some role in the process, and we have a State Department bureaucracy that is utterly disinterested in American jobs.

Ms. SQUASSONI. Well, do you care about just signing the convention? Because it will be a while before it enters into force.

Mr. SHERMAN. Clearly—well, if we can be guaranteed that it will enter into force before the new nuclear plants begin significant construction or reach a stage where liability would be an issue, as a practical matter, that achieves the objectives. But I have seen situations where the State Department will consider something from 92 different angles and produce 500-page position papers, and jobs isn't there. As a matter of fact, if anything, if you could provide jobs to some other country, that is thought of as a plus.

So I think Congress has to be involved in making sure that, as the world tries to reduce carbon output, moves toward more nuclear facilities, that the American worker has a place. And hence my question.

My time has expired. I believe Chairman Berman already announced that people would have time to enter statements into the record. I will be entering my opening statement into the record, and I thank the witnesses for being here.

We are adjourned.

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

APPENDIX

Material Submitted for the Hearing Record

FULL COMMITTEE HEARING NOTICE
COMMITTEE ON FOREIGN AFFAIRS
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515-0128

Howard L. Berman (D-CA), Chairman

September 20, 2010

TO: MEMBERS OF THE COMMITTEE ON FOREIGN AFFAIRS

You are respectfully requested to attend an OPEN hearing of the Committee on Foreign Affairs, to be held in **Room 2172 of the Rayburn House Office Building (and available live, via the WEBCAST link on the Committee website at http://www.hcfa.house.gov)**:

DATE: Friday, September 24, 2010

TIME: 10:00 a.m.

SUBJECT: Nuclear Cooperation and Non-Proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?

WITNESSES: The Honorable Thomas Graham, Jr.
Executive Chairman of the Board
Lightbridge Corporation
(Former Special Representative to the President for Arms Control, Non-Proliferation, and Disarmament)

Ms. Sharon Squassoni
Director and Senior Fellow
Proliferation Prevention Program
Center for Strategic and International Studies

Mr. Jamie M. Fly
Executive Director
The Foreign Policy Initiative

By Direction of the Chairman

The Committee on Foreign Affairs seeks to make its facilities accessible to persons with disabilities. If you are in need of special accommodations, please call 202/225-5021 at least four business days in advance of the event, whenever practicable. Questions with regard to special accommodations in general (including availability of Committee materials in alternative formats and assistive listening devices) may be directed to the Committee.

COMMITTEE ON FOREIGN AFFAIRS

MINUTES OF FULL COMMITTEE HEARING

Day Friday **Date** 9/24/10 **Room** 2172 RHOB

Starting Time 10:10 A.M. **Ending Time** 11:46 A.M.

Recesses - (to)

Presiding Member(s)

Howard L. Berman (CA), Chairman; Brad Sherman (CA)

CHECK ALL OF THE FOLLOWING THAT APPLY:

Open Session ✓
Executive (closed) Session
Televised ✓
Electronically Recorded (taped) ✓
Stenographic Record ✓

TITLE OF HEARING or BILLS FOR MARKUP: *(Include bill number(s) and title(s) of legislation.)*
Nuclear Cooperation and Non-Proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?

COMMITTEE MEMBERS PRESENT:

Howard L. Berman, Ileana Ros-Lehtinen, Diane Watson, Chris Smith, Sheila Jackson Lee, Edward Royce, Keith Ellison and Joe Wilson

NON-COMMITTEE MEMBERS PRESENT:

n/a

HEARING WITNESSES: Same as meeting notice attached? Yes ✓ **No**
(If "no", please list below and include title, agency, department, or organization.)

STATEMENTS FOR THE RECORD: *(List any statements submitted for the record.)*

- Statement from Henry Sokolski; Article dated 8/5/10 on Nuclear Nonproliferation Games; and Article dated 8/11/10 on America's Nuclear Vietnam - submitted by Ileana Ros-Lehtinen
- Article dated July/August 2010 on The U.S.- India Deal And Its Impact - submitted by Sharon Squassoni

ACTIONS TAKEN DURING THE MARKUP: *(Attach copies of legislation and amendments.)*

n/a

RECORDED VOTES TAKEN (FOR MARKUP): *(Attach final vote tally sheet listing each member.)*

Subject	Yeas	Nays	Present	Not Voting

TIME SCHEDULED TO RECONVENE _____
or
TIME ADJOURNED 11:46 A.M.

Doug Campbell, Deputy Staff Director

OPENING STATEMENT OF
THE HONORABLE RUSS CARNAHAN (MO-03)
COMMITTEE ON FOREIGN AFFAIRS
U.S. HOUSE OF REPRESENTATIVES

Hearing on
Nuclear Cooperation and Non-Proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?
Friday September 24, 2010, 10:00 a.m.
2172 Rayburn House Office Building

Chairman Berman and Ranking Member Ros-Lehtinen, thank you for holding this important hearing regarding nuclear energy cooperation and nonproliferation. I appreciate the attention that is being given to this topic and hope that we can work towards achieving civil nuclear cooperation that enhances our energy security while also ensuring a peaceful, secure, and nuclear weapon-free world.

Growing concerns about global climate change and energy instability have created a renewed interest in nuclear power. In fact, President Obama's most recent State of the Union Address called for "building a new generation of safe, clean nuclear power plants" as a key component of America's clean energy program. Currently, nuclear power supplies twenty percent of our nation's electricity, and we know the potential for peaceful nuclear power to play a role in our efforts to combat climate change and advance our clean energy economy.

However, we must be vigilant of the risks posed by increasing efforts throughout the world to develop nuclear power. Because technology for making nuclear fuel can also be used to produce nuclear weapons material, we must ensure that our civil nuclear cooperation agreements, both bilaterally and multilaterally, include sufficient safeguards against nuclear weapon proliferation. Within the past decade, the world has seen the dangerous reality that commercial uranium enrichment and reprocessing technologies may be subverted for military purposes, especially in 2003 and 2004 when Pakistani nuclear scientist A.Q. Khan sold sensitive technology and equipment related to uranium enrichment to states such as Libya, Iran, and North Korea.

I look forward to hearing recommendations from the witnesses today on changes that could be made in future nuclear cooperation agreements, as well as to the Atomic Energy Act, to strengthen U.S. law and policy on civil nuclear cooperation with other countries. Specifically, I am interested to hear testimony on how the U.S. may more effectively leverage the international community and its position within the International Atomic Energy Agency to make certain nuclear agreements are not contributing the spread of nuclear weapon technologies.

In closing, I'd like to thank the panelists for their testimonies and presence here today. I hope that your answers and opinions will further our knowledge of the most effective means to improve civil nuclear cooperation agreements to mitigate the dangers nuclear proliferation.

The Honorable Gerald E. Connolly (VA-11)

HCFA Full Committee Hearing—Nuclear Cooperation and Non-proliferation After Khan & Iran: Are We Asking Enough of Current and Future Agreements?
Friday, September 24, 2010
10am

The purpose of this hearing is to examine two recently negotiated civilian nuclear cooperation agreements, thereby fulfilling part of the Congressional oversight role laid out in the Atomic Energy Act of 1954. The nuclear cooperation agreements, also known as "123 Agreements," lay out the specific terms for cooperation between the United States and other countries. The terms may vary of course, depending on the country in question. Given the national security and foreign policy implications of the two agreements before us—U.S.-Russia and U.S.-Australia—this Committee is rightfully scrutinizing the terms of the two deals. The U.S. and Australia have a thoroughly documented history of nuclear cooperation, and the proposed 123 Agreement between our two countries seems to be a natural step. The U.S.-Russia agreement, which was initially introduced in 2008 and withdrawn, has had a less natural progression.

There is an established nuclear relationship between the U.S. and Australia. On the diplomatic front, Australia has supported the Non-Proliferation Treaty (NPT) since 1973. There is also a monetary exchange as well: Australia also sells about 36% of its uranium exports to the United States; this amounts to an average annual exchange of about $1 billion. Australia has proven its support for nuclear safeguards its well, including developing a safeguard system for uranium exports.

The 123 proposed Australia agreement would permit the export, subject to licensing, of information, material, equipment, and components for nuclear research and nuclear power production. However, transfer of restricted data, sensitive nuclear facilities, or major critical components of those facilities is prohibited. The proposed agreement also prohibits uranium transferred under the agreement to levels of 20% U-235 or greater unless mutually agreed.

The proposed 123 Russia Agreement was submitted to Congress in 2008 by President George W. Bush, but was rescinded after Russian military incursions into the Republic of Georgia. Since then, the U.S. and Russia have negotiated the New START Treaty and

cooperated with regard to the Global Initiative to Combat Nuclear Terrorism. Though this marks progress, there are still concerns about Russia, particularly with regard to its relationship with Iran.

In 2008, there were reports that groups originating in Russia transferred nuclear technology to Iran, though high-level Russian officials reportedly put an end to this. There is also the issue of the possible future sale of five S-300 air defense systems from Russia to Iran. The Presidential waiver authority under the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 (CISADA) combined with no prohibitions of air defense systems under international export control regimes mean that there is no legal authority for the United States to stop such a sale.

Lastly, there some issues laid out by the GAO report on the Russia agreement submitted to the Committee for this hearing. The September 21 report said:

> While State generally provided its interagency partners with more time to review the agreement and its accompanying documentation in 2010 than in 2008, DOD officials said that State did not provide them with adequate time to conduct a comprehensive review.[1]

The report went on to say that State did not develop the 2010 review process that the GAO had originally recommended in a 2009 report. GAO found "an incomplete review of the secret NPAS [Nuclear Proliferation Assessment Statement][2] annex by the intelligence community that could have been avoided." These are troubling developments, as a lack of cooperation among federal agencies could have a disastrous effect on national security.

Given all these issues, I look forward to hearing my colleagues' and the witnesses' views on the 123 Agreements before us today. Thank you, Mr. Chairman. I yield back.

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[1] GAO Report GAO-10-1039R, *2010 Resubmission of the U.S.-Russia Nuclear Cooperation Agreement: Further Actions Needed by State and Other Agencies to Improve the Review of the Classified Nuclear Proliferation Assessment* (September 21, 2010) pg. 11.

[2] This annex explains how the agreement meets the nonproliferation agreement laid out in the statute.

Statement of Congressman Gene Green
House Foreign Affairs Committee
"Nuclear Cooperation and Non-proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?"
September 24, 2010

Mr. Chairman, thank you for holding this hearing today, and I would like to welcome our distinguished panelists.

Today, the international community needs to confront a difficult question: how do we maintain and strengthen nuclear non-proliferation while developing nations have a growing desire for nuclear energy.

It is clear that the issues of energy independence, climate change and growing energy use in the developing world are driving more and more countries towards nuclear power as an alternative source of energy. To highlight this fact, the Administration has noted that as many as 11 new or renewed nuclear cooperation agreements may be coming to the Congress for review in the next four years.

The international community and the United States must find a way to prevent the proliferation of nuclear energy from leading to the proliferation of nuclear weapons. I commend President Obama and his Administration for their work in highlighting the importance of the Non-Proliferation Treaty (NPT) and calling on the international community to begin to come to a consensus on these critical matters.

The December 2009 nuclear cooperation agreement with the United Arab Emirates (UAE) is a useful model for curbing the dangers of nuclear proliferation. In the Additional Protocol, the UAE agreed that it would not enrich or reprocess nuclear material within its borders, thereby eliminating concerns of nuclear material falling in the wrong hands.

An additional route towards strengthening non-proliferation would be the internationalization of the nuclear fuel cycle. The United States and other members of the Nuclear Suppliers Group (NSG) should push for

future nuclear states to participate in an international nuclear energy consortium or the nuclear fuel bank run by the International Atomic Energy Agency.

We also need to recognize that the United States and other traditional nuclear states, such as the United Kingdom and France, are no longer the sole players in the global nuclear energy development market. South Korea, Russia, and China are now active participants in the arena. We must strengthen agreements or persuade nations like Russia, whose nuclear cooperation agreement this committee is addressing today, and China, whose renewal agreement will come before this committee in the coming years, to guarantee that they play by the same rules and make non-proliferation the paramount concern.

I am hopeful that renewed START talks between the United States and Russia will be viewed by the global community as a sign that this nation is serious about non-proliferation and will take the lead on this matter.

I would also like to bring up my deep concern over Iran's nuclear program. A nuclear Iran would constitute the gravest threat to our national security since the Fall of the Berlin Wall, possibly as grave as the Cuban Missile Crisis. It would most likely precipitate a nuclear arms race in the Middle East and possibly provoke pre-emptive action by the State of Israel. This is a dangerous situation and our country must do everything in its power to prevent this from occurring. We need iron-clad assurances from all nuclear states that they will not provide assistance to Tehran's destabilizing ambitions and will be active participants in denying Iran weaponization.

I hope this committee will have a frank and fruitful discussion today on this important matter.

Thank you.

MATERIAL SUBMITTED FOR THE RECORD BY THE THE HONORABLE ILEANA ROS-LEHTINEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

HENRY SOKOLSKI

ARCHIVE | Log In

AUGUST 11, 2010 4:00 A.M.

America's Nuclear Vietnam

The Obama administration has botched its atomic negotiations with Hanoi.

In Washington, government officials rarely (if ever) admit to making policy mistakes, even when they've clearly botched things up. Take Secretary of State Hillary Clinton's recent decision to bless a formal civilian nuclear-cooperation agreement with Vietnam.

Secretary Clinton endorsed the deal in Hanoi without demanding — as Washington recently did with the United Arab Emirates (UAE) — that Vietnam forswear making nuclear fuel, a process that can bring states within days or weeks of acquiring nuclear weapons.

This immediately raised eyebrows on Capitol Hill. Just months before, State Department officials had pitched the UAE agreement as the new "gold standard" for nuclear-cooperation pacts worldwide. After getting briefed on the Vietnam deal, Hill staffers on both sides of aisle feared Foggy Bottom was throwing in the towel on nonproliferation.

State could have taken its points and sent U.S. diplomats back quietly to get the tougher UAE conditions. Instead, supporters of the Vietnam accord dug in their heels.

First, they claimed that the deal in no way changed U.S. policy. Washington, they argued, never intended to push the UAE conditions outside of the Middle East.

In fact, the U.S. struck the UAE deal in pursuance of a country-neutral approach to sharing civilian nuclear technology that President Bush and Russia's Vladimir Putin announced back in July 2007. Their joint declaration aimed to promote civilian nuclear cooperation globally while trying to convince states lacking nuclear weapons to forgo making nuclear fuel.

Throughout 2008, U.S. diplomats offered nuclear-power deals and sought no-nuclear-fuel-making pledges, not only from the UAE, Bahrain, Egypt, Turkey, Morocco, Jordan, and Saudi Arabia, but also from Indonesia, Thailand, and Vietnam. Taking this international approach helped address Arab concerns that the U.S. had one nonproliferation standard for them and another for everyone else.

Which brings us to the second official defense of treating Vietnam differently. "Given#…#the genuine threat of a nuclear arms race in the Middle East," a senior State Department official told the *Wall Street Journal*, "we believe the U.A.E.#…#agreement is a model for the region," but "these same concerns do not specifically apply in Asia."

How's that? Last month, Secretary Clinton blew the whistle on North Korea's possible assistance to a covert Burmese nuclear-weapons effort. Also, since 1990, the U.S. and its allies have pressed Pyongyang to give up its nuclear-weapons activities, lest those activities goad South Korea or Japan to go nuclear.

Seoul, which U.S. officials have caught covertly attempting to make nuclear weapons at least twice, now wants to produce its own nuclear fuel. Japan already does produce its own fuel and has stockpiled at least 1,000 bombs' worth of plutonium. Further south, Taiwan tried covertly to acquire nuclear weapons at least once and is now developing a missile than could hit Beijing. As for China, it keeps modernizing its nuclear-weapons forces under a dark cloak of secrecy.

All of this suggests that pushing one nonproliferation policy for the Middle East and another for a "quiescent" Asia is delusional. More important, no one's buying it: Middle Eastern officials resent the double standard, and the Chinese — who view Vietnam as a potentially hostile vassal state — are taking offense.

That brings us to Foggy Bottom's final defense of the deal: Washington, our diplomats argue, must work with the world as it is, not as it wishes it to be. Vietnam wants nuclear-power reactors. France, Russia, Japan, and China are vying to build them. If America wants to influence Vietnam and secure reactor sales, it must bend to reality and drop the UAE conditions.

This pitch, however, ignores an embarrassing truth: Vietnam is unlikely to buy American. In fact, to do so, it would have to forswear suing U.S. firms for damages a nuclear accident might inflict off-site — a demand that America's government-backed nuclear competitors do not make. In any case, the key reason for cutting the deal wasn't to generate U.S. jobs, but rather to tighten our strategic ties with Hanoi by formally authorizing it to receive sensitive nuclear goods. America's commercial losses if Washington demanded that Vietnam adhere to the UAE conditions, therefore, would be essentially zero.

As for the contention that the U.S. has no effective leverage over the behavior of its nuclear competitors, just the opposite is the case. That leverage is actually substantial, and it's also increasing, as foreign companies such as Rosatom, KEPCO, Hitachi, Toshiba, and AREVA seek

to expand their business with the U.S. In fact, these government-backed firms are not just trying to sell America more, but (as I have detailed elsewhere) are pleading for billions in U.S.-taxpayer-backed loan guarantees to expand their business in the U.S.

Meanwhile, Congress, ever eager to promote the UAE conditions, is planning on tightening America's nonproliferation laws. Some on Capitol Hill are already toying with the idea of cutting off foreign firms that refuse to make the UAE conditions a requirement of the nuclear assistance they offer overseas. The House is expected to take up these matters in the fall, around the time U.S. negotiators are scheduled to meet their Vietnamese counterparts to finalize the proposed nuclear deal.

One would like to think that the discussion will focus on more than just minor details, and that Washington will do what it can to avoid any further Vietnam-style blunders in the area of nuclear diplomacy, whether inside or outside of Asia. What this will first require, though, is an admission of the obvious: that someone in the executive branch made a mistake.

Henry Sokolski is executive director of the Nonproliferation Policy Education Center in Washington, D.C., and author of Controlling the Further Spread of Nuclear Weapons.

HENRY SOKOLSKI

AUGUST 5, 2010 4:00 A.M.

Nuclear Nonproliferation Games

America is acting like a nuclear chump. We don't need to.

Sometimes generosity just doesn't pay. Consider the Obama administration's desire to lead the world toward restraint on nuclear weapons. It is pushing an agreement with Russia that will reduce America's nuclear arsenal, and it is offering less-developed states access to nuclear-power technology to persuade as many of them as possible to help control the further spread of nuclear weapons.

What has been the response? Mostly, more states demanding freer access to more sensitive nuclear technology than our government will share, and an ever larger number of nuclear-supplier states rushing in to fill the demand.

The chutzpah of these alternative suppliers goes beyond just undermining America's nonproliferation efforts overseas. Increasingly, they are also demanding U.S. subsidies, federal contracts, and licenses to expand their American nuclear business.

These demands could easily be used as leverage on them to bring them into line on nonproliferation export controls. Yet, so far, the U.S. has not chosen to do so. Instead, the White House has turned the other cheek.

Last year, the Obama administration bragged that it had set the nonproliferation gold standard when it finalized a nuclear-cooperation agreement with the United Arab Emirates (UAE). Under this deal, the transfer of U.S.-controlled nuclear goods was tied to the UAE's forswearing making nuclear fuel itself (a process that brings a state within months of being able to acquire nuclear weapons) and opening its facilities to highly intrusive inspections.

However, no sooner did the administration announce its model deal than the French, Russians, and South Koreans rushed into the Middle East to seal nuclear agreements devoid of these key U.S. nonproliferation requirements.

The Emirates finally decided to go with a heavily discounted South Korean bid. Shortly thereafter, the

French offered Saudi Arabia and Jordan civilian nuclear assistance. The French went ahead even though Saudi Arabia and Jordan were stiffing U.S. diplomatic requests to forswear making nuclear fuel.

Russia, meanwhile, matched France's nuclear-power offers to Egypt and Turkey — two other Middle Eastern countries that have rejected U.S. pleas to forgo the making of nuclear fuel.

None of this is helping Washington establish tighter nuclear-nonproliferation controls. But it directly suggests a modest proposal: Why not condition these foreign suppliers' expansion of their American nuclear business upon their willingness to follow much tougher nonproliferation standards internationally?

Russia, for example, wants to export much more of its enriched uranium to fuel U.S. power reactors. It also is showing renewed interest in possibly importing spent fuel of U.S. origin for safekeeping — another nuclear business proposition potentially worth billions. Both ideas would require the approval of the U.S. government.

France has bigger ambitions. It not only wants to sell nuclear-fuel plants, reactors, and nuclear services to the United States, it's lobbying to get the U.S. government to help pay for these projects. Last year, it secured a $2.7 billion contract from the U.S. Department of Energy to complete a massive nuclear-fuel fabrication plant in Georgia. It also is seeking billions of dollars in U.S. loan guarantees to build power reactors throughout the United States. Just last month, it secured a $2 billion federal loan guarantee to build a uranium-enrichment plant in Idaho.

What has Washington gotten in return? Not much. American diplomats asked French officials if they would join Washington in requiring new nuclear customers in the Middle East to forswear making nuclear fuel. So far, the only answer the White House has received — and has regrettably accepted — is *Non*. In fact, administration officials have all but decided to throw in the towel.

This would be a mistake. If the Obama administration could persuade France to follow America's lead on nonproliferation, Germany would be sure to follow. Russia, which is now trying to secure German help to make Russian reactors reliable enough to be attractive for export, would have to uphold the tougher German requirements on every machine Russia exported that incorporated important German nuclear technology. South Korea and Japan, close U.S. allies, would also be likely to fall into line. All of these opportunities are ones our government should exploit.

Earlier this month, Howard Berman (D., Calif.), chairman of the House Committee on Foreign Affairs, announced his plans to tighten U.S. nonproliferation controls over nuclear cooperation. In this endeavor, he and the ranking Republican member of the committee, Ileana Ros-Lehtinen (Fla.), along with other interested committee members, should ask why our government should help foreign nuclear firms profit in America if they are undermining our nonproliferation efforts abroad. The answer should

be obvious, and the legislative remedy — cutting them off — just as clear. Indeed, it's high time we reined in our generosity toward these firms and stopped being such nuclear chumps.

— Henry Sokolski is the executive director of the Nonproliferation Policy Education Center in Washington, D.C., and author of Controlling the Further Spread of Nuclear Weapons *(Council on Foreign Relations).*

[NOTE: The statement of Mr. Henry Sokolski, Executive Director, The Nonproliferation Policy Education Center, is not reprinted here but is available in committee records or may be accessed via the Internet at: http://www.hcfa.house.gov/111/ros092410a.pdf.]

MATERIAL SUBMITTED FOR THE RECORD BY MS. SHARON SQUASSONI, DIRECTOR AND SENIOR FELLOW, PROLIFERATION PREVENTION PROGRAM, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES

By Sharon Squassoni

LOOKING BACK: The U.S.-Indian Deal And Its Impact

The decision five years ago by the United States to open up nuclear trade with India overturned decades of U.S. and global nonproliferation policy. Initially, it evoked only muted criticism from the nonproliferation community. Many U.S. and foreign experts hoped that the deal would fall through or that it could be salvaged by pressing India for nonproliferation concessions. Those hopes faded as the details and process of the agreement unfolded. Critics feared that global nonproliferation norms would be undermined by the extension of nuclear trade to India, a state that has tested nuclear weapons and never signed the nuclear Nonproliferation Treaty (NPT). They also feared that the deal could have the practical result of freeing up domestic uranium that India could use for its weapons program.

The Bush administration justified its actions by declaring that India would be brought into the "mainstream" of nonproliferation. Five years later, however, India's nonproliferation behavior has neither improved nor worsened. Rather than India moving into the mainstream, the mainstream has moved to it. As the "nonproliferation ayatollahs" feared,[1] other states have begun to look at India's example and ask, "If India, why not us?" India's brand of exceptionalism matters less to these states than the possibility of exceptionalism, and a few are prepared to make their own case.

Past as Prologue

Thirty years ago, the United States cut off nuclear trade with India after that country tested a nuclear explosive device in 1974. India produced the plutonium for its test using materials and equipment it had obtained from Canada and the United States under a peaceful-use commitment. The United States responded by forming the Nuclear Suppliers Group (NSG) to avoid similar such incidents, and the U.S. Congress responded by enacting the 1978 Nuclear Nonproliferation Act (NNPA). The presumption of the NNPA was that piecemeal safeguards were not enough to prevent proliferation; only full-scope safeguards and therefore membership in the NPT could ensure peaceful uses. The NSG's nonbinding set of guidelines for nuclear exports did not require full-scope safeguards as a condition of supply until much later. The adoption of this requirement in 1992 was hailed as a significant achievement.

At the time the NNPA was passed, the United States had been supplying fuel to India for the U.S.-built Tarapur reactors. Thereafter, the United States quietly facilitated supply by other countries. France provided fuel until the 1992 NSG decision, and China supplied fuel from 1994 until 2004, when it joined the NSG. Russia subsequently offered to provide fuel, but encountered U.S. objections. The first collateral damage of the U.S.-Indian deal came when Russia inked an agreement with India for Tarapur resupply just days before President George W. Bush arrived in New Delhi in 2006.

Anatomy of a Deal

Efforts to create a strategic partnership with India date back to the Clinton presidency although India's 1998 nuclear tests temporarily halted them. Advocates of closer relations with India argued that expanding the partnership between the two countries was natural because the United States and India had so many common interests. For both sides, however, the nuclear issue got in the way. India, which craved legitimization of its nuclear weapons ("strategic") program, insisted the United States had to lift restrictions on U.S. nuclear trade. U.S. policy, at least until the Bush administration, was that India had to freeze and roll back its nuclear weapons program.

Indian and U.S. strategic thinkers devised a way to resolve the nuclear

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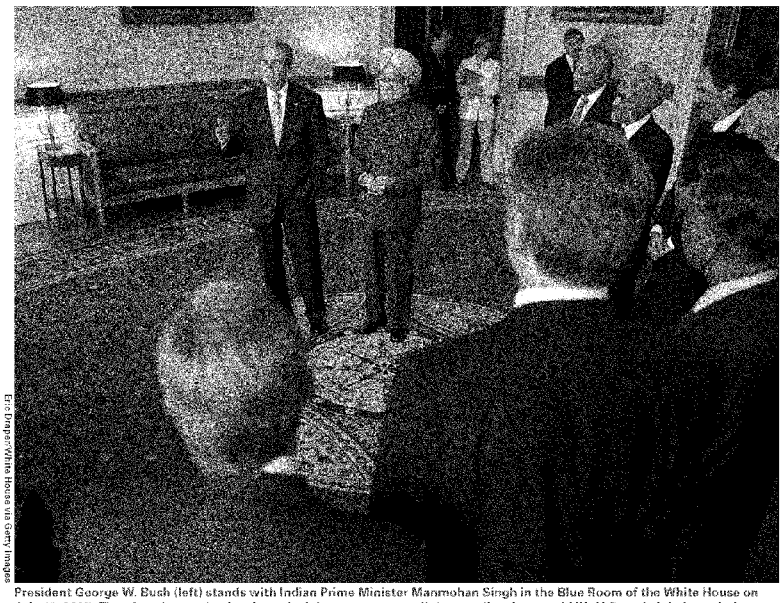
proliferation tensions between the two countries: abandon restrictions on U.S. and global nuclear trade while asking for minimal nonproliferation commitments from India. Under the two countries' July 18, 2005, joint statement, India committed to continuing its nuclear test moratorium, supporting U.S. efforts on a treaty to ban the production of fissile material for nuclear weapons, separating its civilian from military programs, and placing a portion of its facilities, but no uranium-enrichment or spent fuel reprocessing facilities and no material, under International Atomic Energy Agency (IAEA) safeguards.

Congress Gets Involved

Because the NNPA was designed to preclude nuclear cooperation with states that were outside the NPT, India clearly did not meet all the requirements of the law and would thus have to be considered an exceptional case. The law allows for the president to make an exception to the nine requirements contained in Section 123 of the Atomic Energy Act, but only with a determination that meeting those requirements would be "seriously prejudicial to the achievement of U.S. non-proliferation objectives or otherwise jeopardize the common defense and security." The Bush administration clearly did not want to take this path, which also would have required Congress to pass a law to approve the agreement. (An agreement that meets all the requirements of the law has the presumption of passage; it can enter into force after 90 days of so-called continuous session unless Congress passes a law against it.)

The Bush administration sought legislation that would have had Congress approve nuclear cooperation with India even before an agreement had been finalized. The House responded by passing the Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act, which the Senate adopted in December 2006. The act created the needed exception for India, but it also sought to clarify several of India's commitments. In particular, some members of Congress, including then-Senator Barack Obama (D-Ill.), were concerned that nuclear cooperation might continue if India tested nuclear weapons again, because of the inclusion of multiple assurances of fuel supply for India and because of New Delhi's insistence on the right to take "corrective actions" in the event of fuel supply termination.[2] Under U.S. law, a nuclear test explosion by India could be grounds for breaking off nuclear cooperation.

Members of Congress were also concerned that the United States might seek to bypass the NSG and therefore made the U.S. agreement's entry into force contingent on a decision by the NSG to permit supply. Unfortunately, this approach seemed to galvanize the Bush administra-



Eric Draper/White House via Getty Images

President George W. Bush (left) stands with Indian Prime Minister Manmohan Singh in the Blue Room of the White House on July 18, 2005. That day, the two leaders issued a joint statement outlining a policy that would lift U.S. and global restrictions on nuclear trade with India in return for certain nonproliferation commitments by New Delhi.

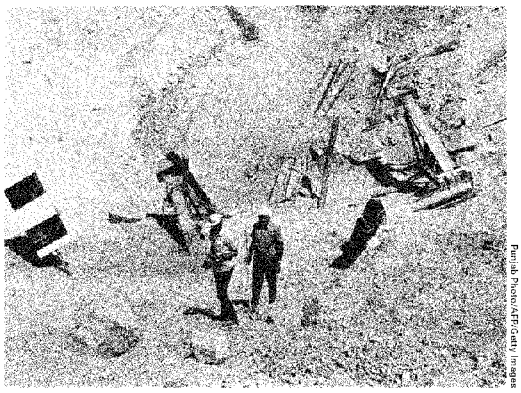
tion to push for rapid-fire completion of all the necessary steps: India's safeguards agreement was hastily approved at a special IAEA meeting in August 2008, and the NSG exemption was handled just a few weeks later in two special sessions. According to some participants, the Bush administration exerted unprecedented political pressure at the NSG to clinch the deal, including phone calls from U.S. cabinet members to their foreign counterparts during negotiating sessions. With an NSG approval in hand, the Bush administration returned to Congress and, by October 1, got a winning vote. A key part of the administration's argument was that it made no sense to hold back U.S. nuclear cooperation with India once the door to global cooperation had been unlocked,[3] and few members of Congress were inclined to disagree.

Fallout From the Deal

Creating an "exceptional" nonparty to the NPT has increased pressure across the nonproliferation regime. States have pushed the boundary between legally binding and voluntary commitments. NSG consensus has suffered dramatically, as China and Russia have exploited the political disarray for their own national benefit. Efforts to restrict enrichment and reprocessing may suffer, as some states insist on their "legal" rights. At the 2010 NPT Review Conference in May, the language in the action plan referring to states' fuel cycle decisions called on treaty parties to "[r]espect each country's choices and decisions in the field of peaceful uses of nuclear energy without jeopardizing its policies or international cooperation agreements and arrangements for peaceful uses of nuclear energy and its fuel cycle choices," a swipe at efforts to get countries to forswear the acquisition of sensitive technology such as uranium enrichment and spent fuel reprocessing.

NSG Consensus

Russia lost no time in restarting nuclear cooperation with India. Days before Bush arrived in New Delhi in 2006 to finalize India's plan to place some of its facilities under safeguards, Russian officials informed the NSG that they would resupply fuel to India's Tarapur reactors. At the time, the NSG had not yet considered an exception for India, so



Punish Photo/AFP/Getty Images

A crater marks the site of the first Indian underground nuclear test, conducted on May 18, 1974, at the Pokhran site in the state of Rajasthan.

the Russian action violated the guidelines. Although it was clear that the Bush administration also would seek an NSG exemption for India, Russia's action revealed the willingness of some suppliers to exploit potential gaps in the system.

In this context, China's recent plan to build two more power reactors for Pakistan is not surprising.[4] China has always been a supplier of peaceful and not-so-peaceful nuclear technology to Pakistan. In joining the NSG in 2004, China announced its intention to continue some kinds of cooperation with Pakistan under the NSG's grandfathering provision. This included lifetime support and fuel supply for the Chashma I and II nuclear power plants, supply of heavy water and operational safety services to the Karachi nuclear power plant, and supply of fuel and operational safety services to the two safeguarded research reactors at PINSTECH.[5] At the time, Chashma I was operating, and Chashma II construction had not yet begun. If China builds these two newest reactors, it will be a blatant violation of NSG guidelines. In April 2006, Secretary of State Condoleezza Rice noted in answers to questions for the record from the Senate Foreign Relations Committee that "[i]f China did seek to provide additional reactors to Pakistan, it would need NSG accommodation. The NSG operates by consensus, so China would need the support of all other participating governments to proceed. We do not believe that the 45 member states of the Nuclear Suppliers Group would agree to such an accommodation, and we do not support such an initiative with Pakistan."[6]

Israel, too, has sought to exploit the gaps. Israel, which is not a party to the NPT but is an adherent to NSG guidelines, has been openly discussing initiating a nuclear power program in its country. Israeli officials circulated a nonpaper to the NSG in March 2007 that suggested criteria that would allow both India and Israel to be exempted from full-scope safeguards requirements.[7]

At the same time, the NSG has been struggling with revisions to its guidelines on enrichment- and reprocessing-related exports. As a coda to the India deal, House Foreign Affairs Committee Chairman Howard Berman (D-Calif.) extracted a promise from Rice that the administration would move quickly to ensure an NSG decision on those revisions. In the draft language that the NSG has been considering, NPT membership is required for such transfers. India would thus be excluded from receiving such technology. Ironically, although Russia has since decided against such sensitive nuclear technol-

ogy trade with India, France had already signed an agreement in September 2008 that would allow sensitive nuclear transfers.[8] In the interim, the Group of Eight's 2004 policy of no new enrichment and reprocessing transfers was watered down in 2008 to allow for transfers if there is no replication of the technology.

power generation programme." In the wake of the 2004 revelations about the Abdul Qadeer Khan black market nuclear network, however, the Bush administration was adamant about not pursuing a similar deal with Pakistan.

Pakistani officials have argued that the deal would free up India's domestic uranium for weapons and that Pakistan expanding its capabilities to produce plutonium in unsafeguarded production reactors (Khushab site) and reprocessing plants (PINSTECH site) and to process uranium (at the Dera Ghazi Khan site).[10] Finally, Pakistan's perceptions of and concerns about the Indian civil nuclear deal also appear to have further degraded Islamabad's willingness to engage in key

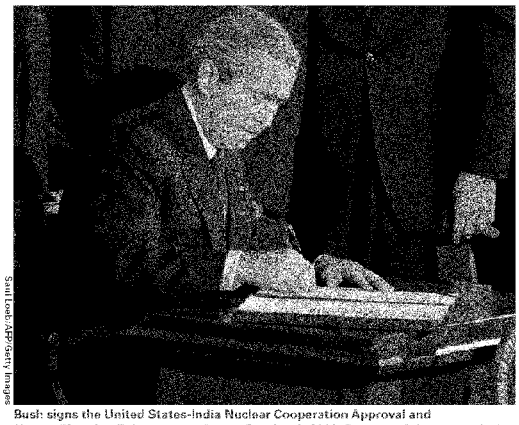
Although India is meant to be an exception, it is clearly seen as a pathbreaker of sorts.

Pakistan's Reaction

From the start, Pakistan lodged objections to the U.S.-Indian deal, while asserting that it deserved the same deal. In March 2006, the Ministry of Foreign Affairs released a statement saying that "[t]he agreement represents an important relaxation of the NSG's existing guidelines, and transfer of civilian nuclear technology from NSG members to non-NPT States. Pakistan has the same claim and expectation for international cooperation under safeguards for nuclear power generation, especially because Pakistan is a fossil fuel deficit country and has a significant and fully safeguarded nuclear

would need to increase its own capability to produce fissile material. The National Command Authority declared in August 2007 that the agreement "would have implications on strategic stability as it would enable India to produce significant quantities of fissile material and nuclear weapons from un-safeguarded nuclear reactors."[9]

Although Bush administration officials told Congress they would encourage India and Pakistan to exercise restraint in fissile material production, the deal seems to have accelerated Pakistan's unsafeguarded uranium- and plutonium-production capability. Pakistan has been



Saul Loeb/AFP/Getty Images

Bush signs the United States-India Nuclear Cooperation Approval and Nonproliferation Enhancement Act on October 8, 2008. Passage of the act marked the last major step in removing barriers to nuclear trade with India.

nonproliferation and disarmament talks. Responding to a press question in 2009 about the prospects that Pakistan would follow suit if India joined the Comprehensive Test Ban Treaty (CTBT), the Ministry of Foreign Affairs spokesman noted that "[o]bviously new realities have to be considered. I can tell you that at this point in time there is no consideration to sign the CTBT."[11] Pakistan has also hardened its opposition to the start of fissile material production cutoff talks at the Conference on Disarmament (CD) in Geneva. For more than a decade, Pakistan has complained that that a cutoff treaty must not lock in disparities in fissile material stocks.[12] The India deal has only underscored that fear.

Fuel Cycle, Cooperation Rights

Regardless of the outcome of NSG decisions on technology transfers, the India deal has affected countries' expectations about their rights regarding fuel cycle decisions and nuclear cooperation. Although India is meant to be an exception, it is clearly seen as a pathbreaker of sorts. Until the India deal, the United States did not give programmatic consent, as opposed to case-by-case consent, for reprocessing U.S.-origin fuel unless a country already had an advanced nuclear program, including reprocessing and enrichment plants; did not pose a proliferation risk; was not located in regions of proliferation concern; and had excellent nonproliferation credentials. Until India, the United States had approved the reprocessing of U.S.-origin spent nuclear fuel only in Japan and EURATOM countries France and the United Kingdom.

Additionally, the U.S.-Indian deal has left the door open to enrichment and reprocessing cooperation, subject to certain requirements (the facilities must be multilateral or part of a project to improve proliferation resistance) and approval of an amended agreement. Until now, the United States has only engaged in enrichment cooperation with one state (Australia), and in that case, the technology transfer was to the United States, not the other way around.

With the resurgence of interest in nuclear energy, many states are considering their options and the potential for cooperation with advanced nuclear states. South Korea, for example, is likely to request programmatic consent for reprocessing U.S.-origin spent fuel. Without an India deal, it might have asked for this anyway. With an India deal, it may be more successful. Now, South Korea also is interested in keeping its options open on uranium enrichment. One thing is certain: the India deal has shown states that the path to global acceptance of capabilities is through the United States.

2010 NPT Review Conference

During the 2010 NPT Review Conference, India's special status was a significant irritant. The 118 members of the Nonaligned Movement (NAM) charged that the U.S.-Indian nuclear deal had given an NPT nonparty more benefits than NPT parties. This had two effects: NAM countries sought to restrict benefits to India by including language on the need for full-scope safeguards for nuclear supply, and they sought to widen their own possibilities for supply by including language on fuel cycle rights.

In the case of the first, the NAM argued that the review conference's final document should reiterate a requirement for comprehensive safeguards for "existing or new" nuclear supply arrangements as well as a requirement to forswear the acquisition of nuclear weapons. U.S. officials could not accept language that would apply to India and argued against inclusion of the word "existing."[13] The final president's statement reaffirmed that "new supply arrangements" should require full-scope safeguards and "international legally-binding commitments not to acquire nuclear weapons." The statement also calls on all parties to give "preferential treatment to the non-nuclear weapons States parties to the Treaty, taking the needs of developing countries, in particular, into account."

In the case of the second effect, Action 47 of the final document, as noted earlier, urges all states to respect fuel cycle choices without jeopardizing international cooperation agreements.

Conclusion

The U.S.-Indian nuclear deal bestows privileges on India beyond what is normally given to states in good standing with their nonproliferation obligations. To lessen the negative impact of the deal, the global nonproliferation regime needs to return to more equitable approaches to restrictions on technology dissemination. From the supply side, the NSG needs to adopt meaningful restrictions on enrichment and reprocessing transfers that, at a minimum, do not allow any such cooperation with India and, more importantly, strongly limit the further dissemination of such capabilities. Cradle-to-grave fuel supply services could help provide incentives to countries not to acquire sensitive technologies, but they cannot prevent them. Above all, the regime needs to go beyond approaches that perpetuate dividing lines between the haves and the have-nots.

Instead, a single vision for a nuclear energy future that complements nonproliferation and disarmament objectives, rather than defeats them, is needed. Elements could include limitations on all states and legally binding commitments not to build national fissile material production capabilities. Approaches might include multinational fuel-cycle centers or an international nuclear fuel authority, as envisioned in the NNPA. Connecting fuel cycle restrictions to disarmament obligations, such as in a fissile material production cutoff treaty, could be helpful to win broader support.

These are ambitious goals, but small-scale revisions to the nonproliferation regime will not be able to repair the damage that the India deal has caused. **ACT**

ENDNOTES

1. The term "nonproliferation ayatollah" was coined in the Indian press prior to the U.S.-Indian deal to describe U.S. and Western experts that were critical of India's nuclear weapons program. It was used extensively during the debates from 2005 to 2008 to disparage nonproliferation experts opposed to the deal. See, for example, Kaushik Kapistalam, "The Reign of the Non-proliferation Ayatollahs," *Bharat Rakshak Monitor*, Vol. 6, No. 5 (March-April 2004).

2. In a colloquy with Sen. Richard Lugar (R-Ind.) on November 16, 2006, Obama sought to clarify that, under the terms of the implementing legislation, "in the event of a future nuclear test by the Government of India, nuclear power reactor fuel and equipment sales, and nuclear technology cooperation would terminate."

3. The closing line of a letter from Secretary of State Condoleezza Rice urging Senate Majority Leader Harry Reid (D-Nev.) to support the House legislation (H.R. 7081) on October 1, 2008, stated, "You can also help ensure that U.S. industry—just like its international counterparts—is able to engage with India in civil nuclear trade."

4. See Daniel Horner, "China, Pakistan Set Reactor Deal," *Arms Control Today*, June 2010.

5. "Answers to Questions for the Record Submitted to Secretary of State Condoleezza Rice by Senator Richard Lugar," in Senate Committee on Foreign Relations, *United States-India Peaceful Atomic Energy Cooperation and U.S. Additional Protocol Implementation Act*, S. Rpt. 109-288, p. 164.

6. Ibid.

7. David Siegel, a spokesman for the Israeli embassy in Washington, told *The Washington Post* in 2007 that "Israel, recognized to be a full-fledged adherent to the NSG guidelines, has urged the NSG to consider adopting a generic, multi-tiered, criteria-based approach towards nuclear technology transfers." See Glenn Kessler, "Israel Submits Nuclear Trade Plan," *The Washington Post*, September 30, 2007.

8. For text of the Indo-French deal, see www.dae.gov.in/secrt/indofrench.pdf.

9. See "Statement by the National Command Authority," August 2, 2007, http://missions.itu.int/~pakistan/2005_Press_Releases/Disarmament/pnca_2aug07.htm.

10. See Paul Brannan, "Steam Emitted From Second Khushab Reactor Cooling Towers; Pakistan May Be Operating Second Reactor," *ISIS Reports*, March 24, 2010; David Albright, Paul Brannan, and Robert Kelley, "Pakistan Expanding Dera Ghazi Khan Nuclear Site: Time for U.S. to Call for Limits," *ISIS Reports*, May 19, 2009.

11. See www.mofa.gov.pk/Spokesperson/2009/June/Spokes_18_06_09.htm.

12. See "FMCT Resisted by Brazil, Japan, New Zealand, Pakistan, Group of 21," *Dawn*, April 19, 2010.

13. Peter Crail, "NPT Parties Agree on Middle East Meeting," *Arms Control Today*, June 2010.

QUESTIONS FOR THE RECORD
THE HONORABLE RUSS CARNAHAN (MO-03)
COMMITTEE ON FOREIGN AFFAIRS
U.S. HOUSE OF REPRESENTATIVES

Hearing on
Nuclear Cooperation and Non-Proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?
Friday September 24, 2010, 10:00 a.m.
2172 Rayburn House Office Building

Questions to Ambassador Thomas Graham, Jr.

Q1: The State Department has coined the nuclear cooperation agreement with the United Arab Emirates as the "gold standard," asserting that it could set a useful precedent for mitigating the dangers of nuclear proliferation. Please give your assessment of the positive provisions of this agreement and how the U.S. should utilize its strengths in negotiating and evaluating future nuclear cooperation agreements. Would you caution against considering the US – UAE agreement a precedent?

A1: As the State Department has said, the U.S.-UAE 123 Agreement for Nuclear Cooperation does indeed represent the "gold standard." Both President Bush and President Obama support the idea that the further proliferation of the nuclear fuel cycle is not in the best interests of U.S. and world security as well as the health of nuclear commerce. It would be a positive development if all future U.S. 123 agreements could follow the example of the Agreement with the UAE.

However, the right to have uranium enrichment and reprocessing technology for peaceful purposes, among other nuclear technology for peaceful purposes is a right guaranteed to all parties of the NPT in full compliance with the Treaty. Thus, adoption of a "gold standard" in an Agreement for nuclear cooperation must be the free choice of the prospective partner with the United States, Thus, caution must be pursued in presenting the U.S.-UAE Agreement as a precedent with individual parties.

Q2: President Obama has proposed a new framework for civil nuclear cooperation that would include international fuel banks. Please elaborate on how this framework would encourage the pursuit of nuclear energy while also addressing the proliferation risks posed by certain portions of the nuclear fuel cycle. More broadly, what is your view of the ideal role that the international community and multilateral engagements can play in nuclear nonproliferation?

A2: International fuel banks such as the one being established at the International Atomic Energy Agency can play a positive role in advancing the benefits of the peaceful use of nuclear technology with the regard to non-proliferation protections. With such fuel banks as an option the economic desirability of the construction of domestic facilities would be less. Multilateral engagement is essential for effective nuclear non-proliferation policy as exemplified by the NPT itself with 189 parties.

Sharon Squassoni
Senior Fellow and Director,
Proliferation Prevention Program
Center for Strategic and International Studies
Questions for the Record from the Honorable Russ Carnahan (MO-03)
Committee on Foreign Affairs
Nuclear Cooperation and Non-proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?

October 8, 2010

1. The State Department has coined the nuclear cooperation agreement with the United Arab Emirates as the "gold standard," asserting that it could set a useful precedent for mitigating the dangers of nuclear proliferation. Please give your assessment of the positive provisions of this agreement and how the U.S. should utilize its strengths in negotiating and evaluating future nuclear cooperation agreements. Would you caution against considering the US – UAE agreement a precedent?

It is a clearly positive step when a state that is just embarking on a nuclear power program decides to rely on the commercial market for uranium enrichment services rather than pursuing a domestic enrichment program. This is because uranium enrichment is a sensitive nuclear process that can produce fissile material either for fuel or for a bomb.

The benefits are also clear when a state decides to directly dispose of spent fuel rather than any recycling program, be it domestic or an existing program abroad. This is because spent fuel reprocessing, like enrichment, can produce fissile material either for fuel or for a bomb.

The U.S.-UAE agreement incorporated the UAE's commitment to relying on market mechanisms for both enrichment and spent fuel reprocessing, both in the preamble and in Article 7 and makes it possible to terminate the agreement if the UAE conducts domestic enrichment or reprocessing. Two potential drawbacks, however, are the provision of advance consent for the UAE to send its spent fuel overseas, either for storage or reprocessing, and the inclusion of a provision for amendment should an agreement signed by the United States with another Middle Eastern country be less restrictive. This last provision was adopted from the 1981 U.S.-Egypt agreement and is likely to be a feature of all future agreements in the Middle East. Advance consent for transfer of spent fuel to the UK or France for storage and/or reprocessing could be perceived as an implicit approval of reprocessing as a spent fuel management technique. Moreover, the disposition of special fissionable material recovered from any reprocessing (in the UK or France) "shall require the further agreement of the Parties."[1] The United States did not require the material to remain in a third country or be returned to the United States, but the agreement reflects its right to do so, if warranted.

[1] Agreed Minute to the Agreement for Cooperation between the Government of the United States of America and the Government of the United Arab Emirates Concerning Peaceful Uses of Nuclear Energy.

One U.S. strength in negotiating future agreements is that the United States has been a leader in promoting nonproliferation. In some ways, a nuclear cooperation agreement with the United States can help pave the way for other cooperation agreements because it gives the "good housekeeping" nonproliferation seal of approval. For countries that are eager to interest reactor vendors in supplying nuclear power reactors, this could be important. For other countries that can interest non-U.S. vendors, a U.S. nuclear cooperation agreement may not be as attractive. Reportedly, Jordan, which has signed nine nuclear cooperation agreements with other states but none with the United States, has balked at renouncing domestic sensitive fuel cycle facilities. The United States is faced with two choices: abandon the more restrictive formulation of its 123 agreements and risk the UAE abandoning its commitments, or only sign nuclear cooperation agreements in the region with such restrictions. This could limit U.S. influence on the development of nuclear energy in the region, or place pressure on the United States to provide similar benefits to those included in the UAE agreement to other Middle Eastern states – namely, fuel supply assurances and programmatic consent for storage and/or reprocessing.

The UAE characterizes its decision to rely on the international market as based on economics and its desire to model nonproliferation leadership. As the first country in the Middle East to contract for nuclear power plants, this may have been more important to the UAE than it will be to other states in the region. We can hope that the UAE's sovereign decision to forego domestic enrichment and reprocessing is a precedent for all other newcomers to nuclear energy, but this is not the same as establishing a precedent for U.S. 123 agreements. To establish that precedent, the United States would have to apply the same standard – no domestic enrichment or reprocessing – to at least all new cooperation agreements and possibly amended cooperation agreements. This could apply to Vietnam and Jordan, but what about renegotiation of the South Korean agreement?

The benefits of adhering to this new standard could be significant if the United States convinces other suppliers – Russia, France, Japan, South Korea, China, and India, to do the same. Until now, cooperation agreements have not been coordinated, and the terms of cooperation can be quite different. It is likely that other suppliers will respond that there is already a policy of restricting supply of enrichment and reprocessing under the NSG and that such restrictions do not have to be written explicitly into nuclear cooperation agreements.

The costs of adhering to such a standard in the absence of agreement by other suppliers could also be significant. U.S. firms could lose out on nuclear contracts because some countries might refuse to sign a more restrictive nuclear cooperation agreement. However, no 123 agreement guarantees that a foreign country will purchase U.S. nuclear reactors, as evidenced by the U.S.-India and U.S.-UAE agreements. Nonetheless, such agreements would allow for other kinds of cooperation that can offer insight into a country's nuclear activities across the board.

2. *President Obama has proposed a new framework for civil nuclear cooperation that would include international fuel banks. Please elaborate on how this framework would encourage the pursuit of nuclear energy while also addressing the proliferation risks posed by certain portions of the nuclear fuel cycle. More broadly, what is your view of the ideal role that the international community and multilateral engagements can play in nuclear nonproliferation?*

In a 2004 article published by MIT entitled "Making the World Safe for Nuclear Energy," authors John Deutch, Arnold Kanter, Ernest Moniz, and Daniel Poneman argued for an Assured Nuclear Fuel Supply Initiative, in which recipient states would agree to forego domestic enrichment and/or reprocessing for an extended period of time. In exchange, they would "obtain

cost-effective, guaranteed access to nuclear fuel and guaranteed relief from the burden of dealing with nuclear-waste management." While this is appealing in theory, in practice, it has not been realized. The Global Nuclear Energy Partnership, created in 2006, sought such restrictions on recipient states for similar benefits (although it is unclear what the relief from the burden of nuclear waste was to be) and within a year, quickly gave them up. IFNEC has not sought such restrictions. Instead, in its mission statement approved in June 2010 in Accra, Ghana, the International Framework for Nuclear Energy Cooperation:

> Provides a forum for cooperation among participating states to explore mutually beneficial approaches to ensure the use of nuclear energy for peaceful purposes proceeds in a manner that is efficient and meets the highest standards of safety, security and nonproliferation. *Participating states would not give up any rights and voluntarily engage* to share the effort and gain the benefits of economical, peaceful nuclear energy. (emphasis added).

IFNEC would provide incentives to states to rely on the international fuel market for fuel services but it would not preclude any state from pursuing domestic enrichment and/or reprocessing. IFNEC, like GNEP before it, may succeed in promoting nuclear energy without reducing proliferation risks. In public statements, Dan Poneman, who is now Deputy Secretary of Energy, has suggested that cradle-to-grave fuel assurances could be an important part of IFNEC. Such assurances would obviate the need for countries that do not now have domestic fuel cycle capabilities to develop them. If a country were to step forward to accept long-term storage of power reactor spent fuel and/or nuclear waste, this could provide great incentives for nuclear energy development. However, no country, including the United States, has done so yet. Russia has agreed to take back Iran's spent fuel, but has not extended this offer to other states yet.

Fuel banks – which are generally configured as stocks of low-enriched uranium that can be made available to states if they are cut off from supplies for other reasons – could be one component of a system of fuel assurances. They are not a complete solution, however. If a state requires fuel, it must also have the fuel fabricated. There must also therefore be assurances about fuel fabrication and export licenses.

The Obama administration has supported both the Russian fuel bank and the concept of an IAEA-owned fuel bank, championed by the U.S.-base Nuclear Threat Initiative. However, a multilateral fuel bank is only a helpful step if target countries view it as helpful. There are few indications that this is the case, however. In the vote by the Board of Governors for the Russian International Uranium Enrichment Center earlier this year, Argentina, Brazil, Cuba, Egypt, Malaysia, Pakistan, South Africa, and Venezuela voted against it. The IAEA-owned fuel bank, a proposal funded in part by the U.S.-based Nuclear Threat Initiative, did not even come up for a vote at the IAEA.

Even if a multilateral fuel bank were accepted by most non-nuclear weapon states, it would not cover all the possible motivations or reasons for countries to acquire enrichment capabilities. Some, such as Australia, Canada, and Jordan, may simply want to add value to their uranium exports or develop an indigenous industry. South Korea is interested in enrichment so that it can supply a fuller range of fuel cycle services when it exports nuclear reactors.

I believe that multilateral arrangements are absolutely necessary to achieve a nuclear energy future that is safe, secure, and peaceful. There are no technological silver bullets to make reactors, enrichment, or reprocessing more proliferation-resistant. The international community

should certainly continue its technical efforts, both in facility designs and in safeguards, but this should continue in parallel with efforts to create international repositories for spent fuel, and to multinationalize enrichment facilities across the board.

Multinationalizing facilities will not make nuclear energy proliferation-proof, but it will add another layer of transparency, provide more warning time in the event of a diversion, and raise the costs of misusing facilities and materials. If such facilities were also situated on extraterritorial land, a national takeover of such a facility would constitute a violation under Chapter VII of the UN Charter. It is not enough to require just new facilities to be multinational, since this would be viewed as discriminatory – creating one set of states with national facilities and another with multinational facilities.

Within the nuclear industry, there has been a decades-long trend in consolidation, resulting in multinational ownership of some companies and facilities. In enrichment, there has been some foreign investment in what have traditionally been government-owned or –subsidized facilities; in reprocessing, the facilities are still largely government-owned. The incentives for industry and governments to move voluntarily toward multinational ownership and operation should be explored. Another option, however, is to make such obligations legally binding. A good candidate vehicle for leveling the playing field would be a fissile material production cutoff treaty. If all states agree to ban the production of fissile material for weapons, there is little rationale for national facilities. Existing facilities within a certain timeframe would be required to convert to multinational ownership, control and operation. New facilities would have to meet those standards also. Under such an approach, the FMCT could fulfill both its disarmament and nonproliferation missions and go a long way toward easing the tension within the Nuclear Nonproliferation Treaty about perceived rights to fuel cycle capabilities.

Congresswoman Barbara Lee, of California
Questions for the Record

Committee on Foreign Affairs
Nuclear Cooperation and Non-proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?

2172 Rayburn HOB
September 24, 2010

Questions to Ambassador Thomas Graham, Jr.

Q1: In short, are there teeth in the proposed agreement to protect against misbehavior?

A1: Some experts have expressed a concern that the world community could be on the verge of a new wave of proliferation. It is widely believed that there will be no hope of preventing such a development should it occur without close cooperation between the United States and Russia.

The United States does and has done more nuclear business with Russia than with any other country. It has been an historic oversight historically that there has not been an agreement for nuclear cooperation between these two countries with their huge nuclear establishments.

In addition, Russia has supported a number of UN Security Council sanction resolutions on Iran and while some in the U.S. have expressed concern about Busherhr reactor in Iran becoming operational, Russia has made sure that proliferation safeguards are firmly applied to the reactor. Russia supplies the fuel and takes it back after use, this actually strengthens the case for the position that Iran does not need uranium enrichment to have nuclear power.

The US-Russia 123 Agreement is strongly in the national interests of the United States.

Q2: Fuel Cycle Concerns

Proponents of the U.S.-Russia cooperation agreement tout the potential for the development of advanced fuel reprocessing technologies.

However, critics of these technologies argue they are overly expensive, undermine our abilities to track weapons-usable materials, and may increase risks of nuclear proliferation.

Can the United States really expect to demand other countries forgo these reprocessing technologies as we aggressively pursue them?

A2: There is far more to the US-Russia 123 Agreement than the development of advanced fuel reprocessing technologies. The U.S. would only consider such technologies if they make

economic sense and are consistent with our non-proliferation obligations. The U.S. itself has been observing a domestic legal ban on plutonium reprocessing since 1978.

Q3: Peaceful Nuclear Energy

The Non-Proliferation Treaty provides that, in exchange for a commitment from non-nuclear weapon states to not acquire nuclear weapons and to submit to international safeguards and verification of compliance, the NPT nuclear weapons states* will pledge access to peaceful nuclear technologies.

*(the United States, United Kingdom, France, Russia and China)

Do you believe the creation of a multilateral fuel bank represents a realistic mechanism for deterring states' ambitions, and claims, to enrichment capabilities?

Is it your assessment that the Obama Administration has meaningfully pursued this proposal and would the U.S. Russia- nuclear cooperation agreement advance this potential solution to the fuel cycle dilemma?

A3: I do believe that the multilateral nuclear fuel bank being established at the International Atomic Energy Agency will be helpful in deterring the further proliferation of uranium enrichment facilities. The Obama Administration has effectively supported the fuel bank as has Russia and the U.S.-Russia 123 Agreement will further this effort as it will enhance U.S.-Russian nuclear cooperation.

Q4: Nuclear Disarmament Commitments

It is clear that lack of progress to-date from nuclear weapons states towards nuclear disarmament, required by Article VI of the Non-Proliferation Treaty (NPT), has undermined efforts to enforce the international framework for nonproliferation safeguards and controls.

Can the panel please take a moment to speak to the importance of U.S. ratification of the Comprehensive Test Ban Treaty as an international confidence building measure and in the interest strengthening the nuclear nonproliferation regime?

A4: The Nuclear Nonproliferation Treaty is the principal international security instrument of our time. It entered into force in 1970 and under it most of the world (some 183 nations) gave up forever the right to possess the most destructive weapons ever created-nuclear weapons-in exchange for which the five nuclear weapon states recognized by the NPT (US, UK, Russia, France and China) promised peaceful nuclear cooperation and nuclear disarmament. The centerpiece of the nuclear disarmament pledge was the Comprehensive Test Ban Treaty, the view of the non-nuclear states was that we know that disarmament will take a long time but at least the nuclear weapon states could give up testing to balance our pledge. Thus the CTBT was in many ways the principal quid for quo in the NPT for nonproliferation, it is the only arms

control measure mentioned in the NPT- preambular clause 10. It was also the principal quid pro quo for the indefinite extension of the NPT in 1995. For 40 years this obligation has remained not implemented. It is not clear that the NPT can remain viable for the long term without the implementation of this obligation. The United States needs to deliver and lead this effort to its successful conclusion.

Q5: Iran

The recent sanctions levied against Iran are foremost in the minds of many Members of Congress. However, I think it is critical we remember that these sanctions are not an end in itself. They are a means to achieve our ultimate goal of bringing Iran back to the table and in compliance with international obligations.

Beyond working with our international partners to implement the new sanctions, what diplomatic steps should the United States be taking to help bring Iran back to the negotiating table in the short-term?

A5: The U.S. should vigorously pursue the resumption of nuclear negotiations with Iran either at the IAEA or in the EU 3 (U.K., France and Germany) plus U.S. format. Recently, Iran has said that it is interested in returning to the negotiating table.

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Questions for the Record from Congresswoman Barbara Lee, of California
Committee on Foreign Affairs
Nuclear Cooperation and Non-proliferation after Khan and Iran: Are We Asking Enough of Current and Future Agreements?

October 8, 2010

Proliferation Concerns

The Administration has cited Russia's cooperation regarding Iran and "assurances from Russia at the highest levels of government" regarding their commitment to U.N. Security Council obligations as reasons to support the proposed U.S.-Russia nuclear cooperation agreement.

Given the poor track record of Russia and entities within Russia related to sensitive nuclear technologies, can we be satisfied with simple assurances?

Under the proposed agreement, what tools or enforcement mechanisms will the U.S. have at its disposal to ensure Russia does not export nuclear assistance, directly or indirectly, in a manner that increases proliferation concerns?

In short, are there teeth in the proposed agreement to protect against misbehavior?

Russia and Iran announced in 1995 that Russia would take on completing the Bushehr light water power reactor, a reactor that Siemens had abandoned during the Iran-Iraq war and which had been damaged by air strikes during that war. The reactor itself does not pose great proliferation risks because it is fueled with low-enriched uranium and Russia and Iran concluded an agreement to return the spent fuel to Russia, thus reducing the risk that the spent fuel might be diverted and reprocessed to obtain plutonium. Nonetheless, there was a concern beginning in the mid-1990s that Russian assistance could help an Iranian clandestine nuclear program in other ways, including with training or other exports unrelated to the Bushehr reactor. In fact, under U.S. pressure, Russia halted the delivery of laser enrichment equipment to Iran a little more than a decade ago.

Critics of the U.S.-Russia nuclear cooperation agreement have maintained that Russia should not be rewarded while it continued to export nuclear goods to Iran. However, UN Security Council resolutions (e.g., 1737) created an explicit exemption for supplies for light water reactors, while restricting other kinds of sensitive nuclear exports to Iran, including uranium enrichment, heavy water, and spent fuel reprocessing technology. It is also clear that Russian attitudes toward Iran have changed in the last two decades. Whereas Russian officials maintained in the 1990s that Iran was not a problem and that its activities could be contained, Russian officials more recently have supported the UN Security Council resolutions to restrict Iranian activities, signed an agreement with Iran to send its spent fuel back to Russia, and created a fuel bank with the purpose of persuading other states to rely on fuel assurances rather than develop their own

domestic uranium enrichment capabilities. There may still be some gaps in export control regulations and implementation, but there is more confidence today that the Russian government understands the nature of the clandestine Iranian nuclear program and how to constrain it.

The U.S.-Russia nuclear cooperation agreement ("123 agreement") is a framework agreement that describes the kinds of cooperation that could take place, if the parties agree. There is no provision for transfer of sensitive nuclear technology, like uranium enrichment or spent fuel reprocessing, unless the agreement is amended, which would require Congressional approval. The United States and Russia can suspend or terminate cooperation under the agreement if the other party does not comply with the terms of the agreement. Termination of the agreement would occur one year after notification. The U.S.-Russia agreement includes the requirements laid out in Section 123 of the Atomic Energy Act that are applicable to nuclear weapon states:

- storage facilities for transferred material must be approved;
- transfer only to authorized parties;
- prior agreement for alteration in form or content of nuclear material (enrichment to 20%, irradiation, post-irradiation examination, blending of uranium)
- adequate physical protection;
- no explosive or military uses;
- safeguards.

There are no direct tools in the agreement – because it is a cooperation agreement, not a nonproliferation agreement -- to ensure Russia does not export nuclear assistance, directly or indirectly, in a manner that increases proliferation concerns. Language in Article 15 on suspension or termination of the agreement is more vaguely worded than is typically the case. It states that

> The Parties shall endeavor to avoid taking any actions that would negatively affect cooperation under this Agreement. If either Party does not comply with the provisions of this Agreement, the Parties shall promptly hold consultations on the problem, it being understood that the other Party shall have the right to temporarily suspend or to cease further cooperation under this Agreement.

Russian activities constituting proliferation of nuclear material, technology, or equipment could "negatively affect cooperation" under the agreement. But unless it specifically involved U.S. material or equipment, future administrations would be unlikely to argue that such proliferation constituted noncompliance with the provisions of this particular agreement.

Finally, these cooperation agreements are generally structured to ensure that a recipient country does not "misbehave" with respect to cooperation and material that the United States provides. They have little to no jurisdiction over what a recipient country might do with its own material and technology vis-à-vis other countries. That said, because Russia is a nuclear weapon state, the requirements for safeguards is not very stringent. Although non-nuclear weapon states are required to have comprehensive IAEA safeguards on all material, nuclear weapon states must simply maintain safeguards as set forth in the agreement for cooperation (Section 123 a 1). For Russia, the provisions are outlined in Article 13 of the 123 agreement. They state that material, components and/or equipment transferred shall be subject, to the extent applicable, to Russia's voluntary safeguards agreement. Although Russia has placed a few facilities on its eligible

facilities list, the IAEA has never selected any to inspect. Further, Article 13 states that nuclear material transferred would not have to be kept in a facility on the eligible facilities list. This effectively guts any safeguards on material under the 123 agreement.

Fuel Cycle Concerns

Proponents of the U.S.-Russia cooperation agreement tout the potential for the development of advanced fuel reprocessing technologies.

However, critics of these technologies argue they are overly expensive, undermine our abilities to track weapons-usable materials, and may increase risks of nuclear proliferation.

Can the United States really expect to demand other countries forgo these reprocessing technologies as we aggressively pursue them?

In St. Petersburg in 2006, Presidents Putin and Bush announced the U.S. and Russian technical teams would explore some of the following cooperation:

- develop unified safety and nonproliferation requirements for small- and medium-size nuclear power plants;
- conduct joint experiments with transuranic fuels;
- develop methodology for establishing international nuclear fuel service centers;
- develop new nuclear material and facility monitoring, control, and accounting technologies;
- increase efficiency and safety for fast spectrum reactors; and
- develop requirements for spent fuel reprocessing and waste isolation.

Some of this cooperation could not occur without a 123 agreement in place. In particular, joint experiments with transuranic fuels would support U.S. development of advanced fuel reprocessing technologies. The idea is to develop more proliferation-resistant approaches that would not separate out plutonium, which is usable in nuclear weapons. The current Administration does not support the PUREX process and instead would spend research and development funds to help identify "leapfrog" technologies that might be available decades from now.

According to a 2008 CSIS report entitled, "The U.S.-Russia civil nuclear agreement," U.S. officials seek to gain access to information and facilities key to pursuing technology related to advanced reactors and fuel-cycle technology. Russia has one of the few operating fast reactors and operates large-scale chemical processing laboratories suitable for fuel processing and examination. The United States hopes to fabricate and ship test fuel assemblies to Russia for irradiation, reprocessing, and examination. U.S. officials maintain that such cooperation will be key to future U.S. efforts to develop advanced fuel-cycle technologies.

This approach raises several questions. First, if the United States and Russia are successful in developing a new proliferation-resistant recycling technology, will it be attractive enough to existing reprocessors for them to switch? Will it be more proliferation-resistant than no recycling at all? It is unlikely that a future technology would be able to meet either test.

This points to a broader problem in promoting nuclear energy around the globe. Beginning with the Global Nuclear Energy Partnership established by the Bush administration, there has been an unspoken bifurcation of states into "advanced" nuclear states and developing nuclear states. This mimics the delineation under the Nuclear Nonproliferation Treaty (NPT) of nuclear weapon states and non-nuclear weapon states, but not entirely: some states, like Japan, the Netherlands, and Germany, do not have nuclear weapons but have sensitive nuclear capabilities like uranium enrichment and spent fuel reprocessing. Allowing some states to carry on sensitive nuclear activities but not others threatens to extend the discrimination of the NPT from nuclear weapons into peaceful nuclear energy uses. This is not a helpful discrimination. Soon, other countries will want to join that elite, advanced group. South Korea is likely to be the next to apply.
It is very difficult to construct arguments that justify one country's acquisition of technology and not another's.

Instead, there should be a clear recognition of the proliferation potential of these sensitive technologies and an attempt to create a principled approach that can work for all. This could mulinationalization of all enrichment and reprocessing facilities.

Peaceful Nuclear Energy

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Do you believe the creation of a multilateral fuel bank represents a realistic mechanism for deterring states' ambitions, and claims, to enrichment capabilities?

Is it your assessment that the Obama Administration has meaningfully pursued this proposal and would the U.S. Russia- nuclear cooperation agreement advance this potential solution to the fuel cycle dilemma?

A multilateral fuel bank is a helpful step if target countries view it as helpful. There are no indications that this is the case, however. In the vote by the Board of Governors for the Russian International Uranium Enrichment Center earlier this year, Argentina, Brazil, Cuba, Egypt, Malaysia, Pakistan, South Africa, and Venezuela voted against it. The IAEA-owned fuel bank, a proposal funded in part by the U.S.-based Nuclear Threat Initiative, did not even come up for a vote at the IAEA.

Even it multilateral fuel bank were accepted by most non-nuclear weapon states, it would cover all the possible motivations or reasons for countries to acquire enrichment capabilities. Some, such as Australia, Canada, and Jordan, may simply want to add value to their uranium exports or develop an indigenous industry. South Korea is interested in enrichment so that it can supply a fuller range of fuel cycle services when it exports nuclear reactors.

The Obama administration has supported this and other fuel assurance concepts. The US-Russian 123 agreement is largely irrelevant to such a fuel bank unless the United States would

supply U.S. material to the Russian International Uranium Enrichment Center. I know of no plans to do that.

Nuclear Disarmament Commitments

It is clear that lack of progress to-date from nuclear weapons states towards nuclear disarmament, required by Article VI of the Non-Proliferation Treaty (NPT), has undermined efforts to enforce the international framework for nonproliferation safeguards and controls.

Can the panel please take a moment to speak to the importance of U.S. ratification of the Comprehensive Test Ban Treaty as an international confidence building measure and in the interest of strengthening the nuclear nonproliferation regime?

The Comprehensive Test Ban Treaty has been on the disarmament agenda for more than fifty years. Not only is it a key step toward disarmament, but it is a key measure to ensure nonproliferation. The United States' ratification of the CTBT is essential for the treaty's entry into force, but it is also hoped that U.S. ratification will create momentum, pressure and/or space for other states to join. The United States has always been a leader in arms control, disarmament and nonproliferation. Some states, like Indonesia, have stated they would ratify the treaty when the United States did. Other states, will likely feel pressure to join once the United States does. For example, U.S. ratification would leave China as the only other nuclear weapon state not to ratify. With Chinese accession, India could find it easier to join the treaty. This could also be a positive inducement for Pakistan to join, or else place greater political pressure on Pakistan to join.

The CTBT and Fissile Material Production Cutoff Treaty were two of the 13 steps toward disarmament that were agreed at the 2000 NPT Review Conference. They are still critical disarmament and nonproliferation objectives. Achieving the CTBT's entry into force will not only make the world safer, but it will provide much needed momentum for other, critical initiatives.

Iran

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Beyond working with our international partners to implement the new sanctions, what diplomatic steps should the United States be taking to help bring Iran back to the negotiating table in the short-term?

The Obama Administration has repeatedly signaled its willingness to negotiate with Iran as long as Iran complies with UN Security Council resolutions. There appear to be very few incentives for Iran to comply with those resolutions, which would require Iran to halt its uranium enrichment, heavy water production and spent fuel reprocessing activities. Many experts agree that punitive sanctions, coupled with the threat of military force, will be more successful in bringing Iran to negotiate than incentives.

The United States and other nations (EU3+3) have offered Iran incentives in the past but little suggests that these are more attractive to Iran now than they were then. Iran still does need a supply of fuel for the Tehran Research Reactor to produce medical radioisotopes, but this need is likely not as great as their strategic objective of achieving a certain level of enrichment. Of course, it is possible that continued problems with the enrichment process, coupled with a looming deadline for refueling the Tehran Research Reactor, could prompt Iranian officials to suspend their efforts temporarily. If this should occur, it would create at least a window in which to engage Iranian officials. If Iran allows its Tehran Research Reactor to shut down for lack of fuel, the United States and other countries might offer some kind of humanitarian assistance to aid patients in need of cancer therapies, including providing treatment abroad. This would be a gesture to the people of Iran, but also head off criticism by the Iranian government of Western actions.

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