

NUCLEAR THREAT INITIATIVE | 2001 ANNUAL REPORT





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## LETTER FROM THE CO-CHAIRMEN

In January 2001, we launched the Nuclear Threat Initiative (NTI) to increase public awareness, to serve as a catalyst for new thinking and to take direct action to reduce the threats from nuclear, biological and chemical weapons. We believed then, and we continue to believe, that the most significant clear and present danger facing the world is the threat from nuclear, biological, and chemical weapons.

During our initial year, we have recruited an international Board of Directors to guide the overall philosophy and direction of the foundation. Each NTI Board member brings broad vision and experience to this important mission.

NTI is a global initiative, concentrating on the United States, Russia, other nations of the former Soviet Union, and on those regions of greatest proliferation concern in Asia and the Middle East. Toward that end, we continue our efforts to broaden the international membership of our Board.

Our main office is in Washington, DC and, in January 2002, we opened an office in Moscow to more directly engage in our work there. There can be no realistic comprehensive plan to reduce the threats from weapons of mass destruction that does not depend on cooperation with and engagement in Russia.

NTI's work is organized around the following program areas:

- Communications and Education;
- Russia and New Independent States;
- Biological;
- Regional areas; and
- United States.

We hope that part of what NTI offers is fresh thinking on long-standing problems. But we also aim to do more than think. We intend to match our thoughts with actions.

For this reason, we have established NTI as an operational organization — actively engaged in developing, shaping and implementing the projects we fund. Our staff reflects this operational orientation — we have recruited a team of officers and staff with extensive operational experience.

Our activities focus on projects that can be replicated on a larger scale by governments and the private sector, promoting dialogue, building common ground and increasing public awareness of the threats.

We have obligated more than \$26 million in program awards and grants in our first year. This report briefly describes the primary projects supported by those funds. NTI's approach to grant-making differs from traditional foundations because of our operational orientation. While we have funded

some traditional grants, the majority of NTI's awards support operational activities that NTI has taken a strong hand in developing.

NTI does not have a formal grant-making cycle, but NTI will consider unsolicited projects that:

- Address significant high-risk situations involving weapons of mass destruction and weapons materials;
- Generate additional funding and leverage action for threat reduction; and
- Promote the core objectives of NTI.

Since the events of September 11, people around the world are beginning to realize that the threats of terrorism and the threats from poorly protected nuclear weapons and nuclear, biological and chemical weapons materials are not separate, but interrelated and reinforcing, and if joined together, become our worst nightmare.

The global community has a unique window of opportunity and responsibility to reshape the terrain of our world and make it safer for present and future generations. That should be our common bond.



Sam Nunn  
Co-Chairman  
Chief Executive Officer



R.E. (Ted) Turner  
Co-Chairman and Founder

# Mission

**WORKING FOR A SAFER WORLD**



# we must close the gap

*We must close the growing and increasingly dangerous gap*

*between these threats from nuclear, biological and chemical weapons*

*and the global response.*

Concerned that the threat from nuclear weapons had fallen off most people's radar screens after the end of the Cold War, CNN founder Ted Turner asked former Senator Sam Nunn in the spring of 2000 to help assess whether a private organization could make a difference. After months of discussions and consultations with some of the world's most respected security experts, Mr. Turner and Senator Nunn founded the Nuclear Threat Initiative (NTI) in January 2001. NTI is supported by a pledge from Mr. Turner to provide \$250 million – believed to be the largest sum any private individual has ever invested in these security issues.

NTI is working to strengthen global security by reducing the risk of use and preventing the spread of nuclear, biological and chemical weapons. In addition to Mr. Turner and Senator Nunn, NTI is guided by an experienced, international Board of Directors who share a common goal of taking action to reduce the gap between the global threats and the global response. The foundation's activities are directed by Senator Nunn and managed by President Charles B. Curtis.



**NTI Priorities**

NTI seeks to contribute to policies and activities that:

- Bring nuclear, biological and chemical weapons materials under secure control and reduce their quantities;
- Restrict the spread of weapons know-how;
- Reduce the risk of intentional or accidental use of weapons of mass destruction;
- Develop better strategies and means to guard against the threat from biological weapons;
- Bring about changes in nuclear forces to enhance safety, security and stability; and
- Increase public awareness, encourage dialogue, catalyze action and promote new thinking about reducing the dangers from weapons of mass destruction on a global basis.

**Changing World; Changing Threats**

The threats from nuclear, biological and chemical weapons didn't disappear with the end of the Cold War. In some ways, these threats have become more complex and dangerous.

Consider these facts:

■ **U.S. and Russian nuclear postures:**

U.S. and Russian nuclear postures, essentially the same as during the Cold War, may well increase the risk of use both were designed to reduce. In 1995, Russia started procedures for initiating a nuclear response when it mistook a peaceful U.S. research rocket for a possible incoming nuclear missile. More than ten years after the end of the Cold War, Russia and the United States continue to maintain thousands of nuclear weapons ready for immediate launch. As in the Cold War, the Presidents of the United States and Russia could still be called upon to make critical decisions about the fate of nations and the world within minutes.



■ **Weapons material and know-how at risk:**

More than 1,000 tons of highly enriched uranium and at least 150 tons of weapons-grade plutonium remain in the Russian weapons complex, enough to build at least 40,000 – 60,000 nuclear weapons. Many storage sites are not properly secured. Thousands of weapons scientists are still without a steady paycheck. Terrorist groups and rogue states are known to have attempted to exploit the situation.

■ **Terrorism:**

In 1999, terrorist Osama Bin Laden, said: "To seek to possess the weapons that could counter those of the infidels is 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 they are willing to take. These attacks give us little hope that terrorists with nuclear, biological and chemical weapons would hesitate to use them.

■ **Subway gas attack:**

In 1995, members of the Japanese cult Aum Shinrikyo launched a sarin nerve gas attack in a crowded Tokyo subway. Authorities discovered that in addition to developing chemical weapons, the group was trying to obtain the Ebola virus and Russian know-how to create biological weapons.

### ■ New nuclear states:

In 1998, India and Pakistan, two countries that have fought three recent wars, exploded nuclear tests within days of each other. Both nations now have nuclear weapons; neither has advanced warning or safety systems, and there is a continuing conflict over Kashmir.

These are known events. The larger danger lies in what we don't know.

The threats of terrorism and the threats from weapons of mass destruction are not separate, but inter-related and reinforcing, and the world's security now depends in great part on who is faster and smarter – those trying to get weapons, materials, and know-how, or those trying to secure them.

### Global Response

Some progress has been made. Diplomatic advances have reduced the total number of nuclear weapons; cooperative work between the United States and Russia that began in the 1990s has secured and removed excess weapons and material. The United States worked with Russia to recover the nuclear weapons that Ukraine, Kazakhstan and Belarus inherited from the Soviet Union. This eliminated more nuclear weapons than those contained in the entire nuclear arsenals of China, France and the United Kingdom combined. The United States and Russia have destroyed hundreds of missiles and hardened silos, more than 80 bombers, 18 nuclear submarines and hundreds of submarine launchers, and deactivated thousands of warheads. All but a handful of nations have agreed to ban the manufacture and use of biological and chemical weapons.

### Closing the Gap

These are important steps, but we need giant strides. There is still a huge gap between the threats from weapons of mass destruction and the world's awareness and response.

NTI is working to close the growing and increasingly dangerous gap between these threats from nuclear, biological and chemical weapons and the global response by:

- Taking direct action to reduce the threat through start-up, pilot, and model initiatives that the

government and private sector could replicate on a larger scale.

- Encouraging others to take action to reduce the threats by being a catalyst for action, working to promote dialogue, building common ground, and increasing public awareness of the gaps between the threat and the response. These gaps include a gap in the way governments are organized to address the threats, a gap in resources and a gap in thinking about these issues.



# Programs

**WORKING FOR A SAFER WORLD**

# Programs and Projects

NTI's program areas include:

- Communications and Education;
- Russia and New Independent States;
- Biological;
- Regional areas; and
- United States.

As an operational organization, NTI plays an active role in executing program activity in each of the above areas. In some cases, NTI works in partnership with other organizations to further NTI mission objectives. The awards described on the following pages are examples of many such collaborative projects. In other cases, NTI undertakes activities directly – directly funding them, with NTI staff directly managing projects.

The following pages describe each of these NTI programs in more detail and list award commitments (not amounts paid) made in 2001. We have obligated more than \$26 million in program awards and grants in our first year. This report briefly describes the primary projects supported by those funds. In some cases, discussions with award recipients about the structure of their work are still underway and some awards support multiple years of work. In addition, NTI has spent nearly \$795,000 on concept and program development activities.



to inspire leadership  
and cooperation

*"If we are to reduce the threats from nuclear, biological and chemical weapons, we need to raise public awareness and to inspire leadership and cooperation throughout the world."*

—TED TURNER

# Communications and Education Program

## OVERVIEW

The Nuclear Threat Initiative was established in response to two central facts:

- Nuclear, biological and chemical weapons represent the world's single greatest threat.
- There is an increasingly dangerous gap between the global threat and the global response.

NTI seeks to help close that gap by taking direct action to reduce the threats and encouraging others to take action to reduce the threats. It's this second mission – to be a catalyst for action – that is at the heart of NTI's communications and education program. The focus of NTI's outreach and education work is to:

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



GET THE FACTS. GET INFORMED. GET INVOLVED.

**www.nti.org**

To support greater public awareness of the gap between the threats and the global response, NTI launched a content-rich website in 2001 with authoritative, balanced information to give people access to the facts about the threats from nuclear, biological and chemical weapons, terrorism and related issues. NTI's website offers daily news and in-depth resources.

Information resources are layered to support different users, and there are in-depth resources to support international organizations working in the field as well as educational tools to support student and teacher learning about these issues.

Highlights of www.nti.org include:

- **Global Security Newswire**, a daily news service produced by National Journal Group with original reporting and a summary of the day's news from around the world on nuclear, biological and chemical weapons, terrorism, and missile defense. This on-line news service is available at no cost exclusively on the NTI website.

- **A Research Library** with up-to-date analysis and information prepared by the scholars and experts at the Center for Nonproliferation Studies (CNS) at the Monterey Institute of International



Studies. Whether you're seeking a simple explanation of a complex issue or looking for in-depth analysis from a world-renowned expert, the library has a range of information including source documents, publications, tutorials and interactive maps and graphics. The library builds on the rich information of 40,000 documents, abstracts, profiles, maps and graphics in the CNS databases – previously available only by subscription and now available at no cost on the NTI website.

The library also includes issue briefs on key topics and country overview pages – with information about the nuclear, biological, chemical and missile programs of selected countries prepared by the experts and scholars at Monterey specifically for the NTI website.

Countries profiled include China, India, Iran, Iraq, North Korea, Pakistan, and Russia. Current issue briefs include "Assessing the Threat of Mass-Casualty Bioterrorism" and "Nonproliferation Assistance to the former Soviet Union," among others.

- **WMD411**, an authoritative resource to support student learning about the threats from weapons of mass

destruction (WMD) for this year's National High School Policy Debate. WMD411 was created by the Center for Nonproliferation Studies and provides links to full text of treaties, agreements, key policy papers and other materials drawn from original sources, a chronology of key events and a glossary explaining key terms.

- **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, and a primer on the threats from weapons of mass destruction.

- **A Spotlight Section** featuring unique on-line resources offered by other organizations working in the field and nearly 3,000 links to outside sources.

- **A Teacher's Toolkit**, designed for educators, includes sample syllabi, an educational web resources guide, WMD411, a glossary of nonproliferation terms, and self-guided tutorials on key issues.

We continue to add new features and products to the website, so bookmark the site at [www.nti.org](http://www.nti.org).

***"We want to arm people with the facts so that these issues can be debated and understood far beyond the small circle of policymakers and experts who work on them."***

**—SAM NUNN**

## PROJECTS APPROVED IN FISCAL YEAR 2001

**Public Education****■ One-Stop Global Newsstand**

To create a comprehensive, one-stop global newsstand – 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 defense.

*National Journal Group, Inc.  
Washington, DC, USA  
\$2,515,043 (over three years)*

**■ WMD411**

To produce an on-line learning facility to support student learning for this year's National High School Policy Debate topic: "Weapons of Mass Destruction: Resolved that the U.S. Federal Government Should Establish a Foreign Policy Significantly Limiting the Use of Weapons of Mass Destruction." WMD411 offers research tools, links to full text of treaties, agreements, key policy papers and other materials drawn from original sources, a chronology of key events and a glossary explaining key terms.

*Monterey Institute of International Studies  
Center for Nonproliferation Studies  
Monterey, CA, USA  
\$50,000*

**■ On-line Research Center and Library**

To develop for the NTI website, over a three-year period, a comprehensive, multi-lingual research library with information, analysis and educational materials about the threats from nuclear, biological and chemical weapons. The library builds on the most comprehensive open-source nonproliferation databases in the world and brings together a range of expert opinion and analysis on these issues.

*Monterey Institute of International Studies  
Center for Nonproliferation Studies  
Monterey, CA, USA  
\$2,400,000 (over three years)*

**■ Town Hall Meetings**

To organize and promote large-scale town hall meetings to educate and engage the American people on issues relating to U.S. nuclear policy.

*The Henry L. Stimson Center  
Washington, DC, USA  
\$100,000*

**■ Student Outreach**

To engage college students in educational activities about the threats from nuclear, biological and chemical weapons.

*Student Pugwash USA  
Washington, DC, USA  
\$25,000*

**■ Tracking U.S.-Russian Cooperative Nuclear Security**

To track the overall progress of U.S.-Russian cooperative nuclear security programs with an annual report that includes recommendations for next steps. The report will be available on the NTI website, [www.nti.org](http://www.nti.org) later this year.

*Managing the Atom Project, John F. Kennedy School of Government, Harvard University  
Cambridge, MA, USA  
Up to \$439,170 (over three years)*

**■ Documentary about Engaging Russian Former Bio-Weapons Scientists in Peaceful Collaborative Research with American Scientists**

To facilitate early segment filming in the United States and Russia for a documentary about on-going cooperation between Russian and U.S. biological scientists for the development of a brucellosis vaccine.

*World Foundation for Environment and Development  
Washington, DC, USA  
\$35,000*

**Education and Training****■ NTI-AAAS Global Security Fellowship**

To bring U.S. public health/biomedical experts into a national security position in an executive branch agency or the U.S. Congress to work on biological weapons threat reduction, to encourage an essential cross-disciplinary approach to addressing biological weapons threats and to bring additional technical expertise to the government.

*American Association for the Advancement of Science (AAAS)  
Washington, DC, USA  
\$130,225*

**■ Collaborative Education and Cooperative Security: A Joint Curriculum Project on Reducing the Nuclear Threat**

To develop a unique joint arms control curriculum to be taught at a Russian and an American institute of higher education. This project will bring together Russian and American security experts to develop joint course materials that compare current security problems with the Cold War experience, examine risks associated with ongoing operational practices 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 (ISKRAN), Moscow, Russia;  
Center for International and Security Studies at Maryland (CISSM) at the School of Public Affairs, University of Maryland, College Park, MD, USA  
Up to \$712,597 (over two years)*



much more needs  
to be done

*Over the last decade a sustained U.S. – Russian cooperative threat reduction effort has reduced these dangers but much more needs to be done.*

# Russia/New Independent States Program

## OVERVIEW

**The Nature of the Threat** Ten years ago, the Soviet Union broke apart, leaving as its legacy approximately 30,000 nuclear warheads and enough highly enriched uranium and plutonium to make 40,000 – 60,000 more; 40,000 metric tons of chemical weapons; an elaborate bioweapons research apparatus, and tens of thousands of scientists who know how to make weapons and missiles, but whose jobs are no longer assured. Over the last decade a sustained U.S. – Russian cooperative threat reduction effort has reduced these dangers but much more needs to be done.

### Strategies for Threat Reduction

Dismantling weapons, securing material, eliminating infrastructure, and directing know-how to peaceful pursuits – all of these play an essential role in fighting the spread of weapons of mass destruction. NTI's Russia/NIS programs are focused on:

- Securing, consolidating, and reducing the essential elements of nuclear weapons: highly enriched uranium and weapon-grade plutonium. The relative ease of obtaining weapons designs and non-nuclear components makes control over nuclear materials our first line of defense for preventing terrorist groups or hostile forces from developing or obtaining nuclear weapons.
- Leveraging additional resources to address proliferation threats posed by nuclear, biological and chemical weapons and their associated materials, infrastructure, and human capital.
- Developing projects in partnership with host countries with local approaches and perspectives as an inherent part of the projects. Our work is guided by the successful history of scientist-to-scientist cooperation between U.S. and Russian specialists and the Nunn-Lugar Cooperative Threat Reduction program.



## PROJECTS APPROVED IN FISCAL YEAR 2001

### Securing, Consolidating and Reducing Weapons-Usable Material

#### ■ Preparing to Double the Blend-down Rate of Highly Enriched Uranium (HEU)

To fund a study of the options for accelerating the rate at which HEU from dismantled nuclear weapons is transformed into safe forms for ultimate use in civilian power plants.

*Facilities and Institutes of Russian Ministry of Atomic Energy  
Moscow, Russia  
Up to \$2,000,000 (over two years)*

#### ■ 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.

*Institute of Nonproliferation, Kazatomprom  
Almaty, Kazakhstan  
Up to \$2,000,000 (over one and one-half years)*

### Leveraging Resources to Address WMD and Associated Materials, Infrastructure and Human Capital

#### ■ Conversion of Russian Debt into Support for Nonproliferation Activities

To define options for transforming debt owed by Russia to Western governments and private lenders into resources for jointly defined nonproliferation projects in Russia. Early results from this effort proved influential in developing U.S. Congressional and Administration initiatives in this area, which could build on the results of this pilot effort.

*Battelle Memorial Institute, Pacific Northwest Division  
Richland, WA, USA  
\$125,000*

#### ■ Technical Nuclear Nonproliferation Workshop

To hold a technical workshop on nuclear nonproliferation in Moscow under the auspices of the Russian Academy of Sciences to engage the Russian scientific community in strengthening U.S.-Russian cooperation on scientific and technical aspects of proliferation prevention and to help identify other opportunities for scientific and technical cooperation.

*Russian Academy of Sciences  
Moscow, Russia  
\$100,000*

#### ■ Engaging Europe in Cooperative Threat Reduction

To conduct an analytical study to consider approaches to developing a constituency in Europe, focusing on the national security community, for cooperative threat reduction (CTR) programs with Russia. Researchers from the Center for Strategic and International Studies established partnerships with similar European institutions to explore the creation of a European CTR-like program, based on imperative security dangers that should be of concern to European defense ministries.

*Center for Strategic and International Studies  
Washington, DC, USA  
\$75,869*

#### ■ Strengthening Cooperative Threat Reduction with Russia: A U.S. – European Initiative

To build upon the initial concept development award listed above, NTI, the Center for Strategic and International Studies and its partners are undertaking a joint assessment of existing threat reduction activities to develop a constituency in Europe for threat reduction programs with Russia, with the goal of creating a European program complementary to the U.S. government's Nunn-Lugar Cooperative Threat Reduction and related programs.

*Center for Strategic and International Studies  
Washington, DC, USA  
Up to \$3,208,508 (over three years)*

#### ■ Evaluate a High-Technology Business Accelerator in Russia

To analyze the feasibility of establishing a high-technology business accelerator in Russia incorporating faculty and consultants from the Sam Nunn School and the Advanced Technology Development Center at Georgia Tech. Consultants worked with Moscow-based experts to develop a detailed plan to establish a structure in Russia to provide the business planning, marketing, legal, accounting and other requirements to transform attractive technology into sustainable commercial enterprises, creating employment opportunities for scientists and engineers coming out of Russian WMD institutes and facilities.

*William Hoehn, Visiting Professor, Georgia Institute of Technology  
Atlanta, GA, USA  
\$149,975*

#### ■ Fund for Development of Conversion Companies

To contribute \$1 million to an existing Russian loan fund, known as the Fund for Development of Conversion Companies (FDCC), which has been established to create permanent, commercially viable civilian businesses in the closed nuclear city of Sarov. This award will expand by 30 to 40 percent current FDCC funds available in 2002 for loans to new or expanding businesses, and thereby create new jobs to replace nuclear weapons-related jobs that are being lost through downsizing.

*Fund for Development of Conversion Companies  
Sarov, Russia  
\$1,000,000*

### ■ Supporting Russian Chemical Weapons Destruction

To authorize a conditional pledge of \$1 million dollars to aid high-priority infrastructure development for the Shchuchye Chemical Weapons Destruction Facility. Discussions are underway with the Russian Munitions Agency to work out the terms of the assistance.

*Russian Munitions Agency  
Moscow, Russia  
An initial pledge of \$1,000,000 conditional  
on matching funds being raised*

### ■ Cooperation on Counterterrorism

To initiate and expand a broad effort on U.S.-Russian cooperation in counterterrorism and nonproliferation by building on the history of cooperation between U.S. and Russian scientists. The joint Academy initiative will especially focus on new efforts to collaborate on science and technology solutions to prevention, response and mitigation of catastrophic terrorism.

*Russian Academy of Sciences, Moscow, Russia;  
and National Academy of Sciences,  
Washington, DC, USA  
\$1,000,000 (over two years)*

### ■ Improving U.S.– Russian Cooperation on Security Goals

#### ■ U.S.-Russian Nonproliferation Working Group

To develop a strategy and plan for a U.S.-Russian nonproliferation working group, inspired by favorable nonproliferation statements from Presidents Bush and Putin. The working group will be comprised of Belfer Center for Science and International Affairs personnel and various Russian representatives, both official and non-official, to reinvigorate the U.S.-Russian consensus on nonproliferation objectives and approaches.

*Belfer Center for Science and International  
Affairs, John F. Kennedy School  
of Government, Harvard University  
Cambridge, MA, USA  
\$45,000*

#### ■ U.S.-Russian Nonproliferation Working Group

To establish the U.S.-Russian working group, listed above, to create and identify shared interests and cooperative strategies for preventing the spread of weapons of mass destruction. The group's agenda includes a summary and assessment of current U.S. and Russian government perspectives, a joint U.S.-Russian assessment of efforts to prevent proliferation over the past five decades, and a joint consideration of the role of nuclear weapons today.

*Belfer Center for Science and International  
Affairs, John F. Kennedy School  
of Government, Harvard University  
Cambridge, MA, USA  
Up to \$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 bring officials from both countries together in neutral, informal settings to examine new and evolving issues related to arms control and nonproliferation. Candidate topics for discussion include counterterrorism, threat reduction cooperation in South Asia, enhancing transparency in nuclear weapons activities, improving nuclear stability, export controls, strengthening multilateral arms control, and extending threat reduction cooperation to new regions.

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



# challenges traditional ways of thinking

*The growing concerns about the biological weapons threat challenge traditional ways of thinking about prevention, deterrence, nonproliferation, and response, and require us to think anew about how to define and implement enduring solutions.*

# Biological Program

## OVERVIEW

**The Nature of the Threat** Unlike nuclear or chemical weapons, biological weapons are relatively easy to produce, inexpensive, and capable of inflicting significant damage even in the absence of large quantities of material or elaborate delivery mechanisms. Pathogens suitable for bioweapons can be concealed and transported with little difficulty. Many are commonly found in nature, as well as in government, university and industry laboratories. In addition, information about how to obtain and prepare bioweaponry is increasingly available through the Internet and open scientific literature.

Compared to the nuclear arena, both the strategic and analytic framework for addressing the bioweapons threat, as well as the breadth and depth of expertise, are much less developed. By its very nature, the bioweapons threat – with its close links to naturally occurring infectious agents and disease – requires a different paradigm. The growing concerns about the biological weapons threat challenge traditional ways of thinking about prevention, deterrence, nonproliferation, and response, and require us to think anew about how to define and implement enduring solutions.

### Strategies for Threat Reduction

While most of the current focus of public attention has been on the response to a biological attack, the myriad intrinsic difficulties in mounting an effective response to a biological attack once it has occurred – and the casualties that will inevitably result – compel us to more closely examine what can be accomplished to prevent and reduce the fundamental threat, as well as to improve early warning and rapid detection systems to minimize casualties in the face of an event. The NTI bioweapons threat reduction framework is focused on:

- Increasing education, awareness and communication;
- Engaging the scientific community to reduce access to dangerous pathogens and establish normative standards for the conduct and practice of scientific research;
- Scientific cooperation and collaboration with the former Soviet Union;
- Enhancing global infectious disease surveillance, early detection, and rapid response;
- Building new partnerships among the public health/science and intelligence/law enforcement communities;
- Furthering bioterrorism preparedness and consequence management; and
- Addressing agricultural terrorism.



## PROJECTS APPROVED IN FISCAL YEAR 2001

**Increasing Education, Awareness and Communication****■ World Medical Association Bioterrorism Meeting**

To support a discussion of the role of medical professionals in addressing the threat of biological weapons at the annual meeting of the World Medical Association for 2002. This will be the first meeting on bioterrorism to engage practicing physicians and leaders of physician organizations on an international level.

*World Medical Association, in association with the American Medical Association  
Chicago, IL, USA  
Up to \$160,000*

**■ Public Health Preparedness for Bioterrorism Framework Meetings**

To convene a series of meetings bringing representatives from the U.S. public health community together to develop a framework for strengthening the capacity of the U.S. public health system to respond to bioterrorism, with particular attention to strengthening responses to infectious disease outbreaks.

*Representatives from the Public Health and Bio Science Communities  
Up to \$38,500*

**Enhancing Global Infectious Disease Surveillance, Detection and Response****■ Emergency Outbreak Response Fund**

To create a revolving fund to support rapid emergency response to infectious disease outbreaks that will be replenished by the World Health Organization (WHO) through solicitation of contributions from donor countries both during an outbreak and following an outbreak. This will facilitate prompt response by the WHO to emerging epidemics.

*The World Health Organization  
Geneva, Switzerland  
\$500,000*

**Engaging the Scientific Community to Reduce Access to Dangerous Pathogens and Establish Normative Standards****■ Biological Weapons Monitoring/Inspection Strategy Development**

To facilitate the input of specialists from the U.S. pharmaceutical and biotechnology industries to the development of strategies that might improve biological weapons monitoring and inspection protocols, including those concerning the Biological Weapons Convention.

*Henry L. Stimson Center  
Washington, DC, USA  
Up to \$310,720*

**■ Establishment of a Bioindustry Standards Organization**

To engage biotechnology and pharmaceutical industry leaders in the development of transparent standards to: (a) reduce the potential for harmful application of biotechnology; (b) enhance public confidence in bioindustry endeavors; (c) reduce the threat from biological weapons; and (d) establish a new bioindustry organization for monitoring these standards. This project engages CEO-level industry leaders in a series of meetings, surveys, and focus groups in the U.S., Europe, and Asia, to gauge industry attitudes toward bioproliferation, and lays the groundwork for the possible creation of a bioindustry standards organization.

*International Institute for Strategic Studies,  
London, England; and the Chemical and Biological Arms Control Institute  
Washington, DC, USA  
Up to \$650,291*

**■ Bioscience Community Self-Governance Project**

Working with many communities, including the scientific, the project examines what can be done to constrain the harmful use of biological research and development without unduly encumbering the pursuit of science for scholarly or beneficent ends. The award will also support coordination among NTI grantees working on establishing normative standards for bioresearch and technology development between the National Academy of Sciences, Chemical and Biological Arms Control Institute, and International Institute for Strategic Studies.

*The Johns Hopkins Center for Civilian Biodefense Strategies  
Baltimore, MD, USA  
Up to \$1,750,000 (over three years)*

**■ Academic Biotechnology Nonproliferation Project**

To develop academic biotechnology oversight practices and institutional arrangements for the research community to guard against the destructive application of biotechnology.

*National Academy of Sciences  
Washington, DC, USA  
Up to \$420,970 (over one and one-half years)*

## Scientific Collaboration with the Former Soviet Union (FSU)

### ■ Integrating Scientists into the International Research Community

To support approximately twenty bioresearch scientists from the former Soviet Union to attend a variety of highly respected research conferences that bring together top scientists to present and discuss cutting-edge scientific research and ideas. The project enhances mutual understanding and contact between scientists from the former Soviet Union and the United States, and supports further integration of these scientists into the international research community. Select scientists will remain in the U.S. for a brief series of lectures at universities around the nation, following their conference.

*Gordon Research Conferences  
West Kingston, RI, USA  
Up to \$80,000*

### ■ Hepatitis Vaccine Manufacturing Feasibility Study

To conduct a feasibility study concerning the possible commercial manufacture of Hepatitis A, Hepatitis B, and Hepatitis A/B (bivalent) vaccines 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 a new vaccine production facility at the State Research Center of Virology and Biotechnology VECTOR in Novosibirsk, Russia.

*High Technology Foundation/Gorbachev Project  
Moscow, Russia  
\$250,000*

### ■ FSU 'Brain-Drain' Prevention Program

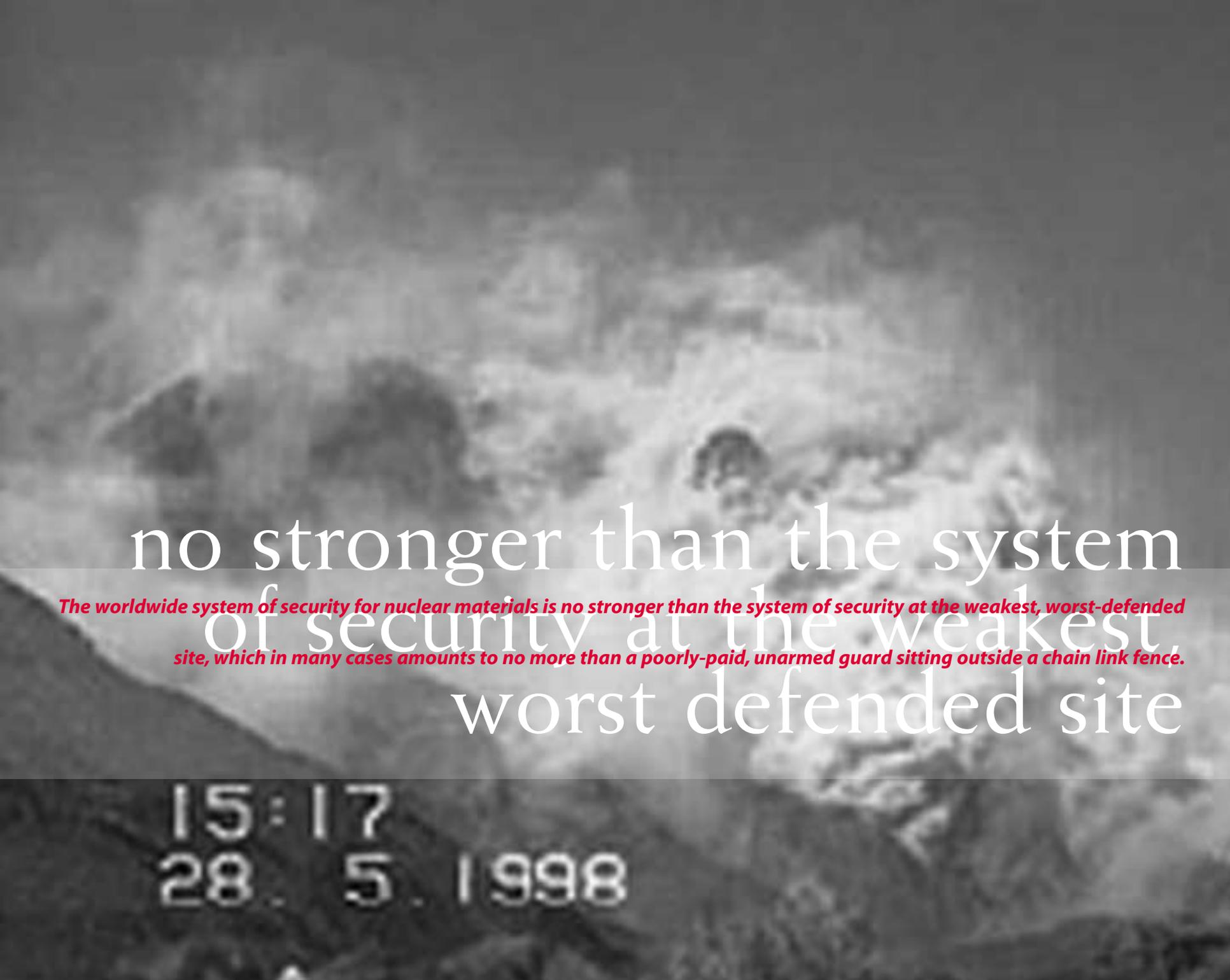
To solicit the participation of U.S. and western pharmaceutical companies as research collaborators with former Soviet weapons scientists, and enhance the understanding necessary to underpin continuing governmental support of 'brain-drain' prevention programs.

*Henry L. Stimson Center  
Washington, DC, USA  
Up to \$762,965 (over three years)*

### ■ FSU Brucellosis Vaccine Research

To support former Soviet weapons scientists in the development of a new brucellosis vaccine. In addition to vaccine research and development, this project will include development of a small animal model for vaccine testing, and a vaccine delivery system that will permit vaccination of wild animal populations. NTI funding is providing roughly half the current project budget, with the U.S. Defense Threat Reduction Agency as funding partner. The project is cooperatively managed with the U.S. Civilian Research and Development Foundation.

*Research Center for Toxicology and Highly Pure Biopreparations in Serpukhov; State Research Center for Applied Microbiology in Obolensk; All-Russian Research Veterinarian Institute in Kazan, funded through the International Science and Technology Center, Moscow, Russia (in conjunction with U.S. Defense Threat Reduction Agency)  
\$1,300,000 (over two years)*



no stronger than the system  
of security at the weakest,  
worst defended site

*The worldwide system of security for nuclear materials is no stronger than the system of security at the weakest, worst-defended site, which in many cases amounts to no more than a poorly-paid, unarmed guard sitting outside a chain link fence.*

15:17  
28. 5. 1998

# Regional Program

## OVERVIEW

NTI's regional program focuses primarily on three regions of proliferation concern — the Middle East, South Asia, and Northeast Asia. The nature of the threat varies among these regions and includes such challenges as:

- State-controlled weapons of mass destruction and missile programs are increasing in number and gaining momentum;
- Terrorist organizations are establishing their cells and seeking to procure the wherewithal for weapons that can inflict mass casualties;
- Illicit cargoes containing ingredients for weapons of mass destruction programs are transiting ports and crossing borders undetected;
- Small but dangerous inventories of weapons of mass destruction-usable materials are stored in the absence of accountancy and physical protection that meet international standards; and
- Long-standing disputes and non-conventional weapons aspirations combine to increase the likelihood that nuclear weapons and other weapons of mass destruction will be used.

NTI's threat reduction efforts will be designed to address the unique circumstances of each region. Unlike threat reduction efforts in Russia and other states of the former Soviet Union, where a substantial track record of effective cooperation already exists, international experience in these three regions is relatively limited — especially on the part of non-governmental institutions seeking to reduce tensions and avert weapons of mass destruction threats. In addition, the thinking on how to approach regional threats is much less developed than it is in the U.S.-Russia context. Yet, we recognize that the most acute and destabilizing weapons of mass destruction threats of the 21<sup>st</sup> century are likely to arise in the Middle East and Asia.

While we work to complete our regional strategy, we have gone forward with some initial project activities — in some cases, concept development studies to define frameworks and activities for potential program action, and in other cases, to address critical needs, such as strengthening the International Atomic Energy Agency's program to secure vulnerable nuclear materials worldwide.



## PROJECTS APPROVED IN FISCAL YEAR 2001

■ **Nuclear Security and Stability in South Asia**

To explore the feasibility of a Nuclear Safety and Security Assistance Program for India and Pakistan. The Center for International Security and Cooperation in consultation with a range of Indian and Pakistani government and non-governmental officials, will develop a strategy and plan for how NTI could assist India and Pakistan in strengthening nuclear weapons and materials security and in providing training assistance for nuclear accident and response programs.

*The Center for International Security and Cooperation at Stanford University  
Stanford, CA, USA  
\$67,269*

■ **Strengthen IAEA Programs to Secure Vulnerable Nuclear Material**

To support the expansion of the International Atomic Energy Agency programs to secure vulnerable nuclear materials worldwide and to support IAEA's ability to leverage additional financial contributions for this program. In particular, expand IAEA's ability to: (a) review security for nuclear materials at facilities around the world; (b) identify needed security upgrades; (c) organize contributions from donor states to provide the assistance needed to carry out the needed upgrades; (d) provide requisite training; (e) provide support to regulatory bodies to ensure that effective, enforceable rules requiring high levels of security are put in place; and (f) help states sustain the upgrades over time. After NTI's announcement of this award, the U.S. government committed an additional \$1,200,000 to IAEA for this program.

*The International Atomic Energy Agency  
Vienna, Austria  
\$1,150,000 (over three years)*

■ **The Asian Arms Race**

To help NTI design project activities focused on addressing the Asian arms race. The product of this effort was a written report suggesting a framework for NTI's Regional Program and a candidate set of actionable interventions.

*The Preventive Defense Project, A Research Collaboration of Harvard and Stanford Universities, USA  
\$85,000*

■ **NIAS and the Asia Society Dialogue Meeting**

To assist the Asia Society in conducting a first meeting of the National Institute of Advanced Studies (NIAS) and the Asia Society in Bangalore, India in the spring of 2002.

*Asia Society  
New York, NY, USA  
Up to \$50,212*

■ **Two International Workshops on Iraq's Residual Nuclear Weapons Capability and Nonproliferation**

To cover the air travel and hotel accommodations of Russian and Middle East participants at the London and Paris meetings of The Nixon Center's international workshops on Iraq's residual nuclear weapons capability and nonproliferation.

*The Nixon Center  
Washington, DC, USA  
Up to \$50,000*

■ **Strategic Engagement with South Asia**

To support the initial meeting of the U.S.-South Asia dialogue between the Aspen Strategy Group and senior Indians and Pakistanis. The dialogue explores key dimensions of the United States' strategic engagement with South Asia.

*The Aspen Institute  
Washington, DC, USA  
Up to \$40,000*



# the risk of a catastrophic mistake

*We must expand decision time in both the United States and Russia  
to reduce toward zero the risk of a catastrophic mistake from too little information  
and too little time.*

# United States Program

## OVERVIEW

**The Nature of the Threat** There is a growing realization that the current U.S. nuclear force posture was designed for a world that no longer exists; that stability is weakened because symmetry is in doubt; that the U.S. needs to re-define deterrence; and, that it can be achieved with far fewer weapons. There is also growing understanding that Russia's weakened economic condition and degraded warning systems, coupled with the large nuclear rapid strike potential of the United States, is moving Russia toward a force posture that is more reliant on "launch-on-warning" and more prone to accidents and miscalculations.

During the Cold War, quick launch status carried important deterrent value. But it also came with a high risk that it could force a quick – and catastrophic – decision. Today, for two nations at peace, these risks are no longer necessary. We must expand decision time in both the United States and Russia to reduce toward zero the risk of a catastrophic mistake from too little information and too little time.

Changing the force postures will require bold and determined Presidential leadership. It will also require new thinking about how to speed the pace of nuclear force structure change by both the U.S. and Russia without losing the transparency, verifiability and stability that are the benefits of traditional arms control. Yet, the large value of these aims should provoke a common purpose – and a basis for reaching consensus.

### Strategies for Threat Reduction

NTI supports a fundamental review and policy discussion of the role and purpose of nuclear weapons in the aftermath of the Cold War. Specifically, this includes an examination of: (a) options for consideration by governments on the operational force posture of U.S. and Russian forces; (b) the prevention of accidental launches; and (c) potential changes in each country's response systems that will give each President more nuclear decision-making time — to move their fingers further from the nuclear trigger; and (d) further arms reductions.

Projects underway include the development of:

- Specific proposals for consideration by governments to increase decision time for launching U.S. or Russian strategic nuclear systems and an assessment of the impact of those proposals on overall strategic stability; and
- Complementary means for monitoring implementation of any unilateral arms reductions undertaken in the United States and Russia so as to achieve some of the benefits of traditional arms control — predictability, stability and transparency.

## PROJECTS APPROVED IN FISCAL YEAR 2001

**■ U.S.-Russian Arms Control Dialogue**

To define new issues in the U.S.-Russian dialogue on arms control and nonproliferation, and promote confidence-building during unilateral strategic arms reductions. As the initial topic in an on-going "Track II" effort to develop practical, timely policy proposals for consideration by the new Presidential administrations in Washington and Moscow, the Carnegie Endowment for International Peace focused on how to create complementary means between U.S. and Russia to monitor implementation of unilateral arms reductions. Such activities were designed to achieve the benefits of traditional arms control—predictability, stability, transparency—without the downsides of time and complexity. These means may range from tacit understandings to after-the-fact codification in negotiated agreements.

*Carnegie Endowment for International Peace  
Washington, DC, USA  
\$99,000*

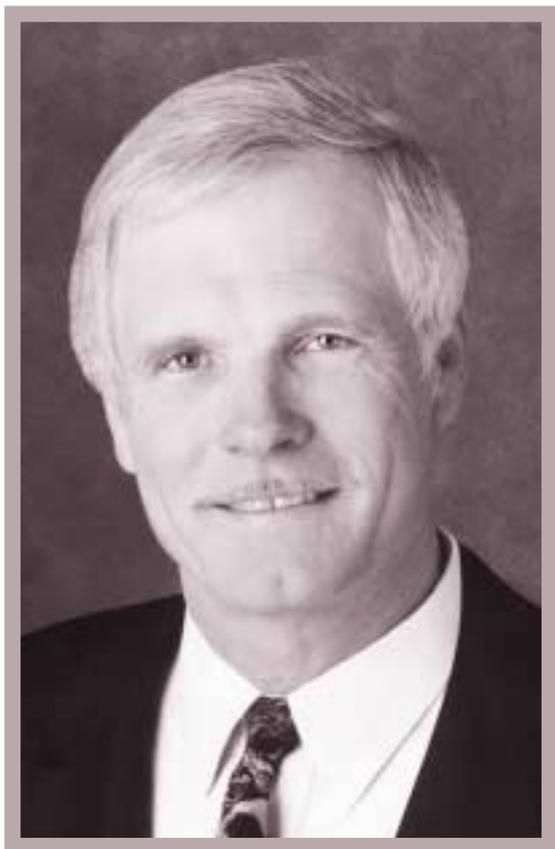
**■ Increasing Leadership Decision Time for Launching Nuclear Weapons**

To identify specific proposals for increasing leadership decision time for launching U.S. and Russian strategic nuclear systems. The project will identify various options for consideration by governments to increase decision time, and assess the potential benefits and difficulties associated with each alternative, with particular attention to their impact on various types of stability.

*The Rand Corporation  
Arlington, VA, USA  
\$150,000*

# Board of Directors

**WORKING FOR A SAFER WORLD**



## R.E. (TED) TURNER

R. E. Turner, co-chairman of the Nuclear Threat Initiative, is vice chairman of AOL Time Warner and the founder of CNN, the world's first, live, in-depth, round-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 (TCM), 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 with a \$1 billion gift over 10 years and the Goodwill Games, an international, world-class, quadrennial, multi-sport 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 Cable and Broadcasting's Man of the Century in 1999.



## SAM NUNN

Former Senator Sam Nunn, co-chairman and chief executive officer of the Nuclear Threat Initiative (NTI), is a senior partner in the law firm of King & Spalding, where he focuses his practice on international and corporate matters. He served as a U.S. senator from Georgia for 24 years (1972-1996).

During his tenure in the 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 new independent states in securing and destroying excess nuclear, biological, and chemical weapons.

In addition to his work with NTI, Senator Nunn is a distinguished professor in the Sam Nunn School of International Affairs at Georgia Tech, and serves as chairman of the board of the Center for Strategic and International Studies in Washington, D.C.

## CHARLES B. CURTIS



Charles 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 energy from February 1994 to May 1997. He was the chief operating officer of the Department and, among other duties,

had direct programmatic responsibility for all Department 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, and the Securities and Exchange Commission. He is a current member of the Council on Foreign Relations.

## SENATOR PETE V. DOMENICI



Senator Pete Domenici (R-New Mexico) is a strong proponent for creating and sustaining programs focused on reducing the threat of weapons of mass destruction.

As chairman and now ranking member of 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.

A 25-year veteran of the Senate Budget Committee, Senator Domenici is recognized as one of the nation's foremost experts on the federal budget. Following nearly two decades of work to get the federal government to live within its means, he played an instrumental role in the historic Balanced Budget Agreement of 1997 that helped erase the federal budget deficits.

Senator Domenici also 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.

## SUSAN EISENHOWER



Susan Eisenhower, president of the Eisenhower Institute, is best known for her work on U.S.-Russian relations and international security issues. Co-founder of the Center for Political and Strategic Studies, Ms. Eisenhower joined the institute as chief executive officer when the two organizations recently combined programs.

In the spring of 2000, Ms. Eisenhower was appointed by the Secretary of Energy to a blue ribbon task force to evaluate U.S.-funded nonproliferation programs in Russia. She also serves as an academic fellow of the International Peace and Security program of the

Carnegie Corporation of New York. Ms. Eisenhower has received three honorary doctorates and a number of other awards for her work in U.S.-Russian relations.

Ms. Eisenhower has spent fifteen 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 bestseller books: "Breaking Free" and "Mrs. Ike." She has edited three collected volumes on regional security issues, and written hundreds of op-eds and articles for major newspapers and other national publications. She also is a frequent guest on TV news and analysis programs. 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 EKÉUS



Ambassador Rolf Ekéus currently 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 Ekéus was appointed high commissioner on national minorities by the Organization for Security and Cooperation in Europe. In October 2000, the Swedish government appointed him as a special commissioner

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

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

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

## GENERAL EUGENE E. HABIGER



General Eugene Habiger, USAF (Ret.) has over 35 years of experience in national security and nuclear operations. He is currently the president and chief executive officer of the San Antonio Water System where he is 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 United States 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. He also serves on the board of the Armed Services YMCA and the Fischer House Foundation of San Antonio.

## DR. ANDREI KOKOSHIN



vice chairman of the Committee on Industry, Construction and High Technologies of the Duma and is also the chairman of expert councils for biotechnologies and information technologies.

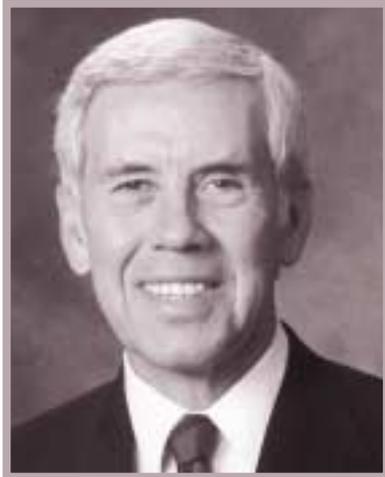
Dr. Kokoshin is a member of the Russian Academy of Natural Sciences and served as the acting vice president of that body from 1998-1999. In 2000, he was appointed chairman of the Russian National Council for the Development of Education.

He has an engineering degree in radioelectronics and a doctorate in political science. Dr. Kokoshin is the author of 12 books on international security, political and military affairs and defense industry policy.

Dr. Andrei Kokoshin is a scientist, scholar and author and is a deputy of the Russian Duma. He is a former first deputy minister of defense in Russia as well as a former member of Russia's Security Council.

From 1994 to 1997, Dr. Kokoshin served with former Defense Secretary William Perry as co-chairman of the Russian-American Committee on Defense Industry Conversion. He is world-renowned as an expert in Russian high-tech industries and often speaks for the technologically advanced sectors of the economy. Since 2000, he has served as

## SENATOR RICHARD G. LUGAR



Senator Richard Lugar (R-Indiana) is a senior member of the Senate Foreign Relations and Intelligence committees and a well-known leader in national 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.

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 program to destroy weapons of mass destruction in the former Soviet Union. To date, the Nunn-Lugar program has deactivated more than 5,800 nuclear warheads that were once aimed at the United States.

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

Senator Lugar has received numerous awards including Guardian of Small Business, the Spirit of Enterprise, Watchdog of the Treasury, and 34 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.

## 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 PhD in molecular biology, has served in senior positions at the White House, State Department and U.S. Congress.

She was a senior fellow at the Council on Foreign Relations from 1993 to 1997 and served as director of the Council's Washington program. During that time her Foreign Affairs article, "Power Shift," was chosen by the editors as one of the

most influential in the journal's 75 years.

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

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

## DR. WILLIAM J. PERRY



Dr. William 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 co-director of the Preventive Defense Project, a research collaboration of Stanford and Harvard Universities.

During the Clinton Administration, 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 and as under secretary of defense for research and engineering.

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



the United Nations Secretary-General, where she continues to work on gender, population and development issues.

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

Dr. Sadik was educated at Loreto College, Calcutta, 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.

Dr. Nafis Sadik has consistently called attention to the importance of addressing the needs of women directly in making and carrying out development policy. From April 1987 to December 2000, Dr. Sadik served as executive director of the United Nations Population Fund (UNFPA), with the rank of under secretary general. When she was appointed to UNFPA as executive director in 1987, she became the first woman to head one of the United Nations' major voluntarily-funded programs. Immediately following her retirement from UNFPA in 2000, Dr. Sadik was appointed as special adviser to

## PROFESSOR AMARTYA K. 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, Dr. Sen's work in economics has also been recognized with a Nobel Prize.

Dr. Sen currently is Master of Trinity College in Cambridge, England and Lamont University Professor Emeritus at Harvard University. 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.

Dr. 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 included welfare economics, theory of measurement, development economics, moral and political philosophy, and the economics of peace and war. Harvard University Press will publish his next two-volume book, "Rationality, Freedom and Justice," next year. Dr. Sen's books have been translated into many languages, and include "Collective Choice and Social Welfare," "On Economic Inequality," "Poverty and Famines," "Choice, Welfare and Measurement," "Resources, Values and Development," "On Ethics and Economics," "The Standard of Living," "Inequality Reexamined," and "Development as Freedom."

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

## OFFICERS AND STAFF

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

### SAM NUNN

Co-Chairman & Chief Executive Officer

### CHARLES B. CURTIS

President & Chief Operating Officer

### JOAN ROHLFING

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

### BROOKE D. ANDERSON

Vice President for Communications

Ms. Anderson joined NTI after serving in various senior positions in the executive and legislative branches of the U.S. government, including special assistant to the President and senior director for communications at the National Security Council. 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, the New York Academy of Medicine, the Council on Foreign Relations, and a fellow of 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. 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 serves on the Executive Board of Women in International Security.

**ROBERT E. BERLS, JR., PhD****Senior Advisor for Russia/NIS Programs**

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 Moscow 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.

**DMITRY G. BORISOV, PhD****Program Manager, Nuclear Programs in Russia, Moscow Office**

Dr. Borisov joins NTI from ALFA-Bank, PLC where he was deputy chief of the Department of Nuclear Facilities Banking

Projects. Previously, he worked as a chief expert and acting chief of U.S.-Russian Federation (R.F.) Affairs Division of the Department for International Relations of the R.F. Ministry of Atomic Energy and as executive director for Nuclear Liability and Industrial Safety for the East-European Insurance Company. Dr. Borisov holds a PhD in Plasma Physics Theory from the Kurchatov Institute and a Diploma in Physics from Moscow State University, Lomonosov.

**ASHA M. GEORGE, DRPH, MSPH****Senior Program Officer, Biological Programs**

Prior to joining NTI, Dr. George was director of emergency preparedness and response at the Association of Public Health Laboratories, where she focused on biological and chemical terrorism issues. She is a member of a number of counter and anti-terrorism committees, and founded the Association Response to Bioterrorism Workgroup. Dr. George was a military intelligence officer and paratrooper in the U.S. Army and served in Operations Desert Shield and Storm.

**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 and legislative assistant in the U.S. Senate and as 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 the international law firm of Dillon, Hall & Lungershausen, LLC, which was co-managed by James Hall, former Chairman of the National Transportation Safety Board.

**MARK HELMKE****Director of Corporate Outreach and Development**

Mr. Helmke was a long-time aide to U.S. Senator Richard G. Lugar and worked with him on the Senate Foreign Relations Committee. As an international business and political consultant, Mr. Helmke helped introduce and explain the Nunn-Lugar program to the new Ukrainian government after the breakup of the former Soviet Union. He has represented a number of major global corporations and has provided political counsel to venture capital and investment funds.

**TATIANA G. NIKOLENKO****Program Manager, Biological Programs in Russia, Moscow Office**

Prior to joining NTI, Ms. Nikolenko worked as a senior project manager at the International Science and Technology Center (ISTC) Headquarters where she

ran the Russian/NIS biological programs and served as coordinator for 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 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."

**JAY THOMPSON****Research Associate, Russia/NIS Programs**

Mr. Thompson came to NTI from the U.S. Department of State, where he served as a political officer in the Bureau of European Affairs. Mr. Thompson has recently completed extensive language training in Russian and Slovak. Prior to working at the State Department, Mr. Thompson was a research assistant at the Senate Armed Services Committee.

**SONYA VEKSTEIN, CPA****Director of Finance**

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.

**JENNIFER WETHEY****Research Assistant, Communications**

Prior to joining NTI, Ms. Wethey served as special assistant to the U.S. Secretary of Energy. She worked in Bosnia toward the implementation of the 1995 General Framework Agreement for Peace for the Organization for Security and Cooperation in Europe and also conducted research in Kenya on the impact of the Cold War on East Africa.

**KARL D. WITTNEBEL, M.D., MPH****Senior Program Officer,  
Biological Programs**

Dr. Wittnebel joined NTI after working extensively in the field of biological weapons threat reduction at the Johns Hopkins Center for Civilian Biodefense Studies. He has a strong interest in the conceptual framework underlying international nonproliferation efforts and in working to engage the scientific and medical communities on proliferation issues. Most recently, Dr. Wittnebel worked in the training program in preventive medicine at Johns Hopkins University.

## Funding Philosophy

**T**he majority of NTI's awards support operational activities that NTI has a strong hand in developing. While we do not have a formal award-making cycle, NTI does fund some traditional grants. NTI will consider unsolicited projects that:

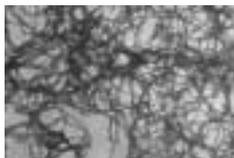
- Address significant high-risk situations;
- Generate additional funding and leverage action for threat reduction; and
- Promote the core objectives of NTI.

All of our activities are conducted with full transparency with the U.S. and other governments. As a general rule, we will not undertake activities that are inherently the responsibility of government, with the exception of educational efforts or demonstration projects designed to "show the way."

PHOTO CREDITS



front cover  
 ■ Mushroom cloud from a nuclear explosion



■ A Gram Stain of the organism, *Bacillus anthracis*, which commonly grow in long chains, as shown in the photo



■ Members of the U.S. Marine Corps Chemical-Biological Incident Response Force demonstrate anthrax clean-up techniques (Associated Press, October 30, 2001)



■ Disk of 235 uranium, which is used to manufacture nuclear weapons components (U.S. Department of Energy)



page 1  
 ■ Radioactively contaminated spent fuel pool at the nuclear research reactor, Vinča Institute of Nuclear Sciences, Belgrade, Yugoslavia



page 7  
 ■ Announcement of the Nuclear Threat Initiative on January 8, 2001 at the National Press Club (Photographer, Sylvia Johnson)



page 8  
 ■ NTI Board members Susan Eisenhower, Dr. William Perry, and General (Ret.) Eugene Habiger at the April 2001 NTI Board meeting (Photographer, Sylvia Johnson)



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 ■ NTI Board members, Dr. Jessica Mathews and former Ambassador Rolf Ekéus, at the April 2001 NTI Board meeting (Photographer, Sylvia Johnson)



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 ■ NTI's Town Meeting on November 1, 2001 in Palo Alto, California where approximately 350 people gathered for "A Local Dialogue for Global Security." Panelists included NTI Board members Sam Nunn and Dr. William Perry.



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 ■ Scale model of the nuclear research reactor, Vinča Institute of Nuclear Sciences, Belgrade, Yugoslavia



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 ■ Highly enriched uranium fuel for the nuclear research reactor, Vinča Institute of Nuclear Sciences, Belgrade, Yugoslavia



pages 26-27  
 ■ Nuclear test in the Ras Koh mountain range of western Pakistan on May 28, 1998, as seen in the documentary *Pakistan and India – Under the Nuclear Shadow*, produced and directed by Pervez Hoodbhoy



page 31  
 ■ U.S. intercontinental ballistic missile (ICBM) in flight