



**We are in a race
between cooperation
and catastrophe.**

ANNUAL REPORT 2003



Working for a Safer World

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The greatest security challenge in the 21st century is preventing the spread and use of nuclear, biological and chemical weapons. The threats are real, urgent and at our doorstep.

**Letter from the Co-Chairmen
NTI 2003 Annual Report**

Supplies of highly enriched uranium and plutonium, the necessary ingredients to make a nuclear weapon, are scattered around the world; some is secured with nothing more than an unarmed guard and a chain link fence. International authorities have uncovered an extensive black market for nuclear weapons technology that has helped states like Libya, Iran and North Korea develop illicit nuclear weapons programs. More than a decade after the Cold War, the United States and Russia continue to maintain thousands of nuclear weapons on hair-trigger alert.

Advances in science make the prospect of bioterrorism more likely, because the same science and technology that is used to cure can be used to kill. There is a real danger that scientists who know how to turn deadly biological materials into weapons could be recruited by terrorists and hostile nations. Public health systems are inadequate and limit the ability to detect and contain an outbreak. There is not enough vaccine, treatment and response options to meet this growing threat.

The pace and scale of U.S. and Russian chemical weapons destruction has been slowed by technological disputes, bureaucratic delays and a lack of funding. At just one site in Russia, there are 1.9 million chemical weapons shells containing enough deadly doses of chemicals to kill millions.

The rise of global terrorism has created a new demand for these weapons and a new willingness to use them. Osama bin Laden called acquiring weapons of mass destruction a “religious duty.” The terrorists who planned and carried out the attacks on September 11 showed that there is no limit to the number of innocent lives that they are willing to take. There is little doubt that if terrorists acquire nuclear, biological or chemical weapons, they will use them.

The chain of security is no stronger than the security at the weakest, worst-defended site. Terrorists seeking the raw material of terrorism won't necessarily look where there is the most material; they may go to the place where the material is the most vulnerable or accessible.

But as grave as these threats are, we are not powerless in the face of them. We know what needs to be done. By securing nuclear weapons and materials at their source, destroying existing chemical weapons stockpiles and improving global public health, we can dramatically reduce these threats and improve our security.

Each day, small steps in the right direction are being taken and demonstrate that progress can be made. In the last year, the United States and Russia secured an additional 35 metric tons of potentially vulnerable nuclear materials—enough for thousands of nuclear weapons. Libya acknowledged, renounced and agreed to cooperatively eliminate its programs to develop nuclear, biological and chemical weapons. And the International Atomic Energy Agency's Nuclear Security Fund, which works to improve the security of nuclear materials around the world, continues to grow.

As encouraging as these developments are, the fact remains that we are not moving as fast as we can and more nations must get involved in the effort.

That's why NTI has been urging countries to come together in a global partnership to take cooperative action to reduce the risk of use and prevent the spread of weapons of mass destruction. Every nation that has something to secure or that can contribute to the cost of securing it must join together. The Group of Eight (G8)

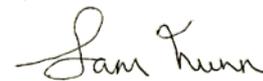
commitment to create a Global Partnership to Prevent the Spread of Weapons and Materials of Mass Destruction and dedicate \$20 billion over ten years to this effort is an important start. But G8 members urgently need to convert their pledges into dollars and projects and must rapidly expand the partnership to include other nations. The priority must be to:

- Secure nuclear weapons and materials at the source;
- Strengthen biological defenses; and
- Secure and destroy chemical weapons stockpiles.

Recent headlines also remind us of the urgent need for global action to reduce the risk of nuclear, biological and chemical weapons use. The SARS epidemic in 2003 demonstrates the potential power of biological threats and the need for global response. Iran's suspected illicit uranium enrichment activity and the discovery of Pakistan's sharing of uranium enrichment point to the continued spread of nuclear weapons.

Finally, if preventing the spread of nuclear weapons is truly a priority, the two states with the largest arsenals—the United States and Russia—must lead by example and meet their commitments under the Nuclear Nonproliferation Treaty to reduce their arsenals and deemphasize the role of nuclear weapons in their respective national security strategies.

The world is in a race between cooperation and catastrophe. The stakes are high. We must act now.



Sam Nunn
Co-Chairman



Ted Turner
Co-Chairman



ABOUT NTI

WORKING FOR

NTI was founded in January 2001 to reduce the risk of use and prevent the spread of nuclear, biological and chemical weapons.

Since governments have most of the resources and authority in addressing the threats from nuclear, biological and chemical weapons, it is not just what NTI can do directly to reduce threats that matters—it's primarily what NTI can persuade others to do.

That's why NTI's focus is on leverage. By combining its influential voice with direct action projects that show the way, NTI has motivated governments and private organizations to invest resources and take additional action to increase global security.

NTI'S LEADERSHIP

NTI brings together people with different ideological views around a common mission to take immediate action to reduce the risk that nuclear, biological or chemical weapons will ever be used again.

Co-chaired by philanthropist Ted Turner and former U.S. Senator Sam Nunn, NTI is governed by an international Board of Directors with members from the United States, India, Pakistan, China, Japan, Jordan,

Sweden, the United Kingdom and Russia. Board members include two sitting U.S. Senators, a former U.S. Secretary of Defense, a member of the Russian Duma, a member of the British House of Lords, a Nobel prize-winning economist, the former commander of U.S. nuclear strategic forces and other experts in security issues. Warren Buffett, CEO of Berkshire Hathaway Inc., serves as an advisor to the Board of Directors.

NTI's staff includes experts in international affairs, nonproliferation, security and military issues, public health, medicine and communications, who have operational experience in their areas of specialty.

NTI was founded with a pledge from Mr. Turner and has subsequently received other private donations. On July 1, 2003, NTI changed its status from a private operating foundation to a public charity.

NTI'S WORK

NTI is a global initiative that carries out threat reduction work through four programs: Russia/New Independent States, Regional, Biological and Communications. NTI has offices in Washington, DC and Moscow, Russia.

NTI's work is focused on addressing high-risk situations and fostering greater action for threat reduction.



NTI Board members Susan Eisenhower, Dr. William J. Perry and General Eugene Habiger.

A SAFER WORLD

Global Partnership Against Catastrophic Terrorism

NTI invested substantial time, voice and resources to develop and promote the idea of a Global Partnership Against Catastrophic Terrorism to prevent terrorists from obtaining nuclear, biological and chemical weapons and materials. The Partnership would include every nation that has something to safeguard or that can make a contribution to safeguarding materials or know-how. This effort has included convening leading experts to shape the concept; presenting key recommendations to the highest levels of the U.S., Russian and other governments; advancing the concept to opinion leaders through speeches and op-eds; and focusing international attention on the issue by convening a conference in Moscow on the heels of the May 2002 Bush-Putin summit and prior to the Group of Eight (G8) meeting in Canada. On a parallel track, NTI has developed a project with the Center for Strategic and International Studies (CSIS) to engage a coalition of non-governmental security organizations to increase international support and resources for cooperative threat reduction beginning in the former Soviet Union.

The results:

■ On May 24, 2002, Presidents Bush and Putin issued a joint declaration stating: “We believe that international terrorism represents a particular danger to international stability as shown once

more by the tragic events of September 11, 2001. It is imperative that all nations of the world cooperate to combat this threat decisively.”

- In the month following the Bush-Putin declaration, *The New York Times*, *The Washington Post* and *The Economist* wrote editorials in support of a global partnership to keep nuclear, biological and chemical weapons and materials out of the hands of terrorists. *The Washington Post* said it was “an idea the Administration should embrace.”
- On June 27, 2002, with strong U.S., Russian and Canadian leadership, the G8, which includes the world’s largest economies and Russia, released a statement announcing a “G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction” and committed \$20 billion over ten years (half from the U.S. and half from other members) to support this work, starting with projects in Russia.
- NTI’s project with CSIS has grown to include 21 security organizations from 16 countries working together in an unprecedented effort to turn the G8 leaders’ commitment from words to money and actions that will secure weapons and weapon materials.



NTI conference in Moscow

Project Vinca

Knowing of NTI's expressed concerns about poorly secured highly enriched uranium (HEU) from Soviet-era research reactors, the U.S. Department of State approached NTI to support a U.S. government-funded project to remove two and a half bombs' worth of vulnerable HEU from the Vinca research reactor near Belgrade. NTI committed \$5 million to support spent fuel management and reactor decommissioning, a critical element in gaining consent from the government of Yugoslavia to remove the nuclear weapons material.

The results:

- In August 2002, the fresh HEU fuel was taken to Russia and secured pending blend-down to a non-weapons form. The State Department said NTI's partnership was "key to the project's success" and pledged to secure HEU at 24 similar reactors worldwide.

- *The New York Times* called the Vinca operation "a prototype for future cooperative efforts" and urged increased flexibility in U.S. government spending in this arena.
- Russian Minister of Atomic Energy Alexander Rumyantsev pledged increased cooperation with the United States and the International Atomic Energy Agency (IAEA) to remove weapons usable material from Soviet-era reactors.
- In 2003, the United States, Russia and the IAEA undertook similar operations in Bulgaria and Romania and announced the development of a schedule, supported in part by an NTI grant to the IAEA, to return all Soviet-origin fresh HEU fuel to Russia by the end of 2005.

Strengthening IAEA Programs to Secure Vulnerable Nuclear Material

NTI contributed to and leveraged additional support for the IAEA's Nuclear Security Fund, which finances the Agency's critical and underfunded work to help member states strengthen the physical security for nuclear materials around the world.

The results:

- The IAEA hired several trained nuclear security experts—effectively doubling the capacity of the IAEA's physical security program and expanding the IAEA's ability to 1) review security for nuclear materials at facilities around the world; 2) identify needed security upgrades; and 3) organize

contributions from donor states to support upgrade implementation.

- The IAEA has visited over a dozen member states to provide advice and review progress in implementing physical protection systems, including missions in 2003 to Bulgaria, Iran, Ukraine and Turkey. The IAEA has also conducted physical protection workshops and training programs involving dozens of other states.
- NTI's grant of \$1.15 million was immediately matched by a pledge from U.S. Secretary of Energy Spencer Abraham, and has helped leverage more than \$26 million in additional support from over two-dozen nations.



Video cameras used for remote monitoring of nuclear materials and an image collection server that shows the images to IAEA personnel.

WHO-NTI Global Emergency Outbreak Response Fund

Since improved disease surveillance, investigation and response are critical to addressing biological threats, NTI worked with the World Health Organization (WHO) to create the WHO-NTI Global Emergency Outbreak Response Fund, to ensure that teams can be on the ground within 24 hours of a detected infectious disease outbreak—wherever it occurs around the globe—whether naturally occurring or resulting from the release of biological weapons.

The results:

■ Since the fund was set up in 2002, it has leveraged millions of dollars in direct financial contributions and other donations to support rapid response, including donations from both government and private philanthropies.

■ In 2003, the fund provided crucial support for WHO response activities and coordination of international efforts to respond to Severe Acute Respiratory Syndrome (SARS), including mobilization of teams to Vietnam and China, establishment of technical working groups to address clinical issues and laboratory collaboration and field logistics.

■ The WHO-NTI Fund assisted with the rapid mobilization of a response team to an outbreak of the highly lethal Ebola virus in the Republic of Congo and allowed for swift action, including the procurement of vaccine to respond to an outbreak of yellow fever in Senegal.



SARS health alert notices were distributed to over 2.7 million people at U.S.-Canada land crossings.

MISSION APPROACH AND FUNDING PHILOSOPHY

NTI advocates threat reduction solutions, raises public awareness and undertakes direct action projects that demonstrate innovative ways to reduce threats.

The majority of NTI's awards support operational activities that NTI has a strong hand in developing. While there is no formal award-making cycle, NTI will consider unsolicited projects that:

- Address significant high-risk situations;
- Generate additional funding and leverage action for threat reduction; or otherwise
- Promote the core objectives of NTI.

All of NTI's activities are conducted with full transparency with governments.



TERRORISTS ARE RACING
TO GET NUCLEAR
WEAPONS. WE ARE NOT
YET RACING TO STOP
THEM.



NUCLEAR

The Nature of the Threat

TERRORIST PATHWAY TO THE BOMB

Form a Highly Capable Group with Extreme Objectives

Decide to Escalate to Nuclear Violence

Steal Nuclear Weapon or Weapons Material

Acquire Stolen Weapon/Material

Smuggle Weapon/Material to Safe Haven

Construct Weapon (Or Sidestep Weapon's Safeguards)

Smuggle Weapon to Target Country

Transport Weapon to Target Location

Detonate Weapon

OR
State Provides Assembled Weapon to Terrorists

The terrorist pathway to the bomb

On the morning of August 6, I was walking to work along here. And right along here there were none of these big buildings around. It was a small road. I got to this point and heard the sound of airplanes and looked up. And saw the bomb drop...There was a tremendous flash of light and I thought I'd been killed.

...Then I said goodbye mother because I thought it was only me that was dying. And my body was blown away by the wind from the bomb. I heard my mother calling my name. She pulled me out and when I looked around I thought this wasn't where I lived before. Human beings were not like human beings. And all the houses were leveled. I thought this was the end of the world.

My clothes were shredded. My hair was gone. And my flesh was coming off. All around me people were undressed. Some were completely naked. All these survivors were like zombies. I remember just walking. There were dead bodies everywhere. There were corpses filling up the river. I thought if I went into the river, I would die. That's why I went to the mountains. There were no recognizable people and there were dead bodies everywhere. And when I got to the mountains, there were thousands of people crying in pain.

—Michiko Yamaoka, Hiroshima Survivor
From “Avoiding Armageddon: Our Future. Our Choice”

TERRORIST ACQUISITION AND USE OF NUCLEAR WEAPONS

The hardest part of making a nuclear weapon is getting plutonium or highly enriched uranium (HEU), the essential ingredients of a nuclear bomb. Since these materials are difficult to make, the most likely way a terrorist will get them is through illicit purchase or theft. Acquiring these materials is the most difficult step for terrorists to take and the easiest step to stop. By contrast, every subsequent step in the process of developing a nuclear weapon is easier for terrorists to take and more difficult to stop.

The defense against nuclear terrorism must begin with securing nuclear weapons and materials in every country and at every facility that has them.

In Russia alone, the Cold War legacy of the Soviet Union left approximately 30,000 nuclear warheads and enough HEU and plutonium to make 60,000 more, as well as tens of thousands of scientists with weapons expertise whose jobs were no longer assured. In more than 40 countries around the world, there are more than 100 research reactors with HEU, some of which is inadequately secured and vulnerable to theft.

Over the past decade, U.S. and Russian activities carried out under the Nunn-Lugar Cooperative Threat Reduction and related programs have made significant progress in securing vulnerable weapons and materials in Russia and the new independent states. However, only 43% of rapid cooperative security upgrades and 22% of comprehensive cooperative security measures are in place. At the current pace,

it will take an additional 13 years to complete comprehensive security upgrades for these materials. If it were made a priority, the work could be done in four years.

We must deny terrorists the materials they need to make a nuclear weapon. The pace of this important work must be accelerated and the scope expanded. While challenging, this work is finite and doable.

THE CONTINUING PROLIFERATION OF NUCLEAR WEAPONS BY STATES

State nuclear weapons programs pose a growing danger. In February 2003, Iranian leaders announced their intentions to develop a domestic nuclear materials cycle, and an IAEA inspection of a pilot-scale uranium enrichment plant at Natanz revealed that Iran was much further along in its ability to produce weapons material than was previously known. Iran has denied allegations that it is seeking to develop nuclear weapons, but it has demonstrated a pattern of violations of its Nuclear Nonproliferation Treaty (NPT) obligations and initially failed to disclose the existence of certain advanced nuclear facilities.

The proliferation of nuclear technology and related know-how is also cause for increasing concern. In August 2003, five cargo containers full of uranium gas centrifuge parts were intercepted en route to Libya; this resulted in a series of discoveries about an illicit nuclear trading network centered in Pakistan.

The full scope of this network has not yet been revealed, but Dr. Abdul Qadeer Khan, the former head of the Khan Research Laboratory—one of Pakistan's key nuclear weapons research facilities, participated in one of the most successful known

efforts to bypass international controls on the dissemination of nuclear weapons technology. These transfers were made through multiple countries and individuals operating outside of global export control mechanisms and were undetected as cargoes entered ports and crossed borders. In addition to Libya, this network is believed to have transferred Pakistani technology to Iran and North Korea. In the case of Libya, the transfers included sensitive nuclear weapons design information. It is not yet clear to what extent the government of Pakistan may have been complicit.

Terrorists are trying to get nuclear weapons and materials. These are just a few of the known attempts:

2003 A Russian newspaper reports that two residents of the closed nuclear city of Sarov were convicted for attempting to sell mercury passed off as weapons-grade plutonium to a Russian businessman, who was interested in reselling the material to clients abroad. (RIA-Novosti 10/4/03)

2002 A Russian newspaper reports that military counterintelligence “foiled four attempts” by terrorists to access Russian nuclear stockpiles and nuclear warhead storage sites. (Rossiiskaya Gazeta, 11/1/02)

2002 Diagrams of crude nuclear weapons are found in an al Qaeda safe house. (CNN, 6/10/02)

2001 Russian customs official reports detecting more than 500 incidents of illegal transport of nuclear and radioactive materials across the Russian border in 2000. (ITAR-TASS, 4/2/01)

2000 A Russian national security official reports the Taliban tried to recruit a Russian nuclear expert. (Radio Free Europe/Radio Liberty, 10/9/00)



U.S. Secretary of Energy Spencer Abraham speaks about nuclear components from Libya after Col. Qaddafi's decision to work cooperatively to end Libya's weapons of mass destruction program.

In December 2003, Libyan leader Colonel Muammar Qaddafi admitted to pursuing a nuclear weapons program, and IAEA inspections discovered imported uranium enrichment equipment and technology at several clandestine nuclear facilities in the vicinity of Libya's capital, Tripoli. The inspections also revealed that Libya could have produced a nuclear weapon within three to seven years. In a positive development, Colonel Qaddafi then committed to destroying Libya's nuclear weapons program, adhering to the NPT and signing the Additional Protocol that would allow the IAEA to conduct more intrusive monitoring of the country's nuclear facilities.

In South Asia, the risk of a nuclear war 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, but very little has been done by either side to reduce the risks of nuclear use through concrete risk reduction mechanisms, such as nuclear confidence building measures, or arms control or reduction measures. Both governments have begun a comprehensive dialogue, which is a significant step in reducing nuclear tensions.

North Korea has withdrawn from the NPT, lifted the freeze on its plutonium-based nuclear weapons program and expelled IAEA inspectors who had been

monitoring the freeze under the Agreed Framework of October 1994. North Korea claims to have engineered a number of plutonium-based nuclear weapons and is also believed to be clandestinely enriching uranium for a parallel uranium-based nuclear weapons program.

The risk of nuclear use between the United States and Russia did not disappear with the end of the Cold War, and in some ways has become more dangerous. The United States and Russia continue to maintain thousands of nuclear warheads on land- and sea-based missiles, ready to fire at a moment's notice—essentially the same as during the Cold War. Russia's degraded early warning systems coupled with the large nuclear rapid strike potential of the United States, provide a continuing incentive for Russia to maintain a "launch-on-warning" capability that is more prone to accidents and miscalculations. These large missile forces pose a significant security risk to both nations of 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. Moreover, U.S. and Russian leadership on nonproliferation issues, in the view of many nations, is clearly tied to the United States and Russia deemphasizing nuclear weapons as instruments of political or military power.

Strategies for Nuclear Threat Reduction

Reducing the risk of nuclear use—from terrorists and nation-states—requires a broad set of complementary strategies targeted both at stemming the demand for nuclear weapons and at denying aspiring organizations or states access to the essential materials, technologies and related know-how. Ultimately, success in reducing global nuclear threats toward zero can only be achieved through unprecedented cooperation among states. No state acting alone has sufficient authority, resources or influence to secure itself independently from nuclear attack, especially from nuclear terrorism.

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

- Securing, consolidating and reducing nuclear weapons and materials;
- Leveraging resources to address nuclear weapons infrastructures and human capital;
- Building global cooperation on security goals; and
- Generating new thinking on reducing nuclear risks.

SECURING, CONSOLIDATING AND REDUCING FISSILE MATERIAL

The relative ease of obtaining weapons designs and non-nuclear components makes control over nuclear materials the first line of defense for preventing

terrorist groups or hostile forces 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. NTI is working to advance this “global cleanout and secure” agenda through a number of projects to secure fissile materials around the world.

Securing and Removing Highly Enriched Uranium from Soviet-Supplied Research Reactors

NTI’s role in Project Vinca, which facilitated the removal of two and a half bombs’ worth of weapons-usable HEU from a research reactor near Belgrade, continues to leverage results. In 2003, the United States, Russia and the IAEA, undertook similar operations in Bulgaria and Romania and intends to continue securing materials from as many as two dozen at-risk research reactors.

NTI is also supporting IAEA work to evaluate security, safety, regulatory, transportation and cost issues associated with removing fresh and spent HEU fuel from other poorly secured research reactors in 16 countries and to develop a comprehensive plan to achieve it.

The IAEA has moved quickly to survey all Soviet-era research reactors outside Russia in preparation for shipping HEU fuel to Russia or elsewhere for disposition. These surveys provided the basis for recent decisions reached by the United States, Russia and the IAEA on a plan to remove all fresh HEU fuel from Soviet-supplied research reactors by 2005.



This Vinca critical assembly research apparatus once operated on weapons-grade HEU fuel. As a result of Project Vinca, it has been converted to proliferation-resistant low enriched uranium fuel.



The formerly secret Russian nuclear city of Snezhinsk has a population of 48,300.



The All Russian Scientific Research Institute of Technical Physics (VNIITF) in Snezhinsk was once devoted entirely to research and development for nuclear weapons. Today, roughly half of VNIITF's researchers, engineers and workers are oriented to solving peaceful problems.

Disposing of Vulnerable Bomb Materials in Kazakhstan

NTI is also working in Kazakhstan on a project to secure and eliminate almost three tons of weapons-usable HEU, enough to make over two dozen crude nuclear weapons. In 2002, the material was successfully transported from a vulnerable location on the Caspian Sea to Ust-Kamenogorsk, where it will be diluted to non-weapons-usable forms and used in nuclear power reactors.

NTI has been working closely with the Institute of Nuclear Physics near Almaty, Kazakhstan, which runs an HEU-fueled research reactor, on a research project to develop plans for converting this reactor to run on proliferation-resistant low-enriched uranium fuel. NTI is also funding the development of a business plan for the converted reactor, which should demonstrate how the reactor could continue to generate revenue after conversion, a key concern of the reactor operators. The combination of these conversion and business plans should provide the basis for the Institute's leadership and the Kazakhstani government to follow the lead of research reactor operators elsewhere and convert to low enriched uranium, thereby eliminating the need to store and protect HEU at the facility.

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 peaceful pursuits is critical to avoiding dangerous temptations to sell access or information

before jobs are lost. Working closely with governments and others involved in this complex pursuit, NTI is identifying pilot projects that can be replicated and expanded by others.

Reemployment of Former Weapons Workers

NTI has several ongoing projects in the formerly secret Russian nuclear cities of Sarov and Snezhinsk.

In 2001, NTI launched a collaboration with the Russian Fund for Development of Conversion Companies (FDCC) to support reemployment of former weapons workers. The fund supports new and growing businesses in Sarov, which is home to a closing nuclear weapons manufacturing plant and a shrinking nuclear weapons design institute. Primarily supported by local resources, the FDCC typically approves \$2 million in loans each year, with an excellent payback rate. NTI's \$1 million contribution builds on the FDCC's solid track record of investment and supports job creation for workers from the two nuclear weapons facilities.

NTI has also been working with Sarov Labs, a newly created contract-research organization in Sarov that employs former weapons scientists and seeks to win contracts from clients in both the West and Russia. NTI has provided funds to improve Sarov Lab's marketing and program management capabilities.

In Snezhinsk, NTI is supporting The Eisenhower Institute's work with laboratory and city leadership to develop a strategic plan for expanding the range of new job opportunities for personnel no longer required to support the Russian military, while maintaining security for research-related nuclear materials and information.

NTI's projects complement and ideally will stimulate other activities by the Russian and U.S. governments and the private sector to successfully manage the social and economic upheavals associated with the shrinkage of Russia's massive nuclear complex to a size commensurate with its current needs.

BUILDING GLOBAL COOPERATION ON SECURITY GOALS

Current physical security arrangements at many nuclear facilities around the world are inadequate to address the international community's most pressing security threat—terrorists seeking to acquire plutonium or highly enriched uranium for a crude nuclear weapon. The Physical Protection Convention, which requires member states to secure nuclear materials during international transport, is designed to address this threat, and a currently proposed amendment seeks to strengthen it and broaden its scope. However, even with the adoption of this amendment, security gaps will remain. To augment these international legislative efforts, NTI is working to develop voluntarily shared best practices among all states with nuclear capabilities.

To promote U.S. and Russian leadership on best practices, NTI funded a joint project between the Russian Academy of Sciences and the U.S. National Academy of Sciences on the subject. The Academies held an international workshop in September 2003 to discuss global and national challenges to nuclear materials management and best practices to meet those challenges.

NTI is also developing two one-week workshops on Global Best Practices for Nuclear Materials Management with the Institute of Nuclear Materials Management, an international society for managers and operators of nuclear facilities and others who work on nuclear issues. These workshops will

bring together select groups of nuclear materials professionals from government, industry and research venues around the world to share best practices for securing and accounting for nuclear weapons materials.

Ultimately, the collection, documentation and sharing of global best practices could help form the basis for raising nuclear materials management standards to better meet the modern threats from terrorists and others in search of weapons of mass destruction.

GENERATING NEW THINKING ON REDUCING NUCLEAR RISKS

NTI is supporting analytic work to explore new thinking and the development of new tools and incentives for combating nuclear risks.

One area that would benefit significantly from new thinking relates to U.S. and Russian strategic nuclear forces—the national strategies underlying them, as well as the operational factors and requirements that determine force levels and readiness.

NTI commissioned a study by the RAND Corporation to explore options for reducing the risk of an accidental or unauthorized launch between the United States and Russia. The report, which was released in 2003, describes an increased threat of accidental or unauthorized nuclear launch and identifies alternatives for reducing these unnecessary risks and bringing nuclear postures in line with improved political relations between the two countries. Bold and determined presidential leadership on both sides is required to bring about any significant changes in our nuclear force structures.

NTI believes that for any serious global effort to reduce the risk of nuclear use to be successful, the two nations with the largest stockpiles—the United States and Russia—must lead in reducing the importance of nuclear forces in their national security strategies.



Distinguished Pakistani and Indian former diplomats and former high-ranking military officers gathered at NTI's May 2003 workshop to develop nuclear risk reduction measures.

NTI Projects Approved or Ongoing in Fiscal Year 2003

SECURING, CONSOLIDATING AND REDUCING FISSILE MATERIAL

Strengthen 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 this program. Since NTI's initial \$1.15 million commitment to the IAEA, more than \$26 million has been committed by over two dozen nations to the IAEA's Nuclear Security Fund.

*International Atomic Energy Agency
Vienna, Austria
\$1,150,000*

Removing Highly Enriched Uranium from Serbia

To contribute to the removal of poorly secured highly enriched uranium 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*

Accelerating Highly Enriched Uranium Blend-Down in Russia

To analyze options for accelerating the rate at which highly enriched uranium is transformed into safe forms for ulti-

mate use in civilian power plants beyond the current rate of 30 metric tons per year to up to 60 metric tons per year.

*Facilities and Institutes of Russian Ministry of Atomic Energy
Moscow, Russia
Up to \$2,000,000*

Consolidating and Blending Down Highly Enriched Uranium in Kazakhstan

To contribute to the consolidation and blend-down of all remaining highly enriched uranium in Kazakhstan, located at nuclear power and research reactors, so that it cannot be stolen or diverted for use in nuclear weapons.

*Institute of Nonproliferation
Almaty, Kazakhstan;
Ulba Metallurgical Plant
Ust-Kamenogorsk, Kazakhstan
Up to \$2,000,000*

Planning to Secure and Remove Highly Enriched Uranium from Soviet-Supplied Research Reactors

To evaluate security, safety, regulatory, transportation and cost issues associated with removing fresh and spent highly enriched uranium fuel from 24 poorly secured research reactors in 17 countries, and to develop a comprehensive plan to achieve it.

*International Atomic Energy Agency
Vienna, Austria
\$260,000*

LEVERAGING RESOURCES TO ADDRESS NUCLEAR INFRASTRUCTURE AND HUMAN CAPITAL

Fund for Development of Conversion Companies

To contribute \$1 million to an existing Russian revolving loan fund, known as the Fund for Development of Conversion Companies, established to create permanent, commercially viable civilian businesses in the closed nuclear city of Sarov.

Fund for Development of Conversion Companies

Sarov, Russia

\$1,000,000

Building Capacity at Sarov Labs

To assist Sarov Labs in becoming a self-sustaining, commercial contract research organization that employs former weapons scientists by contributing to the cost of project management and marketing support for a two-year effort.

Sarov Labs

Sarov, Russia

\$450,000

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: downsize the nuclear weapons facility and staff and secure the remaining nuclear materials at the site.

The Eisenhower Institute

Washington, DC, USA

\$230,400

Converting Russian Debt into Support for Nonproliferation Activities

To refine and promote options and mechanisms for transforming debt owed by Russia to Western govern-

ments and private lenders into resources for jointly defined nonproliferation projects in Russia, through bilateral or multilateral agreements to forgive a portion of Russian debt, the proceeds of which would be applied to specific projects to reduce nuclear, biological or chemical threats in Russia.

*Battelle Memorial Institute, Pacific Northwest Division
Richland, WA, USA*

\$50,000

BUILDING GLOBAL COOPERATION ON SECURITY GOALS

Strengthening the Global Partnership

To develop a constituency among and beyond the Group of Eight (G8) leading industrial nations for threat reduction programs with Russia, focusing on their respective national security communities, through partnerships with 21 security organizations from 16 nations. This project promotes the effective and timely implementation of the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, agreed to in June 2002, along with pledges totaling \$20 billion to support nonproliferation projects, initially in Russia, over the next decade.

Center for Strategic and International Studies

Washington, DC, USA

\$3,208,508

Global Best Practices for Nuclear Materials Management

To sponsor two one-week workshops that will bring together select groups of nuclear materials professionals from government, industry and research venues around the world to share best practices for securing and accounting for nuclear weapons materials.

*Institute of Nuclear Materials Management
Northbrook, IL, USA (in cooperation with NTI)
Up to \$500,000*

Reducing Nuclear Dangers in South Asia

To sponsor international workshops with experts from India, Pakistan and the United States to examine pathways to nuclear escalation in South Asia and to develop measures to prevent those scenarios from occurring. The project will develop risk reduction measures that will be shared with leaders in India and Pakistan for their consideration for implementation.

*The Henry L. Stimson Center
Washington, DC, USA
\$501,674*

Establishing Nuclear Risk Reduction Centers in South Asia

To establish a non-governmental task force of Indians, Pakistanis and U.S. experts to develop candidate models for the operation of nuclear risk reduction centers in South Asia. The finished report, which will be provided to the governments of India and Pakistan, would lay the groundwork for the creation of these centers should both countries agree to do so.

*Center for Strategic and International Studies
Washington, DC, USA
\$210,000*

Capacity-Building for Future Leaders in India, Pakistan and China

To hold a two-week workshop in Shanghai for young Chinese, Indian and Pakistani journalists, academics and government officials that will focus on nuclear, biological and chemical weapons threats and cooperative strategies for reducing them.

Regional Center for Strategic Studies

*Colombo, Sri Lanka
Up to \$150,000*

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, removing obstacles to U.S.-Russian threat reduction programs.

*Russian Academy of Sciences, Moscow, Russia;
National Academy of Sciences
Washington, DC, USA
Up to \$800,000*

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 weapons of mass destruction.

*Belfer Center for Science and International Affairs
John F. Kennedy School of Government
Harvard University
Cambridge, MA, USA
\$497,500*

U.S.-Russian Dialogue on Strategic Issues

To develop practical, timely policy proposals for consideration by U.S. and Russian governments through a series of dialogues that brings officials from both countries together in neutral, informal settings to examine new and evolving issues related to arms control and nonproliferation.

*Carnegie Endowment for International Peace
Washington, DC, USA
\$492,424*

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

Report on Challenges to Safeguarding Fissile Material in Russia

To update, translate, publish and distribute the University of Georgia's preliminary report on "The Human Factor and Security Culture: Challenges to Safeguarding Fissile Material in Russia."

Center for International Trade and Security

University of Georgia

Athens, GA, USA

\$31,000

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 policy makers and by facilitating meetings between nuclear experts in India and other nations.

The Delhi Policy Group

New Delhi, India

\$230,000

Report on U.S. and Russian Nuclear Force Structures

To help generate new thinking about the operational force size and characteristics of U.S. and Russian

strategic forces that could give each President more decision-making time, help protect against accidental launch and provide a basis for discussion and debate about changes required in both nations' nuclear forces to strengthen our collective security.

RAND Corporation

Arlington, VA, USA

\$167,000

Tracking U.S.-Russian Cooperative Nuclear Security

To track the progress and budgets of U.S.-Russian cooperative 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

Up to \$439,170

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 at Maryland, School of Public Affairs, University of Maryland, College Park, MD, USA

Up to \$712,597

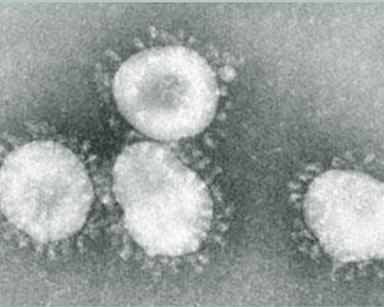


A U.S. Peacekeeper intercontinental ballistic missile



BIOLOGICAL

The Nature of the Threat



The SARS virus

Following the attacks of September 11 and the lethal dissemination of anthrax through the mail, the threat of bioterrorism and its implications for national and international prevention, preparedness and response have been of increasing interest and concern.

The biological threat is fundamentally different from the threats posed by other weapons of mass destruction. A biological event might occur as a disease epidemic spread out in time and place before authorities are even able to recognize that an attack has occurred. Reliable information may not be available on how widespread the attack is, who initially released the pathogen or the location of the release. Alternatively, a biological attack can be a discrete and recognized attack, such as with

the anthrax incidents where the biological agent arrived with a note.

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. The biological weapons threat challenges traditional ways of thinking about prevention, deterrence, nonproliferation and response, requiring new thinking about how to define and implement enduring solutions.

Strategies for Threat Reduction

The bioweapons threat requires a different paradigm that is not confined to traditional security agencies. A thoughtful and systematic examination of the nature of the bioweapons problem is needed to better identify corresponding opportunities for intervention, and the public health, medical and biotech communities must be involved.

NTI's work seeks to address the complex, multi-faceted nature of the biological threat in general and the bioweapons threat in particular. These threats can emerge from many sources and involve human, plant and animal diseases. In order to meet these challenges, NTI has pursued activities in five key areas:

- Strengthening biosecurity and encouraging standards for responsible research—engaging the scientific community to improve security and safe handling of dangerous pathogens and materials, developing normative standards for research and transparency, preventing the development and proliferation of biological agents as weapons and participating in the creation of plans and safeguards to forestall their use.
- Scientific cooperation and collaboration with the former Soviet Union—redirecting the scientific skills and knowledge of former Soviet bioweaponers, enhancing trust and transparency and producing



Jordanian Central Public Health Laboratory in Amman. NTI is exploring options to include this lab in a Middle East infectious disease regional surveillance network.

beneficial pro-social scientific work in important public health areas of mutual concern.

- Global disease surveillance, early detection and rapid response—enabling rapid detection, investigation and early response to potential threats by strengthening worldwide surveillance capability and improving the sensitivity and connectivity of these efforts.
- Building new partnerships—bringing the communities of public health, medicine, agriculture, science, intelligence and law enforcement together in closer working relationships and improving data gathering, analysis and preparedness for current and future threats.
- Bioterrorism preparedness and consequence management—addressing this urgent need with a multifaceted approach, engaging many disciplines, agencies and levels of government and the private sector, nationally and internationally.

NTI strives to bring new thinking and action to these concerns—as a funder, a convener and a connector in a diverse group of projects that are on the leading edge of progress, both to reduce the threats surrounding the development, proliferation and use of biological agents as weapons and to strengthen global public health.

NTI seeks maximum leverage for its resources by taking advantage of opportunities to collaborate with other foundations and not-for-profit organizations, thereby reinforcing support for critical programs.

SCIENCE AND SECURITY

NTI has shaped and supported a number of innovative projects that offer new insight and understanding that can help shape current and future policy and action.

NTI is working to engage the biomedical research community to develop ideas for constraining the harmful use of biological research and development without unduly encumbering the pursuit of science for scholarly or beneficent ends.

The National Research Council of the National Academy of Sciences' ground-breaking report, "Biotechnology Research in an Age of Terrorism: Confronting the Dual-Use Dilemma," supported through NTI's **Biotechnology Nonproliferation** project, has received widespread attention and led to a decision by the U.S. Department of Health and Human Services to lead a government-wide effort to improve biosecurity for legitimate classes of biological research that could be misused. This new initiative includes the creation of the National Science Advisory Board for Biosecurity.

The **Bioscience Community Self-Governance** project is exploring strategies to guard against the destructive application of biological research and development while still supporting the open and constructive pursuit of valuable science.

The project on **Establishment of a Bioindustry Standards Organization** engages biotechnology industry leaders in the development of normative standards to reduce potential proliferation of dangerous pathogens, techniques and knowledge, and the possible establishment of a new bioindustry organization for monitoring these standards.



Macabee private laboratory in Tel Aviv, Israel. NTI is exploring options to include this lab in a Middle East infectious disease regional surveillance network.



Lab testing as part of infectious disease surveillance in India

STRENGTHENING GLOBAL DISEASE SURVEILLANCE, OUTBREAK RECOGNITION AND RESPONSE

Effective global infectious disease surveillance, early detection, and response capabilities are the fundamental building blocks of preparedness against infectious disease threats—whether naturally occurring or deliberately caused. Working with critical public health institutions, often in public-private partnerships, NTI is supporting and fortifying international efforts to enable rapid detection, investigation and early response to infectious disease outbreaks worldwide. NTI is also supporting a range of programs to strengthen epidemiologic training and the capabilities of public health laboratories in the United States and worldwide.

The **India Field Epidemiology Training Program** is enabling local public health scientists to become proficient in identifying, investigating and controlling infectious disease threats and to serve as a resource for broader regional surveillance efforts.

A Russian-language electronic network is being created and integrated into an existing global disease-monitoring system (Pro-Med) through NTI's **Surveillance of Emerging Infectious Diseases in the New Independent States** project.

The **Middle East Confidence Building** project is exploring opportunities to build an infectious disease regional surveillance network connecting Israel, Jordan, Egypt and the Palestinian Authority.

GLOBAL PUBLIC HEALTH AND INTELLIGENCE NETWORK

The **Global Public Health Intelligence Network (GPHIN)** developed by Health Canada and adopted by the **World Health Organization (WHO)** is a secure Internet-based system that employs a unique combination of leading-edge technologies to provide an early warning system for potentially serious public health events anywhere in the world.

The network continuously searches key websites and global media sources to identify information about epidemic threats and rumors of unusual disease events, currently mainly from English-language sources. GPHIN gathers and disseminates preliminary relevant information in real-time, 24 hours a day, seven days a week.

By funding the development and integration of Russian, Spanish, Arabic, French and Chinese language software into GPHIN, NTI is facilitating the system's operation in all six official United Nations languages and strengthening and extending GPHIN's computer-based data collection and analysis capabilities.

WHO has relied heavily on this mechanism as one of their most important tools for identifying events of potential international public health importance. WHO estimates that more than 50% of the outbreaks they have formally investigated have been identified first through GPHIN.

NTI Projects Approved or Ongoing in Fiscal Year 2003

ENGAGING THE SCIENTIFIC COMMUNITY TO STRENGTHEN BIOSECURITY AND ENCOURAGE STANDARDS FOR RESPONSIBLE RESEARCH

Biological Weapons Monitoring and Inspection Strategy Development

To facilitate the input of specialists from the U.S. pharmaceutical and biotechnology industries to the development of strategies that might be applicable to U.S. biological weapons nonproliferation policies (particularly those concerning the Biological and Toxins Weapons Convention).

*Center for Strategic and International Studies
Washington, DC, USA
\$310,720*

Establishment of a Bioindustry Standards Organization

To engage biotechnology industry leaders in the development of normative standards to reduce potential proliferation of dangerous pathogens, techniques and knowledge, and the possible establishment of a new bioindustry organization for monitoring these standards.

*International Institute for Strategic Studies
London, UK; Chemical and Biological
Arms Control Institute
Washington, DC, USA
\$1,640,291*

Bioscience Community Self-Governance

To explore strategies to constrain intentionally malevolent applications of biological research and development

without unduly encumbering the pursuit of science for scholarly or beneficent ends.

*Center for Biosecurity of the University of Pittsburgh
Medical Center
Baltimore, MD, USA
\$1,750,000*

Biotechnology Nonproliferation

To review, examine and make recommendations concerning biotechnology oversight practices and institutional arrangements for the research community to guard against the destructive application of biotechnology.

*U.S. National Academy of Sciences
(in conjunction with the Sloan Foundation)
Washington, DC, USA
\$445,970*

INTERNATIONAL SCIENTIFIC COOPERATION AND COLLABORATION WITH THE FORMER SOVIET UNION (FSU)

Integrating Scientists into the International Research Community

To further integrate FSU scientists into the international research community, by funding 20 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*

Hepatitis Vaccine Manufacturing Feasibility Study

To determine the feasibility of commercially manufacturing Hepatitis A, Hepatitis B, and Hepatitis A/B vaccines at a proposed new vaccine production facility at VECTOR in Novosibirsk, Russia, involving Russian professionals previously engaged in biological weapons work. The project includes the preparation of a preliminary business plan designed to attract commercial investors for building the new vaccine production facility at VECTOR.

*State Research Center of Virology and Biotechnology (VECTOR), Novosibirsk, Russia; the High Technology Foundation/Gorbachev Project
Moscow, Russia
\$250,000*

Regional Reference Laboratory for Diagnosis of Viral Hepatitis: From Biodefense to Public Health

To integrate former biodefense scientists into regional public health services and reduce the toll of hepatitis throughout Russia and the surrounding territories, by establishing a regional reference laboratory, starting a new training program to diagnose hepatitis and instituting disease surveillance sites.

*State Research Center of Virology and Biotechnology (VECTOR)
Novosibirsk, Russia
\$350,000*

Leveraging the Peaceful Conversion of Former Biowarfare Institutes

To solicit the participation of Western pharmaceutical companies in research collaboration with former Soviet bioweaponers, enhancing the understanding

necessary to underpin governmental support of “brain-drain” prevention programs.

*Center for Strategic and International Studies
Washington, DC, USA
\$762,965*

Brucellosis Vaccine Research

To develop a new vaccine, employing former Soviet bioweapons scientists, to contribute to the management of this disease that threatens domestic and wild animal populations in the United States and throughout the world.

*All-Russian Research Veterinarian Institute
Kazan, Russia;
The International Science and Technology Center
Moscow, Russia
(in conjunction with U.S. Department of State)
\$550,000*

Anti-Plague System Assessment

To examine the anti-plague system of the FSU regarding biosecurity and proliferation of biological agents, with the goal of improving the security and safe handling of dangerous pathogens, and to examine the potential conversion of the system for broader public health and bioterrorism surveillance, with particular emphasis on institutes in Uzbekistan, Kazakhstan, and Georgia, serving as proof of concept for institute-level analyses, and demonstrating the utility of this approach for future nonproliferation and conversion efforts elsewhere.

*Kazakh Institute for Research on Plague Control
Almaty, Kazakhstan;
Monterey Institute of International Studies
Monterey, CA, USA
\$750,000*

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

ENHANCING GLOBAL INFECTIOUS DISEASE SURVEILLANCE, DETECTION AND RESPONSE

India Field Epidemiology Training Program

To develop a cadre of Indian field epidemiologists proficient in identifying, investigating and controlling infectious disease threats, including those caused by existing and potential agents of bioterrorism. The program, established in Chennai, India, is modeled after the Epidemic Intelligence Service of the U.S. Centers for Disease Control and Prevention (CDC), and will serve as an anchor for broader regional surveillance efforts.

CDC Foundation

Atlanta, GA, USA

\$350,000

Global Public Health Intelligence Network

To develop and integrate Russian, Spanish, Arabic, French and Chinese language translation software into the Global Public Health Intelligence Network, which gathers reports of public health significance from global electronic media and websites using both human review and computerized text mining to filter, organize and classify this information. It is a major mechanism for identifying events of potential international public

health importance for the World Health Organization (WHO) and has triggered more than 50 percent of the outbreak investigations by WHO.

Health Canada

Ottawa, Ontario, Canada

\$350,000

Surveillance of Emerging Infectious Diseases in the New Independent States

To build a Russian-language electronic network to help in the detection and dissemination of information about possible outbreaks of infectious diseases in the new independent states. This network will be integrated into an existing global disease-monitoring system (Pro-Med) and will enhance the ability of the public health community to recognize and respond to outbreaks in the region.

International Society for Infectious Diseases

Boston, MA, USA

\$65,000

Middle East Confidence Building

To foster cross-border cooperation in responding to nuclear, biological and chemical attacks or accidents by engaging prominent regional experts in national security, emergency management, civil defense and public health—both government officials and non-governmental specialists. In 2003, participants from Egypt, Israel, Jordan and the Palestinian Authority formed two new consortiums, one on infectious disease surveillance and one on chemical risks, that prepared plans for future cooperative risk reduction projects in the region.

Search for Common Ground

Washington, DC, USA

\$555,000

BUILDING NEW PARTNERSHIPS AMONG THE PUBLIC HEALTH/MEDICAL/SCIENCE AND INTELLIGENCE/LAW ENFORCEMENT COMMUNITIES

Biological and Agricultural Anti-Terrorism Partnership

To support new dialogue and partnership among public health, agriculture, intelligence and law enforcement professionals on how to meet biological and agricultural terrorist threats, providing a sorely needed forum to surface critical issues and develop strategies to address them.

ANSER Institute for Homeland Security

Arlington, VA, USA

\$500,000

AAAS-NTI Fellowship in Global Security

To strengthen scientific expertise in policy-making and encourage scientists to pursue careers in the policy arena, this program supports 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

FURTHERING BIOTERRORISM PREPAREDNESS AND CONSEQUENCE MANAGEMENT

Enhancing Food System Biosecurity

To facilitate national food system biosecurity leadership, plan for national food system information sharing and analysis, develop Internet-based materials for government and industry officials and offer food biosecurity training in order to strengthen the ability

of the farm-to-table food system to prevent, detect and respond to bioterrorist attacks.

University of Minnesota Center for Infectious Disease Research and Policy

Minneapolis, MN, USA

\$500,000

Shaping International Food-Bioterrorism Preparedness Standards

To draft recommendations for food-bioterrorism preparedness standards and plan an international conference, in conjunction with the World Health Organization, to develop a consensus document that will outline ways to monitor and advance a country's preparedness.

Center for Science in the Public Interest

Washington, DC, USA

\$73,000

Public Health Preparedness: State of Georgia Planning and Practice Model

To improve bioterrorism preparedness, initially in the State of Georgia and subsequently in other jurisdictions, 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; providing joint terrorism-related training for state and local security and health agencies; and extensively evaluating project results.

RAND Corporation, Arlington, VA, USA;

State of Georgia;

Emory University, Atlanta, GA, USA

\$287,500

**Community Preparedness
Bioterrorism Scorecard**

To create an effective framework for preparedness assessment that elected officials, community leaders and the public can draw upon in evaluating and improving community preparedness in the event of bioterrorism.

Milne & Associates, LLC
Portland, OR, USA
\$84,000

**Tracking U.S. Government Efforts
to Address Biological Threats**

To analyze U.S. government investments in bio-weapons prevention and preparedness, examining programs and policies, funding levels, gaps in program activities and the effectiveness of work underway. The report will include recommendations for strengthening the value and pace of current activities and identify critical needs for the future.

Chemical and Biological Arms Control Institute
Washington, DC, USA
\$389,716



CHEMICAL

The Nature of the Threat



Chemical weapons drill in Kabul, Afghanistan

Chemical weapons, such as sarin and mustard gas, can sicken and kill in minute quantities when properly distributed. 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 or were suspected of having chemical weapons programs.

The United States and Russia currently have over 90% of the 70,000 metric ton total declared global stockpile of chemical agents, only 12% of which has been verifiably destroyed since 1997. The pace of chemical weapons destruction must be accelerated and the scope of activities expanded. Both nations

have committed under the Chemical Weapons Convention to destroy these weapons and production capacity, but the sudden collapse of the Soviet Union in 1991 and the current state of the Russian economy have resulted in a vulnerable supply of weapons, equipment and know-how.

The United States and others are assisting Russia in meeting its international commitments, but progress has been delayed by disputes over destruction technologies, lack of funding for destruction in Russia and bureaucratic obstacles on all sides. Security at many sites in Russia is dangerously weak. Furthermore, chemical weapons in the United States and Russia have exceeded their intended shelf life and are vulnerable to leaking dangerous chemicals.

Strategies for Threat Reduction

It is essential to secure and dismantle weapons, eliminate infrastructure and redirect know-how to peaceful pursuits. NTI is engaged in a number of crosscutting projects that reduce the risks of nuclear and biological weapons use but also have applications in reducing the threats posed by chemical weapons.

NTI is working to promote the effective and timely implementation of the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. The G8 has pledged \$20 billion to support nonproliferation projects, initially in the former Soviet Union, over the next decade. Russia has identified chemical weapons destruction as one of its high-

est priorities for cooperation under the Global Partnership, and Global Partnership nations are contributing to chemical weapons projects in Russia.

NTI is promoting cross-border cooperation in responding to chemical accidents through its **Middle East Confidence Building** project as a first step in building the channels for dialogue on weapons of mass destruction threats among the states of the Middle East. In January 2003, experts from Egyptian, Israeli, Jordanian and Palestinian non-governmental organizations participated in a meeting to discuss chemical risks in the region. Each organization subsequently wrote up a case study of a local chemical accident,

which they presented at a second meeting in June 2003. The results will be published in a document that fills a gap in disaster response literature about the Middle East and serves as an important example of transparency. These meetings opened new lines of communication and new opportunities for additional cooperative projects.

Together with international partners, NTI is **Supporting Chemical Weapons Destruction** in Russia by contributing to high-priority infrastructure necessary for the U.S.-funded Shchuch'ye Chemical Weapons Destruction Facility. In order to assist Russia in gaining

international resources for these critical projects, NTI issued a \$1 million challenge grant conditioned on being matched by an additional \$2 million in new contributions. NTI has reached an agreement in principle with the government of Canada, a member of the G8 Global Partnership, to match the challenge grant. NTI and the Canadian government will identify a joint project that helps speed destruction of these weapons. This initiative demonstrates the value of international partnerships to address global threats that no nation can defeat on its own.

NTI Projects Approved or Ongoing in Fiscal Year 2003

Supporting Russian Chemical Weapons Destruction

To provide \$1 million matched by an additional \$2 million in new contributions toward high-priority infrastructure development for the Shchuch'ye Chemical Weapons Destruction Facility. NTI has reached an agreement in principle to work cooperatively with the Canadian Department of Foreign Affairs and International Trade.

Global Partnership Program

*Department of Foreign Affairs and International Trade
Ottawa, Canada*

Up to \$1,000,000

Middle East Confidence Building

Please see the Biological section for a description of NTI's Middle East Confidence Building project, which includes both chemical and biological components.



Chemical weapon shells in Shchuch'ye, Russia. There are 1.9 million shells at this facility.

NTI was founded to address the increasingly dangerous gap between the global threats from nuclear, biological and chemical weapons and the global response.

NTI is working to close this gap by taking direct action to reduce the threats and by spurring others to take action. It's this second mission—to be a catalyst for action—that is at the heart of NTI's public awareness efforts.

NTI's public awareness work aims to:

- 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.

WWW.NTI.ORG

To support greater public awareness of the gap between the global threats and the global response, NTI has developed a website with a range of resources in English and Russian that provide facts about the threats from nuclear, biological and chemical weapons, terrorism and related issues. Through work with National Journal Group, the Center for Nonproliferation Studies at the Monterey Institute of International Studies and Harvard's Managing the Atom Project, NTI's website offers daily news and in-depth resources so visitors can learn as much as they wish about these issues.



www.nti.org

HIGHLIGHTS OF WWW.NTI.ORG

Global Security Newswire is a free, daily news service covering global developments on nuclear, biological and chemical weapons 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

Issue Briefs that offer a short introduction and in-depth analysis on a wide range of international security issues, including topics such as "Assessing the Threat of Mass Casualty Bioterrorism" and "Weapons of Mass Destruction in the Middle East." www.nti.org/issuebriefs

Country Profiles with descriptions of nuclear, biological and chemical weapons and missile programs for more than 20 countries. www.nti.org/countries

Controlling Nuclear Warheads and Materials tracks the global threat posed by inadequately secured nuclear weapons and materials; evaluates efforts currently underway to address the threat; and recommends actions that should be taken to prevent nuclear terrorism. This section includes legislative summaries and technical background information and features an interactive database with complete budgets for each threat reduction program from 1992 to the present. www.nti.org/cnwm



PUBLIC AWARENESS

Nonproliferation Databases with the world's most comprehensive, open-source information with current and archived material from a wide range of sources including academic and trade journals, government and defense publications, periodicals and electronic news sources, United States congressional testimony, conference proceedings, books, United Nations and International Atomic Energy Agency (IAEA) documents, correspondence from international advisors, unpublished papers and Internet sources. www.nti.org/db

Publications and source documents from non-governmental organizations and government bodies with access to agreements, research papers, journal articles and white papers. www.nti.org/docs

WMD411, an information resource on the threats from nuclear, biological and chemical weapons that explores a range of policy options to reduce these weapons threats and includes a chronology of key events and a glossary explaining key terms. www.nti.org/wmd411

A Teacher's Toolkit, designed for educators, includes sample syllabi and links to a web resources guide, a glossary of nonproliferation terms and self-guided tutorials. www.nti.org/tt

General information about NTI available in both Russian and English including biographies of NTI Board Members and staff, NTI's mission and programs fact sheet. www.nti.org/aboutnti

The website is updated daily with new information and resources. Bookmark the site at www.nti.org

ACT NOW FOR A SAFER WORLD PUBLIC AWARENESS PROJECT

In the fall of 2003, NTI launched the *Act Now for a Safer World* public awareness campaign urging citizens to take action to help keep nuclear, biological and chemical weapons out of the hands of terrorists and make these issues a higher priority for the U.S. government.

The campaign focused on an action agenda of:

- Securing nuclear weapons and materials at the source;
- Improving biological defenses; and
- Securing and destroying chemical weapons.

Through a combination of paid advertising, Internet outreach, direct mail and local coordinators who engaged people on site and set up forums and public meetings, the campaign urged citizens to sign on to the priority action agenda; to ask questions of presidential candidates; and to learn about the candidates' positions on threat reduction by reading their statements on the website www.saferworld.org

NTI launched this campaign because the pace and scope of government efforts to prevent terrorists from acquiring nuclear, biological and chemical weapons has not significantly increased since September 11, 2001, and the job of locking down weapons and materials isn't being done fast enough. In Russia alone, enough material to make 20,000 nuclear bombs has not had comprehensive security upgrades. At the current pace, it will take 13 years to get the job done. If it were a priority, this work could be done in four years. Homeland security begins with securing weapons and materials wherever they exist, and coun-



One of the ads NTI developed for the *Act Now for a Safer World* project focused on the chemical weapons threat. It was called "1.9 million."

ANNOUNCER: Chemical weapons, some without proper security. 1.9 million shells at just one site – enough to kill everyone on earth. In the hands of terrorists, just one shell could kill thousands. It could fit in a suitcase and be here in days. The best way to protect ourselves – lock down and destroy the weapons.

Tell the President and the candidates to do more, faster. Because danger close to home can start far away. www.saferworld.org

tries must work together to lock weapons and materials down at the source.

The campaign was conducted during the presidential primaries in Iowa and New Hampshire, where citizens are engaged in policy issues because of their opportunity to interact directly with presidential candidates and where a great deal of national and international media attention is focused.

Warren Rudman, former Republican Senator of New Hampshire, and NTI co-chairman Sam Nunn, former Democratic Senator of Georgia, joined together in one of the television ads, urging citizens to get involved. In addition to the support of Rudman and Nunn, NTI's Action Agenda has been endorsed by Ted Turner, Susan Eisenhower, U.S. Senator Richard Lugar, U.S. Senator Pete Domenici, former Secretary of Defense Bill Perry, General Gene Habiger USAF (Ret.) and others.

The results:

- Thousands of citizens joined in signing on to the *Safer World* action agenda.
- Citizens surveyed by NTI in New Hampshire and Iowa said they believed that keeping weapons of mass destruction out of the hands of terrorists was the most important priority in the war on terrorism.
- Several of the presidential candidates laid out plans to prevent terrorists from acquiring and using weapons of mass destruction, and many of the can-

didates submitted a 350-word statement to NTI explaining what they would do to address these threats.

SOUTH ASIAN SECURITY AND WMD WEBSITE MODULE

NTI supported the development of a new website section on nuclear, chemical and biological threats for the Institute of Peace and Conflict Studies website. The new module provides comprehensive news analysis and reference materials drawn from South Asian, Chinese and Central Asian sources, including news and analytic reports relating to nuclear, chemical and biological threats in India, Pakistan, China and Iran.

COLLABORATIVE EDUCATION AND COOPERATIVE SECURITY

NTI joined with the Compton Foundation and the U.S. Department of Energy's Nuclear Cities Initiative to engage high school students on nuclear security issues by supporting the Critical Issues Forum. The Forum, run by the Center for Nonproliferation Studies, brings together high school students from the Russian closed nuclear cities, the United States and the United Kingdom and provides a framework for them to conduct original research on the scientific, economic, political and ethical aspects of nonproliferation issues. NTI funds supported Russian teacher involvement in developing the curriculum for the 2003–2004 program, which focuses on nuclear issues in Northeast Asia and will support Russian student participation in the 2004 Forum that culminates the program.

Public Awareness Projects Approved or Ongoing in Fiscal Year 2003

One-Stop Global Newsstand

To create a one-stop global newsstand over a three-year period—available exclusively on the NTI website—that provides 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
\$2,515,044

Online Research Center and Library

To develop for the NTI website, over a three-year period, a comprehensive 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 non-proliferation 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
\$2,400,000

South Asian Security and WMD Website Module

To develop a new WMD module, for the Institute of Peace and Conflict Studies website, that draws from South Asian, Chinese and Central Asian sources and provides comprehensive news analysis and refer-

ence materials relating to nuclear, chemical and biological weapons.

Institute of Peace and Conflict Studies
New Delhi, India
\$49,100

Dossier on North Korea's Weapons of Mass Destruction and Ballistic Missile Programs

To publish a strategic dossier that provides a balanced and detailed assessment of North Korea's nuclear, biological, chemical and ballistic missile programs.

The International Institute for Strategic Studies—U.S.
Washington, DC, USA
\$30,000

Act Now for a Safer World: A Public Awareness Project

To increase public understanding that the top security threat is a terrorist attack with nuclear, biological and chemical weapons and that the most effective way to protect ourselves is for all nations to work together in a Global Partnership to secure weapons and materials at their source.

NTI
\$2,950,000

Public Opinion Project

To conduct public opinion research on the threats from weapons of mass destruction.

NTI
\$339,500

Student Outreach

To conduct outreach activities on college campuses in Iowa and New Hampshire to support NTI's *Act Now for a Safer World* project.

Student Pugwash, USA

Washington, DC

\$15,000

Critical Issues Forum in Russian High Schools

To engage students in the Russian closed nuclear cities to conduct original research on the scientific, economic, political and ethical aspects of nonproliferation issues and facilitate their interaction with U.S. and U.K. students also participating in the Forum.

Monterey Institute of International Studies

Center for Nonproliferation Studies

Monterey, CA, USA

\$25,000



BOARD OF DIRECTORS

NTI's Board of Directors guides the overall philosophy and direction of the organization. NTI Board Members share the common goal of taking action to reduce the gap between the global threats and the global response and bring broad vision and experience to this important mission.

Not Shown: U.S. Senator Pete V. Domenici,
Ambassador Vladimir P. Lukin,
Professor Amartya Sen,
Rt. Hon. Professor Shirley Williams



R.E. (Ted) Turner

R.E. (TED) TURNER

Ted Turner, Co-chairman of the Nuclear Threat Initiative, is the founder of CNN, the world's first live, in-depth, around-the-clock news television network. Mr. Turner spent nearly 30 years building Turner Broadcasting System into one of the nation's largest media conglomerates. The company merged with Time Warner in 1996.

Mr. Turner began his career as an account executive for Turner Advertising Company, later to become Turner Broadcasting System. He bought his first television station in 1970 and later purchased Major League Baseball's Atlanta Braves. Mr. Turner pioneered the "superstation" concept, transmitting a station's signal to cable systems nationwide via satellite.

He founded the cable channels TNT, Cartoon Network and Turner Classic Movies, a 24-hour commercial-free network. He expanded Turner Broadcasting's news division with the creation of CNNRadio, CNN Airport Network and a 24-hour sports network.

A philanthropist and supporter of a number of humanitarian causes, Mr. Turner founded the United Nations Foundation and the Goodwill Games, an international, world-class, quadrennial, multisport competition. 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 one of two Men of the Century by *Broadcasting & Cable Magazine* in 1999.

SAM NUNN

Sam Nunn is Co-chairman and Chief Executive Officer of the Nuclear Threat Initiative. He served as a U.S. Senator from Georgia for 24 years (1972–1996) and is retired from the law firm of King & Spalding.

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, D.C.



Sam Nunn

CHARLES B. CURTIS

Charles B. Curtis is the President and Chief Operating Officer of the Nuclear Threat Initiative. Previously, Mr. Curtis served as the Executive Vice President and Chief Operating Officer of the United Nations Foundation (UNF).

Before joining UNF, Mr. Curtis 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.

U.S. SENATOR PETE V. DOMENICI

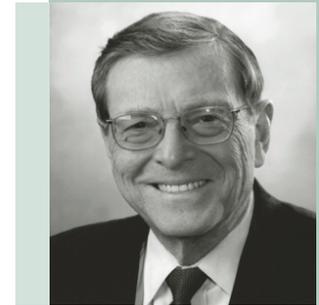
U.S. Senator Pete V. Domenici (R-New Mexico) is a strong proponent of creating and sustaining programs focused on reducing the threats from weapons of mass destruction.

As Chairman 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.



Charles B. Curtis



**U.S. Senator
Pete V. Domenici**



Susan Eisenhower

SUSAN EISENHOWER

Susan Eisenhower, Chairman of The Eisenhower Institute, is best known for her work on U.S.-Russian relations and international security issues. Cofounder of the Center for Political and Strategic Studies, Ms. Eisenhower previously led The Eisenhower Institute as President and CEO after the two organizations combined programs in 2000.

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 Department of Energy study. She has also served 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 over 18 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 the author of two best-selling books: *Breaking Free* and *Mrs. Ike*. She has edited three collected volumes on regional security issues, and written hundreds of op-eds and articles on foreign policy 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

Ambassador Rolf Ekeus serves as Chairman of the Board of the Stockholm International Peace Research Institute. He has filled a number of diplomatic posts, including Swedish ambassador to the United States and head of the United Nations Special Commission on Iraq.

In the summer of 2001, Ambassador Ekeus was appointed High Commissioner on National Minorities by the Organization for Security and Cooperation in Europe (OSCE). 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. In 2001 and 2002, respectively, he presented his official reports on the two issues.

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 charge of detection of Iraq's 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 to the Geneva Conference on Disarmament. He was chairman of the international negotiations on the Chemical Weapons Convention.

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 (USAF, Ret.) has over 35 years of experience in national security and nuclear operations. He recently retired from the positions of President and Chief Executive Officer of the San Antonio Water System, where he was responsible for general operations and strategic long-range planning.

Prior to joining the San Antonio Water System, General Habiger was the U.S. Department of Energy's Director of Security and Emergency Operations. In this role, he oversaw all security functions, including safeguards and security policy, cyber-security, critical infrastructure protection, foreign visits and assignments and emergency operations functions.

General Habiger also served as Commander in Chief of the U.S. Strategic Command and was responsible for all U.S. Air Force and U.S. Navy strategic nuclear forces. During his tenure, he established an unprecedented military-to-military relationship with his Russian counterpart.

A command pilot with more than 5,000 flying hours, primarily in bomber aircraft, General Habiger flew 150 combat missions during the Vietnam War. General Habiger also serves on the board of the Armed Services YMCA and the Fischer House Foundation of San Antonio and is a Senior Fellow with the Gorbachev Foundation.

HRH PRINCE EL HASSAN BIN TALAL

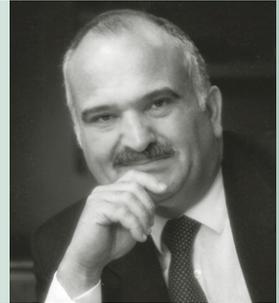
A pluralist, believing in consensus and respect for others, His Royal Highness Prince El Hassan bin Talal believes in societies in which all groups of people can live, work and function in freedom and with dignity. This goal has been the moving force behind his interest and involvement in humanitarian and interfaith issues, with 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 Chairman of the Arab Thought Forum, President of the Club of Rome and moderator of the World Conference for Religions and Peace.

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



General Eugene E. Habiger



**HRH Prince El Hassan
bin Talal**



Dr. Andrei Kokoshin

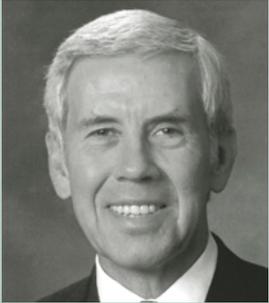
DR. ANDREI KOKOSHIN

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.

Dr. Kokoshin is the Director of the Institute for International Security Studies at the Russian Academy of Natural Sciences and served as the acting Vice President of the Academy from 1998 to 1999. 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 World Politics at Moscow State University. 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 radio-electronics from Moscow Higher Technical School and a doctorate in political science. He is the author of 12 books on international security, political and military affairs and defense industry policy.



U.S. Senator Richard G. Lugar

U.S. SENATOR RICHARD G. LUGAR

U.S. Senator Richard G. Lugar (R-Indiana) is Chairman 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 in 2000 won his third consecutive victory by a two-thirds majority. He is the longest-serving member of Congress from Indiana.

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 6,000 nuclear warheads that were once aimed at the United States.

As former 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.

Senator Lugar has received numerous awards including Guardian of Small Business, the Spirit of Enterprise, Watchdog of the Treasury, and 36 honorary doctorate degrees. 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.

AMBASSADOR VLADIMIR P. LUKIN

Ambassador Vladimir P. Lukin is a former Russian ambassador to the U.S. and served as Deputy Chairman of the Russian Duma. He previously served as Chairman of the Duma's Foreign Affairs Committee. In February 2004, Mr. Lukin was appointed by the State Duma to the post of Commissioner on Human Rights in the Russian Federation.

Born in the Siberian city of Omsk, Ambassador Lukin is a 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 World Economy and International Relations of the USSR Academy of Sciences. Ambassador 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, Ambassador 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 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. There he served as Chairman of the Supreme Soviet Committee on International Affairs and Foreign Economic Relations.

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

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 and Moscow. Dr. Mathews, who holds a Ph.D. 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 *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 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.



Ambassador Vladimir P. Lukin



Dr. Jessica Tuchman Mathews



Judge Hisashi Owada

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, 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 member of the Institut de Droit International. Judge Owada is the author of numerous writings on international, legal and political affairs.



Dr. William J. Perry

DR. WILLIAM J. 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 Institute 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 (1977–1981).

Dr. Perry has extensive business experience and currently serves on the board 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, non-governmental 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 1987 to 2000, Dr. Sadik served as Executive Director of the United Nations Population Fund, with the rank of Under Secretary General, becoming the first woman to head a major UN voluntarily funded program. In 2000, Dr. Sadik was appointed as Special Adviser to the UN Secretary-General, where she continues to work on gender, population and development issues. Current assignments include Special Envoy for HIV/AIDS in Asia and the Pacific and membership on the High Level Panel on Threats, Challenges and Change.

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 the national family planning program.

Dr. Sadik was educated at Loreto College, Calcutta, received her doctor of medicine degree from Dow Medical College, Karachi, 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

Professor Amartya Sen is a world-renowned economist, scholar, philosopher and author. He has done groundbreaking research in a number of areas, including the influence of economics on war and peace. 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.

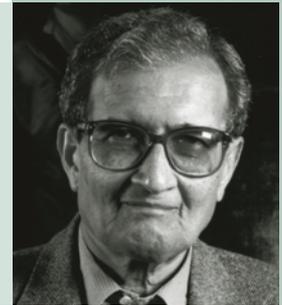
Professor Sen is Lamont University Professor and Professor of Economics and Philosophy at Harvard University and was until recently the Master of Trinity College, Cambridge. Before joining Harvard in 1987, he was the Drummond Professor of Political Economy at Oxford University and a Fellow of All Souls 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 ranged over welfare economics, theory of measurement, development economics, moral and political philosophy and the economics of peace and war. His most recent book, *Rationality and Freedom*, published by Harvard University Press, will be followed up by a companion volume, *Freedom and Justice*. Professor Sen's books have been translated into many languages.

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.



Dr. Nafis Sadik



Professor Amartya Sen



Rt. Hon. Professor Shirley Williams

RT. HON. PROFESSOR SHIRLEY WILLIAMS

Rt. Hon. Professor Shirley Williams is leader of the Liberal Democrats in the United Kingdom's House of Lords. 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 to 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 Advisory Board and serves on several other boards including the Moscow School of Political Studies and the International Crisis Group.

Baroness Williams holds eleven 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

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 to 1999. He served as Director of the Shanghai Institute of Nuclear Research of the Chinese Academy of Sciences from 1987 to 2001, was Chairman of the Shanghai Science and Technology Association from 1992 to 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; Rutgers University, New Jersey; and Tokyo University, Japan.

Professor Yang served as a council member representing China on the Association of East Asia Research Universities, was an executive member both 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.



Warren E. Buffett

Advisor 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.

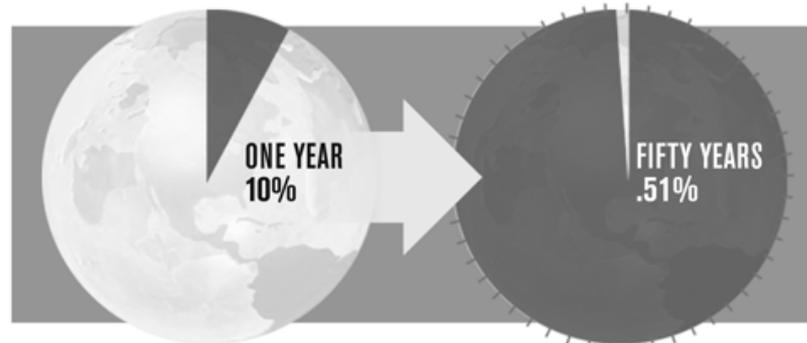
Mr. Buffett is Chairman of the Board and Chief Executive Officer of Berkshire Hathaway Inc., a holding company owning subsidiaries engaged in a number of diverse business activities and controlled by him since 1965. Berkshire Hathaway Inc.'s business activities include the underwriting of property and 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. He rapidly emerged as an innovative businessman with simple but sound investment principles and is now recognized as the world's greatest investor.

Mr. Buffett also serves as a director of the Coca-Cola Company and the Washington Post Company, and is a life trustee of Grinnell College and the Urban Institute.

Known for his superior ability at math and off-the-cuff number crunching, Mr. Buffett attended the Woodrow Wilson High School in Washington, DC, the Wharton School of Business at the University of Pennsylvania, and in 1950 received his BS from the University of Nebraska. He earned his MS in economics from Columbia University in 1951.

WARREN BUFFETT ON THE BENEFITS OF RISK REDUCTION



If the chance of a weapon of mass destruction being used in a given year is 10% and the same probability exists for 50 years...the chance of getting through the 50 year period without a disaster is .51 percent. [roughly one half of one percent]



But, if...the chance can be reduced to one percent each year, there is a 60.5 percent chance of making it through 50 years.

This means that if we can make it ten times harder for terrorists or nations to use a weapon of mass destruction in any given year, we can make it 120 times less likely that we will suffer from a use of these weapons for the next fifty years.

OFFICERS & STAFF

NTI is staffed by a group of experts on international affairs, nonproliferation, security and military issues, public health, medicine and communications. They have held high-level posts in the White House, federal and state agencies, the U.S. military, the U.S. Congress and in international organizations. The NTI staff share a common vision of a safer world and are working to reduce the global threats from nuclear, biological and chemical weapons.

Here are brief biographies of some NTI staff members:

Sam Nunn, Co-Chairman & Chief Executive Officer *(see biography in Board of Directors section)*

Charles B. Curtis, President & Chief Operating Officer *(see biography in Board of Directors section)*

Joan Rohlfig, Senior Vice President for Programs & Operations

Ms. Rohlfig 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 ambassador on nuclear security issues. Ms. Rohlfig also has served on the staff of the U.S. House of Representatives 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 as 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.

Margaret A. Hamburg, M.D., Vice President for Biological Programs

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 a fellow for the American Association of the Advancement of Science.

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 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 and the Executive Board of Women in International Security.

Sonya Vekstein, CPA, Chief Financial Officer

Before coming to NTI, Sonya Vekstein was Chief Financial Officer at the International Republican Institute, a non-profit organization promoting democracy worldwide, where she worked to improve accounting processes and internal controls. Ms. Vekstein is a Certified Public Accountant and a member of the American Institute of Certified Public Accountants.

Robert E. Berls, Jr., Ph.D., 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. Most recently he was Vice President for Business Development and Government Relations for a U.S. oil company.

Lisa K. Cutler, Director of Programs and Outreach, Communications Program

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 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 comes 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.

Diane G. Hauslein, Director of Administrative Operations

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.

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 headquarters, where she ran the Russian/NIS biological programs and served as coordinator for 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.), 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 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."

**Mark Smolinski, M.D., M.P.H.,
Senior Program Officer, Biological Programs**

Before coming to NTI, Dr. Smolinski was a Senior Program Officer at the Institute of Medicine of the National Academies of Science and study director for Microbial Threats to Health: Emergence, Detection, and Response. He is a physician and expert in medical epidemiology and public health. Dr. Smolinski has served in various senior positions in the federal, state and local governments, including

Senior Advisor to the U.S. Assistant Secretary for Health and Surgeon General, and was an epidemic intelligence officer for the U.S. Centers for Disease Control and Prevention.

Jaime M. Yassif, Program Officer

Ms. Yassif came to NTI from the Federation of American Scientists, where she worked as a research assistant, contributing to the research and writing of congressional testimony on radiological weapons as well as an FAS report on threat reduction programs in Russia. She also participated in projects on U.S. nuclear force structure, uranium enrichment technology and biosecurity. Ms. Yassif has a degree in biology from Swarthmore College and is a member of Women in International Security.

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Individuals can make a difference.

While governments have the resources and responsibility for large-scale threat reduction work, they need to know that the public is watching what they do on security issues. By learning more about global security issues, staying up-to-date and encouraging more action by leaders and governments to reduce global threats, you can help us improve global security.

Through our website, NTI offers many educational and information resources to help you get and stay informed. Go to www.nti.org

Once you've got the facts, you can get more directly involved at www.saferworld.org

At this site you can join with others who care about these issues, and spread the word to your friends and colleagues.

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