

**EVERY STATE A SUPERPOWER? STOPPING THE  
SPREAD OF NUCLEAR WEAPONS IN THE  
21ST CENTURY**

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**HEARING**  
BEFORE THE  
**COMMITTEE ON FOREIGN AFFAIRS**  
**HOUSE OF REPRESENTATIVES**

ONE HUNDRED TENTH CONGRESS

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## **EVERY STATE A SUPERPOWER? STOPPING THE SPREAD OF NUCLEAR WEAPONS IN THE 21ST CENTURY**

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**THURSDAY, MAY 10, 1007**

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

The committee met, pursuant to notice, at 10:11 a.m. in room 2172, Rayburn House Office Building, Hon. Tom Lantos (chairman of the committee) presiding.

Chairman LANTOS. The meeting will come to order. For decades the Soviet nuclear threat cast an ominous cloud over life in this country. The dual superpower world of those days provided a frightening enemy but also a strange stability. Given our mutual power to annihilate one another, neither side proved ready to undertake a risky attack.

But those days are over. Rogue regimes—some of them state sponsors of terror—are using clandestine methods to develop the world's most dangerous weapons. Meanwhile, radical groups are seeking resources and technology to create nuclear arms of their own. And there is no telling what such groups or states will do once they have harnessed such horribly destructive power.

Some of these networks have even scoured former Soviet Republics, hoping to harvest some of the nuclear materials that remain there. And a handful of governments apparently think that acquiring nuclear weapons will immediately propel them to superpower status, regardless of how they treat their people or deal with the rest of the world.

These widespread and often hidden threats represent our challenge today. The notion of nonproliferation is no longer the static idea that two rival superpowers must stand down from the brink. It is instead a very complex and dynamic problem with several potential and unstable hot spots around the globe. In short, nonproliferation, traditionally synonymous with "patience," must be transformed into proactive policymaking.

Nowhere is this mantra more imperative than vis-à-vis Iran, whose potential for developing nuclear weapons could destabilize the entire Middle East. The current regime in Tehran has proved disgraceful and dangerous in ways that call for action, not just rhetoric. Iran has sponsored and armed terror agents around the world. It has engaged in systematic attempts to destabilize Iraq and counteract our efforts there.

Tehran has undermined the Lebanese Government and Palestinian President Magmoud Abbas through its support for the terrorist groups Hamas and Hezbollah. It has provoked fears in the Arab world that it aims to spearhead Shiite Islamist hegemony across the Middle East. It insists that Israel has no right to exist, and Iran's President denies the very fact of the holocaust. As a witness to that horror myself, I find this last outrageous assertion particularly appalling.

Many Members of Congress and the administration have expressed outrage over the words and deeds emanating from Tehran. But as Iran's plans for nuclear weapons development have been laid bare through inspections and intelligence, very little has been done.

So I am proposing a bill, the "International Nuclear Fuel for Peace and Nonproliferation Act," that would call Iran's bluff on its supposedly peaceful nuclear energy program. The legislation would lend United States' backing and resources to the creation of an international nuclear fuel bank. Countries that agree not to engage in uranium enrichment and spent-fuel reprocessing—telltale signs of weapons development—would receive assurances of a steady and reliable supply of nuclear fuel from this international fuel bank.

If a nation agrees to participate in this system and accepts its requirements, it proves that its nuclear goals are strictly for civilian energy production, not for nuclear weapons. So if Tehran is true to its word, it would welcome the chance to secure a stable supply of nuclear fuel and halt its enrichment activities. If it declines the offer, its military intentions will be exposed for all to see.

We intend to mark up this important measure in this committee on May 23, and I look forward to the support of my colleagues on both sides of the aisle. One of the most ardent supporters of such a measure, the former distinguished Senator Sam Nunn, is with us today. His organization, The Nuclear Threat Initiative, has made a pledge of \$50 million, backed by Warren Buffett, to foster the creation of a nuclear fuel bank. This bill is not the only tough measure we can take to stop Iran from going nuclear. I also urge the administration to take a tougher tact, and I encourage members to support another piece of legislation introduced that would strengthen export and import sanctions on Iran and penalize companies here and abroad doing business with Iran's energy program.

Iran is not the only country where we must halt the spread of nuclear weapons technology. North Korea remains the other major threat, as it continues to stall and engage in double-talk over their commitments. The United States, with the help of China, must use the framework of the Six-Party talks to pressure the North Korean regime to completely de-nuclearize. Anything short of total nuclear disarmament there will be considered a failure.

Finally, the emerging menace of non-state actors poses perhaps the biggest challenge to the nonproliferation regime since the nuclear nonproliferation treaty was open for signature in 1968. Dangerous and unscrupulous scientists, like the Pakistani nuclear expert A.Q. Khan, concern all rational people as much as either the President of Iran or North Korea. The United States and our allies have to make sure that all nations root out any A.Q. Khan copycats

before they put nuclear technology in the hands of groups which have no qualms about wiping out thousands or millions of people.

Indeed, the ghastly attacks of 9/11 jolted us into realizing just how small the world is, that terrorists can reach any of us. It also reminded us that the chilling possibility of nuclear attack no longer centers around Moscow. It is a nameless morphing threat. And so we cannot just talk tough about these groups and about rogue regimes that sponsor them or harbor their own nuclear ambitions. We must leverage the vast tools and resources of the United States and the civilized world to stop them cold.

I am now pleased to turn to my distinguished colleague and good friend, the ranking member of the committee, Ileana Ros-Lehtinen, to make any remarks she wishes to make.

Ms. ROS-LEHTINEN. As always, Mr. Chairman, thank you so much for calling this hearing. Preventing the proliferation of nuclear weapons is recognized as one of the highest priorities for the United States and for the world. The prospects of countries such as Iran with its radical and unstable regime acquiring nuclear weapons along with the option of passing these to third parties is among the most frightening scenarios that we can face, and Iran is not the only country of concern that is seeking them. Over the past several decades, the United States along with other countries has put together a far reaching and robust nonproliferation regime.

President Bush has been particularly active in this arena and outlined an ambitious agenda in his speech on February 11, 2004, at the National Defense University. Prominent among President Bush's proposals was a strengthening of the proliferation security initiative, the PSI, and this was instrumental in uncovering Dr. A.Q. Khan nuclear smuggling network and led directly to the dismantling of Libya's extensive weapons of mass destruction program and much credit for that goes to our chairman, Mr. Lantos, who was very active in that movement.

PSI is widely recognized as an essential component in the global nonproliferation effort, and it continues to gain adherence and new capabilities. Similarly the President's proposal for a U.N. Security Council resolution requiring all states to criminalize proliferation, enact strict export controls, and secure all sensitive materials within their borders was quickly adopted by the U.N. Security Council Resolution 1540.

But even these new and expanded measures address only part of this complex problem. A gaping hole remains in the nonproliferation regime, stemming from the ability of countries to manufacture their own nuclear fuel, including enriched uranium and plutonium. A country can use what appears to be a legitimate program to develop nuclear energy to mask or support a nuclear weapons program.

To address this problem, President Bush has proposed that countries possessing enrichment and repossessing materials and technology not sell nor transfer these to any state that does not already have a full scale functioning enrichment and reprocessing program. An additional measure would make these countries ineligible to purchase equipment for their civilian programs unless they have agreed to expanded inspections by the IAEA known as the additional protocol.

Country leaders lie, cheat and manipulate the monitoring mechanisms. No inspection system is foolproof, as we have seen on many occasions. The heart of the problem is the assertion that every NPT signatory has an absolute right under Article 4 to a nuclear program in all of its aspects, including enrichment and reprocessing. I believe that this interpretation is a profound misreading of Article 4, one which many of those committed to halting proliferation unfortunately and mistakenly support.

In fact, the language of Article 4 is unambiguous in conditioning a country's so-called right to a peaceful nuclear program on the country demonstrating that it is complying with the treaty's overriding purpose of preventing the spread of nuclear weapons. As one of our witnesses has emphasized in many of his writings and statements, producing nuclear fuel makes little or no economic sense for most countries. The mere fact that they are pursuing it is in itself a warning sign that they may have other purposes other than a peaceful nuclear energy.

These countries counter the argument of economic irrationality with a national security rationale, namely that they must have their own reliable supply of nuclear fuel to prevent them from being held hostage by a foreign supplier. To address that argument, the idea of an international nuclear fuel bank has been put forward by our chairman and many others as a means of guaranteeing fuel supplies to participating countries in return for their pledge to not develop a domestic capacity to manufacture nuclear fuel.

These proposals have taken many forms, ranging from multiple guarantees of contracts in a freely functioning international nuclear fuel market to an autonomous stockpile overseen by international organizations. The IAEA is presently working on its own proposal based on this latter option, and it is scheduled to be unveiled this year. A separate proposal has been put forth by The Nuclear Threat Initiative or NTI headed by Senator Sam Nunn, whom we are honored to have before us today.

Chairman Lantos has built upon this proposal in his bill, H.R. 885, which among other provisions would authorize an additional \$50 million contingent upon a number of conditions. I look forward to hearing from our panelists about the important components of any fuel bank and the requirement that participating countries must give up any ambition to manufacture nuclear fuel. It is my understanding that the IAEA proposal will not contain this requirement, and so that is worrisome about considering the benefits of this proposed fuel bank program.

But I thank the chairman for his leadership on this issue, and I look forward to hearing from our panelists. Thank you, Mr. Chairman, always.

Chairman LANTOS. Thank you very much. The chairman of the Terrorism, Nonproliferation, and Trade Subcommittee, Mr. Brad Sherman.

Mr. SHERMAN. Thank you, Mr. Chairman. I commend you for bringing three of our nations most respected nonproliferation experts to the committee, and I thank Senator Nunn for his tireless work on these issues. One of the topics we will discuss today is the concept of a nuclear fuel bank. I was proud to cosponsor your bill,

Mr. Chairman, H.R. 885, the International Nuclear Fuel for Peace and Nonproliferation Act.

I know that you plan to markup this bill on May 23. I commend it to our colleagues, and I am glad to see that we are moving ahead so quickly and immediately at the full committee. The concept of a nuclear fuel bank was first broached by President Eisenhower in 1953, and has been around for awhile. It is time to move forward. The Bush administration, through its Global Nuclear Energy Partnership, would like to assure states a fuel supply so long as they forego domestic enrichment and reprocessing.

Unfortunately that concept while similar to the international fuel bank will not assure states that they will have a secure fuel supply because it is designed only for our friends. Instead, the IAEA can be the organizing entity I think for an effective fuel bank that if it does not cause countries to abandon the fuel cycle at least will expose that their reason for trying to control the full fuel cycle is to build nuclear weapons not to assure themselves of electric power.

Nonproliferation should be the number one goal of American foreign policy, and nuclear weapons are the greatest threat to the American people. Our proliferation policy has been remarkably ineffective. Instead, ineffective tokens are ballyhooed as being big breakthroughs in order to quiet those of us who see that while the risk of an all-out thermonuclear war is certainly down since the days of the Cold War, it is but a few minutes before midnight on the risk of some use of atomic weapons.

The key to an effective nonproliferation policy is prioritization. We have to give nonproliferation a priority over other foreign policy objectives. The rival view to prioritization is a faith-based foreign policy in which we believe perhaps through divine intervention that all of our foreign policy objectives will be met simultaneously, and that we are so powerful that we need to abandon or even defer any of them. This is exemplified in our policy toward Russia and China and our inability to get their full cooperation on nonproliferation.

Chairman LANTOS. Gentleman's time has expired.

Mr. SHERMAN. I look forward to exploring these issues further.

Chairman LANTOS. I now yield 3 minutes to the distinguished ranking member of the Terrorism, Nonproliferation, and Trade Subcommittee, my friend from California, Mr. Royce.

Mr. ROYCE. Thank you, Mr. Chairman. I think if we were to contemplate to the most dangerous scenario we could come up with on the globe it would be terrorists acquiring nuclear weapons, and our panel here is made up of individuals whose life's work is to try to do something to deter that. I read Senator Nunn's testimony with particular interest. You quote General Omar Bradley. The gist of that is that basically technology has certainly outpaced our political and ethical progress in the world. That is the reality we face, and we have a world that is not concerned enough with the consequences of this.

We have a barbaric North Korea, and I say barbaric because I have talked to senior policy defectors from that country who have told me that their government killed 2 million of their own citizens and posed the question, why would that government resist on the

basis of that killing South Koreans or allies to South Koreans in similar numbers if they had the whim?

We face an Iran led by an individual who Abudenayad who has indicated that he would like to wipe Israel off the face of the map, as Chairman Lantos has said. In facing all of this clearly what we need is innovative thinking, and I think that is what we are going to hear today from the panel, and also, Mr. Chairman, you mentioned your legislation that would encourage the establishment of an international fuel bank.

And that idea has been around for some time. I think one of our witnesses indicated it had been around since 1946 but you deserve great credit for putting this on the agenda today. I think something this complex and important really deserves and requires some vetting beyond just today, and I am disappointed the subcommittee charged with nonproliferation apparently will not be doing that, but I am delighted that this full committee is doing it.

I think the International Atomic Energy Agency plays a key role in most fuel bank proposals, and I know that the IAEA is often criticized and sometimes rightfully so but it plays critical functions, and when I chaired the Terrorism and Nonproliferation Subcommittee last Congress, an issue that we looked at was attribution of nuclear explosions, and as grim as it sounds if a nuclear explosion occurs, especially if it is on our territory, we need to know through forensics where that explosion came from. We need to know who is responsible for that exploded nuclear material.

And I say that because if we have that ability, then we can strengthen with deterrents in that instance, and we can reduce the chance of an attack occurring through some terrorist organization that has been handed off a nuclear weapon. IAEA inspectors we should appreciate are critical in acquiring the technical information needed to build our attrition ability, and that should be a focus as well. Thank you again, Mr. Chairman, for holding this hearing.

Chairman LANTOS. Thank you very much. Mr. Berman of California.

Mr. BERMAN. Thank you, Mr. Chairman, for the hearing, for the legislation. I had a choice this morning to go to the depressing subject of listening to Attorney General Gonzales testify about U.S. Attorneys or the optimistic and exciting subject of nuclear nonproliferation, and I will have my hopes you know.

Chairman LANTOS. You chose well, Mr. Berman.

Mr. BERMAN. As I sat getting more and more depressed with the issue of our struggles in the area of nuclear nonproliferation and try as we do, I would not say our efforts have been ineffective but one does have a sense of going on a treadmill where we are moving slowly and perhaps not so slowly backwards. I had the pleasure of reading a *Wall Street Journal* article written by Senator Nunn and former Secretary Perry, former Secretary of State George Shultz and Henry Kissinger former everything, and it put this into a context which I encourage my colleagues on both sides of the aisle to look at, and perhaps Senator Nunn will get into this because every single one of these nonproliferation efforts that we are engaged in are important.

We have to figure out new strategies and new ways, but they make a case, and it is not so much just a case they make but it

is who is making the case. These are four individuals who were invested and committed to the role of our nuclear arsenal as a key part of our deterrent in keeping the peace during the Cold War, and they call for a rethinking of those premises in the context not of some idealistic hope of a world free of nuclear weapons but of the fact that because we have sort of never reexamined that fundamental premise, all of our nonproliferation efforts that we are making are somewhat weaker and less effective.

I think you holding this hearing today following up on these issues and what we can do, your legislation which is one key part of what that article was advocating is very timely, and I would love for this committee and this Congress to seize on this issue in a bipartisan and effective way. Thank you.

Chairman LANTOS. Thank you, Mr. Berman. My friend and colleague from California, Mr. Rohrabacher.

Mr. ROHRABACHER. Thank you, Mr. Chairman. I say this every hearing it seems, and I want to come to a hearing some time when I disagree with the chairman but here again my admiration for the leadership of the chairman is again demonstrated on what we are doing today and a very significant issue and the leadership that he is providing to try to do some good things for America and the world. So I thank the chairman for his leadership.

I also would like to suggest that Senator Nunn has always had my deep respect. Over the years I have watched you, and it is just an honor to be in the room with you and to hear your views and to get your ideas on this very important issue. So thank you, Senator.

This is a really important issue. I am very happy that Howard Berman came here to discuss this important issue rather than being part of a political game playing at another hearing. With that said, with my own little point made, let me note this that this is a very significant issue, and I am want to be very much involved with it, with the chairman and with this committee and with you on this particular issue. I am looking forward to hearing the testimony today.

Chairman LANTOS. Thank you very much. My friend from Oregon, Congressman Wu.

Mr. WU. Thank you, Mr. Chairman. I look forward to hearing from all of the witnesses but especially Senator Sam Nunn who has worked so tirelessly and publicly on what I view as the central issue of foreign policy in this era, the proliferation of highly enriched materials in both state and nonstate entities. Thank you, Mr. Chairman.

Chairman LANTOS. Thank you. Gentleman from Colorado, Mr. Tancredo.

Mr. TANCREDO. Thank you, Mr. Chairman. I have no opening statement.

Chairman LANTOS. My colleague from American Samoa, Mr. Faleomavaega.

Mr. FALEOMAVAEGA. Mr. Chairman, thank you, and I appreciate your calling this hearing this morning, and I am sure that also our colleague, the gentleman from California Chairman Sherman who deals directly with the issue of nonproliferation, and I am so happy also to see and to see again our distinguished colleague, Senator

Sam Nunn, his presence here, and I am sure his associates are just as much very much experts in this field of nuclear nonproliferation.

I do not know who is calling the monkey out of the box or is it a cat out of the box? Ever since India and Pakistan exploded their own nuclear bombs and Pandora's Box even more so because North Korea and Iran are also in that same category. We are talking about deterrents versus preemption, unilateralism. These are some of the concepts or principles that we are fighting with right now, and I will say, Mr. Chairman, that as I have always said over the years, we definitely have some very serious problems of the whole principle of nonproliferation.

Basically the question that is raised, the bottom line is that why if I even as a rogue country why should I be restricted of not having the development of nuclear bombs if there are other countries already having it in their possession? The capacity to explode nuclear bombs against so-called enemies or whatever that might be, and I think that this is something that we really need to thoroughly flush out and hopefully and I look forward to hearing from the testimonies of our witnesses this morning. Hopefully that we will find some solution to this most serious problem now facing us. Thank you, Mr. Chairman.

Chairman LANTOS. Thank you. The gentleman from Texas, Mr. Poe.

Mr. POE. Thank you, Mr. Chairman. I appreciate all of you being here. It seems to me that the problem with international cooperation on nuclear proliferation control is not with the countries that want control, so-to-speak the good guys. It is those nations that do not want control is the problem that we have to figure out a solution to.

Korea and Iran to me are run by international outlaws. Ahmadinejad is lathered up to get himself a nuclear weapon so he can fire the first one over to Israel and Tel Aviv, kill 5 million people in that nation, and I think his saber rattling is more than just saber rattling. I think he is serious. So I do not know what the answer is.

With all the praise on Senator Nunn—and justly so—I am sure we will find out the answer today with what we should do, and I look forward to your testimony but I think this is an international world crisis. It very much is a problem as terrorism that we face in this country. This is a situation that we have to be able to prevent something from happening. I look forward to your testimony. Thank you, Mr. Chairman.

Chairman LANTOS. Thank you. My good friend from New Jersey, Mr. Smith.

Mr. SMITH OF NEW JERSEY. Thank you very much, Mr. Chairman. I too want to welcome our very distinguished witnesses to this hearing and, like my colleagues, have a growing concern and have had it for all of my years in Congress about an Islamic bomb that would be used by radical jihadists.

Obviously there is concern about China, whether or not they continue to have a limited deterrence policy or whether or not they are matriculating into something more ominous, especially as it relates to their neighbors, and I would hope that our distinguished panel-

ists might spend some time on those issues and I would have some questions later along those lines. Yield back the balance.

Chairman LANTOS. My very good friend from Indiana, Congressman Burton.

Mr. BURTON. Thank you, Mr. Chairman. I am very concerned about small nuclear devices, and I do not know if you will address those today but I hope you will if you can. The Soviet Union when they were the Soviet Union produced I understand according to Kurt Weldon, my colleague who was friends with some of the people in the Russian Duma, they produced about 85 briefcase nuclear weapons. They can only account for about 30 of them, 35 of them.

So there is about 50 of them some place, and since the Soviet Union broke up, a lot of the nuclear weapons systems have been sold to other countries and possibly nuclear technology. In fact, I think they have sold too nuclear technology. I want to know what happened to those briefcase nukes. I want to know if they can be used.

How hard it is to retool them so they can be used because we have got terrorists who will blow up themselves in order to try to destroy what we believe in, and what are they going to do if they have a nuclear device that will destroy eight square blocks that they can carry in a briefcase? So if you have any suggestions on that, Senator Nunn or your colleagues there at the table, I sure would like to hear them.

Chairman LANTOS. I want to thank all my colleagues. Over the many years I have had the privilege of knowing Sam Nunn, I learned many things from him but I could only teach him one, namely a little bit about my native city of Budapest when we had the pleasure of traveling there together.

These days Sam Nunn serves as the chairman and CEO of the Nuclear Threat Initiative. He has a long and distinguished history in the nonproliferation and arms control arena. As a United States Senator for a quarter century, he placed the issue in the forefront of the minds of all Americans and the entire Congress of the United States.

From 1987 to 1995, Senator Nunn served as chairman of the Senate Armed Services Committee. He fought waste and abuse in the Pentagon and also helped the Defense Department modernize our military. He became such a powerful and highly respected expert in military policy that *U.S. News* wondered in a headline, "Is Sam Nunn Secretary of Defense?"

The landmark non Lugar cooperative threat reduction program provided assistance to Russia and the former Soviet Republics for securing and destroying nuclear, biological and chemical weapons, a contribution to the welfare of this planet that simply cannot be overemphasized. It sets an example for creative arms control policy making and all of us are delighted to welcome Senator Nunn to the committee today. You may proceed any way you choose.

**STATEMENT OF THE HONORABLE SAM NUNN, CO-CHAIRMAN  
AND CHIEF EXECUTIVE OFFICER, NUCLEAR THREAT INITIA-  
TIVE**

Mr. NUNN. Thank you very much, Mr. Chairman. I would first say that, Chairman Lantos, it is a mark of our nation's great for-

tune that you now chair this important committee. Through your personal experience and your policy knowledge, you know what it means to face dire threats, and I commend you and the members of the committee and Congresswoman Ros-Lehtinen and the committee as a whole for your efforts to protect the security of our nation and particularly focusing in on this nuclear threat that we will discuss this morning.

I particularly am honored to be able to have a chance to be here in front of you to discuss these issues as well as to be with Joe Cinincione and Henry Sokolski, both experts in this area from whom I continue to learn, and I particularly will make reference to your legislation, Mr. Chairman, in my testimony.

The opening statements that I have heard from the Members of the House have already covered the threat, so I am going to skip right over the first three or four pages of my testimony in the interest of time except one part of the threat that I believe is going to lead hopefully the Congress to focus in on your legislation, Mr. Chairman, and that is the fact that there are a number of additional countries, way beyond Iran and North Korea, that are considering developing the capacity to enrich uranium to use as fuel for nuclear energy, giving them greater capacity to move quickly to a nuclear weapons program if they choose to do so.

Now I am not saying they all or even any of them choose to do so or have that intent but that is where we are heading, and we are right at a tipping point in that regard. I know of at least seven countries—probably as many as 10—that probably over the next couple of years are going to be making that decision, and some of them are among our very best friends in the world.

So summarizing my view of the threat beyond that specific item, I would summarize it by saying the risk that a nuclear weapon will be used today is growing and not receding. Certainly not comparable to the all-out Armageddon that we could have had during the Cold War, but nevertheless a horrible thought that we must prevent.

In light of today's rising threats and with eroding confidence in deterrence as we have known it, George Shultz, Bill Perry, Henry Kissinger and I published an article in January in the *Wall Street Journal*. We called on the United States to lead the world in a new direction, reversing reliance on nuclear weapons globally, preventing the spread of these weapons, and ultimately ending them as a threat to the world.

Those of us who wrote and endorsed the Wall Street Journal piece believe that in order to deal effectively with this new and dangerous era the United States and the international community must reaffirm the vision of a world free of nuclear weapons enshrined in a nonproliferation treaty which has been supported by every U.S. President since it was signed and ratified. We also believe we must pursue crucial actions toward achieving that goal and reducing nuclear dangers.

We believe that without the bold vision the actions will not be perceived by much of the world as fair or urgent. Without the actions, however, the vision will not be perceived as realistic or possible. So both go together in a step-by-step process. This will not

and cannot be a unilateral process but it must have leadership by the United States and I believe it must begin.

Mr. Chairman and members of the committee, we recommend the following specific steps, some of which we will discuss in detail today. Number one, we must secure nuclear weapons and materials around the globe to the highest possible standards, not simply weapon grade materials—although that is the top priority—but also materials that could be used for radiological weapons which is a more likely—not as devastating—but a more likely threat.

Number two, we should eliminate—to Mr. Burton's point—short-range tactical battlefield nuclear weapons, the bombs most likely to be targeted for theft or purchase by terrorists, and even those, Mr. Burton, that might have what we call permissive action link devices on them, which some of them do, can be deconstructed and the material out of those could be put together in another weapon. So that is some protection but not ironclad.

In my view on that subject we should start by seeking transparency and accountability of these weapons between the United States and Russia, bilateral at first, probably classified discussions between the two at first, but that should be, in my view, the thrust of the beginning point in that important question.

Number three, nuclear weapons deployed and stockpiled should be reduced substantially in all states that possess them. Number four, we must redouble efforts to resolve regional confrontations and conflicts that pour over to affect the security of our nation and the world. This will not be easy but it is essential if we are to reduce incentives for acquiring nuclear weapons in places like the Middle East, southwest Asia and the Korean peninsula.

Number five, I believe we should work to bring the comprehensive test ban treaty into force in the United States and in other key states. Former Chairman of the Joint Chiefs John Shalikashvili made a report on that subject several years ago, and I think that the safeguards that he recommends should come back to the attention of the Senate and the Congress. To the world, if we did ratify the treaty with whatever conditions we believe are necessary, this would be a very positive sign and would help restore America's credibility in this important area.

Number six, the United States and Russia should move to change the Cold War posture of their deployed nuclear weapons to greatly increase warning time in both countries and ease our fingers away from the nuclear trigger. To remove our nuclear weapons from hair trigger, I urge the two Presidents to order the military and defense officials of each country to present to them after meeting with each other a set of options to increase warning time on both sides.

Each day we should ask ourselves a question that we very seldom ask but it is in my view a crucial question, and that is: "Is it in the United States' national security interest for the President of Russia to have only a few minutes to decide whether to fire his nuclear weapons at us or lose them in response to what could be a false warning?" And the Russian's deterioration of satellites and radar systems does not give me any comfort whatsoever. When you really think about it, we have an existential stake in the Russian warning systems working properly.

I would hope this question would be asked in reverse in Russia, and that we would begin to ask it to one another and to discuss it and take action on it. Number seven, we must enhance our verification policies and technology, once again restoring and elevating President Reagan's maxim of "trust but verify" as an essential component of our national security policy.

In my view, Mr. Chairman, we should put at least as much effort into verification of technology and policies as we do into missile defense. I am not talking about dollar-for-dollar but I am talking about focus and effort, because without verification virtually all of our aspirations in terms of international cooperation are going to be extremely difficult.

Finally we must get control of the uranium enrichment process for civil nuclear fuel production, halt the production of fissile material for weapons and phase out the use of highly enriched uranium in civil commerce, and I will devote the rest of my testimony to talking about that item number eight.

Mr. Chairman and members of the committee, as you know today around the world there is a rising interest in using nuclear power to generate electricity. Experts have predicted that energy demand will grow by 50 percent in the next 20 years, even more in developing countries. I am a strong supporter of nuclear power, but we cannot ignore the security challenge. How can we spread nuclear power without also spreading nuclear weapons capabilities?

This is a pivotal question for global security in the 21st century, and your proposal, Mr. Chairman, goes to an important part of that. As this committee knows, the process by which one can enrich uranium to make nuclear fuel is the same process by which one can enrich uranium to make weapons-usable nuclear material. The more uranium enrichment and reprocessing facilities and the more countries that house these facilities, the more likely it is that the number of nuclear weapons states will increase and the more likely it is that weapons-usable nuclear material will find its way into the hands of terrorists.

It is therefore profoundly in our national security interest to give countries every incentive to import low enriched nuclear fuel from one of the current global suppliers rather than to build their own fuel cycle facilities. A country's decision to rely on imported fuel may pivot on one point: Whether there is a mechanism that guarantees an assured international supply of nuclear fuel on a non-discriminatory, nonpolitical basis to states that are meeting their nonproliferation obligations.

That is why last September in Vienna, on behalf of the Nuclear Threat Initiative, and with the financial backing of Warren Buffett—with great emphasis on the latter—that financial backing was absolutely essential—I advanced a proposal for establishing an international fuel bank as a last resort fuel reserve for nations that choose to develop their nuclear energy based on foreign sources of fuel supply services.

This NTI proposal is contingent on other countries matching this \$50 million pledge with an additional \$100 million for startup costs, and your legislation, Mr. Chairman, goes directly to the United States really stepping up in a leadership way on that. You have sponsored legislation here in the House that commits the

United States to a lead role in establishing this fuel reserve, and I commend you for your vision and your actions.

As you know, the NTI-Buffett fuel bank is one of several proposals now being made to discourage the building of more enrichment facilities by assuring the supply of nuclear fuel globally. The good news: These approaches do not compete with each other. They really, in my view, can be made to complement each other. Together they can build a progressively phased approach of assurance.

The first tier, of course, is the international marketplace for nuclear services, and there is an interesting proposal by a young lady sitting here in our audience that talks about using insurance to reinforce that first tier which I think is worthy of real consideration by your committee.

As a second tier, the six major international fuel suppliers—the United Kingdom, the United States, Russia, Germany, France and the Netherlands—have a plan to provide fuel supply assurances and to create national enriched uranium reserves. As a companion initiative, Russia has also proposed the establishment of a series of international fuel centers, the first of which is to be located in Angarsk, Siberia, and I believe President Putin was talking about that this week. Kazakhstan has announced its intention to participate in the creation of this international uranium enrichment center.

The international fuel bank that NTI has proposed would be the final tier, backing up and reinforcing these other mechanisms, and hopefully it would not have to be used very often. It will not be managed by the United States. In my view it should not be managed by the United States or Russia or any of the six supply states but by the International Atomic Energy Agency (IAEA). To provide the greatest assurance, we suggest that the stockpile be housed outside the six supplier countries.

Mr. Chairman and members of the committee, I have been gratified that since I announced the NTI offer last September in Vienna, the subject of fuel assurances and avoiding the spread of enrichment has moved to the international front burner. IAEA Director General El Baradei and his team are working these issues with energy and enthusiasm, and they will make a report to the IAEA in June with decisions expected this September.

We at NTI believe that our proposal, which is designed to be the last resort assurance, has the best opportunity of becoming the first tier to be a reality. So if it does get done quickly, we hope it will be a catalyst for the other assurance tiers which in my view are very important but will take more time.

Now there are obvious risks and sensitivities and possible roadblocks to this and other proposals actually being put in place. Global cooperation on nuclear security is being strained and seriously tested today by the mounting tensions over three areas of consensus and commitment that created the NPT (Nuclear Non-Proliferation Treaty) and held it together for nearly 40 years.

Number one, the commitment of nuclear weapon states to make progress toward nuclear disarmament. Number two, the commitment of nonnuclear weapons states to forego nuclear weapons. And number three, the commitment of all nations to ensure NPT com-

pliant member states access to nuclear technology for peaceful purposes. Those are the three legs of the stool. All of them are important. None of them can stand on their own, but all three are, in my view, eroding.

Many countries, including a number of our key friends and allies, are adamant that they will not approve or participate in any international program that divides the world de jure into have and have not enrichers, as the NPT divides the world into have and have not weapon states, and this is enormously important. I did not realize the intensity of the feelings on this subject until the last couple of years. Joe has talked about it at length but it is real, and it is not people that we dislike. It is among our best friends in the world.

Chairman LANTOS. Senator Nunn, if you will forgive me for interrupting, we have some votes going on on the floor at the moment. I want to apologize to all of our witnesses. We will stand in a short recess, and return as fast as we can. The committee stands in recess.

[Recess.]

Chairman LANTOS. The meeting will resume. I again want to extend my apologies to our distinguished witnesses but this is the way Congress works. Senator Nunn, we interrupted you during your testimony. So if you would not mind resuming at your convenience.

Mr. NUNN. Thank you, Mr. Chairman, and I will try to wrap this up very briefly. I know the pressures of voting and running committee meetings, and it is one of the parts of the process.

The theory of the NPT was that a nuclear weapons divide between have and have not nations would go away over years but it has not, and when we look at the fuel bank proposal, we have to realize that many nations do not believe that divide is going to go away, and they are absolutely intent on not creating another divide between have and have not enrichers.

So the observations I would like to make to the committee, from the NTI point of view, we do not see an IAEA fuel bank as abridging sovereign rights or requiring a potential user to foreswear or forsake their future ability to enrich uranium. We must make it clear that access to the fuel reserve does not require beneficiaries to limit or abridge their sovereign rights to technology under Article 4 of the NPT.

On the other hand, we must not lose touch with our fundamental assumption and essential objective in establishing such a reserve. A nation choosing to develop its own enrichment capacity would not need to depend on a fuel bank, and it would be inconsistent with our purpose for enriching nations to become the beneficiaries of this proposal.

The IAEA will have to work this out carefully and sensitively. This is enormously important because this is the show stopper. To me the bottom line is that eligibility for the fuel bank should be judged by current capabilities rather than the foreswearing of sovereign rights. This bank is also not intended to offer a substitute to the generally reliable international fuel market or to compete with current fuel service supplies.

Rather, we see this bank as an incentive to bolster national decisions to rely on international fuel markets in pursuing nuclear en-

ergy. The IAEA will need to design decision-making techniques that reinforce the transparent and nondiscriminatory character this bank will require. The IAEA fuel bank will need to be small enough to reflect the anticipated rarity of its use but large enough to provide reliable backup assurance for potential users.

The NTI version is a last resort fuel bank, Mr. Chairman. By moving it to reality in terms of this legislation as you propose to do, I believe you will generate the action and momentum that will help move the other assurances and the other tiers in place as well. These assurances and tiers are mutually compatible and complimentary but we believe none of the tiers will be fully credible without the final tier of an IAEA reserve.

This has been circulating for years in terms of an idea but nothing has been done. Sometimes, Mr. Chairman, nations as well as people need to see action before they take action. So I am very supportive of your legislation, and I hope it passes.

One more important point, Mr. Chairman. I urge the Congress in viewing this legislation to resist the normal impulse—and I have had that impulse myself many times—to place conditions on the legislation that would in any way prevent its enactment. I urge you to give the President and the Secretaries of Energy and State the latitude to negotiate terms and conditions acceptable to the international community and keeping Congress informed.

Flexibility in the Executive Branch is absolutely essential here because when you talk to these other countries, if there is anything that looks like they are giving up forever their sovereign rights, they are not going to go for it. The U.S. must lead but we must not place too many restraints on the legislation.

Mr. Chairman, this fuel bank initiative is one of the key steps that we outlined in our *Wall Street Journal* article that I referred to earlier. These steps go together. We cannot defend America without taking these actions. We cannot take these actions without the cooperation of other nations. We cannot get the cooperation of other nations without, in my view, embracing the vision of a world free of nuclear weapons which every President from Richard Nixon to George W. Bush has reaffirmed through our nation's commitment to Article 6 of the nonproliferation treaty.

We all know this cannot happen overnight. It will be a long process. It will be done in stages. It is not unilateral. The United States must have its nuclear weapons as long as other nations do, any other nations, but we will be safer and the world will be safer if we are working toward the goal of deemphasizing nuclear weapons and ultimately ridding our world of them.

Mr. Chairman, in closing, the goal of a world free of nuclear weapons to me is like the peak of a very tall mountain. It is tempting and easy to say we cannot get there from here. Certainly we cannot see the top of the mountain today but we can see that we are heading down and not heading up. We can see that more countries enriching and reprocessing creates great dangers for us and the world. We can see that unsecured nuclear materials around the world are an absolute invitation for catastrophic terrorism.

We can see that our current policy is not working well. We can see that we must change directions and find trails and pathways that lead up the mountain. We can see that we must seek higher

ground. We can see that we cannot do it all at once, and we cannot do it alone. We can see that we have to build confidence and set an example if others are going to move with us to the higher ground.

I believe this is a pivotal moment for our country and world. It is time to turn around, change direction and head for the mountain top. We owe it to our children and our grandchildren. Thank you, Mr. Chairman.

[The prepared statement of Mr. Nunn follows:]

PREPARED STATEMENT OF THE HONORABLE SAM NUNN, CO-CHAIRMAN AND CHIEF  
EXECUTIVE OFFICER, NUCLEAR THREAT INITIATIVE

Chairman Lantos, it is a mark of America's good fortune that you now chair this important committee. Through your personal experience and your policy knowledge, you know personally what it means to face dire threats. I commend you, Congresswoman Ros-Lehtinen and the Committee for your efforts to reduce nuclear threats to our nation and the world.

I thank the Committee for the opportunity to discuss U.S. nuclear weapons policy with you today.

In 1948, at the dawn of the nuclear age, General Omar Bradley said, "The world has achieved brilliance without wisdom, power without conscience. Ours is a world of nuclear giants and ethical infants. We know more about war than we know about peace, more about killing than we know about living."

If he were alive today, it might surprise General Bradley to know that we have made it 62 years since Hiroshima and Nagasaki without the use of a nuclear weapon. But that fact should not give us a false sense of confidence that we will make it the next 62, or even the next 20 years.

We do have important preventive efforts underway—including the Nunn-Lugar threat reduction programs, the Global Threat Reduction Initiative, the G8 Global Partnership, the Global Initiative to Combat Nuclear Terrorism, the Proliferation Security Initiative, the rollback of Libya's nuclear program and UN Resolution 1540.

President Bush has said we should do "everything in our power" to keep nuclear, chemical, and biological weapons out of terrorist hands. The 9/11 Commission called for a "maximum effort" to prevent terrorists from acquiring weapons of mass destruction.

I welcome these urgent words, but by any threat-based measure, our words far exceed our actions.

In my view, the risk of a nuclear weapon being used today is growing, not receding.

- Countries like North Korea and Iran have defied international will by developing nuclear weapons technology and—in the case of North Korea—nuclear weapons.
- A number of additional countries are considering developing the capacity to enrich uranium to use as fuel for nuclear energy—giving them greater capacity to move quickly to a nuclear weapons program if they choose to do so.
- Stockpiles of loosely guarded nuclear weapons materials are scattered around the world, offering inviting targets for theft or sale. We are working on this, but I believe that the threat is outrunning our response.
- Because of an explosion of knowledge and information throughout the world, the know-how and expertise to build nuclear weapons is far more available.
- Terrorists are seeking nuclear weapons for the same reasons terrorists seized airplanes on 9/11—to use them to inflict on the world the greatest possible human suffering, economic loss, and geopolitical chaos.
- Some nations that have had nuclear weapons since the signing of the Nuclear Non-Proliferation Treaty (NPT) are increasing their reliance on nuclear weapons.
- Some nations that have gained nuclear weapons outside of the Nuclear Non-Proliferation Treaty seek to legitimize their nuclear status.
- Both the United States and Russia still deploy thousands of nuclear warheads on ballistic missiles that can hit their targets in less than 30 minutes—a "hair-trigger" prompt launch capability that increases the risk of an accidental, mistaken or unauthorized nuclear missile launch. We have no trans-

parency or accountability for tactical, battlefield nuclear weapons—a terrorist's dream.

In light of these rising threats, and with eroding confidence in deterrence as we have known it, George Shultz, Bill Perry, Henry Kissinger and I published an article in January in *The Wall Street Journal*. We called on the United States to lead the world in a new direction: reversing reliance on nuclear weapons globally, preventing the spread of these weapons, and ultimately ending them as a threat to the world.

Those of us who wrote and endorsed *The Wall Street Journal* piece believe that in order to deal effectively with this new and dangerous era, the United States and the international community must reaffirm the *vision* of a world free of nuclear weapons enshrined in the NPT and pursue crucial *actions* toward achieving that goal and reducing nuclear dangers. We believe that without the bold vision, the actions will not be perceived as fair or urgent. Without the actions, the vision will not be perceived as realistic or possible. This is a step-by-step process. It is not unilateral, but it must have leadership, and it must begin.

Mr. Chairman and members of the Committee, we recommend the following specific steps:

1. We must secure nuclear weapons and materials around the world to the highest standards.
2. We should eliminate short-range "tactical" nuclear weapons, the bombs most likely to be targeted for theft or purchase by terrorists. In my view, we should start with transparency and accountability of these weapons between the United States and Russia.
3. Nuclear weapons, deployed and stockpiled, should be reduced substantially in all states that possess them.
4. We must redouble efforts to resolve regional confrontations and conflicts. This will not be easy, but it is essential if we are to reduce incentives for acquiring nuclear weapons in places like the Middle East, southwest Asia and the Korean peninsula.
5. We should work to bring the Comprehensive Test Ban Treaty into force—in the United States and in other key states. I believe that we should use the report by former Chairman of the Joint Chiefs of Staff John Shalikashvili and the safeguards that he recommends as a roadmap to ratification here at home. To the world, this would be a positive sign and would help restore America's credibility in this arena.
6. The United States and Russia should move to change the Cold War posture of their deployed nuclear weapons to greatly increase warning time in both countries and ease our fingers away from the nuclear trigger.
  - a. I would note that former President Gorbachev, who has recently published his own essay in support of our Wall Street Journal piece, has also advocated these two steps I just mentioned: ratification of the CTBT and removing nuclear weapons from hair-trigger alert. I believe that the world should take up President Gorbachev's challenge.
  - b. To remove our nuclear weapons from hair-trigger alert, I urge the two Presidents to order the military and defense officials of each country to present to them a set of options to increase warning time on both sides.
  - c. These officials should jointly determine which threats might justify keeping thousands of nuclear weapons on hair-trigger status, and then recommend steps to eliminate those threats and thus end the justification. The Presidents, in close consultation with the Congress and the Duma, should then jointly adopt an approach and a timetable to get the job done, and challenge other nuclear nations to follow this lead.
  - d. Each day we should ask ourselves: "Is it in the United States' national security interest for the President of Russia to have only a few minutes to decide whether to fire his nuclear weapons or lose them in response to what could be a false warning?" I would hope that this question would be asked in reverse in Russia and that we would begin to ask it together.
7. We must enhance our verification capabilities, policies and agreements, once again restoring and elevating President Reagan's maxim of "trust but verify" as an essential component of our national security policy. In my view, we should put at least as much effort into verification as we do into missile defense.

8. Finally, we must get control of the uranium enrichment process for civil nuclear fuel production, halt the production of fissile material for weapons and phase out the use of highly enriched uranium in civil commerce.

Mr. Chairman and members of the Committee, as you know, today—around the world—there is a rising interest in using nuclear power to generate electricity. Experts have predicted that energy demand will grow by 50 percent in the next 20 years, even more in developing countries. As energy needs rise, as the pace of global warming increases, nations will look more and more to nuclear power.

Right now, there are 435 nuclear power plants operating in 30 countries. An additional 28 are under construction, and more than 200 are planned or proposed. I am a strong supporter of nuclear power, but we cannot ignore the security challenge: how can we spread nuclear power without also spreading nuclear weapons capabilities? This is a pivotal question of global security in the 21st century.

As this Committee knows, the process by which one can enrich uranium to make nuclear fuel is the same process by which one can enrich uranium to make weapons-usable nuclear material. The more uranium enrichment and reprocessing facilities there are in the world—and the more countries that house these facilities—the more likely it is that the number of nuclear weapons states will increase, and the more likely it is that weapons-usable material will find its way into the hands of terrorists.

It is therefore profoundly in our national security interests to give countries every incentive to *import* low-enriched nuclear fuel from one of the current global suppliers, rather than to build their own fuel cycle facilities. A country's decision to rely on imported fuel may pivot on one point: whether there is a mechanism that guarantees an assured international supply of nuclear fuel on a non-discriminatory, non-political basis to states that are meeting their nonproliferation obligations.

That is why, last September in Vienna, on behalf of the Nuclear Threat Initiative and with the financial backing of Warren Buffett, I advanced a proposal for establishing an international fuel bank—as a last-resort fuel reserve for nations that choose to develop their nuclear energy based on foreign sources of fuel supply services. This NTI proposal is contingent on other countries matching our \$50 million pledge with an additional \$100 million for start-up costs.

Mr. Chairman, you have sponsored legislation here in the House that commits the United States to a lead role in establishing this fuel reserve. I commend you for your vision and your actions.

As you know, the NTI-Buffett fuel bank is one of several proposals now being made to discourage the building of more enrichment facilities by assuring the supply of nuclear fuel. The good news: these approaches do not compete with each other; they complement each other. Together, they amount to a progressively phased approach. The first tier, of course, is the international market for nuclear fuel services.

As a second tier, the six major international fuel suppliers—the United Kingdom, the United States, Russia, Germany, France, and the Netherlands—have a plan to provide reinforcing fuel supply assurances and to create national enriched uranium reserves. As a companion initiative, Russia has also proposed the establishment of a series of international fuel centers, the first of which is to be located at Angarsk, Siberia. Kazakhstan has announced its intention to participate in the creation of this International Uranium Enrichment Center.

The international fuel bank that NTI has proposed would be a final tier, backing up and reinforcing these other mechanisms. It will not be managed by the United States or Russia or any of the six supplier states, but by the International Atomic Energy Agency. To provide the greatest assurance, we suggest that the stockpile be housed outside the six supplier countries.

Mr. Chairman and members of the Committee, I have been gratified that since I announced the NTI offer last September in Vienna, the subject of fuel assurances and avoiding the spread of enrichment has moved to the front burner. IAEA Director General ElBaradei and his team are working these issues with energy and enthusiasm, and they will make a report to the IAEA in June, with decisions expected this September. We at NTI believe that our proposal—which is designed to be the last-resort assurance—has the best opportunity of being the first tier to become a reality. If that proves to be the case, it will hopefully serve as a catalyst for the other assurance tiers.

There are obvious risks and sensitivities and possible roadblocks to this and other proposals actually being put in place. Global cooperation on nuclear security is being strained and seriously tested today by mounting tensions over the three areas of consensus and commitment that created the NPT and have held it together for nearly 40 years.

1. The commitment of nuclear weapons states to make progress toward nuclear disarmament.
2. The commitment of non-nuclear weapons states to forego nuclear weapons.
3. The commitment of all nations to ensure NPT compliant member states access to nuclear technology for peaceful purposes.

All three of these “legs of the stool” are being eroded. Many countries—including a number of our key friends and allies—are adamant that they will not approve or participate in any international program that divides the world *de jure* into have and have-not enrichers, as the NPT divides the world into have and have-not weapons states. The theory of the NPT was that this nuclear weapons divide would go away, but it has not, and many around the globe believe that it will not.

We do not see an IAEA fuel bank as abridging sovereign rights or requiring a potential user to forswear or forsake their future ability to enrich uranium. We must make it clear that access to the fuel reserve does not require beneficiaries to limit or abridge their sovereign rights to technology under Article IV of the NPT. On the other hand, we must not lose touch with our fundamental assumption and essential objective in establishing such a reserve. A nation choosing to develop its own enrichment capacity would not need to depend on a fuel bank, and it would be inconsistent with our purpose for enriching nations to become the beneficiaries of this proposal. The IAEA will have to work this out carefully and sensitively. To me, the bottom line is that eligibility for the fuel bank should be judged by current capabilities, rather than a forswearing of sovereign rights. This bank is also not intended to offer a substitute to the generally reliable international fuel market or to compete with current fuel service suppliers.

Rather, we see this fuel bank as an incentive to bolster national decisions to rely on international fuel markets in pursuing nuclear energy. The IAEA will need to design decision-making techniques that reinforce the transparent and nondiscriminatory character this bank will require. The IAEA fuel bank will need to be small enough to reflect the anticipated rarity of its use but large enough to provide reliable back-up assurance for potential users. The diversity of potential users argues against storing actual fabricated fuel, which is reactor-specific, in favor of storing low enriched uranium in the most flexible form of uranium hexafluoride.

The NTI version is a last-resort fuel bank, but Mr. Chairman, by moving it to reality, as you propose to do by sponsoring this legislation, I believe that you will generate the action and momentum that will move the other assurances into place as well. These assurance tiers are mutually compatible and complementary, but we believe none of the tiers will be fully credible without the final tier of an IAEA-custody reserve.

The idea of an international framework for enrichment services has been circulating since the 1970s, but for decades nothing has been done. Sometimes people and nations need to see action, before they take action. Mr. Chairman, I hope that you can find a way to pass this legislation out of the House this summer—to show U.S. leadership to slow the spread of fuel cycle facilities in the world.

One more important point on this legislation, if I may, Mr. Chairman. I understand the urge in Congress to place conditions on this legislation, so that we’re sure that we are enabling the right countries with this initiative. However, I urge you to give the President and the Secretaries of Energy and State latitude to negotiate terms and conditions acceptable to the international community. The U.S. can and must lead. But, if the legislation places too many constraints on the IAEA fuel bank, it will not become a reality—and the goal of giving nations a more secure alternative to indigenous fuel cycle facilities will be lost.

Mr. Chairman and members of the Committee, this fuel bank initiative—and the effort to gain control of the uranium enrichment process—is one of the key steps we authors of the *Wall Street Journal* piece endorse in order to make the world safer in the short and long-term.

But these steps must go together with a parallel vision.

We cannot defend America without taking these actions; we cannot take these actions without the cooperation of other nations; we cannot get the cooperation of other nations without embracing the vision of a world free of nuclear weapons—which every president from Richard Nixon to George W. Bush has reaffirmed through our nation’s commitment to Article VI of the Nonproliferation Treaty.

This cannot happen overnight. It will be a long process, done in stages. The United States must have its nuclear weapons as long as any other nations do. But we will be safer, and the world will be safer, if we are working toward the goal of deemphasizing nuclear weapons and ultimately ridding our world of them.

To me, the goal of a world free of nuclear weapons is like the peak of a very tall mountain. It’s tempting and easy to say: “We can’t get there from here.” Today, we

can't see the top of the mountain, but we can see that we're headed down instead of up. We can see that more countries enriching and reprocessing creates great dangers. We can see that unsecured nuclear materials around the globe are an invitation for catastrophic terrorism. We can see that our current policy is not working well. We can see that we must change direction and find trails and pathways that lead upward. We can see that we must seek higher ground. We can see that we can't do it all at once and that we can't do it alone. We can see that we have to build confidence and set an example if others are going to move with us to higher ground.

This is a pivotal moment for our country and the world. It's time to turn around, change direction, and head for the mountaintop. We owe it to our children and grandchildren.

Chairman LANTOS. Thank you very much, Senator Nunn, for a most thoughtful and most powerful testimony. We now turn to our second distinguished witness whose name I shall not mispronounce—although everybody else does including himself—Joe Cirincione, which is the proper pronunciation, is the author of *Bomb Scare, The History and Future of Nuclear Weapons*, a thorough and important documentation of nuclear weapons.

The book discusses policy options and we look forward to hearing from him today. He is currently senior fellow and director for nuclear policy at the Center for American Progress. He served as director for nonproliferation at the Canadian Dama for International Peace for 8 years. Mr. Cirincione's varied career in defense and security policy included 9 years in the House of Representatives working on the Committee on Armed Services and Government Operations.

He served as staff director of the Military Reform Caucus. He has written scores of articles and co-authored several important books on defense issues. Mr. Cirincione, the floor is yours.

**STATEMENT OF MR. JOSEPH CIRINCIONE, VICE PRESIDENT  
FOR NATIONAL SECURITY, CENTER FOR AMERICAN  
PROGRESS**

Mr. CIRINCIONE. Thank you very much for that gracious introduction. My grandfather, Giuseppe Cirincione, who came to this country 100 years ago, would be very proud.

Chairman LANTOS. That is even better.

Mr. CIRINCIONE. Thank you very much. It is an honor to be testifying before you and before this distinguished committee and especially to be on this panel with one of my heroes, Senator Sam Nunn, and my always innovative colleague, Henry Sokolski.

I will keep my remarks very brief. I am pleased to play the backup chorus to Senator Nunn's baritone lead. It should come as no surprise and I think it is safe to say in this forum that I completely agree with everything the Senator has said including his ringing endorsement of H.R. 885, a much needed piece of legislation. It is certainly a key part of the solution to both the fuel cycle problem which has plagued the nonproliferation regime since the beginning of the nuclear age and to our overall nonproliferation strategy which as Senator Nunn has said is multifaceted.

I often think of this problem not as a game of chess but more as a game of Parcheesi where you have to move several pieces down the board at the same time and get them all over the finish line, and you have people competing with you who are also moving

their pieces down the board. If anything, this is probably a three-dimensional Parcheesi game.

But let me just very briefly offer some comments derived from my testimony that could help orient you in your work, and the first is the findings from my studies that there is nothing inevitable about proliferation. Nuclear technology does not spread around the world uniformly like a drop of ink in a glass of water. It has gone to specific nations for very specific purposes. We now have a 62-year history to look back on, and we understand very well the proliferation drivers and the proliferation barriers, and we are able to draw lessons from which policies have worked to stop proliferation and which have failed, and that is the second lesson: Policy matters. Policy matters. Especially U.S. policy.

We are the most powerful nation the world has ever seen. What we say, what we do matters greatly. We are able to impact this positively or negatively, depending on what our policies have been. One great example of this is the nonproliferation treaty itself. This was begun and inspired by President Kennedy, negotiated by President Johnson but ratified and signed into law by President Nixon, and that really began this period of bipartisan cooperation. Conservatives and liberals, republicans and democrats cooperating together to build this network of treaties and agreements that has effectively stemmed proliferation in the world though not stopped it all together.

In the 1960s we worried about some 23 countries who could build nuclear weapons. That was the finding in the very first NIE, the national intelligence assessment done in 1958 on proliferation. They were worried about 23 countries who might acquire this technology. Basically every country that could, seemed inclined to do so. The nonproliferation treaty and the regime that resulted stopped that tendency.

We now have nine countries we worry about, nine too many, but still a relatively small fraction of the countries that could have built or still could build nuclear weapons should they desire to do so, and that is my third and final point: We are now at a critical moment in policy formation. I believe that is true in two senses.

One, it is a bit of an overused phrase but I do believe we are at a tipping point where the decisions we make in the next 2 or 3 years could decide whether we solve the key nonproliferation problems before us and continue some of the progress that we have made over the last two decades, reducing the number of nuclear weapons in the world, reducing the number of nuclear weapons programs or whether we fail to solve those problems and we tip the other way and set off a new wave of proliferation.

I have to disagree with some of the comments that were made at the opening statements. I do not believe this is a problem of good guys and bad guys. I do not think you can approach the proliferation problem that way—that somehow it is okay for the good guys to have nuclear weapons, and we just have to stop the bad guys. The problem is, historically, the good guys and bad guys keep changing. We sold Iran their first nuclear reactor. Iran used to be a good guy. We helped armed Saddam Hussein when he was opposing Iran. He was a good guy then.

Pakistan is a good guy now but that country could tip at any moment, and their nuclear weapons and nuclear technologies could suddenly turn into our worst nuclear nightmare. On a more positive note—and this is where I will conclude—I believe we are at a new moment in proliferation policy. We are entering a period of dramatic political transition in the world.

It is not just the United States that will have a new President in 2009. Four of the five permanent members of the U.N. Security Council will change hands. Many leading nations will have new leadership in 2009. Some have already chosen that leadership, like Germany, Italy, France and apparently the United Kingdom will do so in the next couple of months.

We have a new Secretary General at the United Nations. We may have a new Director General of the IAEA at the end of Mohamed El Baradei's term in 2009. This means that we will have a clean slate of new leaders looking for new ideas and new initiatives. It is our job to provide those new ideas. I believe the House Foreign Affairs Committee can play the lead role in the U.S. House of Representatives in developing a new nonproliferation policy from the United States.

The ground is already being cleared for your efforts. The work that Senator Sam Nunn has done and particularly the initiative that he has launched with former Secretaries of State George Shultz, Henry Kissinger and former Secretary of Defense William Perry is a turning point in this debate. When you have heavy hitters like that, when you have realists like that saying that we have to reaffirm the goal of eliminating nuclear weapons, reaching agreement on a series of concrete measures that we can take in the next few years including getting the Congress to ratify the comprehensive test ban treaty. This is a new moment.

We have to do all we can to seize that moment, to follow the lead of these statesmen in developing and flushing out the policies that can reduce and turn around the spread of nuclear weapons. Thank you, Mr. Lantos, for this opportunity.

[The prepared statement of Mr. Cirincione follows:]

PREPARED STATEMENT OF MR. JOSEPH CIRINCIONE, VICE PRESIDENT FOR NATIONAL SECURITY, CENTER FOR AMERICAN PROGRESS

Mr. Chairman and Members of the Committee, thank you for the opportunity to testify before you today. It is an honor to be on the same panel as one of my heroes, Senator Sam Nunn, and my innovative colleague, Henry Sokolski. I believe the Foreign Affairs Committee can and should play the lead role in the House of Representatives in developing and shaping the next nonproliferation policy of the United States.

The nation's current policy is in transition, as we learn through bitter experience that there are no easy solutions to the spread of nuclear weapons. Further innovations will come, particularly with the election next year of a new American president. But ours is not the only electoral change in the next two years.

We are entering a period of dramatic political transition. By early 2009, four of the five permanent members of the UN Security Council will have new leaders. France has already made the change, the United Kingdom will follow shortly and the United States and Russia will do so by early 2009. Other key states, including Japan, Iran and Israel, may as well. Several made the switch earlier, such as Germany and Italy. International organizations, too, will refresh their leadership, with a new Secretary-General now installed at the United Nations and possibly a new head of the International Atomic Energy Agency in two years.

Rarely have the political stars re-aligned so dramatically. The group portrait at the 2009 G-8 summit may not have a single leader from the 2006 photo. This is

a unique opportunity to advance new policies that can dramatically reduce and even eliminate many of the nuclear dangers that keep the Members of this Committee awake at night.

I am delighted that Members of the Committee, led by Chairman Lantos, are already swinging into action. Your introduction of H.R. 885, the International Nuclear Fuel for Peace and Nonproliferation Act of 2007, is an important step to resolving one of the most significant problems with the existing regime. The legislation shows the kind of new perspectives and new strategies that can help mobilize global support for more effective policies before it is too late.<sup>1</sup>

*The Good News about Proliferation*

There is nothing about nuclear weapons that is easy. Not inventing them, not making them, not getting rid of them. But none of these problems are insolvable. We have actually made remarkable progress in the past two decades in reducing many nuclear dangers—progress often overlooked in the rush of daily headlines.

The number of nuclear weapons in the world has been cut in half over the past 20 years, from a Cold War high of 65,000 in 1986 to about 26,000 today. These stockpiles will continue to decline for at least the rest of this decade.

There are far fewer countries that have nuclear weapons or weapon programs today than there were in the 1960s, '70s, or '80s. In the 1960s, 23 countries had weapons or were pursuing programs, including Australia, Canada, China, Egypt, India, Japan, Norway, Sweden, Switzerland and West Germany. Today, nine countries have weapons (China, France, India, Israel, North Korea, Pakistan, Russia, United Kingdom, and the United States). Iran may be pursuing a weapons program under the guise of peaceful nuclear power, but no other nation is believed to be doing so.

In fact, more countries have given up nuclear weapons or weapons programs in the past 20 years than have started them. These were not easy cases. South Africa, Belarus, Kazakhstan and Ukraine all gave up weapons in the 1990s. Similarly, civilian governments in Brazil and Argentina in the 1980s stopped the nuclear weapon research military juntas had started. We now know that United Nations inspection and dismantlement programs ended Iraq's nuclear weapon program in 1991. In December 2003, Libya became the most recent nation to abandon a secret program.

The Non-Proliferation Treaty itself is widely considered one of the most successful security pacts in history, with every nation of the world a member except for Israel, India, Pakistan, and North Korea. Most of the 183 member states that do not have nuclear weapons believe what the treaty says: we should eliminate nuclear weapons. Most of the American public agrees. An Associated Press poll of March 2005 showed that 66% of Americans believe that no country should be allowed to have nuclear weapons, including the United States. In fact, when asked if the United States and its allies should be allowed to have nuclear weapons and all other nations prevented from doing so, only 13% agreed—though that is essentially what U.S. policy is today.

Until North Korea tested, no nation had exploded a nuclear weapon in a test for eight years—the longest period in the atomic age. The outrage that greeted the test shows how strong this anti-nuclear sentiment has become.

There is more good news. The ballistic missile threat that dominated national security debates in the late 1990s was greatly exaggerated. The danger is declining by most measures: There are far fewer nuclear-tipped missiles capable of hitting the United States today than there were ten or twenty years ago. Agreements negotiated by Presidents Ronald Reagan, George H.W. Bush and George W. Bush have slashed the former Soviet arsenal by 71 percent from 1987, while China has retained about 20 missiles that could reach U.S. shores. No other country can strike the United States from its own soil. Most of the news about missile tests in Iran, North Korea or South Asia are of short- or medium-range missiles that threaten those nations' neighbors but not America.<sup>2</sup> The threat today is a limited one that is confined to a few countries whose political evolution will be the determining factor in whether they emerge as, or remain, threats to global security.<sup>3</sup>

Finally, thanks to treaties negotiated by Presidents Richard Nixon and George H.W. Bush, chemical and biological weapons have been largely eliminated from state arsenals—including ours.

There are four core problems, however, that are more difficult to resolve. They require forging a consensus of expert opinion, focusing the attention of senior officials, securing the necessary funding, and, above all, presidential leadership. None of these problems can be solved from the bottom up. The president of the United States and leaders of the other nuclear-weapon states and other key countries must be committed to working together on these core issues. If they are, then the lessons learned from the sixty-two-year history of nuclear weapons and theories developed

from that history provide us with a robust set of policy options for solving the three most difficult nuclear threats: terrorism, fuel technology, new weapon states and existing arsenals.

*Solving Problem Number One: Preventing Nuclear Terrorism*

It is common sense that national security policy should be oriented towards the main danger to the United States and other nations. Today, that does not come from a nation intentionally attacking with nuclear weapons. Even a nuclear-armed North Korea or Iran would know that the use of any weapon would be regime suicide. The most urgent threat is a terrorist attack, and our number one goal should be to ensure that any such attack is non-nuclear.

Given the difficulties of a terrorist acquiring or making a nuclear bomb, the actual risk of such an attack are still low.<sup>4</sup> But they are not zero, and the consequences would be enormous. Hurricane Katrina provided some idea of what it would mean to have a U.S. city disappear from the national grid. Many, in fact, compared the storm to Hiroshima. But Hiroshima was much worse. The bomb, small by today's standards, killed 140,000 people and destroyed or damaged 70,000 of the 76,000 buildings in the city.

Like the known risk to New Orleans, the government response to the nuclear threat has been inadequate. Representative David Hobson argues, "If we really believe a nuclear 9/11 is the most serious thing facing us, then we haven't even begun to scratch the surface."<sup>5</sup>

Nuclear terrorism is not a new threat. The danger was obvious to many even at the very beginning of the nuclear age. Over sixty years ago, Manhattan Project Director J. Robert Oppenheimer was asked by a Congressional committee whether three or four men couldn't smuggle units of an atomic bomb into New York and blow up the whole city. He replied, "Of course it could be done, and people could destroy New York."<sup>6</sup> What is different today is the existing of large, well-organized groups intent on acquiring nuclear weapon capabilities.

It is now possible to shore up the nuclear security dams and levees that can prevent this ultimate disaster. A broad expert consensus already exists on the core elements of such a plan: secure all weapon-usable materials (highly enriched uranium and plutonium) against theft or diversion; end the production of these materials; end the use of these materials in civilian research, power reactors, and naval reactors; and eliminate the large surplus stockpiles of these materials held by the United States, Russia and other nations.<sup>7</sup>

Many of the programs to secure these materials are now in place. Lacking is the high-level political commitment and adequate funding to fully implement them. That is, though these are tough problems and there are often national bureaucratic obstacles to overcome, these programs work. As numerous independent studies have found, they need presidential leadership to energize them.

For example, since 1991, Congress has funded significant technical and financial assistance to Russia under the Nunn-Lugar programs to help Moscow secure stored nuclear warheads, to guard warheads in transport, and to improve tracking and accounting procedures. Two of these are a joint program between Russia and the United States to dispose of 34 tons of plutonium (enough for more than 6,000 nuclear bombs) and a program to convert highly enriched uranium to low enriched uranium for sale to an American nuclear energy corporation.

This latter program, dubbed "Megatons to Megawatts," now powers one out of ten light bulbs in the United States. The United States has bought 500 tons of highly-enriched uranium from Russia, extracted from disassembled warheads. Mixed with natural uranium, it is converted into fuel rods that account for half the nuclear power produced in the United States, or 10 percent of the total electricity generated every year. It works, it is free to the American taxpayer, and it could quickly be accelerated. The program could fairly easily buy up an additional 500 tons from Russian warheads, rather than continue at its current pace.

There are also programs underway to eliminate or secure all of the dangerous nuclear material outside of Russia. The program could achieve a global cleanout of all these vulnerable sites in dozens of nations in the next four years, instead of the 10 to 15 years currently planned, if the president so desired. Most of the work is fairly straight forward, but often it requires maneuvers worthy of "Mission Impossible." Here are two examples:

- November 1994: 581 kg of weapons-usable uranium were secreted out of Kazakhstan to the United States in a top-secret operation codenamed "Project Sapphire." Racing against the impending winter blizzards and possible attempts by terrorists or Iranians to obtain this highly-valuable material, U.S. and Kazakh technicians repackaged the HEU into 1,300 steel containers.<sup>8</sup> All materials were then loaded onto two Air Force C-5 transport planes and

whisked away to Oak Ridge National Laboratory in Tennessee.<sup>9</sup> This massive undertaking was the first operation of its kind under the Nunn-Lugar program and was only possible because then-Khazakh President Nursultan Nazarbayev trusted the United States enough to call for help in removing the fissile materials, having built up this level of trust through a host of cooperative projects.<sup>10</sup>

- September 2005: After midnight, a heavily-armed special police force led a cargo truck from the Czech Technical University in Prague to a waiting Russian cargo plane. The truck carried 14 kg of weapons-grade uranium.<sup>11</sup> The Prague airlift was the eighth successful repatriation of fissile material to Russia from low-security civilian facilities under the recently-created U.S. Global Threat Reduction Initiative (GTRI). Its mission is to specifically “identify, secure, recover and/or facilitate the disposition of high-risk, vulnerable nuclear and radiological materials around the world that pose a threat to the United States and the international community.”<sup>12</sup> Approximately 495kg of HEU, enough to make about 20 bombs, have been safely transferred from Serbia, Romania, Bulgaria, Libya, Uzbekistan, the Czech Republic, Latvia, Poland and Germany.<sup>13</sup> GTRI continues its work towards complete repatriation of Russian- and U.S.-origin fissile material and is also working to upgrade security at targeted facilities and support conversion of research test reactors from running on HEU to LEU.<sup>14</sup>

With increased funding and presidential commitment, all these efforts could be accelerated to secure or eliminate the vast majority of nuclear weapons and materials by 2012.<sup>15</sup>

The final report of the 9/11 Public Discourse Project (an extension of the 9/11 Commission), gave the U.S. government failing grades in this area. Commission Chairman Thomas Kean questioned why more high-level attention hadn't been given to preventing nuclear terrorism: “Why isn't the President talking about securing nuclear materials? . . . The President should make this goal his top national security priority.”<sup>16</sup> This would make it nearly impossible for a terrorist group to threaten any nation with the “ultimate catastrophe.”<sup>17</sup> As former Assistant Secretary of Defense Ashton Carter puts it, “We *can* envision the eradication of nuclear terrorism.”<sup>18</sup>

*Solving Problem Number Two: Preventing Nuclear Fuel Rods from Becoming Nuclear Bombs*

The core problem with the spread of nuclear technology is not nuclear reactors; it is what goes into and comes out of the reactors. The same facilities that enrich uranium to low levels for fuel can be used to enrich uranium to high levels for bombs. The same facilities that reprocess spent reactor fuel rods for disposal can be used to extract plutonium for weapons.

Over 40 countries have nuclear reactors. Very few of them make their own fuel. They purchase it from one of the 3 countries that make and export fuel (France, Russia, and the United States) or from the one existing international consortium, the Uranium Enrichment Corporation (URENCO) run by Germany, the Netherlands and the United Kingdom. (China, Japan, and Pakistan currently enrich uranium in significant quantities, but not for export).

Today, the fuel problem is growing more serious as several new nations seek fuel production capabilities and as the technological barriers to acquiring them shrink. Iran is the most urgent example of this larger problem. The Iranian government insists that Iran needs to develop nuclear power and indigenous fuel cycle capabilities. Many countries are understandably suspicious that the program is a cover for obtaining the technologies needed to make nuclear weapons. As several experts point out, it does not make economic sense for any nation to build their own indigenous enrichment and reprocessing facilities if their national nuclear power output is less than 25,000 megawatts.<sup>19</sup> Iran, however, insists that it must forge ahead with enrichment plants even though it has yet to put its first 1,000 megawatt reactor into operation.

In addition to Iran, Brazil plans to open an enrichment facility in this decade and other countries, such as South Korea and Ukraine have indicated interest in developing their own facilities. Japan's new reprocessing plant at its \$20 billion Rokkasho-muro facility will add to the mountains of plutonium it has already reprocessed in European plants.

From the very beginning of the nuclear age, scientists and policy makers tried to control the production of fuel. Scientists believed in 1945 that the rationing of uranium ores could be the simplest way to control nuclear technology. Under an international agreement, uranium would be accounted for, and there would be a check

on the conversion of natural uranium into fissile material, they argued. Thus, the American plan Bernard Baruch presented to the United Nations in 1946 sought to establish an International Atomic Development Authority that would own and control all “dangerous” elements of the nuclear fuel cycle, including all uranium mining, processing, conversion, and enrichment facilities.

President Dwight D. Eisenhower picked up parts of these ideas in his Atoms for Peace Program in 1953. In the decades that followed, there were several major efforts that either studied or recommended the creation of multi-national fuel supply centers. These included the International Nuclear Fuel Cycle Evaluation, the United Nations Conference for the Promotion of International Co-operation in the Peaceful Uses of Nuclear Energy, and the Committee on the Assurances of Supply.

There is again today broad agreement that a comprehensive nonproliferation solution must include the reform of the ownership and control of the means of producing fuel for nuclear reactors. Proposals for doing so have been advanced by President George Bush, IAEA Director-General Mohamed ElBaradei, Russian President Vladimir Putin and by leading non-governmental experts.

All these proposals seek to end the further production of materials for use in nuclear weapons and stop—at least temporarily—construction of new facilities for enriching uranium or separating plutonium. Some propose that all such enrichment or separation take place only in facilities owned and operated by multi-national entities, others seek tougher export controls to prevent the development of new fuel factories, others propose new contractual and commercial means of control. But all recognize that preventing new nations such as Iran or Brazil from entering the uranium enrichment business will require more than a country-specific approach.

On February 11, 2004, President Bush said:

The world must create a safe, orderly system to field civilian nuclear plants without adding to the danger of weapons proliferation. The world’s leading nuclear exporters should ensure that states have reliable access at reasonable cost to fuel for civilian reactors, so long as those states renounce enrichment and reprocessing. Enrichment and reprocessing are not necessary for nations seeking to harness nuclear energy for peaceful purposes.<sup>20</sup>

Little progress has been made in furthering President Bush’s proposed reform, in part due to a lack of U.S. follow-up, and in part to wide resistance to the needed changes. There are concerns among developing nations that a supplier cartel would unduly restrict their access to nuclear technology and a broader reluctance among non-nuclear weapon states to accept more stringent nonproliferation obligations when nuclear weapon states are seen as failing in their commitments to disarmament.

ElBaradei agrees with President Bush’s assessment of the problem. “The wide dissemination of the most proliferation-sensitive parts of the nuclear fuel cycle . . . could be the ‘Achilles’ heel’ of the nuclear non-proliferation regime,” he warned in March 2004. He disagrees with the President, however, in how the problem could be solved: “It is important to tighten control over these operations, which could be done by bringing them under some form of multilateral control, in a limited number of regional centers.”

H.R. 885, the International Nuclear Fuel for Peace and Nonproliferation Act of 2007, would be an important step in building the needed consensus for a new international arrangement that would guarantee fuel cycle services (supply and disposal of fuel) to states that do not possess domestic capabilities. The mechanisms outlined in the resolution could provide a credible international guarantee of fresh reactor fuel and removal of spent fuel at prices that offer an economic incentive to the recipient state. Such an arrangement would reduce, if not eliminate, the economic or energy security justification for states to pursue their own fuel cycle facilities, and in so doing would test states’ commitment to a non-weapons path. States that turn down reliable and economically attractive alternatives to costly new production facilities would engender suspicion of their intentions, inviting sanctions and other international pressures.

The measures proposed in H.R. 885 are likely to enjoy broad international support. As the resolution notes, in January 2005 Russian President Vladimir Putin proposed the creation of a global infrastructure “to offer nuclear fuel cycle services, including [uranium] enrichment under the control of the IAEA” to all countries, provided that they observe the nonproliferation regime.<sup>21</sup> “Its backbone element will include a network of centres providing services in nuclear fuel cycle, including uranium enrichment, and they will be controlled by the International Atomic Energy Agency and will operate on the basis of nondiscriminatory access,” Putin said.<sup>22</sup>

As the H.R. 885 further notes, the six fuel-exporting countries (United States, France, Germany, the United Kingdom, Russian and the Netherlands) proposed in

2006 a “Concept for a Multilateral Mechanism for Reliable Access to Nuclear Fuel” that could also create the missing international mechanism for guaranteed fuel supply.

The key is to get these initiatives moving. H.R. 885 provides a critical push through its findings, statement of policy, reporting requirement and authorization of funds.

Why are these efforts needed? Promising non-nuclear weapon states access to nuclear technology was critical to forging the grand bargain that allowed the Non-Proliferation Treaty to enter into force. Today, any efforts to restrict or deny access to that technology (especially when many in the West are calling nuclear power essential to solving the world’s energy shortages and reducing the greenhouse effect from carbon emissions) are resisted by states unwilling to cede any ground on their access to nuclear technology, particularly when they believe that other existing non-proliferation obligations, including those associated with disarmament, are going unimplemented. Meanwhile, states with nuclear fuel capabilities are reluctant to place them under international control.

Only high-level attention to this difficult issue can forge the international agreement necessary to push a solution over the finish line. The United States should be the natural leader of this effort, but this will require a departure from current priorities. It will mean placing reform of the fuel cycle as a top national security priority, joining with the urgent task of securing weapon-usable fissile materials. H.R. 885 is an excellent place for Congress to start this process.

#### *Solving Problem Number 3: Preventing New States*

Most of the news, debate and discussion of nonproliferation problems have focused in recent years on the two or three states suspected of developing new weapon programs. In part, this is because the overthrow of these governments, particularly in the Middle East, has overlapped with other political and security agendas. The war in Iraq was only partially about eliminating Saddam Hussein’s weapons capability, though that was the major justification for the war.

The crises with Iran and North Korea are serious, but proliferation problems cannot be solved one country at a time. As the 2005 Carnegie study *Universal Compliance* notes:

Attempting to stem nuclear proliferation crisis by crisis—from Iraq, to North Korea, to Iran, etcetera—ultimately invites defeat. As each deal is cut, it sets a new expectation for the next proliferator. Regime change by force in country after country is neither right nor realistic. The United States would bankrupt and isolate itself, all the while convincing additional countries that nuclear weapons would be their only protection. A more systematic approach that prevents states within the NPT from acquiring the nuclear infrastructure needed to produce nuclear weapons is the only real sustainable option.<sup>23</sup>

While the specifics and politics vary from country to country, all of the threats we face from new nations acquiring weapons—North Korea and possibly Iran today, others tomorrow should either consolidate as a new nuclear weapon state—share the same need for a comprehensive, multi-dimensional approach. Iran, by far the more difficult of the cases, can serve as a model of how such an approach could work.

Think for a moment what it will take to convince the current or future Iranian government to abandon plans to build between six and twenty nuclear power reactors and all the facilities needed to make and reprocess the fuel for these reactors. As I detail with my co-author Andrew Grotto in our new study from the Center for American Progress, *Contain and Engage: A New Strategy for Resolving the Nuclear Crisis with Iran*, plans to do so pre-date the Islamic Republic. The United States, in fact, provided Iran with its first research reactor in the late 1960s (still operating at the University of Teheran) and encouraged Iran in its nuclear pursuits. Then-ruler Shah Reza Pahlevi developed plans to build 22 nuclear power reactors with an electrical output of 23,000 megawatts.

Whatever its true intentions, convincing Iran that while it could proceed with construction of power reactors, the country must abandon construction of fuel manufacturing facilities will not be easy. It will likely require both threats of sanctions (and as a last resort, military action), and promises of the economic benefits of cooperation.

This is the package of carrots and sticks that comprised the negotiations between the European Union and Iran. Calibrating the right balance in this mix is difficult enough, but the package itself is probably not sufficient to seal a deal. The hard-line government of President Mahmoud Ahmadinejad further complicates the issue with its harsh rhetorical insistence on proceeding with the nuclear plans and point-

ed threats to Israel. While the rhetoric may eventually fade, at the core, Iran or any country's reasons for wanting its own fuel cycle capabilities are similar to the reasons some countries want nuclear weapons: security, prestige and domestic political pressures. All of these will have to be addressed in order to craft a permanent solution.

Part of the security equation can be addressed by the prospect of a new relationship with the United States that ends regime change efforts. Iran would need some assurances that agreements on nuclear programs could end efforts by the United States and Israel to remove the current regime. The United States has told North Korea that it has no hostile intentions toward the state and that an end to that country's program would lead to the restoration of diplomatic relations. Similar assurances will be needed for Iran.

But there is also a regional dimension. Ending the threat from an Iranian nuclear program will require placing the Iranian decision in the context of the long-standing U.S. goal of a Middle East free of nuclear weapons. It will be impossible for a country as important as Iran to abstain permanently from acquiring the technologies for producing nuclear weapons—at least as a hedge—if other countries in the region have them. This dynamic has been noted in the very first National Intelligence Estimates of the proliferation threats done in 1958 and 1961 and is still true today.

Iran's leaders will want some assurances that there is a process underway that can remove what they see as potential threats from their neighbors, including Israel. For domestic political reasons, they will want to present their nuclear abstinence as part of a movement towards a shared and balanced regional commitment.

Members of the Committee might throw up their hands at this point. "Israel, give up its nuclear weapons? Impossible!" But such nuclear free zones have been created in other regions which, though not as intensely contested as the Middle East, still had to overcome substantial rivalries and involved the abandonment of existing programs (in South America) and the dismantlement of actual weapons (in Africa and Central Asia). Little diplomatic effort has been put behind the declared U.S. policy in recent years—certainly nothing on the scale of the effort Republican and Democrats needed to create the nuclear Non-Proliferation Treaty and its support mechanisms in the 1960s and 1970s.

Ridding the region of nuclear weapons will, of course, be difficult, but it is far better than the alternative of a Middle East with not one nuclear power (Israel) but two, three or four nuclear weapon states—and with unresolved territorial, religious and political disputes. This is a recipe for nuclear war.

This is not a distant fear. In just the past six months, a dozen Muslim nations have expressed their interest in starting their own nuclear power programs. In the entire 62-year history of the nuclear age there has been exactly one nuclear power reactor built in the Middle East (the one under construction in Iran) and two in Africa (in South Africa). Suddenly, ten states have begun exploring nuclear power programs. This is not about energy; it is about hedging against a nuclear Iran.

The key to stopping this process is to get a counter-process going. States in the region must have some viable alternative to the pessimistic view that the Middle East will eventually be a nuclear free-for-all. A distinguished group of 20 nuclear experts representing a cross-section of national and political views recommended in 2005 that part of the solution to a "nuclear-ready Iran" was to encourage Israel to initiate a "Middle East nuclear restraint effort" that would begin by shutting down the Israeli production reactor at Dimona. The group, convened by the Henry Sokolski at the Nonproliferation Policy Education Center, said Israel should then that it was willing to take further steps, including dismantling all its fissile producing facilities and handing over control of its weapons usable fissile material to the IAEA, as long as other states in the region did the same.<sup>24</sup>

In order for this plan or any similar plan to succeed, there will have to be a concurrent effort to change fundamentally the way nuclear fuel is produced and reprocessed, as detailed above. Doing so would satisfy a nation's security considerations that it does not have to build its own facilities in order to have a secure supply of fuel for its reactors. Some Iranians see the current negotiations as a new effort by the West to place them, once again, in a dependent relationship. This time the West would not control their oil, they say, but the energy of the future, nuclear fuel. Iran, indeed any nation, will not permanently acquiesce to a discriminatory regime that adds to the existing inequality allowing some countries to have nuclear weapons while others cannot, by now allowing some countries to make nuclear fuel while others cannot.

A comprehensive approach operating at several levels is the only sure way to prevent more and more nations from wanting and acquiring the technology that can bring them—legally—right up to the threshold of nuclear weapons capability.

*Solving Problem Number Four: Reducing Existing Arsenals*

Finally, as Senator Nunn so eloquently notes, none of these efforts will succeed absent dramatic reductions in the deadly arsenals of nuclear weapons held primarily by the United States and Russia. These discussions must take place in a world where nuclear weapons are being devalued as measures of security, status and technical achievement. Just as it is fruitless for parents to try to convince their children not to smoke while they have a two-pack-a-day habit and are constantly extolling the benefits of tobacco to their friends, it will be impossible for other nations to refrain permanently from acquiring nuclear weapons while they remain the currency of great power status.

As we concluded in our Carnegie study:

The nuclear-weapon states must show that tougher nonproliferation rules not only benefit the powerful but constrain them as well. Nonproliferation is a set of bargains whose fairness must be self-evident if the majority of countries is to support their enforcement . . . The only way to achieve this is to enforce compliance universally, not selectively, including the obligations the nuclear states have taken on themselves . . . The core bargain of the NPT, and of global nonproliferation politics, can neither be ignored nor wished away. It underpins the international security system and shapes the expectations of citizens and leaders around the world.<sup>25</sup>

Nuclear weapons are more highly valued by national officials than chemical or biological weapons ever were, but that does not mean they are a permanent part of national identity. We may be seeing the beginning of a move to recapture the vision of a nuclear-free world, dramatically heralded in the January 4, 2007 op-ed co-authored by George Shultz, Henry Kissinger, William Perry and Sam Nunn.

Breaking the nuclear habit will not be easy, but there are ways to minimize the unease some may feel as they are weaned away from dependence on these weapons. The United States and Russia account for over 96 percent of the world's nuclear weapons. The two nations have such redundant nuclear capability that it would not compromise any vital security interests to quickly reduce down to several hundred warheads each. Further reductions and the possibility of complete elimination could then be examined in detailed papers prepared by and for the nuclear-weapon states. If accompanied by reaffirmation of the ban on nuclear testing, removal of all weapons from rapid-launch alert status, establishment of a firm norm against the first use of these weapons, and commitments to make the reductions in weapons irreversible and verifiable, the momentum and example generated could fundamentally alter the global dynamic.

Such an effort would hearken back to President Harry Truman's proposals which coupled weapons elimination with strict, verified enforcement of non-proliferation. Dramatic reductions in nuclear forces could be joined, for example, with reforms making it more difficult for countries to withdraw from the NPT (by clarifying that no state may withdraw from the treaty and escape responsibility for prior violations of the treaty or retain access to controlled materials and equipment acquired for "peaceful" purposes).<sup>26</sup> It would make it easier to obtain national commitments to stop the illegal transfer of nuclear technologies and reform the fuel cycle. The reduction in the number of weapons and the production of nuclear materials would also greatly decrease the risk of terrorists acquiring such materials.

*Conclusion*

Ultimately, reducing the risks from nuclear weapon in the 21st century cannot be just a military or nuclear energy strategy. At the beginning of the nuclear age, it was already clear that unless we solved the underlying political conflicts that encourage some states to seek security in nuclear arms, we would never prevent nuclear competition. Oppenheimer said, "We must ask, of any proposals for the control of atomic energy, what part they can play in reducing the probability of war. Proposals which in no way advance the general problem of the avoidance of war, are not satisfactory proposals."<sup>27</sup>

Thus, nuclear-weapon-specific efforts should be joined by focused initiatives to resolve conflicts in key regions. A quick look at the map should make clear that nuclear weapons have not spread around the world uniformly. It has not been like a drop of ink diffusing evenly in a glass of water. Vast areas of the world—entire continents—are nuclear-weapon free. There are no nuclear weapons in South America, Africa, Australia or Southeast Asia. Rather, the states of proliferation concern are in an arc of crisis that flows from the Middle East through South Asia up to North-east Asia. In other words, in regions within which unresolved territorial, political and religious disputes give rise to the desire to gain some strategic advantage by acquiring nuclear weapons.

Countries have given up nuclear weapons and programs in the past only when these disputes have been resolved. The pattern of the past should be the template for the future. Avoiding nuclear war in South Asia requires continuing the progress in normalizing relations between India and Pakistan and achieving a permanent resolution of the Kashmir issue. Ridding the Middle East of nuclear weapons and new nuclear programs requires normalization of relations between Israel and other regional states and groups based on a just resolution to the Israeli-Palestinian conflict.

Resolution of some of these may come more quickly than most imagine. Even ten years ago it was inconceivable to many that Ian Paisley, the leader of the militant Protestant Democratic Union Party would ever share power with Martin McGuinness, a leader of the militant Catholic IRA. Both called the other terrorist. Both swore to wipe each other's groups from the face of the earth. Yet, this week they shook hands and were sworn into office as the joint leaders of a united Northern Ireland.

Others conflicts may take more time to resolve, but as history teaches us, it is the direction in which we are moving that informs national attitudes and shapes each state's security decisions. The more arrows we can get pointed in the right direction, the easier it becomes to make progress on all fronts.

Former U.S. State Department official Robert Einhorn and former Defense Department official Kurt Campbell note that the wisdom of societies and states that have gone without nuclear weapons is reinforced by "a world in which the goals of the NPT are being fulfilled—where existing nuclear arsenals are being reduced, parties are not pursuing clandestine nuclear programs, nuclear testing has been stopped, the taboo against the use of nuclear weapons is being strengthened, and in general, the salience of nuclear weapons in international affairs is diminishing."<sup>28</sup>

There is every reason to believe that in the first half of this century the peoples and nations of the world will come to see nuclear weapons as the "historic accident" Mohamed ElBaradei says they are. It may become clearer that nations have no need for the vast destructive force contained in a few kilograms of enriched uranium or plutonium. These weapons still appeal to national pride but they are increasingly unappealing to national budgets and military needs. It took just sixty years to get to this point in the nuclear road. If enough national leaders decide to walk the path together, it should not take another sixty to get to a safer, better world.

*Notes:*

<sup>1</sup> This testimony is based in large part on my new book, *Bomb Scare: The History and Future of Nuclear Weapons* (Columbia University Press, 2007)

<sup>2</sup> In 1987 the Soviet Union deployed 2380 long-range missiles and China approximately 20. The number declined to 689 by 2007 (669 Russian; 20 Chinese)

<sup>3</sup> See Joseph Cirincione, "Get Smart on Ballistic Missiles," May 8, 2007, Center for American Progress, Washington, DC, available at <http://www.americanprogress.org/issues/2007/05/missiles.html>

<sup>4</sup> For an excellent discussion of why nuclear terrorism is unlikely, see Robin M. Frost, "Nuclear Terrorism After 9/11," Adelphi Paper 378, International Institute for Strategic Studies (London: December 2005).

<sup>5</sup> David Ruppe, "Republican Lawmaker Slams Bush Nuclear Plans," *Global Security Newswire* (February 4, 2005), available at [http://www.nti.org/d\\_newswire/issues/2005\\_2\\_4.html#88A200EA](http://www.nti.org/d_newswire/issues/2005_2_4.html#88A200EA).

<sup>6</sup> Kai Bird and Martin Sherwin, *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer* (New York: Alfred A. Knopf, 2005): p. 349.

<sup>7</sup> These recommendations are elaborated in George Perkovich, Jessica T. Mathews, Joseph Cirincione, Rose Gottmoeller and Jon B. Wolfsthal, *Universal Compliance: A Strategy for Nuclear Security* pp. 83–125.

<sup>8</sup> "Kazakhstan: Project Sapphire" Nuclear Threat Initiative, available at <http://www.nti.org/db/nisprofs/kazakst/fissmat/sapphire.htm>

<sup>9</sup> Ashton B. Carter and William J. Perry, *Preventive Defense: A New Security Strategy for America* (1999): p. 65.

<sup>10</sup> *Ibid.*, p. 66–67.

<sup>11</sup> C.J. Chivers, "Prague Ships Its Nuclear-Bomb Fuel to Russian Storage." *The New York Times* (September 28, 2005).

<sup>12</sup> "Acceleration of Removal or Security of Fissile Materials, Radiological Materials, and Related Equipment at Vulnerable Sites Worldwide," Interim Report, Unclassified Summary, NNSA (2005).

<sup>13</sup> U.S. Department of Energy, NNSA Newsletter, April 2007 ([http://www.nnsa.doe.gov/docs/newsletters/2007/nl\\_2007Apr\\_NNSA\\_News.pdf](http://www.nnsa.doe.gov/docs/newsletters/2007/nl_2007Apr_NNSA_News.pdf))

<sup>14</sup> Interim Report, Unclassified Summary, NNSA (2005).

<sup>15</sup> The Baker-Cutler report of 2001 recommended that funding for nuclear threat reduction programs in Russia should be tripled in order to meet materials security goals. See Appendix A of Howard Baker and Lloyd Cutler, "A Report Card on the Department of Energy's Non-proliferation Programs with Russia," U.S. Department of Energy Russia Task Force (January 10, 2001), available at <http://www.stimson.org/ctr/pdf/BakerCutlerReport2001.pdf>.

<sup>16</sup>“Opening Remarks of Thomas H. Kean and Lee H. Hamilton, Chair and Vice Chair of the 9/11 Public Discourse Project,” (November 14, 2005), available at [http://www.9-11pdp.org/press/2005-11-14\\_remarks.pdf](http://www.9-11pdp.org/press/2005-11-14_remarks.pdf).

<sup>17</sup>See Graham Allison, *The Ultimate Preventable Catastrophe* (New York: Times Books, 2004).  
<sup>18</sup>Ashton B. Carter, “Worst People and Worst Weapons,” Statement before the 9/11 Public Discourse Project’s Hearings on “The 9/11 Commission Report: The Unfinished Agenda,” (June 27, 2005), available at [http://bcsla.ksg.harvard.edu/BCSLA\\_content/documents/Testimony9-11Commission-6-27-05.pdf](http://bcsla.ksg.harvard.edu/BCSLA_content/documents/Testimony9-11Commission-6-27-05.pdf).

<sup>19</sup>John Deutch, Arnold Kanter, Ernest Moniz and Daniel Poneman, “Making the World Safe for Nuclear Energy,” *Survival* 46, no. 4 (Winter 2004-5): p. 69.

<sup>20</sup>George W. Bush, “Remarks by the President on Weapons of Mass Destruction Proliferation,” (Feb. 11, 2004), available at <http://www.whitehouse.gov/news/releases/2004/02/20040211-4.html>.

<sup>21</sup>“Putin proposes access to nuclear energy for all countries,” RIA Novosti, January 25, 2006.

<sup>22</sup>“Russia’s nuclear centre proposal solves global security problems,” ITAR-TASS, January 25, 2005.

<sup>23</sup>Perkovich et al, *Universal Compliance*, pp. 94,97.  
<sup>24</sup>Henry Sokolski and Patrick Clawson, Editors, *Getting Ready for a Nuclear-Ready Iran*, (Carlisle, PA: U.S. Army War College Strategic Studies Institute 2005): pp. 16-17.

<sup>25</sup>George Perkovich, et al, *Universal Compliance: A Strategy for Nuclear Security*, p. 24, 34, and 39

<sup>26</sup>See for example, the excellent suggestions made by Sally Horn, a State Department representative to the NPT Review Conference in May 2005, summarized in Joseph Cirincione, “No Easy Out,” Carnegie Analysis (May 24, 2005), available at [www.ProliferationNews.org](http://www.ProliferationNews.org).

<sup>27</sup>J. Robert Oppenheimer, “The International Control of Atomic Energy,” *Bulletin of the Atomic Scientists* (June 1946).

<sup>28</sup>Kurt M. Campbell, Robert Einhorn, and Mitchell Reiss, eds., *The Nuclear Tipping Point: Global Prospects for Revisiting Nuclear Renunciation* (Washington, D.C.: Brookings Institution Press, 2004), cited in *Universal Compliance*, p. 130

Chairman LANTOS. I want to thank you very much, Mr. Cirincione. As you hear along with me, we are about to conclude a series of votes, and if Mr. Sokolski allows us, we will take a brief break and hurry back to continue this hearing. We will be in recess.

[Recess.]

Chairman LANTOS. The meeting will resume. My final apologies to our three very distinguished witnesses but the voting has now ceased for awhile so we are free but I understand Senator Nunn will have to leave shortly, and we deeply appreciate your very powerful testimony, and with your permission members would like to submit some written questions to you if that is all right. That is extremely kind of you.

I am now very pleased to introduce the third distinguished member of this panel, Henry Sokolski, who is the executive director of the Nonproliferation Policy Education Center. This organization aims to create a better understanding of strategic weapons proliferation issues and to promote strong antiproliferation policies. Mr. Sokolski served as Deputy for Nonproliferation Policy in the Office of the Secretary of Defense, and earlier in the Office of Net Assessment during the first Bush administration.

He honed his understanding of nonproliferation as an assistant working on nuclear energy in the Senate and as a legislative military aid. Mr. Sokolski has authored and edited a significant number of important works on proliferation issues. We look forward to your comments, sir.

**STATEMENT OF MR. HENRY D. SOKOLSKI, EXECUTIVE DIRECTOR, NONPROLIFERATION POLICY EDUCATION CENTER**

Mr. SOKOLSKI. Thank you, Mr. Chairman. I am going to actually read my testimony if that is okay. I want to stay within the time limit. I realize how late it is. So, Mr. Chairman, Congresswoman Ros-Lehtinen, members of the committee, I want to thank you for inviting me here today to testify on how best to stop the bomb’s

further spread. It is a big topic that unfortunately encourages lengthy testimony, and as there are many pages in length, I would ask that my written testimony and two supporting documents be placed into the record.

Chairman LANTOS. Without objections.

Mr. SOKOLSKI. Thank you very much. I will only highlight my key findings. Before I do though, I would like to congratulate you, the ranking member, and members of this committee, who signed the recent letter to Prime Minister Singh on the United States-India nuclear deal. The committee's firm words on India's need to cut off its formal military-to-military ties and possible energy investments in Iran caught many off guard. Nonetheless they were right on target.

Most Beltway experts and pundits predict our diplomats will soon conclude a nuclear cooperative agreement with India by using murky, inventive language that will fail to meet the strict legal requirements of the Hyde Act. In this respect, I suspect they are right. These same observers cynically have assumed that Congress—and this committee in particular—will overt their gaze on this point, roll over on the law's clear requirements, and play dead.

Your letter to Prime Minister Singh suggests otherwise. Certainly if the cynics are right and Congress fails to uphold the letter of the Hyde Act, most of what I and the other witnesses have said here today about blocking the bomb's further spread will not be of much value.

The NPT, the Nuclear Suppliers Group, and the International Atomic Energy Agency's safeguard system can hardly survive Indian specific safeguards, guarantees of fuel supply after resuming nuclear testing in the case of India, or the export of United States-origin fuel making technology to India as if it were either a state that allowed complete inspections—which it does not—or actually was formally a nuclear weapons state under the NPT. All of this is prohibited by the Hyde Act.

Finally, I think you and the committee are right to demand that India foreswear its formal government military and energy investment ties to Iran as the bare minimum for United States strategic partnership. We should encourage India to continue its good diplomatic relations with Iran much as many of our allies have good diplomatic relations with Tehran. That Congress would approve transfers of controlled nuclear and space technology to India despite India's continued formal military-to-military ties—ties which no ally has—India is unique—even Russia does not have them—on the basis that this was somehow critical to make India a strategic partner of the United States, though, I think, is totally untenable, and I think everyone on this committee has made it very clear that this committee recognizes that.

Now to my written testimony which details the need for Congress to bolster two simple ideas. The first is to stop acting as though the NPT guarantees nations the right to make nuclear fuel, a process that brings one to the brink of making bombs. As long as we insist—as some have heard today—that nations have this right and certainly the Department of Energy, our State Department's legal division, and the Iranian Foreign Ministry are actively promoting

this view, we will never—I repeat never—be able to avoid a world full of nuclear weapons-ready states and fairly soon on.

The reason why suggests why the spread of nuclear power is so worrisome. If you give a nation just a large reactor program, you inevitably generate a nuclear staff trained not just to run the power plants, but to make the fuel to run them as well. The courses at MIT do not cut off with some breakpoint. The First Amendment applies in Boston, Cambridge, and everywhere else where these people are trained.

Proliferation-resistant reactors and fuel cycles, nuclear fuel assurances—a favorite of the chairman and I tread on thin ice here when I say this—regional nuclear fuel centers, integrated safeguards under the additional protocol, none of these efforts have any hope of amicably mitigating the problem I have raised, and, as I detail in my testimony could actually make things worse as long as the U.S. and other nations insist that nations have a sovereign per se right to make nuclear fuel under the NPT. In fact, they do not.

The words reprocessing, enrichment, and nuclear fuel making do not even appear in the treaty. Instead, the NPT talks about sharing the benefits of peaceful nuclear energy and the possible benefits of peaceful nuclear explosives. By the way, one of the documents that I am placing in the record is the most detailed historiography on the legal and negotiating history of all these issues, and I recommend it. It is a long but fruitful read.

Instead, the NPT talks about sharing the benefits of peaceful nuclear energy and the possible benefits of peaceful nuclear explosives. You will note that no nation, none, has ever asked nor has any state ever supplied the benefits of peaceful nuclear explosives. Why? Simple. Because once the analysis was done, the cost of excavating dirt with nuclear explosives turned out to be clearly far more expensive than just simply using TNT.

What I plead for in my written testimony is to use the same sensible approach to account for the benefits of peaceful nuclear energy. This brings me to my written testimony's second and final suggestion which is that we should identify the full cost of nuclear power, internalizing all of its security and environment costs, and direct and indirect subsidies, and use this number to compare against its non-nuclear alternatives.

This accounting could be best expedited by getting private banks and insurance firms—instead of governments—to finance and insure all of nuclear power's costs and risks. This is already done, I should note, with fossil-fuel-fired plants.

If this approach was adopted by us and other nations as the preferred way to support nuclear power, something which I might note the British and German Governments have already established as their preferred approach, the most dangerous and uneconomical forms of nuclear power, nuclear fuel making and large nuclear projects in untrustworthy countries with small electrical grids, and dare I say countries in oil rich regions, would have extreme difficulty getting funded. I am being euphemistic. They would not get a nickel.

Those that did with government subsidies, moreover, would clearly and immediately stand out as the dubious economic and po-

tential dangerous undertakings that they truly are. This market-based approach is a standard that the U.S. and other nuclear power states ought to follow for a variety of reasons unrelated to nonproliferation. Certainly as we move toward carbon taxing, identifying the full costs of all energy options, including nuclear, would help assure that we choose the least costly approach to avoid climate change rather than basing it on whim.

Adopting this approach would also avoid creating yet another nonproliferation dual standard. In fact, there already are several popular international treaties whose principles go a long way to promote this approach that I identify in my written statement. We should back these principles.

I conclude by observing that preventing the bomb's further spread is something God's and Adam Smith's invisible hand has always been trying to help us with. We and nearly every other nuclear power reactor state, though, have fought off this assistance for the last half century or more by directly and indirectly persisting in subsidizing nuclear power's development, its financing, its insurance, its waste management, its safeguarding, and physical security.

If we are serious about promoting a healthy, self-sufficient nuclear industry that will not spread the most dangerous and uneconomic forms of nuclear power to the riskiest places, we need only to end such coddling. This may take time. This may take effort. But it will save rather than cost more money, and I believe, more than any other nonproliferation suggestion, return us and the world to a safer and saner place. Thank you very much.

[The prepared statement of Mr. Sokolski follows:]

PREPARED STATEMENT OF MR. HENRY D. SOKOLSKI, EXECUTIVE DIRECTOR,  
NONPROLIFERATION POLICY EDUCATION CENTER

Chairman Lantos, Ranking member Ros-Lehtinen, members of the Committee, I want to thank you for inviting me to testify today on the question of whether the bomb must spread, and, if not, what our best course to prevent such an outcome is. A world full of nuclear weapons-ready states is not inevitable. Nor does avoiding this fate require massive new government spending programs; development of new, advanced technology; or any heroic military effort. It will, however, require the U.S. and other states with nuclear power programs to do two things they should have done long ago but have yet to tackle seriously—identifying the full costs of nuclear power as compared to its non-nuclear alternatives, and making nuclear power operators secure private financing and insurance to pay for these expenses.

This may seem radical and impractical, but given the increasing political imperative to make the right choices to avoid global warming, the U.S., European Union and many other countries already have good reasons to begin to take such steps.

In fact, identifying nuclear power's full costs as compared to its alternatives will be difficult to avoid as we move toward a carbon-constrained world with serious carbon taxes. Certainly, if we fail to identify these expenses—including all the direct and indirect subsidies, and the security and environmental costs that have yet to be internalized—then imposing such taxes will simply propel nuclear power much further both here and abroad than would otherwise be the case. On the other hand, identifying the full costs of nuclear power and doing the same for non-nuclear alternatives would go a long way to assure that any energy choices would be made on the basis of sound economic comparison rather than whim. Given the potential for using peaceful nuclear programs for military purposes, a state that chooses nuclear power over much cheaper, emission-compliant alternatives should set off both economic and security alarms.

To secure the full benefits of taking this approach, though, ultimately entails taking a second step—getting private banks and insurers to bear nuclear power's full costs. To a great extent, we already do this for most non-nuclear forms of electricity. Yet, governments both here and abroad have held off doing this out of concerns that

the nuclear industry, after nearly a half-century of government funding and supports, is not quite yet “mature” enough to be subjected to such market forces. In some respects, this has actually kept the nuclear industry from doing its best. Certainly, if nuclear power had to cover all of its insurance costs against accidents and security, the industry would literally place a much higher premium on building and operating only the most modern and safest plants and do even more on their own (rather than wait upon government regulation) to physically secure their plants.

More important, if nuclear operators had to cover all their costs, the most dangerous and economically uncompetitive forms of nuclear energy would have far greater difficulty proceeding as far as they have to date. Certainly, nuclear fuel making, which can bring a state within days or weeks of acquiring nuclear weapons, and large nuclear reactor projects in the energy-rich and unstable regions of the world, such as the Middle East, would be much harder to sell to private investors and insurers than almost any non-nuclear alternative.

Few, in or out of the nuclear industry, dispute these points. It would be useful to exploit this consensus to promote some level of nuclear restraint. This is a particularly important as more and more countries use the Nuclear Nonproliferation Treaty (NPT), the example of the U.S., and the nuclear power practices of other states as justifications to engage in the most uneconomical and dangerous nuclear activities themselves.

What will be required to discipline such dangerous enthusiasm? Public recognition and emphasis of the following points:

1. *Nuclear energy is not just another way to boil water.* Spreading nuclear power reactors world-wide with nuclear cooperation agreements, generous government-backed export loans, and guaranteed financing, is a sure-fire way to increase the number of nuclear weapons-ready nations. Unfortunately, even “proliferation resistant” light water reactors require tons of lightly enriched fresh fuel to be kept at the site and also produce scores of bomb’s worth of very weapons-usable plutonium that is contained in the reactor’s spent fuel. Research commissioned by my center, which was subsequently authenticated by experts at our national laboratories and U.S. State Department, details just how little is required to take these materials and convert them into weapons fuel. Under one scenario, a state could build a small, covert reprocessing line, divert spent fuel without tipping off International Atomic Energy Agency (IAEA) inspectors, produce its first bomb’s worth of material in less than two weeks, and continue to make a bomb’s worth of material a day.<sup>1</sup> There is no technical fix for this problem in sight for decades or, perhaps, ever. Even the Global Nuclear Energy Partnership (GNEP), which originally claimed it could develop nearly “proliferation proof” fuel-cycles, no longer makes this claim and even warns against spreading its “proliferation resistant” UREX system for fear it too might be diverted to make bombs.<sup>2</sup> What this means is that large nuclear reactors and even light water reactors ought not to be for everyone; only those states that we can be confident are out of bomb making business and that can make a compelling case for the economic profitability of these activities.

2. *Adam Smith’s “Invisible Hand” is trying to help us* since the most dangerous nuclear activities—fuel making and large reactors in energy-rich regions of the Middle East—are also the most uncompetitive economically against their alternatives. Rather than fight this natural and helpful selection of the financially and economically fittest by pushing government-guaranteed financing for nuclear exports and government-funded nuclear commercialization projects, states interested in pursuing nuclear programs should encourage private firms to finance and insure nuclear and non-nuclear power projects entirely, and allow these firms to determine which of these projects is most cost effective.

3. *In this regard, pushing government-backed nuclear sales and subsidized fuel assurances can be self-defeating both for nonproliferation and nuclear power’s own long-term health.* Backing the construction of large nuclear reactors in Libya, Jordan, Egypt, and Turkey (as the U.S. is currently doing) and the construction of simi-

<sup>1</sup> See Victor Gilinsky, Harmond Hubbard, and Marvin Miller, *A Fresh Examination of the Proliferation Dangers of Light Water Reactors*, (Washington, DC: The Nonproliferation Policy Education Center, October 22, 2004) <available at <http://www.npec-web.org/Frameset.asp?PageType=Single&PDFFile=20041022-GilinskyEtAl-LWR&PDFFolder=Essays>>.

<sup>2</sup> See U.S. Department of Energy, Office of Fuel Cycle Management, *Global Nuclear Energy Partnership Strategic Plan* (Washington, DC: U.S. Department of Energy, GNEP-167312, Rev.0, January 2007), p. 5, where the DoE notes that “there is no technology ‘silver bullet’ that can be built into an enrichment plant or reprocessing plant that can prevent a country from diverting these commercial fuel cycle facilities to non-peaceful use. From the standpoint of resistance to rogue-state proliferation there are limits to the nonproliferation benefits offered by any of the advanced chemical separations technologies, which generally can be modified to produce plutonium. . . .”

lar plants in Saudi Arabia and Yemen (as Russia and the IAEA are) is not only uneconomic in the near and mid-term when compared with developing fossil-fuel-fired alternatives, but also could easily prompt a not-so-peaceful nuclear competition in one of the world's most war-torn regions. The nuclear industry may benefit initially from the construction of a few additional reactors, but the security fallout from any war could more than wipe these gains out.<sup>3</sup> As for extending fuel assurances to nations that do not currently make their own fuel, these offers, if not properly caveated, these could increase the pace of proliferation. This is particularly so if they are designed to deal less with narrowly defined "market disruptions" caused by natural disasters, breach of contract, and terrorism than to make fuel "affordable." In fact, some nuclear fuel market observers believe that nuclear ore and fuel products are about to come into much more demand even if the world's current fleet of nuclear reactors does not expand. Their projections focus on how relatively cheap Russian blend-down uranium; and U.S. surplus uranium supply fuel contracts; and older, lower cost fuel contracts associated with terminated reactor projects, are about to run out over the next two to five years. Meanwhile, the licensed operating-lives of many reactors are being extended by 20 or more years. As a result, uranium prices have doubled in just the last few months. This squeeze, nuclear fuel market experts argue, may continue for a decade or more.<sup>4</sup> Fuel assurances or fuel banks ought not to be designed to address such market trends. Certainly, if they emphasize the need to assure "affordable" fuel and "financial incentives," they will act on nuclear proliferation much as throwing kerosene on a smoldering fire might—as an accelerant rather than as a moderator. Much like a loss leader in a department store, the effect of such subsidized assurances will be to get more nations to explore acquiring reactors that might have otherwise. With the reactors will come all the nuclear training, which will not stop at just lessons on running nuclear power plants. Indeed, even as the IAEA develops its own fuel bank proposals to reduce the need for nations to make their own nuclear fuel, the Agency is adamant that no nation should give up what the IAEA currently believes is their natural right to do—make nuclear fuel. This means that any nation that might take advantage of fuel assurances could, at any time, change its mind and proceed to make nuclear fuel. Finally, even narrowly defined assurances once offered are likely to prompt demands for more generous subsidized assurances. For these reasons, it is important that any Congressional effort to back the further development of fuel assurances stay clear of any effort to make nuclear fuel "more affordable" or to encourage the development of "financial incentives" to get nations to avail themselves of such assurances. The draft legislation, which Senators Lugar and Bayh have developed, is careful to avoid any encouragement of any financial subsidies, and furthermore helps the IAEA meet its safeguarding mission as well. Nor does it rush to fund any specific fuel assurance option as there are several still under development. These desirable features deserve Congress' consideration.<sup>5</sup>

*4. We should make nuclear operators pay the full costs of engaging in dangerous nuclear activities rather than subsidizing or protecting them to pay less.* Fortunately, the nuclear activities that are most dangerous—making nuclear fuel and making nuclear power in regions where there is ready access to natural gas and oil—are also the most difficult to justify economically as compared to their nonnuclear alternatives. Internalizing as many of the external security costs associated with operating such plants would help to keep this so. Because civilian fuel-making is virtually indistinguishable from bomb fuel-making, it would make sense to demand that physical security requirements for such plants be equivalent to that of nuclear weapons facilities. These additional costs should be borne by the owners of these facilities. Because even the IAEA's own safeguards reviewers admit that nuclear

<sup>3</sup> 2006 saw 13 new, additional nations announce their intention to construct and operate large power reactors on their soil. To get some idea of how large a jump this is, one need only consider that that number constitutes a 42 percent increase in the number of nations (31) currently operating large reactors within their borders. The nations in question were Turkey, Egypt, Saudi Arabia, Libya, Yemen, Jordan, Vietnam, Australia, Bangladesh, Morocco, Tunisia, Indonesia, and Nigeria.

<sup>4</sup> See e.g., Jeff Combs, Ux Consulting Company, "Price Expectations and Price Formation," presentation to the Nuclear Energy Institute International, Uranium Fuel seminar, October 2006; Tom Neff (MIT), "Uranium and Enrichment: Enough Fuel for the Nuclear Renaissance?," December 2006, cited in Jim Harding, "Cost and Prospects for New Nuclear Reactors," presentation to the North West Power Council, February 2007 <available at <http://www.nwcouncil.org/news/2007-02/p1.pdf>> .

<sup>5</sup> See S1138, "The Nuclear Safeguards and Supply Act of 2007" introduced April 18, 2007 by Senators Lugar and Bayh <soon to be available at <http://thomas.loc.gov/cgi-bin/query/z?c110:s.1138::>>.

fuel making cannot be inspected to detect diversions in a timely fashion,<sup>6</sup> it would be reasonable to insist on monitoring them more extensively. Such increased monitoring—which the owners of these facilities, again, should pay for—is unlikely ever to provide for timely detection of diversions but would, at least, make detection of diversions more likely. Also, ultimately the full cost of insuring nuclear plants against attacks and accidents should be borne by their owners. The Price-Anderson Nuclear Industries Indemnity Act, which capped the amount of insurance coverage for nuclear accidents, was originally intended to last only for 10 years. That was a half century ago. All of these costs should be identified and internalized into the price of nuclear power. The less economic sense paying the full costs of a civilian nuclear project makes as compared to paying the full costs of non-nuclear alternatives and the more that a government chooses nonetheless to subsidize such nuclear activities, the more international security alarms should be set off.

5. *Identifying and charging for the full costs of civilian projects should help us return to a saner reading of the nuclear rules.* Currently, many governments (including our own) have mistakenly read the NPT as entitling nations to a per se right to any nuclear activity no matter how uneconomic or unsafeguardable it is. This has bedeviled our dealings with nations such as Iran. In fact, a proper understanding of the negotiating history, law and technology of safeguards makes clear that there is no per se right to engage in unbeneficial (read, money-losing) activities that can bring one within days or weeks of acquiring nuclear weapons. We already understand that sharing the potential benefits of peaceful nuclear explosives under the NPT has been a nonstarter because there are no economic benefits to using nuclear explosives for excavation. The same economic discipline needs to be applied to the sharing of the benefits of the applications of peaceful nuclear energy.<sup>7</sup> So far, members of the NPT have not been so disciplined because they see the potential security benefits of acquiring a near nuclear-weapons option through development of peaceful nuclear power. If we are serious about preventing the spread of nuclear weapons, though, we should be much more active in smoking this motive out by being much stricter about economic rationales.

6. *We have always spoken about the need to meet certain economic criteria before developing large nuclear energy programs;* we need to do more. The French, U.S., and the IAEA have all quietly noted that nuclear power programs only make sense for nations that have a large electrical grid, a major nuclear regulatory and science infrastructure, and proper financing. The British government, after an extensive analysis, concluded last year that if carbon emissions are properly priced (or taxed), then British nuclear power operators should be able to cover nearly all of their own costs without government support.<sup>8</sup> The E.U. is currently considering a complaint

<sup>6</sup>See, e.g., the comments of the chairman of the IAEA's Standing Advisory Group on International Safeguards, John Carlson, Australian Safeguards and Non-Proliferation Office, "Addressing Proliferation Challenges from the Spread of Uranium Enrichment Capability," forthcoming Paper for the Annual Meeting of the Institute for Nuclear Materials Management, Tucson, 8–12 July 2007 (available from NPEC upon request). Also see Paul Leventhal, "Safeguards Shortcomings: A Critique," (Washington, DC: NCI, September 12, 1994); Marvin Miller, "Are IAEA Safeguards in Plutonium Bulk-Handling Facilities Effective?" (Washington, DC: NCI, August 1990); Brian G. Chow and Kenneth A. Solomon, *Limiting the Spread of Weapons-Usable Fissile Materials* (Santa Monica, CA: RAND, 1993), pp. 1–4; and Marvin Miller, "The Gas Centrifuge and Nuclear Proliferation," in Victor Gilinsky, et al., *A Fresh Examination of the Proliferation Dangers of Light Water Reactors* (Washington, DC: The Nonproliferation Policy Education Center, October 22, 2004), p. 38 <available at <http://www.npec-web.org/frameset.asp?PageType=Single&PDFFile=20041022-GilinskyEtAl-LWR&PDFFolder=Essays>>.

<sup>7</sup>On the proper reading of the NPT, see Eldon V.C. Greenberg, "NPT and Plutonium: Application of NPT Prohibitions to 'Civilian' Nuclear Equipment, Technology and Materials Associated with Reprocessing and Plutonium Use," Nuclear Control Institute, 1984 (Revised May 1993); Paul Lettow, "Fatal Flaw? The NPT and the Problem of Enrichment and Reprocessing," unpublished essay, April 27, 2005; Henry D. Sokolski, "Clarifying and Enforcing the Nuclear Rules," prepared testimony before *Weapons of Mass Destruction: Current Nuclear Proliferation Challenges*, a hearing before the Committee on Government Reform's Subcommittee on National Security, Emerging Threats, and International Relations, U.S. House of Representatives, September 6, 2006 p. 3, fn. 2 <available at <http://www.npecweb.org/frameset.asp?PageType=Single&PDFFile=20060921-FINAL-Sokolski-TestimonyHouseSubcommittee&PDFFolder=Testimonies>>; and Robert Zarate, "The NPT, IAEA Safeguards and Peaceful Nuclear Energy: An Inalienable Right But Precisely to What?," an essay presented to *Assessing the Ability of the IAEA to Safeguard Peaceful Nuclear Energy*, a conference held in Paris, France, and hosted by the French Ministry of Foreign Affairs, the *Fondation pour la Recherche Stratégique* and NPEC, November 11–12, 2006 <available at <http://www.npec-web.org/Essays/20070301-Zarate-NPT-IAEA-PeacefulNuclear.pdf>>.

<sup>8</sup>See British Department of Trade and Industry, *The Energy Challenge: Energy Review Report 2006*, July 11, 2006 <available at <http://www.dti.gov.uk/energy/review/>>.

against subsidies to the ill-starred Finnish nuclear power plant being constructed by AREVA. U.S. officials rightly noted the absurdly negative economics for Iran of building the Bushehr reactor, as well as the nuclear fuel making plant at Natanz, as compared to using natural gas. Critics did the same to reverse U.S. policy in backing the building large nuclear power plants in North Korea. Bank analysts in the U.S., meanwhile, are still divided over whether to invest heavily into nuclear power construction in the U.S. They and the nuclear industry would feel more comfortable moving forward if they were able to secure more government guarantees and subsidies. Economic judgments and criteria, in short, are already being used by several key governments, private firms, and institutions in judging the merits of proposed nuclear projects. More can be done to cost these projects much more honestly and to compare them against non-nuclear alternatives. Here, internationally, two good places to start would be to back the principles contained in the Energy Charter Treaty and the Charter on Sustainable Energy Development. In concert, these international agreements encourage countries to open their energy sectors to fair competition and to state the full price of any energy option.<sup>9</sup> In addition, it is not too early to consider what might be developed as a follow-on to the Kyoto Protocol after 2012. Whatever is finally agreed to here would be improved if it fostered the principles of full costing and international open-market competitions.

7. *Promoting market-based nonproliferation is worthwhile, but it will not solve all problems.* Would a market-fortified NPT regime of this sort eliminate the problems already posed by a nuclear-ready Iran or a nuclear-armed North Korea? Unfortunately, the answer is no. Those problems can now only be dealt with by military, economic and diplomatic efforts to squeeze Iran and North Korea—such as those used on the Soviet Union during the Cold War. But the market-fortified system suggested would help prevent Iran's and North Korea's patently uneconomic ploys from becoming an international model of nuclear behavior for countries now professing an earnest desire to back peaceful nuclear power development. These countries include Indonesia, Libya, Saudi Arabia, South Korea, Nigeria, Egypt, Turkey, Morocco, Jordan and Yemen (all of which are bizarrely receiving active U.S. or IAEA nuclear cooperative technical assistance to complete their first large power stations). Also, unlike the situation under today's interpretation of the NPT, which ignores suspicious "civilian" nuclear undertakings even when they obviously lack any economic rationale, the market-fortified system described above would help to flag worrisome nuclear activities far sooner—well before a nation came anywhere near to making bombs. Such an approach, in short, would encourage an NPT-centered world worthy of the name, a world in which the NPT would clearly restrain the further spread of nuclear weapons-related technology rather than foster it.

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[NOTE: Additional material submitted for the record by Mr. Sokolski is not reprinted here but is available in committee records.]

Chairman LANTOS. Thank you very much, Mr. Sokolski. We will begin the questioning with Mr. Berman.

Mr. BERMAN. Thank you, Mr. Chairman, and I guess I missed part of the testimony, and I apologize. I am curious, Henry, sort of the invisible hand marketplace let that separate the people who, be the determiner of intentions in a way of help. Should we repeal Price-Anderson? I mean we do some subsidizing of our nuclear industry as well.

Mr. SOKOLSKI. The short answer is yes. You can do it gradually. You can do it abruptly. But having caps on liability actually is something, which the nuclear industry has occasionally mentioned, retards their willingness to invest in safety improvements themselves because they do not get rewarded for that. The least common denominator, Federal regulation, is all that they need to do.

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<sup>9</sup>For more on the current membership and investment and trade principles of the Energy Charter Treaty go to <http://www.encharter.org/>. The second principle of the Global Energy Charter for Sustainable Development calls for: "The establishment of guidelines and internationally standardized methods of evaluation for determining the external effects and total lifecycle costs and risks for all energy systems, taking into account the environmental, health and other damage caused by energy-related activities." See *The Global Energy Charter for Sustainable Development* >available at <http://www.cmdc.net/echarter.html><.

You and I buy car insurance, and we are rewarded if we do not get into accidents. We are rewarded if we have a good driving record and if we take certain courses with the state of Virginia or Maryland. That does not apply in the case of nuclear insurance. It is one size fits every kilowatt hour. So the short answer is if you want companies to take a greater interest in and to avoid higher premiums for safer plants that have better physical security, I can think of no better way to focus their attention than to start lifting those caps.

By the way, Price-Anderson originally, I understand, was only intended to operate for about a decade. That was a half century ago. I think it is time to reopen that question. Now I realize Congress has just acted and given it, I think, I do not know, a 30-year extension but I always say that if you understand what you are doing you can correct yourself.

Mr. BERMAN. I did not take what you said as being critical of this effort to get an international fuel bank. Rather I took what you said as is quit assuming the right of each country to reprocess and develop nuclear energy for peaceful purposes, and in that context the international fuel bank—in other words, once you have said we do not accept that principle, we are in better standing to do more to help countries that want to pursue this without getting trapped into how expansive is that right.

Mr. SOKOLSKI. I think it is very important for everyone here to understand where you are headed. If you assure a right to access—even to one-third of a reactor core of fuel because we are not talking about much fuel initially—sounds pretty innocuous, does it not? You are going to be saying first, well this is only for market disruptions like a hurricane going through the URENCO plant or a breach of contract.

By the way, these things have not happened but you can insure against them. Okay. But once you lay that on the table, you need to understand that there are other people in Washington and Paris and other places that are going to focus on a different standard which is we want to assure access to “affordable” fuel. Now this has got to be something you have to focus on like a laser beam.

The price of yellow cake has risen I am told about fourfold over the last 5 years. It is about to increase even more, not only yellow cake, but all of the products that follow from it because the cheap contracts that were associated with terminated reactors, the blend down of the Soviet material are dumping a lot of surplus to get private enrichment going, they are all drying up in the next 2 years to 5, and the market is about to go very high.

Remember when we had the gasoline hoo haa about a year ago? And there were hearings up here as I understand. Why is the price of gasoline so high? Maybe someone has priced themselves into this by having lunch and colluding on the price. So what you want to be sure of—

Mr. BERMAN. Let me interject because I think I am about to get that red light.

Mr. SOKOLSKI. Okay.

Mr. BERMAN. I mean I want to hear more about this but it will not be right now. Sort of on a yes or no basis—

Mr. SOKOLSKI. You better get that—

Mr. BERMAN. No.

Mr. SOKOLSKI. Yes.

Mr. BERMAN. But on a yes or no basis, do you think there is something to the Sam Nunn articulated principle regarding the posture we should be in regarding nuclear weapons and have and have not nations, without hearing the reasoning just—

Mr. SOKOLSKI. That is a yes, and I have always been clear before this committee.

Mr. BERMAN. Joe?

Mr. CIRINCIONE. Absolutely yes.

Mr. BERMAN. Okay.

Mr. SOKOLSKI. Less is better.

Chairman LANTOS. Mr. Rohrabacher.

Mr. ROHRABACHER. Thank you very much, Mr. Chairman, and I am sure you have already apologized too for the scheduling and running in and out, and that is part of the complications that come from this process. A couple of points that I would like to make and also get your reaction to. I see the Chinese as being the administration soft pedals this all the time as they did with the administration witness just when we had Ambassador Negroponte to speak just last week. Just soft pedaled this. But is it not the Chinese who are the number one proliferators in the world today?

Mr. SOKOLSKI. I am not sure anymore. It used to be easier, we could say yes. About 10 years ago, you could just say yes.

Mr. ROHRABACHER. But we do know that they are if not the worst proliferators they are great offenders when it comes to proliferation?

Mr. SOKOLSKI. I think there is still a problem because they would rather control events than improve them.

Mr. ROHRABACHER. Right. So what we have in Pakistan—let us put on the record here—the Chinese were responsible for the nuclear proliferation that went to Pakistan. Pakistan then shifted that to Iran and to Korea, is that correct?

Mr. SOKOLSKI. Of course it is, sir.

Mr. ROHRABACHER. Okay. Now in terms of Korea, there were technology transfers that went through China from Pakistan to Korea, and at one point the Chinese were actually asked to interdict one of these shipments of technology, and they did not do so, is that correct?

Mr. SOKOLSKI. It was tetrafluoride as I remember, yes.

Mr. ROHRABACHER. And they did not honor our request.

Mr. SOKOLSKI. They did not.

Mr. ROHRABACHER. Okay. So the Chinese, Mr. Chairman, as in contradiction to what is being presented to us by the administration who is trying to gloss over things and let us all be pals are not a positive player in this effort. So that is number one.

Number two and again I am sorry Senator Nunn is not here but he is a man I have deeply respected since I was a kid looking at TV and I am sorry that he is not here but I appreciated his testimony. He left out, however, one of the factors of being the development and deployment of defensive systems against the potential of nuclear attack and how that might in some way make it a little bit easier to control a situation if you have a defensive system set

up that might be able to counteract even a rogue element in Russia or something or an accidental launch, and that was left out.

We have a chance now to put in an airborne laser system which would be important. A lot of people are debating that. If we are serious about trying to protect the world against a nuclear tragedy, I hope that we do not emasculate the efforts of our defensive systems.

Now also one thing that was left out was the concept of trying to pursue among the other aspects that the Senator mentioned one of the areas that we should certainly be pursuing is technology, and technology will permit us to achieve the type of goals that the chairman has laid out in his legislation and also the goals that we have as people seeking a better world. Do you know much about the high pressure gas cooled reactor that is now under development? There are a few of them operating but under development by Russia and General Atomics?

Mr. SOKOLSKI. I am familiar with the design. It is variant of something that has been worked on for many, many decades.

Mr. ROHRABACHER. Right. And I understand after my science staff has done a lot of investigation in this—I have done a lot of looking into this as well—that if we go about with the old technology, this legislation is doomed to fail in terms of its long-term goals.

Mr. Chairman, with the new technology that we have available to us today after the development as you say decades in development of the high pressure gas reactor which cannot melt down and the materials that are left over cannot be made into bombs, it seems to me if we set up a system it should be based on this technology which will not leave material in the hands of other countries that could be made into bombs. So I would put that on the record and hope that we pay close attention to that.

Finally, let me ask about the sources of uranium. I understand there are countries in the third world like Burma, for example, in which there are uranium mines that could be the source of this yellow cake and materials that are eventually ending up in Korea. Is that the case in Burma or other countries?

Mr. SOKOLSKI. The short answer is yellow cake is abundant in many more places than we originally thought.

Mr. ROHRABACHER. Do we have any information where the Korean material is coming from?

Mr. SOKOLSKI. Sir, they do not need to import to get their natural uranium.

Mr. ROHRABACHER. That does not really answer the question.

Mr. SOKOLSKI. Yes.

Mr. ROHRABACHER. But do we have any evidence of other countries then providing that to them?

Mr. SOKOLSKI. I think that is something you should take up with the code word briefing. I assume there are answers to it.

Mr. ROHRABACHER. Anything that you know of?

Mr. CIRINCIONE. Sir, as far as we know most of the uranium used by the North Koreans came from North Korea. There may have been some supplied in the 1980s by the Soviets.

Mr. ROHRBACHER. But at this time we do not know of any other countries that are providing uranium or that basic material for bombs to North Korea?

Mr. CIRINCIONE. No.

Mr. ROHRBACHER. Okay. Thank you very much. Thank you, Mr. Chairman.

Chairman LANTOS. Thank you very much. Mr. Faleomavaega.

Mr. FALEOMAVAEGA. Thank you, Mr. Chairman, and I do want to apologize to our distinguished experts, and I am trying to read through your statements right now but at that point I know you have all the answers to my questions so I will try anyway. It is too bad that Senator Nunn is not here with us but that is okay.

In going through Senator Nunn's statement—and I think this is something that I have always subscribed as I am sure both of you feel the same way—if I might read it verbatim. He makes it as part of his statement:

“The United States and international community must reaffirm the vision of a world free of nuclear weapons enshrined in the NPT and pursue crucial actions toward achieving that goal and reducing nuclear dangers.”

Now that is the vision, and if we are ever to achieve if that is the basis and the intent of nuclear nonproliferation treaty, I have very serious concerns because it is not happening. Maybe I am wrong in the way I am perceiving this vision. The fact that Pakistan and India have now exploded nuclear weapons, the fact that North Korea has also exploded a nuclear device, with Iran making assertions that really it is for peaceful purposes, the fact that now if I am reading the literature, the latest media reports, that countries like Saudi Arabia and others are now seriously considering setting up nuclear powered plants to provide electricity.

Now you know it is not really for that purpose, and what is there to prevent countries like our own country and others in the super five if you will to tell Saudi Arabia and the others, you cannot produce nuclear plants? If I am correct also the statement here the ability to do this for peaceful purposes is also the same way you can produce a nuclear device. So I think that really comes down to that point, and please clarify if I am wrong in my layman's understanding of all this issue of nuclear weapons.

I am probably the only member, Mr. Chairman, who has been to the Marshall Islands, has been to French Polynesia, personally saw the islands of Motolo being shew where the French conducted over 220 nuclear bombs in the atmosphere, on the surface and below the surface, and I also visited the zero ground area in Semana Blanca in Khazigstan as a result of the Soviet Union's nuclear testing program that went over there. Some 500 nuclear bombs were exploded including the most powerful hydrogen bomb. More powerful even than the hydrogen bomb that we exploded in the Marshall Islands.

I think our bomb was only 15 megatons. Only 1,000 times more powerful than the bombs we dropped in Nagasaki and Hiroshima but the Soviet Union exploded a 50-megaton hydrogen bomb. How much more do we need to vaporize other human beings by this madness that is going on in developing these weapons of mass destruction if you will?

I would be extremely helpful, gentlemen, if you could share with me your perception of the use of nuclear weapons and my sense of hypocrisy for those countries who do have nuclear weapons that say well we are reducing it but I do not see anything saying that we are going to eliminate. There is a little difference there.

And anyway, I am just giving you my thinking here. Please help me how you could work out these strategic concepts like deterrents versus preemption and here you have got nuclear bombs here. Help me with this.

Mr. CIRINCIONE. Perhaps I could start.

Mr. FALEOMAVAEGA. Please.

Mr. CIRINCIONE. I completely agree with Senator Nunn's statement on this, and I believe the op-ed that he has co-authored with Secretary Perry and former Secretary Shultz and Kissinger is a seminal document in the current proliferation debate. You know this is like a snowplow going down the road clearing the lanes ahead of us, and it is not the end of the story. They are continuing their cooperation. They are continuing their work.

It is one of a dozen initiatives that I am aware of in think tanks and universities where people are seeking to develop a new set of proliferation policies for this new century. It is absolutely essential that we reaffirm the goal of the elimination of nuclear weapons, and it is easier for us to do this than at any previous time in the nuclear age. We are the most powerful military nation the world has ever known. We have little need for these weapons.

The only genuine need is to deter other countries from attacking us with nuclear weapons, and we can fulfill that mission at far lower levels than we currently have. I agree with former strategic commander Gene Habiger who says that we can go down to several hundred nuclear weapons. His particular figure is 600 nuclear weapons.

There is actually a broad consensus across the political spectrum. Richard Pearl, for example, says we can go down to hundreds of nuclear weapons. I believe what you are seeing particularly in the Shultz, Perry, Kissinger, Nunn effort is the fusion of the Kennedy vision with the Reagan vision.

Everybody is familiar with President Kennedy's statements we must abolish the weapons of war before they abolish us but I do not think people really appreciated that President Reagan was serious when he said we must make nuclear weapons impotent and obsolete, when he said that nuclear weapons were good for nothing but killing and could destroy civilization and all life on earth. He was serious about this, and I think you are seeing now this fusion of these two camps in this renewed call for us getting serious about eliminating these weapons.

That is why I believe the next administration, whether Republican or Democratic, is going to have a very different nuclear posture than one we currently have, the Clinton posture or the Bush posture. There is a new moment developing here, partially out of the recognition that we do not need these and partially out of the recognition that we have to proclaim this. We have to set this goal in order to restore U.S. credibility and legitimacy in this field and in order to get other countries to take the steps that we want them to take on accepting greater proliferation barriers of their own.

They are reluctant to take on more obligations when they see that we are not fulfilling our own obligations.

Mr. FALCOMA. Mr. Chairman, I know my time is up. Can I have Mr. Sokolski just say if it is all right, please?

Mr. SOKOLSKI. I will cut to the chase perhaps. It might be useful for the committee to look at tactical nuclear weapons. I think of all the things that I have heard that our policy with regard to tactical nuclear weapons would be useful to examine. There is a problem with Turkey. Taking them out would perhaps encourage Turkey to do some bad things but I do not think there is a whole lot of resistance to reformulating what we are doing.

In fact, I think if we drew down numbers in tactical weapons and put more pressure on the Russians publicly, it might be useful. It might even coordinate with doing a NATO missile defense of sorts because I think there is more support for missile defense in NATO than people think. That would be a fruitful area to look at where you could perhaps get a bipartisan look at things.

I do think it is a mistake to think that things as far as the Russian and American stockpiles are getting worse. The numbers deployed are way down dramatically, and the amount of mega tonnage is down even more dramatically. You do not have any stockpile that has a 50-megaton device in it any more. That said, you have got to do better. The problem we have now that is new and that we need to attend to much more, I think, than we have had to do with the spread of the civil nuclear side, and we have not handled that.

If you think we are doing badly in the military sector, take a look at the civil sector. It is even worse, and I would think attention paid to that would produce more dividends.

Mr. FALCOMA. Thank you, Mr. Chairman.

Chairman LANTOS. Thank you, Mr. Smith.

Mr. SMITH OF NEW JERSEY. Thank you very much, Mr. Chairman. First of all I want to thank our witnesses for their very incisive comments, and I look forward to reading those additions that you are adding to the record. As soon as I can get to them the better because they sound very intriguing.

Last Congress I voted against two bills that became law anyway, the President's energy bill primarily because it boosted the incentives for creating more nuclear power here, and the legislation to facilitate nuclear fuel to India. I did so because of vexing issues of nuclear waste disposal, dirty bomb fears and the enabling of more nukes by India—and as a direct consequence, regional arms race, especially vis-à-vis Pakistan.

On the one hand I understand and appreciate the argument that undergirds the proposal to establish an international fuel bank and especially the efforts to deter the establishment of enrichment and reprocessing facilities. However, how concerned are you—and I would ask this of you, Mr. Chairman, and of Senator Nunn as well—how concerned are all of you with regards to the problem of unwittingly making nuclear utilization and power more widespread? As Senator Nunn points out in his testimony, we currently have 435 plants. Roughly one-fourth of those are in the U.S., 28 are under construction, 200 more are planned, and it seems to me that we have an issue of waste which we have not resolved even a little

bit—I have two nuclear power plants in my own state—and all of that waste material is stored on site as it is throughout the country.

I do not think Yucca Mountain is anywhere near being open for receiving that nuclear waste. So it raises very serious problems of dirty bombs and a lot of other issues which I know you are very familiar with. But it seems to me that if we incentivize more nuclear power we are going to get more of it without necessarily managing the crisis.

Secondly, on the issue of China, in 2002 unclassified information, the director of central intelligence pointed out that the PRC's strategic nuclear force would grow to about 75 to 100 warheads deployed primarily against the United States likely by 2015. We all shuddered a bit in 2005 when PLA Major General Chin Hu told western journalists in Beijing that if the Americans draw their missiles and position guided ammunition into the target zone on China's territory, they would have to respond with nuclear weapons.

He also dismissed China's declared no first use policy which I think raises the stakes or at least concerns even more. Your thoughts on the threat posed by the PRC.

Mr. CIRINCIONE. Let me start. Let me go backwards. China has about 20 long range missiles that can strike the United States, and they have had those since the mid 1980s. It has not changed very much. They are now in the process of modernizing their ballistic missile fleet. I have just done an analysis of this actually we posted on the Center for American Progress Web site.

We expect them to undergo this modernization but it is proceeding very slowly. There is no crash program here, and that seems to fit in general with the strategic goals of China to emphasize domestic economic development over its military development. I expect that to be the case for the next 20 years or so.

Number two, this does, however, emphasize the point of having a policy that seeks to decrease everyone's nuclear arsenals. When we say that we have to envision the elimination of nuclear weapons, we are not just talking about ours and nobody sees this as being done unilaterally. So you want to get in a position where as you draw down your arsenals—I would see the United States and Russia going first—you are then engaging the other nuclear powers in reductions in their arsenals. This is the moment that we have to try and cap that Chinese development and start moving it in reverse.

Number three, on the proliferation problem. Mr. Rohrabacher has left but China is not a serious proliferation threat today. They used to be. They used to be. When Mao Tse Tung was in charge they were pro-proliferation. They thought this was the answer to super power dominance. Everybody should have nuclear weapons. When India exploded theirs in 1974 they changed that position and became sort of neutral on proliferation but they still aided their allies, like Pakistan, and were a serious problem. Now they have firmly adopted nonproliferation policies. They have integrated into every aspect of a nonproliferation regime. We do not have a serious problem with China anymore.

The problem that we have is the same we have in many other countries where entities or companies are selling dual use technologies rather than it being a matter of policy on the part of the Chinese.

Now, on nuclear power. The nuclear power industry has not resolved the four major problems that have plagued it from the beginning: Cost, safety, waste and proliferation. All of these are formidable problems. All of them still remain.

That being said, I believe nuclear power could have a role in the struggle to combat global warming. We have to realize that we may not be able to have a global warming solution without some increase in nuclear power. That makes it all the more urgent to address these. So I completely agree with Henry Sokolski's point about getting real about the cost. Let us put the subsidies on the table here and understand how much this stuff really costs.

That is why I completely support the fuel bank proposal to try to help solve the proliferation aspect of this. The industry is increasingly optimistic that they have solved the safety problem. I am not so sure. Waste. I was just in Nevada. I gave a series of talks in Nevada a couple of months ago. I will tell you what they told me, no way. No way is waste going to be brought into Yucca Mountain.

They seem pretty determined about this, and I hear the nuclear industry starting to talk about the short-term solution changing from a 10,000-year perspective to 100-year perspective to store the waste in above-ground, dry cask. That actually is not a bad idea but it is going to cause problems for new power plants when you start telling people that not only is the power plant going to be here but the waste is going to be here at least for the next 100 years. I think we just have to get real about all this, and put all the costs up front.

On India, I support your position, Congressman, and I want to identify myself with Henry's comments on the importance of the letter that Mr. Lantos and others just sent. I was opposed to the India nuclear deal. I am disappointed that Congress approved this with so few restrictions. I think it would be a terrible idea to back off from the restrictions that Congress did place on it and give India not only all the benefits of nuclear trade with the United States but a *carte blanche* to start testing again. That would be a disaster for the nonproliferation regime.

Finally I am just going to take this moment. There is one other issue you should be aware of. This is it. Come on. It is going to be quick. I understand that the administration has sent or is sending a letter to Congress indicating that it is not interested in continuing this start verification mechanisms that are set to expire in 2009. I hope this committee would take a serious look at that. It would be a serious setback to U.S. national security to lose these verification mechanisms. We cannot let these inspections, this exchange of data expire with the expiration of 2009 and the start agreement go.

Chairman LANTOS. The gentleman's time has expired. If you would like to give a very quick answer, Mr. Sokolski.

Mr. SOKOLSKI. Well with all due respect, you do raise an important point that the committee needs to focus on. If you have fuel assurances—

Chairman LANTOS. Can you pull the mic closer to you?

Mr. SOKOLSKI. If you have fuel assurances that start off focused on market disruptions, you are going to be drawn in, if you are not careful, and I do not see how you are going to be able to resist this. It is going to be very difficult. To deal with what is going to be a price hike. People will say there has been collusion and that the fuel assurances should cover the lack of affordability.

Now it turns out the Department of Energy is arguing this publicly that the fuel assurances should be pushed to cover affordability. When you do that, it is like going into a department store and imagine I suppose you see a power tool that they will give you if you buy a complete chest of tools. You do not need either but you get drawn in and you get incentivized, as you say.

What I fear about the assurances and why I support the Bayh-Lugar language—and I would urge everyone to take a good, cold look at that—is that it immediately funds something that is needed, which is some IAEA support for safeguards, and it studies what everyone needs to ask more questions about which is what are the implications of the assurances?

Finally with regard to China, one action item. I am not as convinced that we know what they are up to. I think the intelligence is murky. They clearly are modernizing. They could break out. What at the very least Congress should not be doing is subsidizing that breakout. In specific, there is the largest export-import bank loan in the history of the bank about to be issued for the AP-1000 Westinghouse deal, \$5 billion. You will have the opportunity to say nothing or to approve this or do nothing.

One of the components in that package is something that would make submarines a lot more effective in China. It is called a canned cooling pump, and only we make it, and only Westinghouse makes it, and the Chinese do not have it. You should look into this if you are concerned about China and what Congress should be doing.

Chairman LANTOS. Mr. Sherman.

Mr. SHERMAN. Thank you. Obviously the best way to defend Americans from possible nuclear explosions in our own country is an effective nonproliferation policy and an effective foreign policy. Since we do not have that, should we be looking? We either do not have it or we have it only in part. Should we be looking at civil defense?

Back in the days of my youth we had civil defense when we perhaps faced a thousand Soviet weapons hitting our soil with yields of up to 50 megatons. Today this committee is very concerned about a one kiloton or less test by North Korea. Are the types of threats we face in the United States threats which if they materialized civil defense and immediate and effective medical care could substantially reduce casualties? Hopefully you could just give me a yes to that or a no if you disagree.

Mr. SOKOLSKI. I think you have got a lot more things on your to-do list before you get there, and my memory of the civil defense program in this country—and I think we are the same age—was

it was not all that remarkable. On paper civil defense always looks great but producing it in practice with the public was a real—

Mr. SHERMAN. Well if you were three miles away from a one kiloton hostile explosion, would you prefer that you be in a country that provided immediate medical attention.

Mr. SOKOLSKI. I would love to be in Switzerland where they require all sorts of things but all I say there are a lot of other things that need more urgent attention, and that would be a real political stinker to push. I would—

Mr. SHERMAN. Because we would have to admit to the American people that our nonproliferation and foreign policies are imperfect. Let us hear from the other witness.

Mr. CIRINCIONE. Civil defense is your last line of defense. I am a strong believer in layer defense. There are all kinds of layers in that including missile defense but you have to recognize the relative weakness of this last line. That being said, I think there is a strong role for the public health sector and for helping our first responders recognize a radioactive threat when they get one and it might not be in a nuclear explosion. It might be in a dirty bomb.

So we have to make sure that they are equipped with the technology they need to detect radioactive materials and particularly our emergency rooms in making sure that they are available to understand a radioactive threat, should it appear, and be prepared to treat it, and this can be part of a general public health package. It does not necessarily have to be a defense package unless you want to call sea kelp as part of your defense.

Mr. SHERMAN. How many nuclear devices—using the best non-classified sources—do we have compared to the 600 that at least one of you has urged we cut back to?

Mr. CIRINCIONE. How many are there in the world?

Mr. SHERMAN. No. In the United States.

Mr. CIRINCIONE. In the United States. Well I am one of the best unclassified sources, and we have approximately 10,000, about 9,800 nuclear weapons in the stockpile and deployed.

Mr. SHERMAN. Okay.

Mr. CIRINCIONE. And that is everything.

Mr. SHERMAN. Okay. What are the chances that we are going to get all the signatories in NPT to agree to forego the idea that they have the right to a full fuel cycle program if we both create the fuel bank that the chairman proposes and if we have a substantial reduction of those 9,800?

Mr. SOKOLSKI. Under the current dispensation of what we are arguing publicly, zero. I do not think the fuel bank does anything to undermine the right. If anything, it is being used as an argument for why everyone has the right and should retain it. I mean it is one of the defects of the argumentation. The program, the assurances has overtaken the purpose. If you do not insist that the point of this is to raise questions about the sovereignty of that right, you have lost the bubble on what the purpose is.

Mr. SHERMAN. The only purpose for the fuel bank is to persuade other countries that as a practical matter they do not need full fuel cycle to go forward with electric energy production from nuclear plants.

Mr. SOKOLSKI. They know that now.

Mr. SHERMAN. This makes it a little bit clearer.

Mr. SOKOLSKI. No. I do not know. It depends on whether or not you insist on the debating point being open. If you insist that of course you have the right, it then means that at any point later down the road those trained personnel can say you know we would like to make our fuel. We still have the right. Let us cut the cord.

Chairman LANTOS. The gentleman's time has expired. I wonder if I may enter into a little dialogue with Mr. Sokolski because I think you are mischaracterizing the fuel bank proposal. I would like to give you an opportunity to straighten your statement.

Mr. SOKOLSKI. I am always open to education.

Chairman LANTOS. You are saying that the fuel bank proposal insists on the right of every country to develop its own nuclear fuel cycle. It does not. What it does is something entirely different. Given the insane quality of the international dialogue, we now have a situation wherein Ahmadinejad says he wants to develop the full nuclear cycle to develop peaceful nuclear energy.

We are saying that is not why you want to develop a fuel nuclear cycle. You want to do this because you want to develop nuclear weapons. In the insane global pattern in which we live, there are hundreds of millions of people, perhaps more, who say this is he said, she said, and we choose to accept Ahmadinejad's statement. So it is not at all that we insist on the right of countries to develop their own fuel cycle. It is merely the fact that we recognize that some countries do insist on this, and some of the countries that insist on doing this are simultaneously threatening the extinction of other countries.

Therefore, we remove the argument that they need to develop a nuclear fuel cycle of their own by saying if indeed all you want is civilian nuclear energy, this will be available to you through internationally supplied fuel. That is the proper way of describing the bank proposal.

Mr. SOKOLSKI. Well with all due respect, if you go to other places—maybe your bill does not have that intent—although I noticed that in the language of your bill you concede that countries argue this. You do not quite say that they are right but you do not join the issue saying that they are wrong.

Chairman LANTOS. Well I am not conceding it. I am stating a fact.

Mr. SOKOLSKI. Stating that there are views.

Chairman LANTOS. They are stating this, and I sidestepped the argument of whether in fact—

Mr. SOKOLSKI. I understand that. Yes.

Chairman LANTOS [continuing]. That is their right or not their right. I provide an alternate mechanism.

Mr. SOKOLSKI. I understand. There are others that do not sidestep it. GNFP is a fuel cycle assurance program, different than yours. On its Web site it explicitly concedes the right that countries have that sovereign right to make fuel. I think if you talk with others who have fuel cycle assurances like the Russians, the Germans and the French, they explicitly concede it too. So if you do not join the question, others will move the argument for you away from your ability to even to—

Chairman LANTOS. I do not agree with you at all. I think this is a totally different argument. This says we are not debating your right to have civilian nuclear energy. We are providing you with nuclear fuel to develop civilian nuclear energy.

Mr. SOKOLSKI. Do you believe that Iran really has a clear right to develop nuclear energy?

Chairman LANTOS. Well let me again say, Mr. Sokolski, with all due respect, that I am sidestepping that issue. If I may give you an analogy, when I sat down with Colonel Gaddafi the first time—I now sat down with him six times—discussing the case of the six Bulgarian nurses who I am convinced are as innocent as driven snow, the Libyans claim that they injected HIV/AIDS virus into 440 innocent little children, and the Libyan courts—I suspect after torture—made these poor women admit to anything because most people admit to anything if the torture is brutal enough.

I am saying to Mr. Gaddafi I am not discussing the legal issue. I am suggesting to you that you should grant them clemency which allows you to sidestep the legal issue. If you grant them clemency, their guilt or innocence becomes moot, and I think given your powerful intellectual capability you should recognize that the nuclear fuel legislation we are proposing deliberately sidesteps the right issue, and will not be bogged down on that issue. We are merely saying if you want civilian nuclear energy, we provide you with the nuclear fuel.

Mr. SOKOLSKI. Can I just rejoin one more time?

Chairman LANTOS. Please.

Mr. SOKOLSKI. I realize I am digging a bit of a political ditch for myself but I feel strongly about this, and I think I am right about this. I would feel much more comfortable about the subtlety of the approach you are taking if at least our Government was pushed to take the right legal position about clemency with regard to human rights and the like, and the parallel would be that it would be much better if our own Government did concede explicitly the right when they talk about fuel assurances, and they do.

Chairman LANTOS. Well I am not responsible for our own Government. I am responsible for my own legislation. I do not run this Government. I write my own legislation.

Mr. SOKOLSKI. How shall I put it? You are more influential than you think.

Chairman LANTOS. Mr. Royce.

Mr. ROYCE. Thank you, Mr. Chairman. Mr. Sokolski, regarding fuel bank proposals, you warn against a fuel bank becoming a subsidy with the effect of encouraging nations to build more nuclear reactors, leading you note to the greater proliferation of nuclear technology but then also the side problem that you have got a lot more expertise out there once you have done that, and my question would be what you could do to guard against this?

The administration has talked of ensuring—I have got the President's words here from a statement—that states have reliable access at reasonable cost to fuel for civilian reactors. Well reasonable cost does not imply to me market cost. I think they are talking about a subsidy there. So how is the administration thinking about this, and what are your thoughts on that subsidy question?

And then the other thing I was going to ask our other witness, Mr. Cirincione, concerns the question of your comments about during the great leap forward maybe China was proliferating but they have changed their ways. You know the 1990s are not that long ago, and during the 1990s they were proliferating ring magnets into Pakistan which had the subsequent problem. We were over in Pakistan trying to talk with their government about the difficult with A.Q. Khan.

And so China had in the not too distant past a very real impact on proliferation around the world indirectly in the sense that you know they were helping what became an international arms for money transfer. You know an off-the-shelf proliferation for purchase on the open market. That is a far cry different than the interpretation you gave of Chinese behaviors. So I would just like your response on that.

Mr. SOKOLSKI. Sure. Okay. Why do I not briefly answer your question? The Department of Energy—including some of its most senior officials—have publicly stated that what they would like to see is assurance for “affordable fuel.” Now I realize that is not in any of the bills on the Hill but when there is a discussion of financial incentives people get very excited.

The trick is to put enough emphasis on the questionable character of the right to make nuclear fuel at the same time as you make the fuel assurance point narrow and keep it that way with regard to access to fuel at market competitive prices because the prices are going to go very high here. Now luckily nuclear fuel is one of the cheapest parts of a nuclear program. So you know you would not want to buy on a loss leader basis into a nuclear program on the basis of fuel but it will have that affect. So I think it is a trick.

It is going to require some very careful crafting and looking at all the proposals. It is not something that can be done I think quickly without a lot of analysis. I would urge people to slow down a little.

Mr. ROYCE. And you think that if you could convince the administration to weigh in more heavily on this and the Europeans the concept that a fuel bank would be a far more effective concept in return you have the NPT properly interpret the treaty in terms of this misinterpreted right that Iran and everybody else. Your point is we have got leverage, and what you are trying to say to us is you see the administration pass on that opportunity of using that leverage more forcefully in trying to get the IAEA to own up to now that it has something in play here for those who might benefit from this. This would be the time to circulate this concept.

Mr. SOKOLSKI. At least you want to join the issue. I do not know that you can win right away and maybe in the end you are not going to bring everyone with you but I think you need to join the debate now.

Mr. ROYCE. And you think maybe with the NGO community and other communities raising this with the population in the west world opinion might help drive it?

Mr. SOKOLSKI. I think common sense supports a lot of what, in fact, historically is the legal case. More important, I think it is okay to have the fuel assurance for the possibility of a hurricane

or of a breach of contract. These things have not happened yet. I do not know, though, that you are going to have an easy time keeping it to that unless you worked very, very hard to do so, and I think that is the concern.

If you can, then you get the benefits. You get the talking point. But if you do not, you become sort of a helper kind of. The bank does not become a moderator. It becomes an accelerant.

Mr. ROYCE. Yes.

Mr. SOKOLSKI. You do not want that.

Mr. ROYCE. Well and you know also technology transfer questions because you have got A.Q. Khan who took advantage basically of working for a consortium in order to gain technology, and I was kind of leading you to that question.

Mr. SOKOLSKI. Our historical experience with promoting the sharing of nuclear technology and fuel technology has been very, very tragic. It has not been comic. Atoms for Peace was not a big plus. I am sorry. There were just too many things that happened including the India nuclear program. And A.Q. Khan and URENCO were not good. Now, oddly enough, the Iranians bought into EURODIFF, and they never got control of as much of what they hoped to. But that is not so easy.

Chairman LANTOS. Thank you very much. Mr. Tancredo.

Mr. TANCREDO. Thank you very much.

Mr. CIRINCIONE. Could I just respond?

Chairman LANTOS. Go ahead.

Mr. TANCREDO. I yield.

Mr. CIRINCIONE. I will do this in 30 seconds responding to China. Sir, I believe China was a serious proliferation problem for the world. I do not believe they are currently. We have to acknowledge our successes. Republic and Democratic administrations have very successfully drawn China into the web of nonproliferation agreements. China is a member of the Nuclear Suppliers Group now. It restricts its exports. It no longer exports missiles.

In fact, no country except North Korea exports missiles any more. I completely agree with you that if it was not for China Pakistan would not have a nuclear program now. That is something that we stopped. As far as we know, China is no longer aiding Pakistan in its nuclear weapons program. If I had to answer who is our most serious national proliferation problem now in terms of spreading technology you would have to say Pakistan, not because necessarily the government's policy is to do so but they have allowed Pakistanis to do so. If it was not for Pakistan, we would not have an Iranian nuclear program.

Mr. ROYCE. Thank you.

Mr. TANCREDO. Thank you, Mr. Chairman. Following along those lines today an article appeared in the *Washington Times*. I just got it a little bit ago. It starts out:

"Fifteen years ago the U.S. intelligence community judged that the People's Liberation Army of China was more than 20 years behind the west. In January, the PLA brought down a satellite with an ultra sophisticated kinetic kilvea weapon today. No one views China's nuclear or missile capabilities as anything other than cutting edge."

It goes on to describe the advances they have made, all of which by the way were not predicted accurately by our intelligence source here or anybody that was part of the team observing Chinese capabilities.

The whole discussion sometimes in terms of nuclear proliferation reminds me of a much more mundane one but certain similarities in that it is the old thing about, you know, when you outlaw guns only the outlaws will have guns. Our effort is commendable though they may be and I certainly do not suggest that we should not move forward in every possible venue toward that goal of nuclear nonproliferation but it seems to me that just as you do that, just as forcefully as you do that, just as much attention as you put into that, you have to put almost an equal amount in some sort into a deterrence posture because that is the only way that you will actually get anybody to—especially some of the actors that we are talking about here—to pay attention to it, to be concerned about it or even if they do not then to be able to protect yourself against it.

And I look at for instance the efforts that we put into Nunn-Lugar, and although a lot of laudatory comments have been ushered forward on this basis that all these wonderful things have happened, in fact all kinds of people have actually come to my office, people who have participated in that program and talked about the enormous waste, the fraud and the abuse of the program in Russia today does not give me any great hope that we have made tremendous progress along those lines.

And I guess I wonder why would you not say that as much testimony should have been provided today about the issue of deterrents if in fact what I said originally was right and you were shaking your head in agreement with it. It only works, the whole idea of nuclear proliferation or stemming it only works if there is a strong, viable deterrent policy, and that can be in a variety of ways including of course some defense against nuclear weaponry. Using nuclear weapons. I am sorry. I mean using missiles to take down nuclear weapons that are coming our way. I do not know. Is there not a balance there that we should have been more cognizant of?

Mr. CIRINCIONE. Absolutely, sir. Let me start with this. As Senator Nunn said, as long as anyone else has nuclear weapons we will have to have nuclear weapons, and I believe that there is strong agreement that the one necessary military mission of nuclear weapons is deterrence. Is to prevent anyone from using a nuclear weapon against us.

The argument that is now being developed is that we can maintain that deterrent at far lower levels than we currently have, and we can lower our levels in conjunction with others lowering their levels. So that it is in our national security interest to get rid of the thousands of nuclear weapons that the Russians still hold for at least two reasons. One, they still have thousands of warheads on hair trigger alert, ready to launch within 15 minutes notice. This is an unnecessary and unacceptable danger. We can get rid of this with policies, mutual agreements to take theirs on lower levels of alert, and we can do the same with ours.

Number two, we have less assurance that their weapons are secure than we have about our own. If we can reduce their arsenals, particularly the tactical nuclear weapons, we are decreasing the

risk that a terrorist group or another country can get access to those weapons. And number three is the example it sets for the rest of the world. As we draw down, as we devalue these weapons we are encouraging other countries to follow our lead and to eschew these weapons programs as well.

But the point at which we can get to zero nuclear weapons, as George Shultz and Henry Kissinger and Bill Perry and Sam Nunn say, could be considerably far in the future. My personal recommendation is that we get down to low hundreds, and then take a good, hard look at what it would take to get to a world with zero nuclear weapons.

What kind of verification mechanisms would we need? And some countries may be very surprised at the kind of burdens that we would be asking of them. The kind of intrusive inspection regimes we would be asking of them, and it may not be possible to get to that zero world but in pursuing that path, we accomplish many other national security objectives at no decrease in our own national security.

Chairman LANTOS. Thank you very much. The gentlelady from Texas, Ms. Jackson Lee.

Ms. JACKSON LEE. Let me thank the witnesses very much for their testimony that I know was most likely very instructive. Just the few minutes that I have had an opportunity to listen, it has just come to my mind, my sensitivities, almost a degree of hopelessness. We are here in Washington, DC, discussing questions of nuclear nonproliferation about nations around the world. The question is how much intelligence do we have that is current and what is the right approach?

When we begin to define Pakistan as the core basis of generating Iran's nuclear program, how do we go back to the point of encouraging Pakistan to change its ways? So we make statements. Do we have a correction or a solution? And as I sense it, I am wondering whether in fact we do.

As I read former Senator Nunn's statement, there are many points to it, but he indicates that we must secure nuclear weapons and materials around the world to the highest standards. So the question becomes is the security of nuclear materials one of a practical solution which is simply putting standards forward and developing a process of enforcement? Do we have a process of enforcement?

There are a number of international commissions that take it as their responsibility to do so. At the same time, we see this question growing on the basis of sovereign nations. We are sovereign nations, and we have the same equal opportunity to show ourselves sovereign and to show ourselves equal and to show ourselves with a degree of proudness. So in essence it is the ego utilization of nuclear weapons and possession.

With that in mind let me ask both gentlemen whether or not we are in essence chasing the dog's tail? If we count Pakistan on one end as a nation that should be if I might say salvaged meaning there are huge numbers of Pakistanis who are believers in democracy, if we believe the region is a region that should be salvaged, India has been a longstanding friend and is beginning its own civil-

ian utilization of a nuclear use in a larger way through our efforts, then what is the practical response to these questions?

First the question of setting standards that can be enforced in protecting or securing nuclear materials, and then just moving to Iran since it was mentioned, should we in terms of getting action be more willing to engage a country like Iran, be willing to offer more formal security assurances not to attack Iran, stop using language like axis of evil, and not to seek regime change in exchange for a permanent Iranian cessation of the uranium enrichment activities as part of a larger multilateral package of incentives and commitments, and would such security assurances be something Tehran wants?

So in essence using Iran as an example, are we continuing as I said to chase that inevitable tail of the wagging dog, the wagging tail, or can we have real enforcement on the international level that would get us where we would want to be? Let me start with Mr. Cirincione.

Mr. CIRINCIONE. Yes, ma'am. Thank you.

Chairman LANTOS. You gentlemen jointly have 48 seconds to answer the question.

Mr. CIRINCIONE. I am an optimist. I believe that none of these problems are unsolvable. We in fact have a good set of solutions in our toolbox that can be applied to solve these problems. Just think of what we have accomplished in the last 16 years. Germany is united. The Soviet Union is dead. South Africa is run by its majority. Northern Ireland is united. The Red Sox won the World Series.

We can do much more than we sometimes think we can do. Securing nuclear materials, making nuclear terrorism virtually impossible is within our grasp. It is a question of money and Presidential leadership. Senator Barack Obama recently pledged that in his first term if he was elected President he would do this. He would triple the funding for these Nunn-Lugar programs, give it the high level attention it deserves, lock up the nuclear material and weapons so the terrorists could not get their hands on it. I completely agree with that formulation.

On Iran, I have just completed a study called "Contain and Engage" which goes exactly to your recommendations. It says we have to, yes, contain the program, step up the pressure, but match it with an engagement strategy that gives Iran a negotiated path out of this crisis, and with the chairman's agreement, I would like to make these studies available to the members of the committee.

Ms. JACKSON LEE. Thank you.

Mr. CIRINCIONE. I will stop right there.

Ms. JACKSON LEE. There may be a second left, Mr. Sokolski, if you would while you are smiling. The chairman's indulgence on finishing your answer quickly.

Mr. SOKOLSKI. If it was just money, I think we would have solved a lot of these problems. We are a pretty rich nation, and we have spent a fair amount of money. I think it is a little more difficult than that. In particular, Pakistan acts frequently badly when it feels encircled or it feels as though India is getting the upper hand on its sovereignty and its ability to exist.

One of the reasons you should be concerned about the connection between India and Iran is that Pakistan sees it as a threat. It sees

India's cooperation with Iran as an encirclement. So that letter that you sent actually will help a lot make Pakistan a more fulsome government, and when it is more fulsome it is more responsible, and that helps.

I suppose with regard to Iran I am a bit more bearish than my friend here, Joe. I really do think we do not need to over at war but I do think we are going to have to wait them out. We are going to have to engage in a Cold War, and that is not a pleasant thing. By the way, we negotiate to varying degrees when we are engaged in Cold War but it is a competition. This we should not be foolish about. We cannot hug them into submission.

Chairman LANTOS. Well let me thank our two extremely distinguished and thoughtful and informative witnesses as well as Senator Nunn. This was a remarkably valuable hearing, and we are deeply in your debt. The hearing is adjourned.

[Whereupon, at 1:29 p.m., the committee was adjourned.]

## A P P E N D I X

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### MATERIAL SUBMITTED FOR THE HEARING RECORD

PREPARED STATEMENT OF THE HONORABLE SHEILA JACKSON LEE, A REPRESENTATIVE  
IN CONGRESS FROM THE STATE OF TEXAS

Mr. Chairman, thank you for convening this hearing. Not only is the subject of nuclear proliferation of the utmost importance, it is also extremely timely in today's era of ongoing tensions combined with frightening modern technologies. May I also thank the Ranking Member, Ms. Ros-Lehtinen, and welcome our three distinguished witnesses: the Honorable Sam Nunn, Co-Chairman and Chief Executive Officer of the Nuclear Threat Initiative; Mr. Joseph Cirincione, Vice President for National Security at the Center for American Progress, and Mr. Henry D. Sokolski, Executive Director of the Nonproliferation Policy Education Center. I look forward to your insightful testimony.

With the receding of the Cold War's global divisions and the new realities of globalization and trans-national terrorism, we have embarked on a new era of promise, possibility and uncertainty. In this new era, the United States, the world's only superpower, bears an especially heavy responsibility to remain engaged in all regions of the world, and with all nation-states. It is in our national interest to continue the policy of engagement, collaboration, and exchange which has served the nation well in the past.

Mr. Chairman, previous arms control and nonproliferation efforts have created a regime of formal treaties, informal arrangements, and cooperative threat reduction and monitoring mechanisms. American leadership has been a crucial element in the development of this multilateral regime; however, this current administration has chosen to rely instead on unilateral and ad hoc measures. As international treaties and regimes are challenged by emerging nuclear threats, particularly North Korea and Iran, it is crucial that the United States fulfill its post-Cold War responsibility to remain actively engaged in international attempts to limit the spread of nuclear weapons.

As Co-Chair of the Congressional Pakistan Caucus, I was recently placed to note the completion of a nuclear pact between India and Pakistan, signed in February of this year. This agreement was aimed at preventing the accidental use of atomic weapons, and it includes confidence building measures related to both countries. The pact was achieved through sustained and active cooperation between India, Pakistan, and the United States. Peaceful nuclear negotiation can service US foreign policy objectives, so long as it is undertaken in a manner that minimizes potential risks to the nonproliferation regime.

Though it has not succeeded in eliminating all proliferation of nuclear technology, this multilateral regime has proven its value. Many states with the capability to produce or maintain nuclear arsenals have opted not to do so, and several nations that formerly had nuclear weapons programs or nuclear weapons on their soil have joined the Nuclear Nonproliferation Treaty as non-nuclear states, surrendering their weapons and ceasing development and production.

Despite this success, there remain a number of difficult challenges to any effort to restrain nuclear ambitions. Of particular concern are Iran and North Korea, both of which have aggressively pursued nuclear capacity in violation of their treaty obligations. The latter withdrew from the Nuclear Nonproliferation Treaty in 2003, and has subsequently tested nuclear explosive devices in clear defiance of the international community. This provocative action is a threat to peace and security in the region and beyond. Iran, too, is widely believed to be developing the capability to produce nuclear weapons, and has long deceived the International Atomic Energy Agency (IAEA) and the world about the true purpose of its supposedly peaceful nuclear energy program. Additionally, the nuclear black market, particularly the oper-

ation run by A.Q. Khan through which these rouge nations likely obtained their nuclear technology, is cause for extreme concern.

Mr. Chairman, nuclear nonproliferation and arms control are crucial to U.S. national security interests. For this reason, I have been an ardent supporter of nonproliferation policies. I believe that, given the recent challenges to the international nonproliferation regime, we must reach out to our friends and allies in the EU and elsewhere, and lead them to take strong action. The United States must be a leader on this issue, but we should not be acting alone. It is in our clear interest to ensure that our actions bolster these international and multilateral efforts, not impair them.

Once again, may I thank our panel of witnesses; I look forward to your testimony, and to engaging with my committee colleagues on this vital issue. Thank you, Mr. Chairman, and I yield back the balance of my time.

