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Introduction

Mr. Chairman, members of the Subcommittee, thank you for the opportunity to be here today to talk about the Department of Energy's nuclear non-proliferation programs.

You've asked me to address some very specific concerns and I look forward to doing just that. Before I do, however, I would like to make a few general comments. First, I want to thank this Committee and indeed, all members of the Senate for their strong interest in and support for our programs. Congress' demonstrated commitment to our mission has sent a strong signal that the mission is critical and enduring, and has helped us to plan effectively for our future.

Second, I want to note that in the aftermath of the September 11 attacks against our country, the work of the National Nuclear Security Administration, within the Department of Energy, has taken on a higher visibility and even greater importance. Almost a year ago, in its January, 2001 report, the bipartisan Baker-Cutler task force concluded that "the most urgent unmet national security threat to the United States today is the danger that weapons of mass destruction or weapons-usable material in Russia could be stolen and sold to terrorists or hostile nation states, and used against American citizens at home." We now know that this threat has become "a little more clear, a little more present, and much more dangerous and real." We have all seen reports that Osama Bin Laden has tried to acquire weapons of mass destruction, and that he has called the attainment of such weapons a "religious duty." That's the face of the threat confronting us today. Let me assure you, all of us in the National Nuclear Security Administration (NNSA) are committed to supporting with all our resources this country's efforts to eliminate that threat.

Third, I would like to discuss some steps we're already taking, consistent with the objectives of the proposed legislation. We share your twin objectives, as described in the draft legislation, of improving coordination of cooperation programs with the Former Soviet Union among U.S. agencies, and ensuring that U.S. public and private efforts are mutually supportive and not in conflict. These are worthwhile objectives and NNSA is committed to making sure they continue to be realized.

We too want to ensure that interagency coordination is as good as it can be, and to develop effective public-private partnerships. We have already been successful at the latter objective, for example, in the context of our Initiatives for Proliferation Program, which I'll discuss momentarily.

Non-proliferation programs in the former Soviet Union

As we formulate and implement our nonproliferation programs with Russia, we understand the threat of unsecured nuclear material and technology, as well as the threat of adverse migration of weapons experts with knowledge of weapons of mass destruction. To address these concerns, our programs seek to reduce the potential for diversion of Russian nuclear materials, technologies, and expertise. We want to make sure, moreover, that downsizing of the Russian nuclear complex is irreversible. To accomplish these objectives, we work closely with our colleagues throughout Government, most specifically in the Departments of Defense and State, and in the intelligence community.

Even before September 11, reducing the potential for diversion of Russian nuclear warheads and materials has been a critical priority for the United States. It's essential that such warheads and materials be kept out of the hands of the so-called "rogue" states, as well as terrorist organizations. We're attacking the problem on many fronts:

-- Since 1993, we have been working with Russia to improve security at 95 nuclear storage sites, both civilian and military.

-- We've completed rapid security upgrades for thousands of Russian Navy warheads and improved the security for approximately 220 metric tons of Highly Enriched Uranium (HEU) and plutonium in Russia and other newly independent states—enough material for roughly 20,000 nuclear devices.

-- In a program we implement jointly with our colleagues in the Department of Defense, Russia and the United States exchange unclassified information to increase the safety and security of nuclear warheads and fissile material. Russia and the United States recently agreed to expand our cooperation in this area significantly.

We're also taking a number of steps to help train Russian experts to take responsibility for long-term security at sensitive sites, consolidating Russian materials into fewer buildings at fewer sites, and converting tons of materials to forms less attractive to terrorists. We're also finding ways to work with Russia to help it dispose of its own surplus materials.

-- We're also working with our counterparts to improve Russia's export control system, from the enforcement level with Customs, to the industry level with internal compliance training, and at the regulatory and legal level of the ministries involved.

Last year, Russia and the United States agreed to dispose of 68 Metric Tons (MT) of surplus weapon-grade plutonium - 34 MT in each country. At the same time, the Administration is examining alternatives to reduce the cost of this program and make it more sustainable in Russia. We expect to have a final decision in about two months.

We're continuing to work with Russia to convert HEU from its military stockpile into a non-weapons-usable form of LEU for commercial reactor fuel. The 1993 U.S.-Russia HEU Purchase Agreement, which provides for Russian HEU to be downblended and used to fuel reactors here in the U.S., remains an extremely impressive nonproliferation achievement. More than 135

metric tons of HEU - enough to make roughly 5,400 nuclear devices – has been removed from Russia's military program.

We're also working with Russia to improve its ability to detect and interdict nuclear materials at border checkpoints and airports. Some borders are thousands of miles long and some are with countries whose policies keep us up late at night. We've got to shore up our efforts as quickly as possible.

Enhancing Irreversibility of Nuclear Downsizing – and Establishing Commercial Partnerships

As I mentioned, the U.S. wants to ensure the irreversibility of steps taken to downsize Russia's nuclear weapons complex. We're trying to reduce the risk that Russia's highly trained nuclear scientists and engineers, many of whom are underemployed, will be tempted to sell their nuclear expertise to the highest bidder. To do this we are taking steps to help Russia transform its closed nuclear cities by developing civilian employment opportunities for displaced workers. These objectives are pursued principally through our Russian Transition Assistance efforts, which encompass the Initiatives for Proliferation Prevention (IPP) program and the Nuclear Cities Initiative (NCI). However, it should be noted that these are not the only programs that provide employment opportunities for Russian nuclear experts; for example, our Lab-to-Lab program, which operates under the Warhead Safety and Security Exchange, has provided roughly 1,000 jobs for Russian nuclear experts as well.

IPP provides a useful example of how our programs work together with those of the State Department to achieve complementary objectives. State's programs help to secure jobs in the basic sciences and in exploring potential commercial applications of basic technologies. We have subsequently reviewed the list of the Department of State's International Science and Technology Center (ISTC) projects, and a few have been incorporated into IPP commercialization efforts after the basic research and development work was completed by ISTC. We work closely with State by pursuing programs that focus on the commercialization of Russian technologies, in partnership with U.S. industry.

Current programs, and in particular IPP, effectively demonstrate how the United States can also establish private/public partnerships in pursuing its nonproliferation objectives. With the technical support of our national laboratories, and in cooperation with the U.S. Industry Coalition (USIC) and its more than one hundred private commercial partners, IPP has developed partnerships with former weapons scientists and technicians at over one hundred and sixty institutes in the Former Soviet Union (FSU). In short, IPP helps to commercialize technology for the benefit of U.S. industry and simultaneously provides gainful employment for Russian weapons experts. Many of those efforts are enjoying success, as measured by the tens of millions of dollars in private investment capital some of these IPP projects are generating, in addition to U.S. taxpayer funds.

While IPP had only $24.5 million to invest in projects during the past fiscal year, it also required its commercial partners at least to match IPP's investment in each project. This matching funds requirement assisted IPP and its Russian partners in the identification of technologies that offer the greatest commercial promise by requiring U.S. industry to make a financial commitment into

the development of the technology at the project's initiation. During the past year, NNSA oversaw the successful commercialization of eight projects. We believe that the formula we have developed for converting former weapons scientists to commercial enterprises has proven to be very successful. Equity sources are already stepping forward to commit more than $50 million for the successful commercialization of approximately twenty additional projects for the next fiscal year.

There are many examples of success to highlight – I'll name just a few. Through this program, we have successfully commercialized several energy related technologies, including a borehole radar intended to enhance coal and oil recovery. Credit Swiss First Boston estimates that this bore hole technology could result in revenues exceeding $2 billion during the next ten years.

We've also seen the successful commercialization of a wheelchair seat cushion that can prevent pressure ulcers responsible for causing tens of thousands of deaths in the U.S. every year, costing Medicare more than $3 billion in annual treatment costs.

NCI's first major commercial effort facilitates the production of kidney dialysis equipment by a joint venture established between Fresenius Medical Care of Lexington, Massachusetts, and the Avangard nuclear weapons assembly plant, located in the closed city of Sarov, Russia.

A year ago, virtually no Westerners had ever been allowed to set foot in Avangard. Now they are part of a joint venture that will use resources, buildings and personnel that previously produced nuclear weapons to manufacture life-saving medical devices. This is truly beating swords into plowshares – almost in a literal sense.

I believe that the experience we've gained in implementing these programs provides many lessons to help realize the draft Bill's objective of ensuring effective public-private partnerships and improved coordination between existing programs.

Looking Ahead

The events of September 11 have drawn greater attention to the importance of our nonproliferation work. Much of what we do is already aimed at ensuring that dangerous materials and technology, as well as highly specialized expertise, do not fall into the hands of terrorists or rogue states. Thus, while we consider new avenues for our work, we are also accelerating ongoing efforts.

We are accelerating our MPC&A work already underway with Russia's Ministry of Atomic Affairs, and its Ministry of Defense. We are taking advantage of the recently signed DOE-MinAtom access agreement and focus on sites holding large quantities of fissile material. We are also accelerating our cooperation with MinAtom on protective force training for these and other sensitive facilities, and working with the Russian Navy to complete security upgrades for approximately 4,000 nuclear weapons. Concurrent with these and other efforts, we are expanding our Second Line of Defense program to increase by the end of this fiscal year the number of such sites operating on the Russian border from four to at least twelve.

We want to improve safety at numerous reactors in Russia that now operate at levels below minimum acceptable international standards for reactor safety. And it is vital to improve the physical security of nuclear power plants throughout the former Soviet Union.

We will continue to take steps that would prevent the adverse migration of WMD expertise; and we must look internationally as well. While today's hearing has focused on Russia, our programs address regional threats worldwide and these are of no less importance, especially in the Middle East and South Asia.

I want, finally, to touch on the need to give greater support to our critical research and development efforts. We're already making major, significant contributions, as this country thinks through its emerging requirements. We are working closely with other government agencies, including the Center for Disease Control and the Federal Bureau of Investigation, on biological and chemical agent detection. We're also working with the FBI, Customs, Coast Guard, and the Navy on nuclear smuggling and terrorism, in addition to assisting local responders to understand and respond to the terrorist threat.

In short, we are looking ahead to how we can enhance U.S. national security through the development of technologies that help to detect nuclear, chemical, and biological proliferation and terrorism and to monitor nuclear explosions.

Would establishing an interagency committee make these programs and efforts more effective?

We believe that the draft legislation is unnecessary. We do take seriously, and share, its objectives, and the Executive Branch has taken steps to meet them.

With regard to improving interagency coordination, there is already a structure in place. The NSC's Proliferation Strategy Policy Coordinating Committee (PCC), chaired by Dr. Robert Joseph, Special Assistant to the President, provides a vehicle for interagency cooperation as it coordinates and provides oversight over nonproliferation assistance programs to Russia and the other states of the former Soviet Union. The Committee functions at the Assistant Secretary level, thus ensuring that confirmed officers are involved in the coordination process. This is a useful mechanism for coordination, the benefits of which are already being felt.

As you may know, the Administration is completing a comprehensive review of all U.S. non-proliferation programs in Russia. I applaud this review, which I see as a viable roadmap to guide program conception and implementation over the next few years.

But it's also my view that one way to improve communication and coordination is to make sure you have people in place that are committed to doing a better job at communicating and coordinating. The NNSA is committed to that and I have no reason to think that my colleagues at other agencies believe differently.

With regard to assuring effective private/public partnerships, I've discussed our approach at length. Suffice it to say that we believe that the Russian Transition Assistance model provides a

useful approach to establishing such relationships.

Conclusion

Mr. Chairman, thank you for the opportunity to appear today. I look forward to taking any questions you may have.