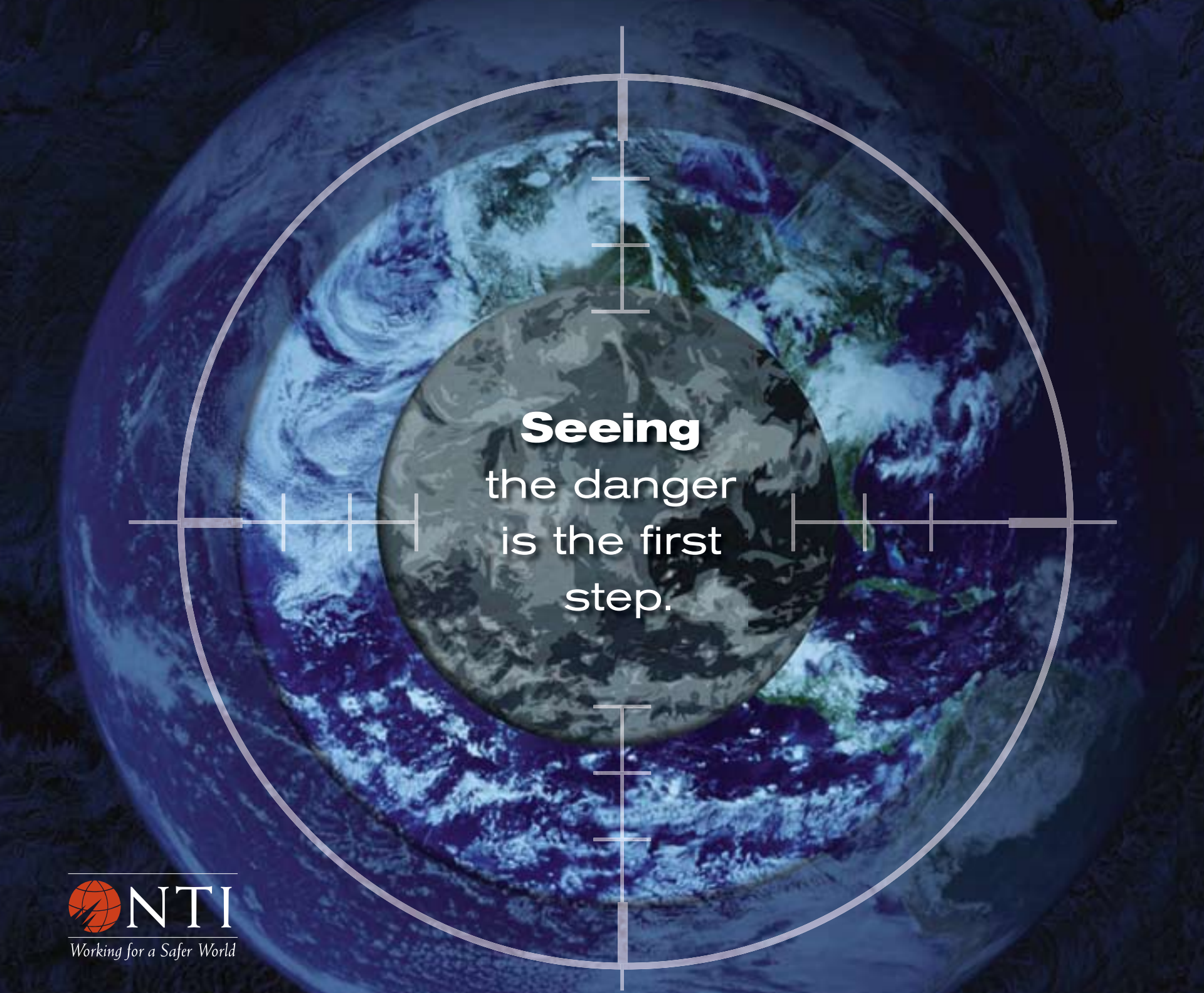

NTI
Working for a Safer World

"**The Nuclear Threat Initiative** embodies the best features of public-private partnership: a worthy cause; crisply defined, practical objectives; and – in 4 years – a series of concrete achievements, successful steps towards making the world safer and more secure..... Since its establishment in 2001, NTI has made important contributions towards securing weapon-usable nuclear material and reducing the threat of nuclear terrorism."

MOHAMED ELBARADEI

Winner of the 2005 Nobel Peace Prize and Director General of the International Atomic Energy Agency
October 2005

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2006 ANNUAL REPORT
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LETTER FROM THE CO-CHAIRMEN

For more than 60 years, the world has been spared the horror of a nuclear attack. That is a victory for sanity — but must not make us complacent or give us the sense that we have escaped the danger. Indeed, in many ways, the danger is increasing. Seeing the danger is the first step to being able to take actions to reduce risks.

We are skating on the edge of a new, far more dangerous era in the nuclear age — a tipping point that could multiply the risk of a nuclear attack many times over. We will be pushed over the tipping point if we don't find a way to resist and reverse two ominous trends — an increase in the number of nations seeking nuclear weapons, and an increase in the number of nations that can now or intend to enrich uranium for legitimate purposes or to make weapons-usable material.

These trends, if unchecked, will lead us to a world with potentially more nuclear instability than the one we knew during the Cold War. During the Cold War, the threat of retaliation was a strong deterrent against a nuclear first strike, and the risk of a nuclear attack could be reduced through bilateral agreements and procedures between the United States and the Soviet Union. In a world where many more nations have nuclear weapons, threat reduction is much more complicated, and in the case of terrorists, deterrence is unlikely to work.

Indeed, the threat of nuclear terrorism hangs like a cloud over the nuclear equation. It multiplies the already substantial danger that comes as any new nation acquires nuclear weapons or nuclear materials. North Korea is a poor country with starving people that has little to sell but weapons technology. Iran is a country that may not protect its future nuclear facilities from theft by terrorists or their ideological sympathizers in or out of government.

Today, as the number of terrorists who could build a nuclear weapon and the number of terrorists who would use one if they had it are both growing, the best way to defend ourselves is to deny them the ingredients they need to make a nuclear bomb — and that becomes harder to do with every additional nation that acquires nuclear weapons or nuclear materials.

This problem would be overwhelming — if there were nothing we could do about it. We don't have to wait and watch; we can act.

We have a chance to step back from the tipping point — and curb the increase in the number of nuclear powers — if we encourage the world to recommit, strengthen and go beyond the original bargain of the nuclear age — the Nuclear Non-Proliferation Treaty.

The Treaty is built on three premises:

- The commitment of nuclear weapons states to make progress toward disarmament.
- The commitment of non-nuclear weapons states to forego nuclear weapons.
- The commitment that all nations should have access to nuclear technology for peaceful purposes.

None of these commitments exists in isolation. They are mutually dependent and mutually reinforcing. We must make continuous progress in all three areas or the trust that keeps countries from acquiring nuclear weapons will crumble.

Experts have predicted that energy demand will grow by 50% in the next 20 years — even more in developing countries. As energy needs rise, as oil remains costly, as the pace of global warming increases, nations will look more and more to nuclear power.

Unfortunately, when a country learns how to make nuclear fuel, is also learns how to create nuclear bomb-making material. It is the same process. The challenge of obtaining weapons-usable material is the single biggest hurdle that separates terrorists from nuclear weapons.

If many additional nations that have the right to develop fuel cycles under the Non-Proliferation Treaty do so, it will be an extremely dangerous world with the technology and ingredients for nuclear weapons spread around the globe.

The challenge is clear: we have to ensure that countries can use nuclear power to produce electricity without expanding the number of nations and facilities that have the capacity to create weapons-usable material.

For decades, there has been an acknowledgment of the problem and a discussion of various options. We need to turn words into deeds and create a system of fuel supply assurances supported by an international fuel reserve that will help guarantee a supply of nuclear fuel for nations that choose not to build the capacity to create the fuel themselves.

This past September, NTI announced in Vienna, at a meeting of the International Atomic Energy Agency's (IAEA) General Conference, that we are prepared to contribute $50 million to the IAEA to help create a low-enriched uranium stockpile owned and managed by the IAEA. Warren Buffett, one of NTI's key advisors, is financially backing this commitment.

This stockpile will be available as a last-resort fuel reserve for nations that do not have an indigenous nuclear fuel cycle and whose nuclear fuel supply arrangements are disrupted. We hope that the guarantee of a fuel reserve, coupled with other assurances, will give nations confidence in choosing not to develop their own facilities, and thus reduce the number of potential sources of terrorist nuclear material.

NTI's contribution is contingent on two requirements — both of which depend on the world acting in concert to reduce the nuclear threat: (1) IAEA member states have to approve and establish this reserve, and (2) one or more member states must provide financial backing for the reserve by contributing an additional $100 million in funding or an equivalent value of low-enriched uranium to jump start the reserve.

In the final analysis, the establishment of a nuclear fuel reserve is the responsibility of governments, and whether or not it comes to fruition will depend on the action of governments. We at NTI saw little movement or leadership on this issue, so we took a step (unusual for a nonprofit organization) that we hope will trigger action.

This is an important step, but establishing an international nuclear fuel reserve is just one part of a broad new set of strategies the world must take to bring us back from the tipping point — and all these strategies require intensive global cooperation.

We are confident that this is possible. Never have the interests of the world's great powers been so closely aligned, never has global cooperation been more important to our common security, but working together requires leadership.

In his last year in office, President Reagan was asked for his view on the world's greatest challenges. He said that the world needed to learn better how to cooperate to fight common threats: "What if all of us discovered that we were threatened by a power from outer space, from another planet. Wouldn't we all come together to fight this particular threat?"

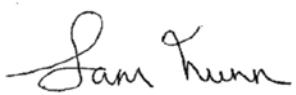
When nuclear weapons are at the fingertips of individuals and groups who are eager to use them to inflict massive damage on humankind, President Reagan's question: "Wouldn't we come together to fight this threat?" should be front and center for the United States, for Europe, for Russia, China, Japan, South Korea, and indeed, for the whole world.

Today, we face the possibility of two very different futures. A brighter, more peaceful future is surely within our reach, and the course is clear: stop making new weapons-grade materials, lock up the materials all over the world, and show countries they will be better off without nuclear weapons than with them. That is the path we must take, but it will depend on international cooperation and leadership by the U.S. and other nuclear weapon states.

NTI is doing a lot to encourage that cooperation, through steps we take on our own, and by taking on projects that will leverage greater action by governments. As you will see in these pages, we don't just talk about what needs to be done, we take action — working with governments to remove highly enriched uranium from unsecured locations, spurring the creation of jobs for unemployed nuclear weapons workers and strengthening security for nuclear weapons materials everywhere around the world.

NTI is working to stop a catastrophe before it happens. We encourage you to join us. Get involved. Log on to saferworld.org. Join the Safer World Action Network. Be part of our effort — we're proving that private citizens don't have to be spectators in matters that affect our future. Your actions will make a difference.

Ted Turner
Co-Chairman



Sam Nunn
Co-Chairman

NTI's mission is to strengthen global security by reducing the risk of use and preventing the spread of nuclear, biological and chemical weapons and to work to build the trust, transparency and security which are preconditions to the ultimate fulfillment of the Non-Proliferation Treaty's goals and ambitions.

ABOUT NTI

NTI is a place of common ground where people with different ideological views are working together to close the gap between the global threats from nuclear, biological and chemical weapons and the global response.

Co-chaired by philanthropist and CNN founder Ted Turner and former U.S. Senator Sam Nunn, NTI is governed by an expert and influential Board of Directors with members from the United States, Russia, Japan, India, Pakistan, China, Jordan, Sweden, France and the United Kingdom. Board members include a former U.S. Secretary of Defense, members of the legislative branches of government from the United States, France, Russia and the United Kingdom; a member of the Jordanian royal family; a Nobel prize winning economist; a world renowned nuclear physicist; the former commander of U.S. nuclear strategic forces and other top experts in international security issues. The foundation's activities are directed by NTI Co-Chairman Sam Nunn and NTI President Charles B. Curtis.

NTI'S GOAL IS TO REDUCE TOWARD ZERO THE CHANCE THAT ANY NUCLEAR, BIOLOGICAL, OR CHEMICAL WEAPON WILL EVER BE USED ANYWHERE – EITHER BY INTENT OR ACCIDENT

Advisors to the Board of Directors include leading figures in science, business and international security. NTI is staffed by experts in nonproliferation, international affairs, communications, security and military issues, public health and medicine who have operational and international experience in their fields.

NTI IN ACTION: DEVELOPING NEW APPROACHES AND CATALYZING ACTION TO ADDRESS URGENT GLOBAL DANGERS

NTI is an operational organization – actively engaged in developing and implementing projects that bring new strategies, new partnerships and effective action to reduce the dangers from nuclear, biological and chemical weapons.

Since governments have most of the resources and authority in the large-scale work of threat reduction, it is not only what NTI can do to directly to reduce these threats that matters; it is also what NTI can persuade others to do. NTI's focus is on leverage -- combining its influential voice with direct action projects to catalyze greater, more effective action by governments and international organizations.

NTI is working in several focused areas to develop new frameworks and approaches for addressing the most urgent global threats from nuclear, biological and chemical weapons.

PREVENTING TERRORISTS FROM GETTING A NUCLEAR BOMB

Securing, Reducing and Eliminating the Use of Highly Enriched Uranium. NTI, through analysis, advocacy and action, is drawing attention to and spurring more effective action to address the danger of unsecured nuclear bomb making materials, the need to prevent the spread of the technology to make that material and the urgent imperative to reduce the use of weapons-usable nuclear material in civil commerce.

Osama bin Laden has said that acquiring nuclear weapons is a religious duty. He sought and received a religious ruling, a *fatwa*, giving him permission to use a nuclear weapon against innocent civilians. The 9/11 Commission has said that a "trained nuclear engineer with an amount of highly enriched uranium or plutonium about the size of a grapefruit or an orange, together with commercially available material, could fashion a nuclear device that would fit in a van like the one Ramzi Yousef parked in the garage of the World Trade Center in 1993. Such a bomb would level Lower Manhattan."

The hardest step for the terrorists to take is acquiring the highly enriched uranium they need to make a bomb. The most effective way to prevent nuclear terrorism is to prevent terrorists from acquiring nuclear weapons materials.

Global Cleanout and Secure. The relative ease of obtaining weapons designs and engineering non-nuclear components makes control over nuclear materials the first line of defense for preventing states or terrorist groups from developing or obtaining nuclear weapons. A global

approach to removing and securing nuclear materials is essential because the chain of security is only as strong as its weakest link.

There are nuclear weapons materials spread around the world. The largest quantity of this material is in Russia. The United States and Russia have been working cooperatively to secure and eliminate excess material. The job is currently about half done, if one counts quantities of materials under security, or nearly three-quarters done if one counts buildings under enhanced security. There is also nuclear weapons material in countries without nuclear weapons – used in research facilities and reactors designed for peaceful purposes. The materials are there because for decades, the United States and the Soviet Union provided research reactors fueled by highly enriched uranium (HEU) to countries around the world under the "Atoms for Peace" initiative. The purpose was to share the beneficial aspects of nuclear technology for science, medicine, and other peaceful purposes with countries that agreed not to develop nuclear weapons. Today more than 100 research facilities in over 40 nations have enough highly enriched uranium to make a nuclear bomb. Some of these facilities lack adequate security, making them an enormous security risk in today's world where terrorist organizations have nuclear ambitions and a stated interest in killing millions of innocent civilians.

NTI'S FOCUS IS ON LEVERAGE – COMBINING ITS INFLUENTIAL VOICE WITH DIRECT ACTION PROJECTS TO CATALYZE GREATER, MORE EFFECTIVE ACTION BY GOVERNMENTS AND INTERNATIONAL ORGANIZATIONS.

NTI is using its influential voice in combination with direct action projects that are showing the way and leveraging greater action by governments to secure and reduce quantities of nuclear weapons-usable materials around the globe.

NTI is helping nations move away from routine use of the raw material of nuclear terrorism through a range of projects including the removal of two and a half bombs' worth of weapons-usable HEU from a research reactor near Belgrade; the creation of a comprehensive U.S.-Russia-IAEA plan to remove HEU from Soviet-origin research reactors worldwide; the elimination of HEU stocks in Kazakhstan; and conversion of Russian nuclear-powered icebreakers to low enriched uranium (LEU) fuel.

These types of projects helped spur the creation of the $450 million U.S. Global Threat Reduction Initiative, announced in May 2004, combining a number of dispersed programs into a single office, and setting milestones for reducing risks of fissile and radiological materials stored around the globe.

NTI is also working with Russian experts to consider options for accelerating the elimination of dangerous stocks of excess Russian HEU. NTI's study will lay the groundwork that could help

governments ensure rapid conversion of these materials to LEU, which cannot be used to make a nuclear weapon.

A Nuclear Fuel Bank: Preventing the Spread of Technology to Make Nuclear Weapons Materials. Preventing the spread of nuclear technology is an essential part of the effort to prevent the spread of nuclear weapons. As more nations turn to nuclear energy to meet their development needs, there is the very real danger that the technology to make nuclear weapons materials could be developed in dozens of countries around the world.

That is because the same uranium enrichment technology that is used to take natural uranium and enrich it to low enriched uranium to be used as fuel in a nuclear power plant can also be used to enrich natural uranium to highly enriched uranium that can be used to make a nuclear bomb. Nations that have met their obligations under the Non-Proliferation Treaty have the right to develop uranium enrichment facilities, but we will be living in a very dangerous world if every nation that has that right opts to use it.

Today, nations that are seeking to expand their use of nuclear power have two choices: purchase nuclear fuel from foreign sources or invest in the technology to create nuclear fuel domestically. A country's decision to rely on imported fuel, rather than to develop an indigenous enrichment capacity, may pivot on one point: whether or not they have confidence that they can receive without fail nuclear fuel from the international market.

NTI believes that ensuring that states have confidence in choosing to rely on imported fuel is a security imperative. To help provide that assurance, in 2006 NTI announced a $50 million commitment to the IAEA to help create a low enriched uranium stockpile owned and managed by the IAEA. Warren Buffett, one of NTI's key advisors, is financially backing and enabling this NTI commitment.

NTI envisions that this stockpile will be available as a last-resort fuel reserve for nations that have chosen to rely on international fuel supplies and thus have no indigenous enrichment facilities of their own. NTI's contribution is contingent on two conditions, provided they are both met within the next two years: (1) that the IAEA takes the necessary actions to approve establishment of this reserve; and (2) that one or more member states contribute an additional $100 million in funding or an equivalent value of low enriched uranium to jump-start the reserve. Every other element of the arrangement — its structure, its location, the conditions for access — would be up to the IAEA and its member states to decide.

The concept of a nuclear fuel bank is not new, but it has never moved beyond the discussion phase. The NTI proposal and pledge has already sparked renewed international interest in the

idea and helped define a global debate about how best to ensure nuclear fuel assurance and limit the proliferation risks posed by the spread of nuclear enrichment technology.

IAEA Director General Mohamed ElBaradei welcomed NTI's proposal saying "this generous NTI pledge will jump start the nuclear fuel bank initiative. It will provide urgent impetus to our efforts to establish mechanisms for non-discriminatory, non-political assurance of supply of fuel for nuclear power plants." *The New York Times* editorialized in support of the proposal saying "Washington would do well to take a harder look at Mr. Buffett's … excellent idea. And then come up with the cash."

Containers storing highly enriched uranium, which can be used to make a nuclear bomb.

WINS: Strengthening Security for Nuclear Materials – Best Practices and Private Sector Responsibilities. The international community has a common interest in the security and management of materials that could be used for nuclear weapons, improvised nuclear devices or other acts of nuclear terrorism. The protection system is only as strong as its

PROJECT VINCA

More than two and a half bombs' worth of highly enriched uranium (HEU) stored in a civilian research reactor in Serbia with inadequate security were flown to a safer storage facility in Russia and ultimately eliminated.

"We need to ensure Vinca is safe from a possible terrorist attack and environmental danger…. Without the help of the Agency we wouldn't make it."
– Aleksandar Popovic, Serbian Science Minister

These weapons-usable nuclear materials were vulnerable to theft by terrorists, so NTI worked closely with the U.S. Department of State, the IAEA, Russia and Serbia to facilitate transfer of the over 100 pounds of weapons-usable nuclear material in the form of fresh reactor fuel to more secure storage in Russia for elimination through blend down.

NTI's contribution of $5 million supports the repackaging and removal of hundreds of kilograms of highly radioactive spent reactor fuel for ultimate transport and disposition in Russia. A contract was signed in September 2006 for the removal and transport of the spent fuel.

NTI has also contributed to the design and construction of a new storage facility for low-level radioactive waste, a significant amount of which was already poorly stored on-site at Vinca, and additional waste which will also be generated by the spent fuel repackaging process.

The total cost of these two projects is anticipated to be around $30 million. In addition to NTI's catalytic contribution of $5 million, the United States, the European Union, the United Kingdom, Hungary, and the IAEA's own budget have now pledged over $12 million in support of securely removing this dangerous material from the heart of Europe.

"NTI was critical to and a major factor in bringing this important non-proliferation deal to closure." *– Richard Armitage, former U.S. Deputy Secretary of State*

weakest link, and a threat to one is a threat to all. NTI is working to develop a role and sense of responsibility within the private sector to ensure that dangerous nuclear materials do not fall into terrorist hands.

NTI has started an effort, in partnership with the Institute for Nuclear Materials Management (INMM), to improve the security of nuclear materials through the establishment of a new organization for the exchange of information on and promulgation of "best practices" for nuclear materials security in nuclear facilities and during transportation. This effort began with a speech at the INMM 2005 Annual Meeting by Charles Curtis, President of NTI. Curtis appealed to INMM members, many of whom are responsible for securing, accounting, and tracking nuclear materials as they move throughout the world, to play a larger role in the world's number one nuclear security imperative: preventing nuclear terrorism.

Since then, the INMM and NTI have been working together to advance the creation of an organization to help improve the security of nuclear materials around the world and have consulted with the International Atomic Energy Agency and other nuclear security professionals. NTI has worked to broaden the dialogue to a wider group of international experts in order to further refine the concept and planning, and sponsored a two-day experts' meeting in Baden to create a draft mission, activities and organizational plan that has sufficient detail for use as a basis for securing membership, staffing, and funding for the new institution in early 2007. The working name of "WINS" (the World Institute for Nuclear Security) is being used to describe this organization.

Once launched, NTI believes that WINS can be a mechanism for raising the level of global best practices of nuclear materials security rapidly and serve as a tool for the nuclear industry and operators who want to stay ahead of the threat. WINS would provide a forum for the exchange of experience, lessons learned, and new ideas at the "grass roots" facility-operations level; a forum for practitioners rather than policy makers. In this way, the nuclear materials management community, and all of the partners involved in WINS, can help reduce the risk of a catastrophic terrorist event.

STRENGTHENING GLOBAL HEALTH AND SECURITY.

NTI's Global Health and Security Initiative (GHSI) has developed innovative partnerships worldwide to address the threat of natural pandemics, accidental outbreaks from laboratories and use of biological agents as a weapon. GHSI's efforts seek to improve disease detection and response and to promote safe practices in biomedical science to secure dangerous pathogens and prevent the misuse of biotechnology information.

The International Council for the Life Sciences: Addressing the Dual-Use Danger to Help Prevent Bioterrorism. Biotechnology research and commercial activities are transnational in nature. These activities bring enormous benefits in medicine, public health, nutrition, agriculture, and industrial processes. There is, however, a dilemma because some of the same advances in science and technology that are being used to benefit society can also be used by terrorists to make biological weapons. The risks to public health, safety and security from the misuse of the life sciences and associated technologies are not being adequately addressed.

Dr. Ali Mohammadi (Scientist, Laboratory Biosafety and Biosecurity, WHO), Dr. Yugi Remnev (Deputy Director, NP TEMPO), Dr. Alexandr Gintsburg (Director, Gamaley Institute of Epidemiology and Microbiology and Academician, Russian Academy of Medical Sciences) and Terence Taylor, (Director of the International Council of Life Sciences) participate in a panel discussion in Moscow, Russia.

For example, there have been great advances in the emerging fields of synthetic genomics and synthetic biology. In 2002, researchers reported that they had chemically synthesized poliovirus according to its genetic material from commercially purchased genetic material over the course of three years. This experiment represented a scientific first: the assembly of a virus from scratch. Then in 2005, researchers reported the synthesis of a bacterial virus in only two weeks. The scientific and policy communities are only beginning to grapple with the implications of the possibility of the creation of both old and new viruses from scratch.

NTI's Global Health and Security Initiative believes that the scientific community must work hand in hand with government to develop ways to enhance global biological security and safety and reduce the risk of the misuse of the life sciences without unduly encumbering beneficial research and advances in science.

To create this urgently needed collaboration, NTI sponsored and supports the development of the International Council for the Life Sciences (ICLS), an independent non-profit membership organization that provides a forum to regularly engage the life science community and governments on a global basis to develop and promote global best practices, standards and training curricula for biosecurity and biosafety, develop a shared language and common

methodology for assessing biological risks regardless of origin and provide specialized briefings for policy officials on the full spectrum of risks.

ICLS is fostering new approaches to international and national policies for biological security and is providing a forum for policymakers to interact with specialists in biosecurity, biosafety and infectious disease.

ICLS has established an international advisory group of biosafety and biosecurity experts and policy makers from academia, government and the private sector based on the G-8 countries and others such as Sweden and Singapore. Drawing on the 2006 Russian presidency of the G-8, this mechanism was developed in close cooperation with Russian partners, the I. M. Sechenov Moscow Medical Academy and TEMPO, a consortium of 17 key Russian life science institutes. This initiative also attracted substantial support from the Canadian government and the Moscow-based International Science and Technology Center. It is also extending its networking activities to Central Asia through disease surveillance seminars specifically for Kyrgyzstan and for the region as a whole.

MECIDS participants working together on an exercise at the Intervention Epidemiology Training Course.

The ICLS is taking this networking approach to other regions and in 2007 will develop networks of life scientists and policy makers in the Middle East, the Gulf and South Asia.

These efforts are practical steps toward the development of an ICLS International Biosecurity and Biosafety System and the promotion of a common understanding of biological risks.

BRIDGES: Creating Regional Disease Surveillance Networks to Detect and Respond to Infectious Diseases: Infectious diseases have always been a serious threat to human life. Increased international travel and trade, shifts in agricultural practices, greater microbial resistance to drugs and more concentrated populations have made all of us more vulnerable to natural disease outbreaks. At the same time, advances in science add to the growing danger that terrorists will intentionally use disease as a weapon. Infectious diseases will not stop at a nation's border. There is an urgent need to build a strong and integrated global disease surveillance network so that an infectious disease – whether naturally occurring or intentionally caused – can be identified, contained and treated before it spreads around the world.

Regional disease surveillance networks can be the building blocks for a global system. NTI's Global Health and Security Initiative is working in some of the most complicated regions in the

world to build disease surveillance networks to spur the cooperation and capacity building that will enable an effective response to infectious diseases.

For the past three years, NTI's Global Health and Security Initiative has supported the development of an infectious disease surveillance system in the Middle East. This network, called the Middle East Consortium on Infectious Disease Surveillance (MECIDS), currently involves public health leaders, academic institutions, and private health care facilities in Jordan, Israel, and the Palestinian Authority working together to prevent and reduce the risk of infectious diseases. The partnership was up and running when the first outbreak of avian flu was detected in the region and the MECIDS partnership enabled rapid communication and coordination of efforts to help contain the spread of the disease.

Building on the success of the work in the Middle East, NTI is using this model for work in other critical regions. The project, BRIDGES: Building Regional Infectious Disease Systems for Global Epidemiologic Surveillance is working to help establish additional regional disease surveillance systems. NTI is now collaborating with partners in Asia, who have recent experience with infectious disease outbreaks such as SARS and avian influenza, to help improve regional collaboration, cooperation, and transparency on infectious disease threats and response.

With six countries in the Mekong Delta in March 2007, NTI, together with the U.S. Centers for Disease Control and Prevention and the Rockefeller Foundation, is sponsoring the first-ever simulation exercise to test responses to a pandemic influenza emergency. Using techniques similar to those in modern war-gaming, the tabletop exercise is designed to foster cooperation among Cambodia, China, Vietnam, Laos, Myanmar and Thailand, key countries in the region seen as the most likely source of a potentially devastating flu pandemic. The exercise will help identify gaps and weaknesses in systems for detecting, monitoring, tracking and containing infectious diseases – whether the diseases are naturally occurring or intentionally spread.

NTI's Global Health and Security Initiative, enabled by a generous grant from the Bill and Melinda Gates Foundation, is working to develop and advance regional disease surveillance networks by providing the building blocks for a global system.

NUCLEAR

THE NATURE OF THE THREAT

TERRORIST ACQUISITION AND USE OF NUCLEAR WEAPONS

Al Qaeda operatives have made repeated attempts to buy stolen nuclear material to make a bomb. Intercepted al Qaeda communications reported a member boasting Osama bin Laden planned to carry out a "Hiroshima" on America. Extensive materials on nuclear weapons found in al Qaeda camps in Afghanistan make clear the group's continuing desire for nuclear capability.

The hardest part of making a nuclear weapon is getting plutonium or highly enriched uranium (HEU). Since these materials are difficult to make, the most likely way a terrorist will get them is through illicit purchase or theft. In Russia alone, the Cold War legacy of the Soviet Union left vast quantities of weapons, HEU and plutonium, as well as tens of thousands of people with weapons or materials knowledge whose jobs were no longer assured. In dozens of countries around the world, there are more than 100 research facilities with HEU that is inadequately secured and vulnerable to theft. Terrorists seeking nuclear weapons materials may not look where there is the most material; they may go where the material is the most vulnerable. The chain of global security is only as strong as the security at the weakest, worst-defended site. That's why it is necessary to lock down nuclear weapons and materials around the world.

NTI CO-CHAIRMAN SAM NUNN HAS CALLED ON THE PRESIDENTS OF THE UNITED STATES AND RUSSIA TO REDUCE EACH COUNTRY'S RELIANCE ON NUCLEAR WEAPONS AND END THEIR NATION'S HAIR-TRIGGER, SHORT-WARNING NUCLEAR POSTURES.

Over the past decade, U.S. and Russian activities carried out under the Nunn-Lugar cooperative threat reduction programs, the Nunn-Lugar-Domenici Domestic Preparedness Program and related programs have made significant progress in securing and eliminating vulnerable weapons and materials in Russia and the new independent states. However, by 2006, a little more than 50 percent of the nuclear materials and warheads in Russia have had cooperative security upgrades. And governments are only in the initial stages of the task of securing and eliminating vulnerable materials from the more than 100 HEU research facilities around the globe. U.S. and Russian officials have pledged to increase the pace substantially both for vulnerable materials in Russia and around the world, but the pace is still not commensurate with the threat.

STATE ACQUISITION OF NUCLEAR WEAPONS CAPABILITY

State nuclear weapons programs pose a growing danger. The spread of nuclear technology and related know-how is cause for increasing concern. The exposure of an illicit nuclear trading network centered in Pakistan revealed a stunning operation to bypass international controls on the dissemination of nuclear weapons technology. In 2006, North Korea tested a nuclear weapon.

A technician checks nuclear fuel rods.

In South Asia, the risk of nuclear use between Pakistan and India remains high. These two countries have a history of strained relations, wars and cross-border terrorism. Both sides continue to expand their warhead stockpiles and delivery systems.

Another cause for increasing concern is that the Nuclear Non-Proliferation Treaty does not prevent non-nuclear weapons states from developing the infrastructure to produce nuclear weapons materials under the guise of a peaceful civilian program. The result is that civilian nuclear capabilities used for energy production can be easily converted to a nuclear weapons program. After an 18-year history of conducting a clandestine program to develop nuclear weapons, Iranian leaders have a declared policy of developing a domestic nuclear fuel cycle, and they have made considerable progress in developing uranium-enrichment capabilities that could be used to manufacture nuclear weapons materials.

UNITED STATES AND RUSSIA REMAIN IN COLD WAR NUCLEAR POSTURES

The risk of nuclear exchange between the United States and Russia did not disappear with the end of the Cold War, and in some ways it has grown more dangerous. The United States and Russia continue to maintain thousands of nuclear warheads on land and at sea, ready to fire at a moment's notice — a posture essentially the same as during the Cold War. Russia's degraded early warning systems coupled with the large nuclear rapid and accurate strike potential of the United States provide a continuing incentive for Russia to rely on a "launch-on-warning" capability that is inherently vulnerable to mistakes, accidents and miscalculations. These large missile forces pose a significant security risk to both nations of mistaken, accidental or unauthorized nuclear launch. U.S. and Russian nuclear force size and readiness levels fail to reflect the fundamentally changed political relations between the two countries.

STRATEGIES FOR NUCLEAR THREAT REDUCTION

Reducing the risk of nuclear use by terrorists and nation-states requires a broad set of complementary strategies targeted at reducing state reliance on nuclear weapons, stemming the demand for nuclear weapons and denying organizations or states access to the essential nuclear materials, technologies and know how. Ultimately, success in reducing global nuclear threats can be achieved only through cooperation.

No state acting alone has sufficient authority, resources or influence to assuredly protect itself, especially from nuclear terrorism. Moreover, if the United States and Russia were to take steps to de-emphasize their reliance on nuclear weapons, it would give both nations more standing to encourage other nations to dismiss the nuclear option.

NTI is working in four strategic areas designed to address the most urgent, near-term risks, and to take advantage of opportunities where a private organization can leverage greater action from governments on a larger scale. These four areas of activity are:

Securing, consolidating and reducing fissile material. The relative ease of obtaining weapons designs and engineering non-nuclear components makes control over nuclear materials the first line of defense for preventing states or terrorist groups from developing or obtaining nuclear weapons. A global approach to removing and securing nuclear materials is essential because the chain of security is only as strong as its weakest link.

Leveraging resources to address nuclear infrastructure and human capital. As Russia seeks to cut its nuclear weapons workforce in half over the next few years, it must close or convert facilities at ten nuclear sites and eliminate 35,000 jobs. Many of the people who hold those jobs have access to nuclear weapons material or information useful to terrorists seeking nuclear capabilities.

A transition to sustainable civilian employment is critical to avoiding perilous temptations to sell access or information before jobs are lost. Reducing the total population of workers at all levels with access to sensitive materials or facilities will require a diversity of techniques beyond those currently in use. NTI is supporting pilot projects in Russian closed nuclear cities to prevent the spread of nuclear technology and knowledge. These projects are designed as

models to be replicated elsewhere to strengthen nuclear security by reemploying personnel with knowledge of sophisticated weapons design and materials handling practices.

Building global cooperation on security goals. With renewed interest in nuclear power, the inherent risks associated with certain dual-use fuel-cycle technologies must be managed to avoid the proliferation of dangerous fissile materials. In order to encourage nations to rely on international sources of fuel supply as opposed to developing indigenous enrichment facilities, NTI pledged to contribute $50 million toward the creation of an international nuclear fuel bank under the auspices of the International Atomic Energy Agency (see page 12).

An experts group gathered in Baden, Austria for a discussion of nuclear materials best practices in fall 2006.

Additionally NTI is working with the Institute of Nuclear Materials Management to catalyze the creation of an international institution to help promote best practices for nuclear materials security. Ultimately, sharing best practices could help form the basis for improving nuclear materials management standards globally to better meet the modern threats from terrorists and others seeking nuclear weapons. (see page 13).

Generating new thinking on reducing nuclear risks. More than fifteen years after the end of the Cold War, the United States and Russia still maintain thousands of nuclear weapons in essentially the same postures as they were during the height of the Cold War. These weapons pose a dangerous security risk to both nations of a mistaken, accidental or unauthorized nuclear launch. To advance the global effort to reduce the risk of nuclear use, the United States and Russia — the two nations with the largest nuclear stockpiles — must lead in de-emphasizing the role of nuclear weapons and increasing warning time.

NTI Co-Chairman Sam Nunn has called on the Presidents of the United States and Russia to reduce each country's reliance on nuclear weapons and end their nation's Cold War nuclear force postures by increasing warning time for both countries. If both the United States and Russia can take this step, they can dramatically reduce the chance of an accidental, mistaken or unauthorized launch and deemphasize the role of nuclear weapons in their political and military relations.

Bold and determined presidential leadership in the United States and Russia is essential to making nuclear policies and force structures fit a post-Cold War security environment and to gaining the international cooperation essential to reducing global nuclear risks.

NUCLEAR PROJECTS ACTIVE IN 2006

SECURING, CONSOLIDATING AND REDUCING FISSILE MATERIAL

Accelerating Russian HEU Blend-down, Phase II

To build on a previous project to analyze options for accelerating the elimination through blend-down of excess Russian highly enriched uranium by conducting additional analysis, refining options, promoting the accelerated blend-down concept in the United States, Russia and Europe, as well as prepare additional data necessary for Russian government decision making.
Facilities and Institutes of Russian Ministry of Atomic Energy
Moscow, Russia
and others
Up to $1,000,000
2005–2006

Strengthening IAEA Programs to Secure Vulnerable Nuclear Material

To support the expansion of IAEA programs to secure vulnerable nuclear materials worldwide and to support the IAEA's ability to leverage additional financial contributions for these activities.
International Atomic Energy Agency
Vienna, Austria
Up to $1,150,000
2002–2006

Removing HEU from Serbia

To contribute to the removal of poorly secured HEU from the Vinca Institute of Nuclear Sciences by supporting the decommissioning of its research reactor and management of remaining spent nuclear fuel.
International Atomic Energy Agency
Vienna, Austria
Up to $5,000,000
2002–2007

Consolidating and Blending Down HEU in Kazakhstan

To contribute to the security, consolidation and blend-down of all remaining HEU in Kazakhstan so that it cannot be stolen or diverted for use in nuclear weapons.
Institute of Nonproliferation
Almaty, Kazakhstan, and
Ulba Metallurgical Plant
Ust-Kamenogorsk, Kazakhstan
Up to $2,000,000
2002–2006

Supporting Conversion for Alatau Nuclear Research Reactor

To provide the equipment and incentives for the research reactor at the Institute of Nuclear Physics at Alatau to be converted to use low-enriched uranium fuel by providing a new reactor control and protection system that will improve reactor safety and a beryllium reflector to enhance reactor performance.
Institute for Nuclear Physics
Alatau, Kazakhstan
Up to $1,600,000

Planning to Secure and Remove HEU from Soviet-Supplied Research Reactors to Improve Safety and Reduce Proliferation Risks

To evaluate security, safety, regulatory, transportation and cost issues associated with removing fresh and spent HEU fuel from 24 poorly secured research reactors in 17 countries and to develop a comprehensive plan to remove the fuel.
International Atomic Energy Agency
Vienna, Austria
Up to $260,000
2002–2006

Low Enriched Uranium Fuel Development for Russian Naval Reactors

To develop low-enriched uranium fuel for Russian civilian icebreakers and future floating nuclear power plants to replace HEU fuel at risk of theft and diversion. This project will provide the basis for a Russian-government decision to convert HEU powered icebreakers and to enable floating power plants to use non-weapons-usable fuels.
Bochvar All-Russia Research Institute of Inorganic Material
Moscow, Russia
Up to $500,000

Consultancy on Development of Research Reactor Regional Centers of Excellence

To convene technical consultancy meetings to develop proposals for Research Reactor Coalitions and Regional Centers of Excellence in 2006.
International Atomic Energy Agency
Vienna, Austria
$25,000
2006

Strategic Master Plan for Russian Research Reactors

To build on a previous successful project to define, at an aggregate level, the challenges associated with the continued use of highly enriched uranium (HEU) fuel at research reactors and related facilities in Russia. This project will create a strategic master plan on the basis of a facility-by-facility survey to consider security requirements, HEU removal, spent fuel management, and reactor conversion opportunities for civilian research reactors in Russia. The resulting recommendations will provide necessary input to a comprehensive approach to phasing out HEU use in Russian civilian research facilities.
Foundation for Atomic Energy in the 21st Century
Moscow, Russia
Up to $2,500,000
2006-2008

Developing Nuclear Security Guidelines

To enable the IAEA to draft, publish and disseminate for the first time nuclear security guidelines or "standards" for all countries to use as a basis for securing their nuclear materials. Creation of these guidelines/standards will fill a critical gap in the IAEA's framework for strengthening global nuclear materials security.
International Atomic Energy Agency
Vienna, Austria
$100,000
2006-2007

Developing Research Reactor Coalitions and Regional Centers of Excellence

To develop research reactor coalitions and regional centers of excellence that can incentivize reactor operators to convert from highly enriched uranium (HEU) fuel to low enriched uranium (LEU) fuel and accelerate shut-down of HEU fueled reactors.
International Atomic Energy Agency
Vienna, Austria
$390,000
2007-2008

LEVERAGING RESOURCES TO ADDRESS NUCLEAR INFRASTRUCTURE AND HUMAN CAPITAL

Development of Conversion Companies

To contribute $1 million to the Fund for Development of Conversion Companies, an existing Russian revolving loan fund, established to create permanent, commercially viable civilian businesses in the closed nuclear city of Sarov and provide sustainable employment for former weapons personnel.
Fund for Development of Conversion Companies
Sarov, Russia
Up to $1,000,000
2002–2006

Building Capacity at SarovLabs

To assist SarovLabs in becoming a self sustaining, commercial contract research organization that employs former weapons scientists by providing project management and marketing support.
SarovLabs
Sarov, Russia
Up to $450,000
2003–2006

Development of Open Technopark

To support project and infrastructure development in the new Open Technopark, located just outside the closed nuclear city of Sarov in an area that provides free access to non-Russian companies and investors but is an easy commute for former weapons scientists and engineers from Sarov. This project will contribute to the creation of new jobs not related to nuclear weapons and accelerate the transition to a smaller, more stable and more secure Russian nuclear weapons complex.
Center for Technologies Transfer "Sistema-Sarov"
Sarov, Russia
Up to $1,000,000
2005–2009

Strategic Planning for Snezhinsk

To engage local and institute leaders from the closed nuclear city of Snezhinsk in strategic planning to support two key missions of the city over the next five years: downsizing the nuclear weapons facility and staff and securing the remaining nuclear materials at the site.
The Eisenhower Institute
Washington, DC, USA
Up to $230,400
2003–2006

BUILDING GLOBAL COOPERATION ON SECURITY GOALS

Global Best Practices for Nuclear Materials Management

To continue a discussion among nuclear materials security professionals on how to promulgate "best practics" globally through the creation of a new institution that would lead to the implementation of more effective nuclear materials security programs at nuclear facilities worldwide so the materials are less vulnerable to terrorist diversion.
NTI and others
Washington, DC, USA
Up to $500,000
2005–2007

India, Pakistan and the Global Nonproliferation System

To convene a series of workshops in India and Pakistan that explore how the United States, India and Pakistan might strengthen their adherence to global nonproliferation norms and practices and build an international consensus around a new understanding of India's and Pakistan's relationships to the international nonproliferation system.
The Henry L. Stimson Center
Washington, DC, USA
$325,000
2004–2007

Strengthening the Global Partnership

To develop a constituency among and beyond the Group of Eight (G-8) leading industrial nations for nuclear, biological and chemical threat reduction programs through partnerships with 21 security organizations from 16 nations. This project promotes the effective and timely implementation of the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction's commitment to devote $20 billion to support nonproliferation projects, initially in Russia, over the next decade.
Center for Strategic and International Studies
Washington, DC, USA
Up to $1,793,152
2005–2007

Modeling Russia's Power Development Plan

To develop models of national and multinational nuclear fuel cycle concepts, with an emphasis on nonproliferation, economics and future excess weapons materials disposition.
Kurchatov Institute
Moscow, Russia
$49,755
2003–2006

Supplementary Support for NATO Advanced Research Workshop on Nuclear Security Culture

To support a NATO-sponsored Advanced Research Workshop on "Nuclear Security Culture: From National Best Practices to International Standards" during October 2005 and follow-on involvement in an informal experts group that is working to support the development of International Atomic Energy Agency guidelines on nuclear security culture.
Center for International Trade and Security
University of Georgia
Athens, GA, USA
Up to $49,100
2005-2006

Overcoming Impediments to Cooperation

To develop and promote practical means of overcoming obstacles to U.S.-Russian cooperation on reducing threats from nuclear, biological and chemical weapons.
Russian Academy of Sciences
Moscow, Russia;
National Academy of Sciences
Washington, DC, USA
$200,000
2004–2006

U.S.-Russian Nonproliferation Working Group

To establish U.S.-Russian working relationships to reinvigorate the U.S. - Russian consensus on nonproliferation objectives and approaches and to create and identify shared interests and cooperative strategies for preventing the spread of nuclear, biological and chemical weapons.
Belfer Center for Science and International Affairs
John F. Kennedy School of Government
Harvard University
Cambridge, MA, USA
Up to $400,000
2005–2006

Cooperation on Counterterrorism

To initiate and expand a joint initiative between the U.S. National Academy of Sciences and the Russian Academy of Sciences with special focus on new efforts to collaborate on science and technology solutions for sustaining nuclear materials security cooperation and removing obstacles to U.S.-Russian threat reduction programs.
Russian Academy of Sciences
Moscow, Russia;
National Academy of Sciences
Washington, DC, USA
$857,000
2002–2006

Developing Multinational Fuel Services Approaches

To develop mechanisms that would guarantee cost-effective international nuclear fuel services in lieu of indigenous fuel production.
Carnegie Endowment for International Peace
Washington, DC, USA
$50,000
2005-2006

Universal Compliance: A Strategy for Nuclear Security

To support the creation and promotion of *Universal Compliance: A Strategy for Nuclear Security*, through initial meetings to develop the concept, the presentation of an internationally vetted document to the U.S. government and the promotion of the strategy in the run-up to the Nuclear Non-Proliferation Treaty Review Conference and beyond.
Carnegie Endowment for International Peace
Washington, DC, USA
$350,000
2004–2006

Promoting Adherence to International Legal Instruments That Enhance Protection Against Nuclear Terrorism

To support IAEA efforts to increase member states' awareness and ability to control, account for and protect nuclear and other radioactive materials from terrorists and to detect and respond to such incidents.
International Atomic Energy Agency
Vienna, Austria
$50,000
2005-2006

Cooperative Threat Reduction in East Asia

This project aims to build political support for cooperative threat reduction on the Korean peninsula, promote contacts between national technical communities likely to be involved in such programs, provide support for developing specific CTR activities, and use regional expertise to adapt existing CTR approaches to the Korean peninsula.
Center for Strategic and International Studies
Washington, DC, USA
$85,000
2006-2007

Concept Development Grant for Low Enriched Uranium (LEU) Fuel Reserve to be Owned and Managed by the International Atomic Energy Agency

To promote the creation of a low enriched uranium (LEU) fuel reserve, owned and managed by the International Atomic Energy Agency (IAEA), to limit the spread of fuel cycle technology. Should NTI win the necessary support for this concept, up to $50 million will be put toward the initial establishment of such a reserve, to include the first three years of storage costs, the IAEA's management and oversight costs, and the purchase of the initial LEU deposit. An LEU fuel reserve that is buffered from politically motivated disruptions of nuclear fuel supply will add a unique tool to current national and international efforts to significantly reduce the need for new enrichment facilities.
NTI and others
Washington, DC, USA
$108,000
2006

Analyzing the Technical and Political Impediments to Eliminating the Civil Use of HEU

To develop an analytical paper on the technical and political impediments to ending the use of HEU in civil commerce.
Council on Foreign Relations
Washington, DC, USA
$42,350
2005-2006

GENERATING NEW THINKING ON REDUCING NUCLEAR RISKS

Promoting Responsible Nuclear Stewardship in India

To promote responsible government policies and practices related to the safety and security of nuclear weapons and materials in India by developing educational materials for policymakers and facilitating meetings among nuclear experts in India and other nations.
Delhi Policy Group
New Delhi, India
$230,000
2003–2007

Deemphasizing the Role of Nuclear Weapons

To produce a report with practical proposals for removing U.S. and Russian nuclear weapons from Cold War nuclear postures and a follow-on report that explores options for the creation of a new multilateral arms control regime.
School for International Security and World Politics at the Institute of U.S.A. and Canada Studies
Moscow, Russia
$71,728
2004–2006

Ballistic Missile Defense and Nuclear Stability in Asia

To assess the impact of ballistic missile defense on the strategic interactions and stability among India, Pakistan, China and Taiwan.
Center for International Security and Cooperation
Stanford University
Palo Alto, CA, USA
$150,000
2005–2007

The Impact of Multi-Lateral Forensics on Nuclear Terrorism

To develop a paper addressing the impact of multi-lateral forensics on nuclear terrorism.
University of California – Goldman School of Public Policy
Berkeley, California, USA
$9,996
2006

International Atomic Energy Agency's Nobel Peace Prize Display

To support the creation of a permanent display for the Agency's Nobel Peace Prize that will highlight its support of world peace.
International Atomic Energy Agency
Vienna, Austria
$36,000
2006

BIOLOGICAL

THE NATURE OF THE THREAT

"IT DOESN'T MATTER WHETHER A DISEASE OUTBREAK IS NATURALLY OCCURRING OR CAUSED BY TERRORISTS – MAJOR HEALTH THREATS ARE ALSO SECURITY THREATS, AND THEY HAVE BEEN FOR AS LONG AS WE'VE RECORDED OUR HISTORY."

– NTI CO-CHAIRMAN SAM NUNN

The potential destructive power of biological weapons is enormous, yet the opportunity for access to dangerous pathogens can be fairly routine and inexpensive. Moreover, the knowledge and expertise to obtain or prepare bioweapons are increasingly available, and the potential for exploitation is embedded in the very scientific and technological advances that hold promise for improving health and preventing disease.

An attack with a bioweapon could produce an infectious disease epidemic that would sicken and kill large numbers of people and persist over a prolonged period as contagion spreads. Unlike other types of attack, there would likely be no recognizable event or immediate casualties, and no physical location where damage is concentrated.

In the absence of an announcement or a fortuitous discovery, authorities may remain unaware that a biological attack has happened until days or weeks have passed and victims begin to appear in physicians' offices and hospital emergency rooms.

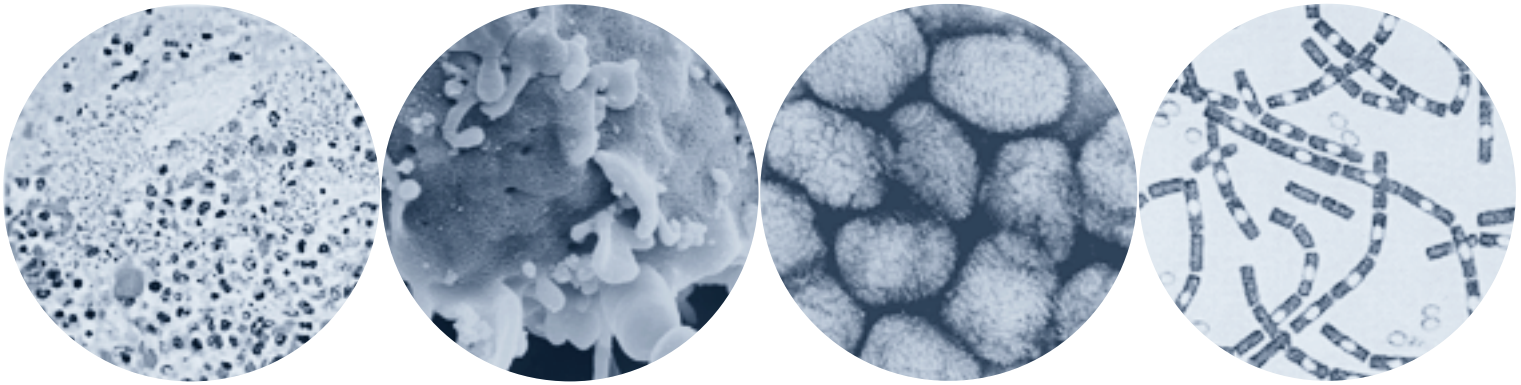
Biological weapons can inflict significant damage in small quantities and in the absence of sophisticated delivery mechanisms. Pathogens suitable for bioweapons can be concealed and transported, and many are found in nature, as well as in government, university and industry laboratories. Information about how to obtain and prepare bioweapons is increasingly available on the internet and in open scientific literature.

Moreover, bioweapons activities can be easily hidden within legitimate research laboratories or pharmaceutical sites. The idea of a "dual-use dilemma" has emerged because the same technologies and

materials that are used for research to benefit society can also be used by terrorists to make biological weapons.

Compared with nuclear and chemical threats, the strategic and analytic framework for addressing biological threats and the depth of expertise are much less developed.

The response to the biological threat — with its close links to naturally occurring infectious disease — requires a new thinking.



From left: plague, listeria, smallpox, and anthrax cultures. Experts worry that any of these could be used as an agent of bioterror.

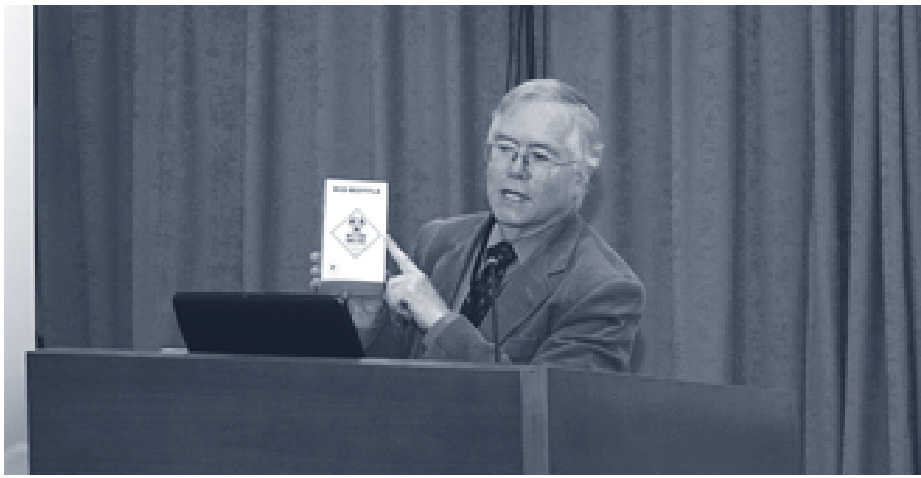
STRATEGIES FOR THREAT REDUCTION

The complexities of biological threats challenge traditional ways of thinking about prevention, deterrence, nonproliferation and response and require new thinking about how to define and implement enduring solutions.

Threats can emerge from many sources and involve human, plant and animal diseases. It is essential to develop strategies for action that do not imperil the advances in bioscience that we depend upon for progress in improving the health of the human condition.

One strategic fact is in our favor: many of the best steps for fighting infectious diseases are also steps needed to protect against bioterrorist attacks. Whether a disease is naturally occurring or intentionally caused, the essential elements of an effective response are to detect the outbreak, diagnose the disease, and take the right measures to treat it and contain it – immediately.

NTI's Global Health and Security Initiative has identified six critical challenges that are essential to increasing our security against biological threats – whether the threats are intentional or naturally occurring.



Dr. Barry Holmes of the UK Health Protection Agency speaks to a meeting convened by the International Council for the Life Sciences.

- Building a global disease surveillance, early detection and rapid response capability.
- Enacting measures to protect the food supply, both animals and agriculture.
- Supporting the research and development of new vaccines, antimicrobials, and rapid diagnostics.
- Promoting the safe and secure practice of the biomedical sciences by safeguarding access to dangerous pathogens and preventing the misuse of technology, information and advances in the life sciences.
- Strengthen intelligence gathering, data analysis, and sharing of information.
- Develop international standards for cooperative threat reduction.

STRENGTHENING GLOBAL DISEASE SURVEILLANCE, EARLY DETECTION AND RAPID RESPONSE

Effective global disease surveillance, early detection and response capabilities are the fundamental building blocks of preparedness against infectious disease threats — whether naturally occurring or resulting from bioterrorism. Surveillance and early detection involve gathering data and monitoring changes in disease incidents. Outbreak response involves acting upon this information by treating illness to prevent the further spread of disease.

NTI'S GLOBAL HEALTH AND SECURITY INITIATIVE IS FOCUSED ON WORKING IN TWO OF THESE CRITICAL AREAS: PROMOTING SCIENCE SECURITY AND STRENGTHENING GLOBAL DISEASE SURVEILLANCE, EARLY DETECTION AND RAPID RESPONSE.

Working with critical public health institutions, often in public-private partnerships, NTI has supported and fortified international efforts to enable rapid detection, investigation and early response to infectious disease outbreaks worldwide through the support and development of regional response networks. Working in two critical regions, the Middle East and Asia, NTI projects are serving as models for developing regional cooperation that can be replicated in other areas of the world.

The Middle East Consortium on Infectious Diseases (MECIDS) has brought public health leaders, academic institutions, and private health care facilities in Jordan, Israel, and the Palestinian Authority together, and they are now working collaboratively to prevent and reduce the risks posed by infectious diseases. NTI's Global Health and Security Initiative has also launched a new project, BRIDGES (Building Regional Infectious Disease Systems for Global Epidemiologic Surveillance) with partners in Asia, who have recent experience with infectious disease outbreaks such as SARS and avian influenza.

PROMOTING SCIENCE SECURITY

New advances in the life sciences have brought great benefits to human health. However, the same technologies and tools that fuel these advances can be misused to create biological weapons. Indeed, the rapid pace in biotechnology and the relative accessibility of new techniques and knowledge mean that development of a new generation of biological weapons is all too likely. Rapid developments in biotechnology could facilitate the creation of novel pathogens or entirely new classes of pathogens. Rendering disease agents resistant to antibiotics, more lethal, more contagious, less detectable, infectious to a greater host range, or more stable in an aerosol are all theoretically possible.

The spectacular pace of advances in biological sciences raises legitimate concerns that scientific advances will outpace our ability to make judgments about what should (or should not) be attempted. Moreover, the pace of scientific discovery outpaces governments' abilities to provide oversight of the research community.

NTI has shaped and supported a number of innovative projects that offer new insights into ways to prevent the misuse of life sciences for harm. NTI also is fostering an international discussion on strategies to guard against the destructive application of biological research and development while still supporting the open and constructive pursuit of valuable science. A highlight includes NTI's support for the creation of the International Council for the Life Sciences, now an independent, membership based organization, that is working with the life science community and governments to develop and promote global best practices, standards and training curricula for biosecurity and biosafety.

BIOLOGICAL PROJECTS ACTIVE IN 2006

PROMOTING SCIENCE SECURITY

Educating and Training the International Life Sciences Community on Dual-Use Dangers

To assess the best methods for educating and training life scientists about the risks of dual-use technologies and research and to cultivate a project for curriculum development in this area.
NTI
Washington, DC, USA
Up to $50,000
2005–2006

International Council for the Life Sciences

To support the creation and sustainability of a bioindustry standards organization, the International Council for the Life Sciences, to develop normative standards to reduce potential proliferation of dangerous pathogens and the misuse of technical information.
International Council for the Life Sciences
Washington, DC, USA
$397,150
2005-2006

An International Forum on Biosecurity

To create an International Forum on Biosecurity to engage scientists and policymakers around the world to reduce the risk that research in the biological sciences might be misused by terrorists.
National Academy of Sciences
Washington, DC, USA
$216,460
2004–2006

The Anti-Plague System of the Former Soviet Union: Assessing Proliferation Risk and Conversion Potential

To examine anti-plague systems in eight countries that were part of the former Soviet Union with respect to biosecurity and proliferation of biological agents, with the goal of improving disease surveillance and the security and safe handling of dangerous pathogens.
Monterey Institute of International Studies, Washington, DC, USA
M. Akimbaev Kazakh Center for Quarantine and Zoonotic Diseases
Almaty, Kazakhstan
$750,000
2003–2006

FSU Hepatitis Vaccine Manufacturing Feasibility Study

To test the possible commercial manufacture of vaccines at a proposed new production facility involving professionals previously engaged in biological weapons work.
State Research Center of Virology and Biotechnology (VECTOR) and the High Technology Foundation/Gorbachev Project
Novosibirsk, Russia
$250,000
2001-2006

Reducing the Likelihood of Leakage of Bioweapons-related Materials and Expertise

To present a five- to ten-year vision of a biological research and production environment in Russia that reduces the likelihood of the outflow of bioweapons related materials and expertise from Russian facilities to hostile states and terrorist groups.
National Academy of Sciences
Washington, DC, USA
(in partnership with the Russian Academy of Sciences,
Moscow, Russia)
$200,000
2002–2006

Integrating Scientists into the International Research Community

To further integrate former Soviet scientists into the international research community, by funding scientists from the former Soviet bioweapons program to attend a variety of highly respected research conferences that bring together top scientists to present and discuss cutting-edge scientific research and ideas.
Gordon Research Conferences
West Kingston, RI, USA
$80,000
2001–2006

AAAS-NTI Fellowship in Global Security

To strengthen scientific expertise in national security policymaking and encourage scientists to pursue careers in this arena, by supporting biomedical/public health experts to work on national security issues in the U.S. government through a one-year fellowship.
American Association for the Advancement of Science
Washington, DC, USA
$1,261,763
2001–2007

Brucellosis Vaccine Research

To develop a new vaccine to contribute to the management of this disease that threatens domestic and wild animal populations around the world while employing former Soviet bioweapons scientists.
All-Russian Research Veterinary Institute
Kazan, Russia;
International Science and Technology Center
Moscow, Russia (in conjunction with the U.S. Department of State)
$600,000
2003–2006

Employing Former Bioweapons Scientists in Russia to Manufacture Diagnostic Enzymes for Endemic Infectious Disease Threats

To support the establishment of a laboratory for the production of enzymes used in the diagnosis of endemic infectious disease threats. The laboratory will employ former bioweapons scientists who are at imminent risk of unemployment owing to proposed closure of the newly formed State Research Center for Applied Microbiology (SRCAM) at Obolensk, Moscow Region.
SRCAM
Obolensk, Moscow Region, Russia
$400,000
2005-2007

Joint Training on Laboratory Biosecurity and Biosafety in Egypt

To convene a workshop to raise awareness of the threat of bioterrorism and the need for safe and secure handling of dangerous biological materials in bioscience facilities.
Academy of Scientific Research and Technology
Cairo, Egypt
$70,000
2006-2007

STRENGTHENING GLOBAL DISEASE SURVEILLANCE, EARLY DETECTION AND RAPID RESPONSE

Rapid Outbreak Response Revolving Fund

To create within the World Health Organization an account dedicated to supporting rapid emergency response to infectious disease outbreaks.
World Health Organization
Geneva, Switzerland
$500,000
2003–2006

Developing Diagnostic Kits for Select Biological Agents

To develop rapid diagnostic tests for select biological agents of most significance to Russia, to introduce them to healthcare practices and to organize manufacturing of such tests. Once developed, these tests could help fill a critical global need for better diagnostic tests for the detection of infectious diseases.
Moscow State Central Research Institute for Epidemiology of the Health Ministry of Russia
Moscow, Russia
$300,000
2005–2008

Development of a National Action Plan for a Disease Surveillance System in Pakistan

To develop a disease surveillance system in Pakistan that will link with other countries in the region, such as India, to ensure the capability of a joint response to potential biological threats.
National Disease Surveillance Project, Ministry of Health, Islamabad, Pakistan
$50,000
2005–2006

International Organizations Bioterrorism Tabletop Exercise

To convene and host a tabletop exercise in 2006 for senior leaders from international organizations. During the exercise, critical issues related to cooperation and coordination in the event of an act of bioterrorism will be discussed with a goal of facilitating enhanced interagency and intersectoral coordination and collaboration.
Applied Marine Technology, Inc.
Virginia Beach, VA, USA
$52,300
2005–2006

Model Disease Surveillance System in Iran

To support policy collaborations between American specialists at the Policy and Global Affairs Division of the National Research Council (NRC), acting on behalf of the National Academy of Sciences, and Iranian specialists at the Iranian Academy of Sciences, in their work to develop a model program of disease surveillance in Iran.
National Academy of Sciences
Washington, DC, USA
$50,000
2005–2007

Public Health Preparedness: State of Georgia Planning and Practice Model

To improve bioterrorism preparedness by assessing the preparedness of Georgia's public health and emergency response systems through a series of site visits and tabletop exercises to be conducted at the state and local levels; refining training and assessment materials, including template exercises, for use in other states; and providing joint terrorism-related training for state and local security and health agencies.
RAND Corporation, Arlington, VA, USA; State of Georgia; Emory University, Atlanta, GA, USA
$287,500
2004–2006

Improving Biological Threat Detection and Surveillance in Russia

To engage experts from the animal and human health systems in Russia to determine a comprehensive strategy for upgrading and integrating their infectious disease surveillance systems.
NTI and others
Washington, DC, USA
$75,000
2006-2007

Middle East Consortium on Infectious Disease Surveillance

To improve regional capacity for infectious disease surveillance in the Middle East by developing a food-borne and waterborne disease surveillance system uniting Israel, the Palestinian Authority and Jordan and by designing an infectious disease epidemiology course to build regional rapid response capabilities in the event of disease outbreaks.
Search for Common Ground
Washington, DC, USA and others
$1,828,000
2002–2007

Strengthening National Health Preparedness

To assess preparedness for biological and chemical attacks in several nations by establishing and testing a set of international guidelines for preparedness, comparing them against existing public health capabilities that states have in place and making recommendations for improving those capabilities.
World Health Organization
Geneva, Switzerland
$400,000
2004–2007

Building Capacity for Regional Bioterrorism Preparedness in Asia

To support an online symposium on bioterrorism preparedness for interested Asia Pacific Economic Cooperation (APEC) member countries.
International Institute for Strategic Studies, University of Washington
Seattle, WA, USA
$49,771
2005–2006

Biological Weapons Threat Reduction Expanding Outbreak Reporting and Education in the New Independent States

To reduce the threat of biological weapons and other emerging infectious diseases in the new independent states, the International Society for Infectious Diseases will expand the scope of a Russian language–based electronic network (PROMED) that rapidly disseminates information about outbreaks of infectious diseases, including potential biological weapons attacks, to include more physicians, scientists and public health officials throughout the new independent states.
International Society for Infectious Diseases
Brookline, MA, USA
$320,475
2005–2008

Creating a Regional Disease Surveillance System in South Asia

This project builds on NTI's experience developing a regional disease surveillance network in the Middle East with Jordan, Israel, and the Palestinian Authority, to create a regional disease surveillance network.
NTI
Washington, DC, USA
Up to $275,000
2005–2007

Pandemic Influenza Simulation Exercises in Southeast Asia

To strengthen national and sub-regional disease surveillance capacity in the Mekong Basin area (Thailand, Vietnam, Cambodia, Laos, Myanmar, and China-Yunnan province) and develop a system that operates across borders, responds quickly to regional disease threats, and works to create equity in the national capacities to detect and respond to local outbreaks.
NTI and others
Washington, DC, USA
$659,912
2006-2007

CHEMICAL

THE NATURE OF THE THREAT

When properly distributed, minute quantities of chemical weapons, such as sarin and mustard gas, can sicken and kill. With the entry into force of the Chemical Weapons Convention in 1997, nations agreed to destroy existing chemical weapons stocks and forgo research and acquisition of such weapons in the future. At the time, 26 nations had declared they had or were suspected of having chemical weapons programs.

Together the United States and Russia have more than 90 percent of the 71,000 metric ton total declared global stockpile of chemical agents, but less than one-fifth of that material has been verifiably destroyed since 1997. The sudden collapse of the Soviet Union in the early 1990s resulted in a vulnerable supply of weapons, equipment and know-how.

In addition to the known supply, there are chemical weapons caches around the world that are unaccounted for and may be poorly secured. Separately, there are more than 6,000 commercial chemical facilities that use, produce or store toxic materials that could be deadly if released into the atmosphere. Many of these facilities are located near densely populated areas and remain vulnerable to a terrorist attack.

Inadequately secured chemical weapons stockpiles and commercial facilities are a weak link in the chain of global security that could readily be exploited by terrorists, with deadly results. Securing and dismantling chemical weapons and redirecting production capabilities will reduce the likelihood that terrorists will acquire and use them.

STRATEGIES FOR THREAT REDUCTION

SECURING AND DESTROYING CHEMICAL WEAPONS STOCKPILES

NTI is encouraging regional and global cooperation and investment in stockpile security and destruction, and redirection of know-how and infrastructure to peaceful pursuits through its support of the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. Russia has identified chemical weapons destruction as one of its highest priorities for cooperation under the Global Partnership, and Global Partnership nations are contributing to chemical weapons destruction projects in Russia.

NTI is also helping facilitate the destruction of chemical weapons in Russia. Russia has more than 40,000 metric tons of chemical weapons, mostly modern nerve agents, at seven sites in the west of the country.

The Shchuch'ye chemical weapons destruction facility is the top priority, with more than 1.9 million artillery shells filled with the nerve agents sarin, soman and VX sitting in dilapidated buildings. If dispersed to maximum efficiency, that's enough material to kill tens of millions of people.

Russia has agreed to destroy these weapons but it will take an international effort to build the destruction facilities and infrastructure necessary to accomplish this. To help spotlight this danger and bring international resources to Russia, NTI issued a $1 million challenge grant conditioned on being matched by a minimum of $2 million in new contributions.

Following this challenge, NTI and the Government of Canada signed a Contribution Agreement under which NTI committed to provide $1 million toward construction of an 11-mile bridge and railway to safely and securely transport the chemical munitions from the current chemical weapons storage depot near Planovy to the destruction facility. Canada is contributing up to $28 million for this purpose through a Canada-United Kingdom agreement.

This infrastructure project is a model for the kind of international cooperation that is essential for reducing the global threats from nuclear, biological and chemical weapons.

CHEMICAL PROJECTS ACTIVE IN 2006

Supporting Russian Chemical Weapons Destruction

To provide $1 million, matched by a minimum of $2 million from other sources, for high-priority infrastructure development for the Shchuch'ye Chemical Weapons Destruction Facility.

Global Partnership Program
Canada Department of Foreign Affairs and International Trade
Ottawa, Canada
$1,000,000
2001-2006

COMMUNICATIONS

TURNING THE **D** INTO AN **A**

In 2005, members of the Board of the nonprofit organization Families of September 11 approached NTI to suggest working together to help raise public awareness about the threat posed by weapons of mass destruction. They saw a natural link between NTI's public education and outreach mission and their own commitment to educate and raise awareness about the effects of terrorism and public trauma and to champion domestic and international policies that prevent, protect against and respond to terrorist attacks.

THE "TURNING THE D INTO AN A" PROJECT WILL CONTINUE THROUGHOUT 2007 WITH A PARTICULAR EMPHASIS ON COMMUNITY OUTREACH AND SCREENINGS.

The result is "Turning the D into an A", a public awareness project focused on reducing the threat of nuclear terrorism and the urgent need to lock down nuclear weapons and materials around the world. The 9/11 Commission had recommended an all out effort to secure weapons of mass destruction, but in its final report card in late 2005 gave the government a "D" for its progress so far.

Through television public service announcements, outreach to faculty and students at American university and college campuses and community screenings of *Last Best Chance*, (the film NTI produced to demonstrate the risk posed by inadequately secured nuclear materials around the world), NTI and Families of September 11 are working to both educate the public and encourage them to get personally involved in the issue.

The campaign was publicly launched in September 2006 and is off to a strong start: more than 200 international relations and security studies professors receiving educational materials appropriate for use in the classroom, numerous screenings have been held in communities across the country. The public service television ads have been broadcast more than one thousand times in more than 20 states and the project website, www.saferworld.org, is serving as a focal point for the effort, allowing people to show their support and giving them a way to contact their

elected leaders and ask them to get more involved in accelerating the pace of work to secure nuclear weapons and materials

NTI Co-Chairman Sam Nunn discusses NTI's fuel bank proposal with reporters at the IAEA headquarters in Vienna, Austria.

COMMUNICATIONS PROGRAM

NTI's public awareness projects are reducing the global threats from nuclear, biological and chemical weapons by shining a spotlight on the tremendous gap between the threats and the global response, focusing attention on what can be done to reduce those threats and catalyzing greater action to reduce them. Since a concerned, informed, attentive public can be a powerful force for holding governments accountable and spurring greater action, public outreach and education continues to be an important part of NTI's mission.

NTI's communications work seeks to:

- Increase the quality and accessibility of information about the threats from nuclear, biological and chemical weapons and what must be done to reduce those threats;
- Support new thinking and the development of new expertise to reduce the risk of use and prevent the spread of nuclear, biological and chemical weapons; and
- Promote dialogue and common ground solutions to reduce imminent global dangers and take these issues beyond the small group of policymakers and experts who work on them and into the mainstream public policy debate.

RELIGIOUS COMMUNITY OUTREACH

NTI supported the Fourth Freedom Forum's Faithful Security activities in a pilot project aimed at stimulating discussion among members of religious communities about nuclear threats and how to reduce them. The goal was to create localized networks of awareness of nuclear dangers and civic involvement in religious communities. The organizers used screenings of the NTI-produced docudrama, *Last Best Chance*, as a starting point for the discussion.

Working in just two states, Nebraska and Pennsylvania, the organizers achieved some impressive results over a six month period.

More than 100 clergy and laity in both Pennsylvania and Nebraska agreed to host screenings of *Last Best Chance* and more than 80 religious organizations in Pennsylvania and more than 50 in Nebraska were involved in a screening event. Nationally known figures,

including Senator Chuck Hagel and Dr. Tony Campolo, participated in some of these events.

In addition to the screenings, more than 10,000 people of faith in both states were reached through mailings or the Faithful Security website.

This pilot project reinforces NTI's commitment to engage new, thoughtful and authoritative voices in the effort to accelerate work to secure nuclear weapons and materials throughout the world.

WWW.NTI.ORG

NTI's website is more than a brochure about the organization, it is an essential educational resource and research tool for anyone wishing to understand the global threats posed by nuclear, biological and chemical weapons, terrorism and related issues.

Working with National Journal Group, the Center for Nonproliferation Studies at the Monterey Institute of International Studies and others, nti.org offers authoritative, factual information for experts or for those new to the subject. Millions of people have used the website, with visitors coming from more than 150 countries, including policymakers, the media and the public.

HIGHLIGHTS OF WWW.NTI.ORG

- *Global Security Newswire* is a free, daily news service covering global developments on nuclear, biological and chemical weapons, terrorism and related issues. In addition to offering a comprehensive survey of the day's news from around the world, *Global Security Newswire* provides original news coverage, including in-depth interviews and special reports. **www.nti.org/gsn**
- *Issue Briefs* that offer a short introduction and in-depth analysis on a wide range of international security issues, including topics such as "Developments in Biosciences: Do Recent Scientific and Technological Advances Lower the Threshold for the Proliferation of Biological Weapons?" and "Brazil's Nuclear Ambitions, Past and Present." **www.nti.org/issuebriefs**
- *Country Profiles* with information on nuclear, biological and chemical weapons and missile programs for more than 30 countries. **www.nti.org/countries**
- *Self-Guided Tutorials* on Biological Warfare Terrorism, the Nuclear Non-Proliferation Treaty, Chemical Warfare Terrorism, Nuclear Terrorism and Radiological Terrorism. **www.nti.org/tutorials**
- *Nonproliferation Databases* with the world's most comprehensive, open-source information containing current and archived material from a wide range of sources including academic

and trade journals, government and defense publications, periodicals and electronic news sources, U.S. Congressional testimony, conference proceedings, books, UN and International Atomic Energy Agency (IAEA) documents, correspondence from international advisors, unpublished papers and internet sources. **www.nti.org/db**

The website is a gateway to the best information on the web about nuclear, biological and chemical weapons. It is updated daily with new information and resources. Bookmark the site at **www.nti.org.**

Get the facts. Get informed. Get involved. WWW.NTI.ORG

LAST BEST CHANCE

Last Best Chance is a 45-minute film that NTI produced to raise awareness about the threats from unsecured nuclear weapons and materials around the world.

Starring former Senator Fred Thompson as the United States President, the film is a wake-up call to secure and destroy nuclear weapons and materials before it is too late. The film has been shown in hundreds of community screenings and discussions and is being used to motivate and train those responsible for preventing nuclear terrorism, including by the U.S. Department of Homeland Security.

Host a screening of *Last Best Chance* in your community. Copies of the film are available online at www.lastbestchance.org. To date, more than 125,000 orders for the film have been received from people in more than 100 countries.

COMMUNICATIONS PROJECTS ACTIVE IN 2006

Global Security Newswire
To support a one-stop global newsstand – available exclusively on the NTI website – with original reporting and a comprehensive snapshot of the day's global news on nuclear, biological and chemical weapons, terrorism and missile issues.
National Journal Group, Inc.
Washington, DC, USA
$2,524,978
2004–2007

Global Health and Security Outreach
To develop and implement outreach activities to advance the agenda and activities of NTI's Global Health and Security Initiative.
NTI
Washington, DC, USA
Up to $75,000
2005–2007

Research and Analysis
To conduct research and analysis to support NTI projects and activities.
Monterey Institute of International Studies Center for Nonproliferation Studies
Monterey, CA, USA
$155,885
2004-2006

Online Research Center and Library
To build, expand and update a comprehensive online research library with information, analysis and educational materials about the threats from nuclear, biological and chemical weapons. The library builds on the most comprehensive open-source nonproliferation databases in the world and brings together a range of expert opinion and analysis on these issues.
Monterey Institute of International Studies Center for Nonproliferation Studies
Monterey, CA, USA
$1,970,488
2004–2007

Last Best Chance– Public Education on Nuclear Threats
To produce and distribute a fact-based fictional film that illustrates the threat of nuclear terrorism. The film highlights the threats and what should be done to address them, and reminds viewers of the real human, political and economic costs of a nuclear terrorism incident.
NTI (in conjunction with the Carnegie Corporation of New York and The John D. and Catherine T. MacArthur Foundation)
Washington, DC, USA
Up to $1,000,000
2004–2006

South Asian Security and WMD Website Module
To continue a weapons of mass destruction module on the Institute of Peace and Conflict Studies website that draws from South Asian, Chinese and Central Asian sources and provides comprehensive news analysis and reference materials relating to nuclear, chemical and biological weapons and to support research, workshops and publications on nonproliferation and nuclear, biological and chemical threats.
Institute of Peace and Conflict Studies
New Delhi, India
$334,800
2004–2008

Tracking Global Efforts to Improve Nuclear Security
To track the progress and budgets of global nuclear security programs with an annual report and website and make recommendations for accelerating the pace and effectiveness of this threat reduction work.
Project on Managing the Atom,
Belfer Center for Science and International Affairs
John F. Kennedy School of Government
Harvard University
Cambridge, MA, USA
$959,930
2004–2008

Safer World Action Network
To engage and expand the network of individuals interested in efforts to reduce the threats from nuclear, biological and chemical weapons and materials with the goal of inspiring individuals to become personally involved in efforts to expand and accelerate the pace of work to reduce these threats.
NTI
Washington, DC, USA
Up to $500,000
2005–2006

Public Opinion Project
To conduct public opinion research on the threats from weapons of mass destruction.
NTI
Washington, DC, USA
$339,500
2002–2006

Religious Community Outreach Pilot Project
To support the Fourth Freedom Forum and the Inter-religious Network in holding more than 100 *Last Best Chance* screenings and nuclear dangers discussion groups in two states, Nebraska and Pennsylvania.
Fourth Freedom Forum
Goshen, Indiana, and Washington, DC,USA
$50,000
2005–2006

Collaborative Education and Cooperative Security: A Joint Curriculum Project on Reducing the Nuclear Threat
To bring together Russian and American security experts to develop joint course materials that compare current nuclear security issues with the Cold War experience and explore new cooperative security arrangements to move from deterrence to reassurance.
School for International Security and World Politics at the Institute of U.S.A. and Canada Studies in Moscow, Moscow, Russia;
Center for International and Security Studies, School of Public Affairs, University of Maryland
College Park, MD, USA
$735,178
2001–2006

Public Education Project: Turning the "D" into an "A"
To support NTI and Families of September 11 in raising public awareness about nuclear dangers throughout the United States. Activities include organizing screenings and discussions about the film *Last Best Chance*, television public service announcements and distributing educational materials that can be used in university courses to professors across the country.
NTI
Washington, DC, USA
$300,000
2006-2007

THE BOARD OF DIRECTORS

Not Shown: U.S. Senator Pete V. Domenici, General Eugene E. Habiger and Dr. Andrei Kokoshin (retired from Board of Directors March 2007)

TED TURNER

Ted Turner is Co-Chairman of the Nuclear Threat Initiative, a charitable organization working to reduce the global threats from nuclear, biological and chemical weapons. Mr. Turner founded NTI when he realized that several years after the end of the Cold War, the United States and Russia still had thousands of nuclear weapons on hair-trigger alert, that global nuclear threats were in some ways growing worse and that governments were not moving quickly enough to address these threats.

Mr. Turner is the founder of CNN - the world's first live, in-depth, round-the-clock news television network. Whether in billboard advertisement, cable television, sailing, environmental initiatives or philanthropy, Mr. Turner's vision and determination have resulted in bold, big achievements.

Mr. Turner is the founder of the United Nations Foundation, which manages his historic $1 billion gift to support the United Nations' work in addressing the world's most pressing problems; Chairman of the Turner Foundation, his family's private grant-making organization that focuses on population and the environment; and a partner in the successful Ted's Montana Grill restaurant chain, which operates more than 40 locations nationwide. He is also Chairman of Turner Enterprises, Inc. (TEI), which manages private landholdings in an economically sustainable and ecologically sensitive manner, while promoting the conservation of native species.

Mr. Turner is the recipient of numerous honorary degrees, industry awards and civic honors, including being named *Time* magazine's 1991 Man of the Year and *Broadcasting and Cable Magazine's* Man of the Century in 1999.

SENATOR SAM NUNN

Former U.S. Senator Sam Nunn is Co-Chairman and Chief Executive Officer of the Nuclear Threat Initiative, a charitable organization working to reduce the global threats from nuclear, biological and chemical weapons. He served as a United States Senator from Georgia for 24 years, from 1972-1996.

Senator Nunn attended Georgia Tech, Emory University and Emory Law School, where he graduated with honors in 1962. After active duty service in the U.S. Coast Guard, he served six years in the U.S. Coast Guard Reserve. He first entered politics as a Member of the Georgia House of Representatives in 1968.

During his tenure in the U.S. Senate, Senator Nunn served as Chairman of the Senate Armed Services Committee and the Permanent Subcommittee on Investigations. He also served on the Intelligence and Small Business Committees. His legislative achievements include the landmark Department of Defense Reorganization Act, drafted with the late Senator Barry Goldwater, and the Nunn-Lugar Cooperative Threat Reduction Program, which provides assistance to Russia and the former Soviet republics for securing and destroying their excess nuclear, biological and chemical weapons.

In addition to his work with NTI, Senator Nunn has continued his service in the public policy arena as a distinguished professor in the Sam Nunn School of International Affairs at Georgia Tech and as chairman of the board of the Center for Strategic and International Studies in Washington, DC.

CHARLES B. CURTIS

Charles B. Curtis is the President and Chief Operating Officer of the Nuclear Threat Initiative.

Before joining NTI, Mr. Curtis served as the Executive Vice President and Chief Operating Officer of the United Nations Foundation (UNF) and was a partner in Hogan & Hartson, a Washington based law firm with domestic and international offices.

Mr. Curtis served as Under Secretary and, later, Deputy Secretary of the U.S. Department of Energy from February 1994 to May 1997. He was Chief Operating Officer of the Department and, among other duties, had direct programmatic responsibility for all of the Department's energy, science, technology and national security programs.

Mr. Curtis is a lawyer with over 15 years' practice experience and more than 18 years in government service. He was a founding partner of the Washington law firm Van Ness Feldman. Mr. Curtis served as Chairman of the Federal Energy Regulatory Commission from 1977 to 1981 and has held positions on the staff of the U.S. House of Representatives, the U.S. Treasury Department, and the Securities and Exchange Commission. He is a current member of the Council on Foreign Relations.

SENATOR PETE DOMENICI

U.S. Senator Pete V. Domenici (R-New Mexico) is a strong proponent of creating and sustaining programs focused on reducing the threats from weapons of mass destruction.

As the Ranking Republican of the Senate Energy and Natural Resources Committee and the Senate Energy and Water Development Appropriations Subcommittee, he has promoted legislation to bolster U.S. efforts to prevent the proliferation of nuclear weapons and the components to build such weapons. He has worked in support of the evolving mission of the U.S. national laboratories and other high-technology research facilities.

Senator Domenici supports greater U.S. energy independence, encouraging the development of the domestic oil and natural gas industries, while calling for a reduction in the country's reliance on foreign sources of energy. He has led national efforts to assure that nuclear energy, which now provides over one-fifth of our nation's electricity, remains a strong option for clean, reliable production. A 25-year veteran of the Senate Budget Committee, Senator Domenici is also recognized as one of the nation's foremost experts on the federal budget. In December, he was awarded the French Nuclear Energy Society's Grande Medaille de l'Academie des Sciences, the most prestigious award offered by the society.

SUSAN EISENHOWER

Susan Eisenhower, President of the Eisenhower Group, is best known for her work on U.S.-Russian relations and international security issues. She is

a Distinguished Fellow of the Eisenhower Institute, where she served as both President and Chairman.

In the spring of 2000, Ms. Eisenhower was appointed by the U.S. Secretary of Energy to a blue ribbon task force, the Baker-Cutler Commission, to evaluate U.S.-funded nonproliferation programs in Russia, and since that time she has also served as an advisor to another U.S. Energy Department study. She also serves as an Academic Fellow of the International Peace and Security program of the Carnegie Corporation of New York. Ms. Eisenhower has received three honorary doctorates and a number of other awards for her work in U.S.-Russian relations.

Ms. Eisenhower has spent more than 20 years of her career on foreign policy issues, though she came to the field from the business community. A onetime consultant to IBM, American Express and Loral Space Systems, she was appointed in 1998 to the National Academy of Sciences' standing committee on international security and arms control.

Ms. Eisenhower is an author of two bestseller books, *Breaking Free* and *Mrs. Ike*. She has edited three collected volumes on regional security issues and written hundreds of op-eds and articles for major newspapers and other national publications. In addition to her membership on NTI's board, Ms. Eisenhower serves on a number of boards of corporations, private foundations and educational institutions.

AMBASSADOR ROLF EKEUS

Since 2001, Ambassador Rolf Ekeus has served as High Commissioner on National Minorities for the Organization for Security and Cooperation

in Europe. He is also Chairman of the Board of the Stockholm International Peace Research Institute. He has held a number of diplomatic posts, including Swedish Ambassador to the United States from 1997 to 2000 and head of the United Nations Special Commission on Iraq.

In October 2000, the Swedish government appointed him as a special commissioner and asked him to carry out two delicate investigations. One was to analyze and assess Sweden's security policy during the Cold War. The second was to investigate the political and military handling of foreign submarine intrusions into Swedish territorial waters from 1980 until the present.

Ambassador Ekeus has spent the last two decades working on international nonproliferation issues. From 1991 to 1997 he served as Executive Chairman of the United Nations Special Commission on Iraq. In that post, he was responsible for work to eliminate the Iraqi infrastructure for nuclear and other weapons of mass destruction. He also served as Ambassador and Head of the Swedish delegation to the Conference on Security and Cooperation in Europe and as Chairman on the Chemical Weapons Convention. He was a Member of the Advisory Board on Disarmament of the Secretary-General of the United Nations, the Canberra Commission on Nuclear Weapons and the Tokyo Forum on Disarmament.

His work in this field was recognized with the Waterler Peace Price from the Carnegie Foundation in 1997.

GENERAL EUGENE E. HABIGER

General Eugene E. Habiger (U.S. Air Force, Retired) has more than 35 years of experience in national security and nuclear operations. In his previous

assignment as the Commander in Chief of United States Strategic Command, he was responsible for all U.S. Air Force and U.S. Navy strategic nuclear forces supporting the national security strategy of strategic deterrence. In this position, he established an unprecedented military-to-military relationship with his Russian counterparts, which resulted in extraordinary confidence building and openness. This initiative was the centerpiece of a 60 Minutes II segment in February 2000 and a CNN special in October 2000.

General Habiger is a Distinguished Fellow and Policy Adviser with the University of Georgia's Center for International Trade and Security where he assists with the Center's international programs aimed at preventing weapons proliferation and reducing nuclear dangers.

Prior to joining the Center, General Habiger was the President/CEO of the San Antonio Water System, where he was responsible for the general operations of the System along with the strategic long-range business and water resources planning for the ninth largest city in the United States. He also worked as the Department of Energy's Director of Security and Emergency Operations. As the Department's "Security Czar", he was charged by the Secretary with changing the security culture at the Energy Department and establishing a program to reenergize and restore confidence in the Department's Security Program.

He is a command pilot with more than 5,000 flying hours, primarily in bomber aircraft. During the Vietnam War, he flew 150 combat missions.

He is also the Chairman of the Board of the Armed Services YMCA, serves on the Fisher House Foundation of San Antonio and is a Senior Fellow with the Gorbechev Foundation.

HRH PRINCE EL HASSAN BIN TALAL

A pluralist, believing in consensus and respect for others, His Royal Highness Prince El Hassan bin Talal works to build societies in which

all groups of people can live, work and function in freedom and with dignity. He recognizes that stability and security are predicated on ensuring that a universal standard exists for protecting individuals' basic rights and well-being. In this context, he has worked to raise the voice of the "silenced majority", to build solidarity and civic affinity, and to promote democracy, pluralism and transparency through such initiatives as Voices from Asia and the Middle East Citizens' Assembly. He is also involved in humanitarian and interfaith issues, with a particular emphasis on the human dimension of conflicts.

His Royal Highness has initiated, founded and is actively involved in a number of Jordanian and international institutes and committees. He co-chaired the Independent Commission on International Humanitarian Issues in 1983, and is currently President and Patron of the Arab Thought Forum, President of the Club of Rome and President Emeritus of the World Conference on Religion and Peace.

His Royal Highness is the author of seven books: *A Study on Jerusalem* (1979); *Palestinian Self-Determination* (1981); *Search for Peace* (1984); *Christianity in the Arab World* (1994); *Continuity, Innovation and Change: Selected Essays* (2001); *In Memory of Faisal I: The Iraqi Question* (2003); and joint author of *To Be a Muslim* in the Italian and French languages (2001).

DR. ANDREI KOKOSHIN

Dr. Andrei Kokoshin* is a scientist, scholar and author and is a Member of the State Duma of the Russian Federation.

Between 1992 and 1997, Dr. Kokoshin served as First Deputy Minister of Defense of the Russian Federation and as State Secretary. From 1997 to 1998, Dr. Kokoshin was Secretary of Defense Council and Chief Military Inspector and then became Secretary of Russia's Security Council.

In 2003 he was elected to the post of Chairman of the State Duma's Committee for the Commonwealth of Independent States' Affairs and Relations with Compatriots. That same year he became Dean of the School of the World Politics at Moscow Lomonosov's University (MGU). Dr. Kokoshin is also a member of the Scientific Advisory Council of the Institute for International Studies at Stanford University.

Dr. Kokoshin holds an engineering degree in radioelectronics from Moscow Higher Technical School and a doctorate in political science. He is the author of 18 books on international security, political-military affairs and industrial policy of Russia.

* Retired from Board of Directors in March 2007.

PIERRE LELLOUCHE

Pierre Lellouche has been a member of the French National Assembly since 1993 and was recently elected President of the NATO Parliamentary Assembly. He is the National Secretary of his party (in charge of Defense), the Union Mouvement Populaire (UMP), and a practicing attorney with Clyde and Co., Paris.

From 1989 to 1995, he was Diplomatic Advisor to French President Jacques Chirac, and he has held a number of positions in his party on foreign affairs and defense issues.

Previously, Pierre Lellouche was a Co-founder and Deputy Director of the French Institute for International Affairs (IFRI). He has taught and published widely on political-military affairs, including serving as a columnist for *Le Point* and *Newsweek*.

He is a vice chairman of the Atlantic Partnership and a member of the Trilateral Commission and the Council of the International Institute for Strategic Studies. Mr. Lellouche also serves as a Member of the Board of Directors of the Foundation du Futur, and as a member of the editorial board of the *European Journal of International Affairs* and *Journal of Arms Control and Security Studies*.

Pierre Lellouche is the author of several books including: *Illusions Gauloises* (2006), *Le Nouveau Monde* (1992), *La Republique Immobile* (1998) and *La France et les Bombes* (2000). He was educated in Paris and at Harvard Law School, where he earned his masters and doctorate degrees.

SENATOR RICHARD G. LUGAR

U.S. Senator Richard G. Lugar (R-Indiana) is the Ranking Republican of the Senate Foreign Relations Committee and a well-known leader in international security issues. A proponent of free trade and economic growth, Senator Lugar was elected to the U.S. Senate in 1976 and won a sixth term in 2006 with 87 percent of the vote.

Senator Lugar has been instrumental in Senate ratification of treaties that reduce the world's use, production and stockpiling of nuclear, chemical and biological weapons. In 1991, he forged a bipartisan partnership with then-Senate Armed Services Chairman Sam Nunn to create a cooperative program to destroy weapons of mass destruction in the former Soviet Union. To date, the Nunn-Lugar program has deactivated more than 7,000 nuclear warheads that were once aimed at the United States.

As chairman of the Agriculture Committee, Senator Lugar built bipartisan support for 1996 federal farm program reforms, ending 1930s-era federal production controls. He initiated a biofuels research program to help decrease U.S. dependency on foreign oil and led initiatives to streamline the U.S. Department of Agriculture, reform the food stamp program and preserve the federal school lunch program.

Combining his experiences on the Foreign Relations and Agriculture Committees and recognizing that energy security impacts every aspect of life in the United States, from the cars we drive and how much we pay at the gas pump to our vulnerability to foreign terrorism and our relationships with other countries, Senator Lugar has launched the Lugar Energy Initiative.

Senator Lugar has received numerous awards and 40 honorary degrees. In 2006, Time magazine listed Lugar as one of the top 10 Senators. He manages his family's 604-acre Marion County corn, soybean and tree farm. Before entering public life, he helped run the family's food machinery manufacturing business in Indianapolis.

COMMISSIONER VLADIMIR LUKIN

Vladimir Lukin* is the Human Rights Commissioner of the Russian Federation and former Russian Ambassador to the United States. He previously served as the Deputy Chairman of the Russian Duma and as Chairman of the Duma's Foreign Affairs Committee.

Born in the Siberian city of Omsk, Commissioner Lukin is a long-time specialist in U.S.-Soviet/Russian strategic arms control issues. He is a graduate of the Moscow Pedagogical Institute and received his PhD in History from the Institute of the World Economy and International Relations of the USSR Academy of Sciences. Commissioner Lukin was a member of the Editorial Board of the international journal *World Review* in Prague but was recalled to the USSR in 1968 for protesting the Soviet invasion of Czechoslovakia.

From 1969 to 1987, Commissioner Lukin was a Research Fellow at the Institute of U.S. and Canadian Studies of the USSR Academy of Sciences. He then served in the USSR Foreign Ministry as a Deputy Head of the Foreign Policy Analysis and Prognosis Department until 1990 when he was elected as a People's Deputy of the Supreme Soviet of the Russian Socialist Federal Soviet Republic (RSFSR). There he served as a chairman of the Supreme Soviet Committee on International Affairs and Foreign Economic Relations.

Commissioner Lukin is the author of books and numerous articles on various issues of international relations and Russian foreign policy. He speaks French, Spanish and English and is married with two sons.

* Retired from Board of Directors in March 2007.

DR. JESSICA TUCHMAN MATHEWS

Dr. Jessica Tuchman Mathews is President of the Carnegie Endowment for International Peace, an international research organization with offices

in Washington, DC, Moscow, Beijing, Beirut and Brussels. Dr. Mathews, who holds a PhD in molecular biology, has held positions in the executive and legislative branches, in management and research in the nonprofit arena and in journalism.

She was a Senior Fellow at the Council on Foreign Relations from 1993 to 1997 and served as Director of the Council's Washington program. During that time her *Foreign Affairs* article, "Power Shift", was chosen by the editors as one of the most influential in the journal's 75 years.

From 1982 to 1993, Dr. Mathews was founding Vice President and Director of Research of the World Resources Institute, an internationally known center for policy research on environmental and natural resource management issues.

She served on the editorial board of *The Washington Post* from 1980 to 1982, covering energy, environment, science, technology, health and arms control issues. Later, she became a weekly columnist for *The Washington Post*.

From 1977 to 1979, she was the Director of the Office of Global Issues of the National Security Council, covering nuclear proliferation, conventional arms sales policy, chemical and biological warfare and human rights. In 1993, she returned to government as Deputy to the Under Secretary of State for Global Affairs.

JUDGE HISASHI OWADA

Judge Hisashi Owada was appointed to the International Court of Justice in The Hague in early 2003. Before being appointed to this post, he served

as President of the Japan Institute of International Affairs, Advisor to the Minister for Foreign Affairs of Japan, Senior Advisor to the President of the World Bank and Professor of Law and Organization at Waseda University Graduate School in Japan.

One of his country's most respected diplomats, Judge Owada previously served as Vice Minister for Foreign Affairs of Japan, Permanent Representative of Japan to the Organization for Economic Cooperation and Development in Paris and as Permanent Representative of Japan to the United Nations in New York.

In the academic field as a professor of international law and organization, Judge Owada has taught at Tokyo University since 1963, and at the law schools of Harvard University, Columbia University and New York University. He is a *membre* of the *Institut de Droit International* and professor at Leiden University. Judge Owada is the author of numerous writings on international, legal and political affairs.

DR. WILLIAM PERRY

Dr. William J. Perry currently serves as the Michael and Barbara Berberian Professor at Stanford University, with a joint appointment in the School of Engineering and the Institute for International Studies. He is also a Senior Fellow at the Hoover Institution and co-director of the Preventive Defense Project, a research collaboration of Stanford and Harvard Universities.

Dr. Perry was the 19th Secretary of Defense for the United States, serving from February 1994 to January 1997. As Secretary of Defense, he was instrumental in implementing and strengthening the Nunn-Lugar Cooperative Threat Reduction Program. He also served as Deputy Secretary of Defense (1993-1994) and Under Deputy Secretary of Defense for Research and Engineering.

Dr. Perry has extensive business experience and currently serves on the boards of several high-tech companies and is Chairman of Global Technology Partners. He is a member of the National Academy of Engineering and a fellow of the American Academy of Arts and Sciences.

Dr. Perry has received numerous awards and decorations from U.S. and foreign governments, nongovernmental organizations and the military, including the Presidential Medal of Freedom in 1997.

DR. NAFIS SADIK

Dr. Nafis Sadik has consistently called attention to the importance of addressing the needs of women directly in making and carrying out development policy. From April 1987 to December 2000, Dr. Sadik served as Executive Director of the United Nations Population Fund (UNFPA), with the rank of Under Secretary General, becoming the first woman to head a major UN voluntarily funded program. In 2001, Dr. Sadik was appointed as Special Adviser to the UN Secretary-General, where she continues to work on gender, population and development issues.

Dr. Sadik came to the United Nations after a distinguished career in Pakistan, where she served as Director-General of the Central Family Planning Council. Since beginning her career as a physician in 1954, Dr. Sadik has taken on a number of increasingly challenging leadership roles in the family planning field. She first served as a civilian medical officer in charge of women's and children's wards in various Pakistani armed forces hospitals before directing hospitals and eventually heading the Planning and Training Division, the government agency charged with national family planning program.

Dr. Sadik was educated at Loreto College, Calcutta, India; received a doctor of medicine degree from Dow Medical College, Karachi, Pakistan; and completed further studies at Johns Hopkins University. She is the recipient of numerous international awards and honors for her contributions to improving the health of women and children of the global community.

PROFESSOR AMARTYA SEN

Amartya Sen is a world-renowned economist, scholar, philosopher and author. He has done groundbreaking research in a number of areas, including social choice theory, political and moral philosophy and decision theory. Awarded the "Bharat Ratna," the highest honor given by the President of India, Professor Sen's work in economics has also been recognized with a Nobel Prize.

Professor Sen is Lamont University Professor and Professor of Economics and Philosophy at Harvard University. Until recently he was Master of Trinity College, Cambridge. Earlier, he was the Drummond Professor of Political Economy at Oxford University and a Fellow of All Souls College. Prior to that he was Professor of Economics at Delhi University and at the London School of Economics.

Professor Sen has researched and written books in a number of wide-ranging fields, including economics, philosophy, decision theory and social choice theory. His work has covered welfare economics, theory of measurement, development economics, moral and political philosophy and the economics of peace and war. Professor Sen's books, which have been translated into many languages, and include *The Argumentative Indian*, *Identity of Violence:The Illusion of Destiny*, *Rationality and Freedom*, *Collective Choice and Social Welfare*, *On Economic Inequality*, *Poverty and Famines*, *Choice*, *Welfare and Measurement*, *Resources*, *Values and Development*, *On Ethics and Economics*, *The Standard of Living*, *Inequality Reexamined* and *Development as Freedom*.

Born in Santiniketan, India in 1933, Professor Sen studied at Presidency College in Calcutta, India, and at Trinity College, Cambridge. He is an Indian citizen.

RT. HON. PROFESSOR SHIRLEY WILLIAMS

Rt. Hon. Professor Shirley Williams is a Member of the House of Lords, where she was Leader of the Liberal Democrats from 2001 to 2004, and is heavily involved in the current debate over how to reform the upper house. She began her career as a journalist for *The Daily Mirror* and *The Financial Times* and in 1960 became Secretary of the Fabien Society. Earlier in her career, she was a Member of the House of Commons and served as a Labour cabinet minister of Education and Science.

Outside her career in government, Baroness Williams served as Public Service Professor of Elective Politics from 1988-2000 at the John F. Kennedy School of Government at Harvard University. She lectured at numerous universities including Princeton University, University of California at Berkeley and Cambridge University. She is a member of the Council on Foreign Relations International and serves on several other boards, including the Moscow School of Political Studies and the International Crisis Group.

Baroness Williams holds 11 honorary doctorates from British, Belgian and U.S. universities. She received a BA in philosophy, politics and economics from Somerville College, where she also received an MA, and attended Columbia University on a Fulbright Scholarship.

PROFESSOR FUJIA YANG

Professor Fujia Yang, academician of the Chinese Academy of Sciences, is an internationally renowned nuclear physicist who currently serves as the sixth Chancellor of the University of Nottingham, one of the United Kingdom's leading research universities, and the Vice Chairman of the Chinese Association for Science & Technology.

Born in Shanghai, Professor Yang graduated from Fudan University in 1958 with a degree in physics. He went from his initial appointment as a Teaching Assistant, to a Professorial Chair in Physics, to the Presidency of the University of Fudan from 1993-1999. He served as Director of the Shanghai Institute of Nuclear Research of the Chinese Academy of Sciences from 1987-2001, was Chairman of the Shanghai Science and Technology Association from 1992-1996 and was the founding president of the Association of University Presidents of China from 1997 to 1999.

Dr. Yang's work has taken him to positions around the globe, including visiting professorships at the Neils Bohr Institute in Copenhagen, Denmark; State University of New York at Stony Brook, USA; Rutgers University, New Jersey, USA; and Tokyo University, Japan.

Professor Yang served as a council member representing China on the Association of East Asia Research Universities, was a member of the International Association of University Presidents and of the Association of University Presidents of the Pacific Rim. He holds honorary degrees from Soka University, Tokyo, Japan; the State University of New York; the University of Hong Kong; the University of Nottingham; and the University of Connecticut.

ADVISORS TO THE BOARD OF DIRECTORS

WARREN E. BUFFETT

Warren E. Buffett, who has been concerned about the threats from weapons of mass destruction for four decades, serves as an Advisor to NTI's Board of Directors.

Mr. Buffett is Chairman of the Board and Chief Executive Officer of Berkshire Hathaway Inc., a holding company owning subsidiaries engaged in a number of diverse business activities and controlled by him since 1965. Berkshire Hathaway Inc.'s business activities include the underwriting of property and casualty insurance and a wide variety of manufacturing, retailing and service companies.

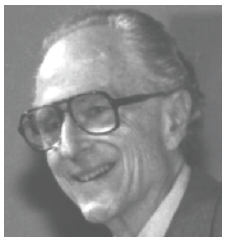
Mr. Buffett started out as an investment salesman and securities analyst, and early in his career he created his own investment partnership.

Mr. Buffett also serves as a Director of The Washington Post Company and is a life trustee of Grinnell College and The Urban Institute.

Mr. Buffett attended the Woodrow Wilson High School in Washington, DC, the Wharton School of Business at University of Pennsylvania and in 1950 received his B.S. from the University of Nebraska. He earned his M.S. in Economics from Columbia University in 1951.

DR. DAVID A. HAMBURG

David Hamburg is President Emeritus of Carnegie Corporation of New York, after having been President from 1983-97. He received his A.B. (1944) and his M.D. (1947) degrees from Indiana University. He was Professor and Chairman of the Department of Psychiatry and Behavioral Sciences from 1961-72 and Reed-Hodgson professor of Human Biology at Stanford University from 1972-76; President of the Institute of Medicine, National Academy of Sciences, 1975-80; Director of the Division of Health Policy Research and Education and John D. MacArthur Professor of Health Policy at Harvard University, 1980-83. He served as President then Chairman of the Board of the American Association for the Advancement of Science (1984-86).

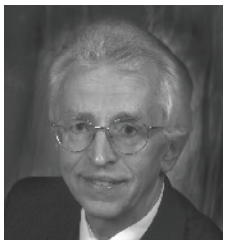


Under Dr. Hamburg's leadership, Carnegie Corporation played an active role in reducing nuclear danger, moving toward the resolution of the Cold War, and working toward democracy in South Africa. In 1994, he established the Carnegie Commission on Preventing Conflict, which he co-chaired with Cyrus Vance. The commission published a synthesis of these activities under the title, Preventing Deadly Conflict.

He published *No More Killing Fields: Preventing Deadly Conflict in 2002*. He and his wife, Betty, have completed a book published in 2004 by Oxford University Press entitled, *Learning to Live Together: Preventing Hatred and Violence in Child and Adolescent Development*.

SIEGFRIED S. HECKER

Siegfried S. Hecker is Director Emeritus of the Los Alamos National Laboratory, where he was Director from 1986 to 1997, and is currently Visiting Professor at Stanford University's Center for International Security and Cooperation. He served as Chairman of the Center for Materials Science and Division Leader of the Materials Science and Technology Division before becoming Director. From 1970 to 1973 he was a Senior Research Metallurgist with the General Motors Research Laboratories.



Dr. Hecker is a Member of the National Academy of Engineering, Foreign Member of the Russian Academy of Sciences, Fellow of the TMS (Minerals, Metallurgy and Materials Society), Fellow of the American Society for Metals, Honorary Member of the American Ceramics Society and Fellow of the American Academy of Arts and Sciences. He is a member of the American Association for the Advancement of Science, Council on Foreign Relations, Tau Beta Pi Honorary Engineering Fraternity, Alpha Sigma Mu Honorary Metallurgical Fraternity and the Society of Sigma Xi.

In addition to his current research activities in plutonium science and nuclear weapons stockpile stewardship, he works closely with the Russian Academy of Sciences and the Russian Federal Agency for Atomic Energy on a variety of cooperative threat reduction programs. Dr. Hecker is also actively involved with the U.S. National Academies, serving on the Council of the National Academy of Engineering, serving as chair of the Committee on Counterterrorism Challenges for Russia and the United States and as a member of the National Academy of Sciences Committee on International Security and Arms Control Nonproliferation Panel.

FREDERICK ISEMAN

Frederick Iseman is the Chairman and Managing Partner of Caxton-Iseman Capital Inc., which he founded in 1993 in partnership with Caxton Associates.

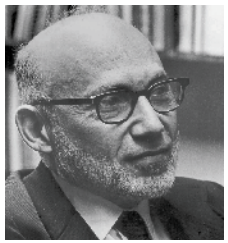
Caxton-Iseman's companies currently have combined sales of $5 billion, cash flow of $550 million, and approximately 75,000 employees. Mr. Iseman is chairman of Caxton-Iseman's portfolio companies: Ply Gem Industries (housing components), Buffets, Inc. (restaurants), Valley National Gases (industrial gas distribution), Prodigy Health Group (health care services), American Residential Services (heating and ventilation), Electrograph Systems (flat screen media), and CoVant (federal information technology). He is also a member of the Advisory Board of investment firm STAR Capital in London.

In addition, Mr. Iseman is a Board member of the International Rescue Committee and the Academy for Educational Development, and a member of the International Council of the Belfer Center for Science and International Affairs (John F. Kennedy School of Government, Harvard University). Mr. Iseman is a major supporter of the Yale Center for Genocide Studies and Stanford University's Preventive Defense Fund. He is also a Harold Pratt Fellow of the Council on Foreign Relations.

Mr. Iseman is on the Board of Directors of the New York City Opera and the Glimmerglass Opera. He is a major supporter of medical research at Columbia-Presbyterian Medical Center, including the Wharton Institute, the Taub Institute for Brain Research and other disciplines, including cancer research and immunology. He has published articles in *The New York Times*, *Harper's Magazine* and *The New Yorker*. Mr. Iseman has a B.A. in English Literature from Yale College (1974), where he is a member of the Elizabethan Club. He resides in New York with his two children.

JOSHUA LEDERBERG

Joshua Lederberg, a research geneticist, is President Emeritus at the Rockefeller University in New York. There, he continues his lifelong research on bacterial genetics as a Scholar of the Beverly and Raymond Sackler Foundation. He was awarded the Nobel Prize in Physiology and Medicine in 1958, and the U.S. National Medal of Science in 1989. He serves on the Defense Science Board and the Defense Threat Reduction Agency advisory committee, as well as a range of other governmental, industrial and academic consultantships.



GEORGE F. RUSSELL, JR.

George F. Russell Jr. has been a worldwide leader in promoting the critical importance of globalization to reduce poverty and disease throughout the world. Mr. Russell built the Frank Russell Company into one of the world's leading investment advisory firms, serving as Chairman from 1958 until the firm was sold to Northwestern Mutual Life in 1999. Today, the company guides 1,100 clients in 35 countries with assets exceeding $1.8 trillion, and manages $130 billion in funds.

Mr. Russell pioneered the business of pension fund consulting. He is a well-known advocate of diversified global investing and, along with Warren Buffett, was named in 1993 as one of the four most influential people in institutional investing.

Mr. Russell is Co-Chairman of the EastWest Institute, Co-Chairman of the Kendall-Russell Centre for Corporate Competitiveness in Russia, Co-Chairman of the Pacific Health Summit, Chairman of the National Bureau of Asian Research, Chairman of Transmutation Technologies, Inc., Chairman of the Russell Family Foundation, Chairman of The Threshold Group, Honorary Co-Chairman of the Business Humanitarian Forum and is also involved in projects to educate Americans on Islam and the critical importance of globalization.

OFFICERS & STAFF

Joan Rohlfing

Senior Vice President for Programs & Operations

Ms. Rohlfing joined NTI after spending six years in a number of senior positions with the U.S. Department of Energy. She served as Senior Advisor for National Security to the Secretary of Energy and Director of the Office of Nonproliferation and National Security. She took a nine-month assignment in New Delhi, India, in the wake of nuclear tests in South Asia, to advise the U.S. Ambassador on nuclear security issues. Ms. Rohlfing also has served on the staff of the U.S. House Armed Services Committee and at the U.S. Department of Defense.

Brooke D. Anderson

Vice President for Communications

Ms. Anderson joined NTI after serving in various senior positions in the executive and legislative branches of the U.S. government, including Special Assistant to the President and Senior Director for Communications at the National Security Council at the White House. She also served as Director of the U.S. Department of Energy's Office of Public Affairs and Deputy Chief of Staff and Press Secretary to former Congressman David Skaggs.

Kraig M. Butrum

Vice President for Development

Mr. Butrum has more than 20 years of fundraising experience, has held senior-level development positions with a number of nonprofit organizations and has consulted internationally on nonprofit fundraising. His fundraising experience includes major capital campaigns, including directing Conservation International's five-year $600 million Campaign to Save the Hotspots and the National Park Foundation's Connecting Our Children to America campaign.

Laura S. H. Holgate

Vice President for Russia/New Independent States (NIS) Programs

Ms. Holgate joined NTI after serving in a number of senior positions in the federal government. She managed the Nunn-Lugar Cooperative Threat Reduction program at the U.S. Department of Defense, which provides assistance to Russia and the new independent states in securing and destroying excess nuclear, chemical and biological weapons and materials. She also served as Director of the Office of Fissile Materials Disposition at the U.S. Department of Energy. Ms. Holgate has received numerous public service awards and is a member of the Council on Foreign Relations, the International Institute of Strategic Studies, and the Executive Board of Women in International Security. She also sits

on advisory panels of the Pacific Northwest National Laboratory and the Oak Ridge National Laboratory.

Melissa Sarver, CPA

Treasurer and Controller

Ms. Sarver came to NTI in 2002 from KPMG LLP, where she worked in their Business Process Outsourcing group. She has more than ten years of experience working with community non-profits and non-profit trade associations. Ms. Sarver is a Certified Public Accountant and a member of the American Institute of Certified Public Accounts.

Terence Taylor

Director of Biological Programs and Director of the Global Health and Security Initiative

Mr. Terence Taylor is the Director of the International Council for the Life Sciences (ICLS) and the Chairman of its Board of Directors. In addition to his ICLS positions, he serves as Senior Advisor and Director of Biological Programs for the Global Health and Security Initiative at NTI. He has held leadership positions at The International Institute for Strategic Studies (IISS), the United Kingdom's Ministry of Defense and the United Nations. Mr. Taylor established the U.S. office of the IISS and served as its first President and Executive Director for five years He was a career officer in the British army with experience in many parts of the world including UN peacekeeping and counter-terrorist operations. He is an expert in international security policy, with a special emphasis in risk assessment and non proliferation.

Robert E. Berls, Jr., PhD

Senior Advisor for Russia/NIS Programs, Director of the Moscow Office

Dr. Berls brings to NTI a background in Soviet/Russian energy and nuclear weapons issues. As a Colonel in the U.S. Air Force, he served as Air Attaché at the U.S. Embassy in the 1980s. During the first Clinton Administration he was Special Assistant to the Secretary of Energy for Russia/NIS Programs. Before joining NTI, he was Vice President for Business Development and Government Relations for a U.S. oil company.

Lisa K. Cutler

Director of Programs and Outreach

Prior to joining NTI, Ms. Cutler directed external communications for the U.S. National Nuclear Security Administration. She has also held senior communications positions at the U.S. Department of Energy and the U.S. Department of Labor and was Press Secretary to former U.S. Senators John Glenn and Harris Wofford.

Catherine O'Brien Gwin

Director of Communications

Ms. Gwin came to NTI from the law firm of King & Spalding, where she served as former Senator Sam Nunn's Director of Communications and Public Policy. She previously served as Senator Nunn's Press Secretary in the U.S. Senate and the spokesperson for the Senate Armed Services Committee.

Margaret A. Hamburg, M.D.

Senior Scientist

Dr. Hamburg previously served as NTI's Vice President for the Biological Program and now provides strategic advice and expertise to NTI as Senior Scientist. Before coming to NTI, Dr. Hamburg was Assistant Secretary for Planning and Evaluation at the U.S. Department of Health and Human Services. She is a physician and expert in public health and bioterrorism. Dr. Hamburg was the Commissioner of Health for the City of New York and former Assistant Director of the Institute of Allergy & Infectious Diseases at the National Institutes of Health. She is a member of the Institute of Medicine of the National Academies of Science, the Intelligence Science Board, the Council on Foreign Relations, the Aspen Study Group and is a fellow for the American Association of the Advancement of Science. She also serves on the Board of Trustees of the Rockefeller Foundation.

Diane G. Hauslein

Director of Administration

Ms. Hauslein joined NTI following a 21 year career in the field of legal management - including finance, human resources, facilities/equipment management, technology and marketing. Most recently, Ms. Hauslein served as the Director of Administration for the Washington, DC office of an international law firm co-managed by James Hall, former Chairman of the National Transportation Safety Board.

Corey Hinderstein

Director of Special Projects, International Program

Ms. Hinderstein came to NTI in 2006 from the Institute for Science and International Security (ISIS), where she was the Deputy Director of the Institute. Her research has focused on the intersection of technical and policy issues related to the dangers posed by nuclear proliferation. Ms. Hinderstein is a Phi Beta Kappa graduate of Clark University and is Vice President of the Northeast Regional Executive Committee of the Institute for Nuclear Materials Management.

Kirsten Houghton

Development Associate

Ms. Houghton joined NTI after managing a private art collection in New York. While working at NTI, Ms. Houghton earned a Masters degree in International Peace and Conflict Resolution at The School of International Service of American University. Ms. Houghton has a Bachelor of Arts in French from Dickinson College and is a member of Women in International Security.

Stephanie S. Loranger, Ph.D.

Senior Program Officer

Global Health and Security Initiative

Before coming to NTI, Dr. Loranger was the Director of the Biosecurity Project at the Federation of American Scientists (FAS). Dr. Loranger's work at FAS focused on: biological weapons control, the responsible use of science and technology, training and preparedness for WMD attacks, and developing on-line educational materials for teaching biosecurity to bioscience graduate students. Dr. Loranger received her Ph.D. in Biology and Biomedical Sciences with a concentration in Molecular Cell Biology at Washington University. Dr. Loranger is also an Adjunct Associate Professor in the Security Studies Program at the Edmund A. Walsh School of Foreign Service at Georgetown University.

Tatiana G. Nikolenko

Program Manager, Biological Programs in Russia, Moscow Office

Prior to joining NTI, Ms. Nikolenko worked as a senior project manager at the International Science and Technology Center (ISTC) Headquarters where she ran the Russian/NIS biological programs and served as coordinator for the U.S. public health programs in Russia and the NIS. Ms. Nikolenko received her degree in Biomechanics from Moscow State University. She has authored three books.

Major Robert E. Schultz, USAF (Ret.)

PMP Senior Program Officer, Russia/NIS Programs

Major Schultz joined NTI after a military career in strategic nuclear operations and strategic offensive arms threat reduction. He brings extensive program implementation experience from the U.S. Department of Defense's Nunn-Lugar Cooperative Threat Reduction program where he was involved in the disposition of Russian strategic missiles. He also served as a Minuteman ICBM Flight Commander and as an Operations Planner on the Strategic Air Command's Airborne Command Post "Looking Glass." Major Schultz is a certified Project Management Professional and holds a Master's Certificate in Applied Project Management from Villanova University.

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THE DAY AFTER AN ATTACK, WHAT WOULD WE WISH WE HAD DONE?

WHY AREN'T WE DOING IT NOW?

Our work at NTI is driven by these questions. The threats from nuclear, biological and chemical weapons are growing, and governments are not doing enough to prevent an attack. Don't sit on the sidelines. Your family's safety and community's security are at stake.

We are in a race between cooperation and catastrophe. Terrorists are racing to get nuclear, biological and chemical weapons. We should be racing to stop them. You can help.

Support NTI's groundbreaking work to combat the most urgent security threats of the 21st century.

WHAT DOES NTI DO WITH DONATIONS?

Your gift supports projects that create paths for governments and other organizations to follow. Many projects address high-risk situations involving nuclear, biological and chemical weapons and materials.

In many cases, gifts to NTI are matched by other donors or serve as the catalyst for government or foundation support. In this way, your generosity is leveraged many times over to provide the most results.

You can give directly to projects in these areas:

REDUCE NUCLEAR DANGERS

Acquiring nuclear weapons and materials is the hardest step for terrorists to take and the easiest step for us to stop. By contrast every subsequent step in the process — building the bomb, transporting it and detonating it — is easier for terrorists to take and harder for us to stop. Nuclear materials are stored around the world, some without proper security. Support NTI's efforts to lock down and secure these dangerous materials around the world.

MEET AN URGENT NEED TO REDUCE THESE GLOBAL THREATS

Sometimes projects emerge immediately and require fast action and implementation. A gift can be made to allow NTI to fill urgent risk reduction needs.

COMBAT BIOLOGICAL THREATS

The potential destructive power of biological terrorism is enormous, yet the opportunity for access to dangerous pathogens can be fairly routine and inexpensive. Support NTI's Global Health and Security Initiative to promote science security and strengthen global disease surveillance, early detection and rapid response.

LOCK DOWN AND DESTROY CHEMICAL WEAPONS

Chemical weapons can sicken and kill in minutes when properly distributed. Help NTI advance efforts to secure and destroy chemical weapons, eliminate the infrastructure that produced them and redirect know-how to peaceful purposes.

RAISE PUBLIC AWARENESS

An informed engaged public can be a powerful force to getting governments to act. NTI's work to raise public awareness is reducing global threats from nuclear, biological and chemical weapons by shining a spotlight on the tremendous gap between the threats and the global response and catalyzing greater action to reduce those threats.

THE CO-CHAIRMEN'S COUNCIL

Named to honor NTI's founding Co-Chairmen, this circle of donors makes an annual commitment of $10,000 or more. You can contribute to NTI by:

- Making an on-line credit card donation on NTI's secure website at **www.nti.org**
- Directing a gift from family foundations or charitable funds.
- Designating NTI in workplace giving (e.g., Federated Campaign, United Way).
- Giving gifts of appreciated stock or securities or other appreciated assets such as real estate.

NTI is recognized by the U.S. Internal Revenue Service as a 501(c)(3) charity and donations in the United States are tax-deductible to the full extent of the law.

For more information on how you can contribute to NTI, please contact Kraig Butrum, NTI's Vice President for Development, at (202) 454-7713.

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