

# Toward a World without Nuclear Weapons

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The groundbreaking *Wall Street Journal* op-ed series



*The Vision and Steps for a Safer World*

## About the Nuclear Security Project

**FOUR U.S. SENIOR STATESMEN** with deep national security credentials joined together in 2007 to work toward the long-term goal of a world without nuclear weapons. The men, who helped navigate the United States through the Cold War, form a powerful, nonpartisan alliance: two Republicans and two Democrats taking on the threats of a new era to reduce nuclear dangers for future generations.

George P. Shultz, William J. Perry, Henry A. Kissinger and Sam Nunn laid out their vision and the urgent, practical steps to get there in a groundbreaking series of co-authored *Wall Street Journal* op-eds published since 2007.

To engage the worldwide attention garnered by the op-eds, the four leaders created the Nuclear Security Project ([www.NuclearSecurityProject.org](http://www.NuclearSecurityProject.org)). Today, working with partners around the world, the NSP seeks to galvanize global action to reduce urgent nuclear dangers and build support for reducing reliance on nuclear weapons, ultimately ending them as a threat to the world.

The Nuclear Security Project is coordinated by the Nuclear Threat Initiative, in cooperation with Stanford University's Hoover Institution.



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The four Nuclear Security Project principals meet with President Obama in the Oval Office, May 2009

# A World Free of Nuclear Weapons

BY GEORGE P. SHULTZ, WILLIAM J. PERRY, HENRY A. KISSINGER, AND SAM NUNN

*The Wall Street Journal* | January 4, 2007

Nuclear weapons today present tremendous dangers, but also an historic opportunity. U.S. leadership will be required to take the world to the next stage—to a solid consensus for reversing reliance on nuclear weapons globally as a vital contribution to preventing their proliferation into potentially dangerous hands, and ultimately ending them as a threat to the world.

Nuclear weapons were essential to maintaining international security during the Cold War because they were a means of deterrence. The end of the Cold War made the doctrine of mutual Soviet-American deterrence obsolete. Deterrence continues to be a relevant consideration for many states with regard to threats from other states. But reliance on nuclear weapons for this purpose is becoming increasingly hazardous and decreasingly effective.

North Korea's recent nuclear test and Iran's refusal to stop its program to enrich uranium—potentially to weapons grade—highlight the fact that the world is now on the precipice of a new and dangerous nuclear era. Most alarmingly, the likelihood that non-state

terrorists will get their hands on nuclear weaponry is increasing. In today's war waged on world order by terrorists, nuclear weapons are the ultimate means of mass devastation. And non-state terrorist groups with nuclear weapons are conceptually outside the bounds of a deterrent strategy and present difficult new security challenges.

Apart from the terrorist threat, unless urgent new actions are taken, the U.S. soon will be compelled to enter a new nuclear era that will be more precarious, psychologically disorienting, and economically even more costly than was Cold War deterrence. It is far from certain that we can successfully replicate the old Soviet-American “mutually assured destruction” with an increasing number of potential nuclear enemies world-wide without dramatically increasing the risk that nuclear weapons will be used. New nuclear states do not have the benefit of years of step-by-step safeguards put in effect during the Cold War to prevent nuclear accidents, misjudgments or unauthorized launches. The United States and the Soviet Union learned from mistakes

*The United States and the Soviet Union... were diligent to ensure that no nuclear weapon was used during the Cold War by design or by accident. Will new nuclear nations and the world be as fortunate in the next 50 years as we were during the Cold War?*



that were less than fatal. Both countries were diligent to ensure that no nuclear weapon was used during the Cold War by design or by accident. Will new nuclear nations and the world be as fortunate in the next 50 years as we were during the Cold War?

Leaders addressed this issue in earlier times. In his “Atoms for Peace” address to the United Nations in 1953, Dwight D. Eisenhower pledged America’s “determination to help solve the fearful atomic dilemma—to devote its entire heart and mind to find the way by which the miraculous inventiveness of man shall not be dedicated to his death, but consecrated to his life.” John F. Kennedy, seeking to peak the logjam on nuclear disarmament, said, “The world was not meant to be a prison in which man awaits his execution.”

Rajiv Gandhi, addressing the U.N. General Assembly on June 9, 1988, appealed, “Nuclear war will not mean the death of a hundred million people. Or even a thousand million. It will mean the extinction of four thousand million: the end of life as we know it on our planet earth. We come to the United Nations to seek your support. We seek your support to put a stop to this madness.”

Ronald Reagan called for the abolishment of “all nuclear weapons,” which he considered to be “totally irrational, totally inhumane, good for nothing but killing, possibly destructive of life on earth and civilization.” Mikhail Gorbachev shared this vision, which had also been expressed by previous American presidents.

Although Reagan and Mr. Gorbachev failed at Reykjavik to achieve the goal of an agreement to get rid of all nuclear weapons, they did succeed in turning the arms race on its head. They initiated steps leading to significant reductions in deployed long- and intermediate-range nuclear forces, including the elimination of an entire class of threatening missiles.

What will it take to rekindle the vision shared by Reagan and Mr. Gorbachev? Can a world-wide consensus be forged that defines a series of practical steps leading to major reductions in the nuclear danger? There is an urgent need to address the challenge posed by these two questions.

The Non-Proliferation Treaty (NPT) envisioned the end of all nuclear weapons. It provides (a) that states that did not possess nuclear weapons as of 1967 agree not to obtain them and (b) that states that do possess them agree to divest themselves of these weapons over time. Every president of both parties since Richard Nixon has reaffirmed these treaty obligations, but non-nuclear weapon states have grown increasingly skeptical of the sincerity of the nuclear powers.

Strong non-proliferation efforts are under way. The Cooperative Threat Reduction program, the Global Threat Reduction Initiative, the Proliferation Security Initiative and the Additional Protocols are innovative approaches that provide powerful new tools for detecting activities that violate the NPT and endanger world security. They deserve full implementation. The negotiations on proliferation of nuclear weapons by North Korea and Iran, involving all the permanent members of the

Security Council plus Germany and Japan, are crucially important. They must be energetically pursued.

But by themselves, none of these steps are adequate to the danger. Reagan and General Secretary Gorbachev aspired to accomplish more at their meeting in Reykjavik 20 years ago—the elimination of nuclear weapons altogether. Their vision shocked experts in the doctrine of nuclear deterrence, but galvanized the hopes of people around the world. The leaders of the two countries with the largest arsenals of nuclear weapons discussed the abolition of their most powerful weapons.

What should be done? Can the promise of the NPT and the possibilities envisioned at Reykjavik be brought to fruition? We believe that a major effort should be launched by the United States to produce a positive answer through concrete stages.



First and foremost is intensive work with leaders of the countries in possession of nuclear weapons to turn the goal of a world without nuclear weapons into a joint enterprise. Such a joint enterprise, by involving changes in the disposition of the states possessing nuclear weapons, would lend additional weight to efforts already under way to avoid the emergence of a nuclear-armed North Korea and Iran.

The program on which agreements should be sought would constitute a series of agreed and urgent steps that would lay the

groundwork for a world free of the nuclear threat. Steps would include:

- Changing the Cold War posture of deployed nuclear weapons to increase warning time and thereby reduce the danger of an accidental or unauthorized use of a nuclear weapon.
- Continuing to reduce substantially the size of nuclear forces in all states that possess them.
- Eliminating short-range nuclear weapons designed to be forward-deployed.
- Initiating a bipartisan process with the Senate including understandings to increase confidence and provide for periodic review to achieve ratification of the Comprehensive Test Ban Treaty, taking advantage of recent technical advances and working to secure ratification by other key states.
- Providing the highest possible standards of security for all stocks of weapons, weapons-usable plutonium, and highly enriched uranium everywhere in the world.
- Getting control of the uranium enrichment process, combined with the guarantee that uranium for nuclear power reactors could be obtained at a reasonable price, first from the Nuclear Suppliers Group and then from the International Atomic Energy Agency (IAEA) or other controlled international reserves. It will also be necessary to deal with proliferation issues presented by spent fuel from reactors producing electricity.

***Without the bold vision, the actions will not be perceived as fair or urgent. Without the actions, the vision will not be perceived as realistic or possible.***

- Halting the production of fissile material for weapons globally; phasing out the use of highly enriched uranium in civil commerce and removing weapons-usable uranium from research facilities around the world and rendering the materials safe.
- Redoubling our efforts to resolve regional confrontations and conflicts that give rise to new nuclear powers.

Achieving the goal of a world free of nuclear weapons will also require effective measures to impede or counter any nuclear-related conduct that is potentially threatening to the security of any state or peoples.

Reassertion of the vision of a world free of nuclear weapons and practical measures toward achieving that goal would be, and would be perceived as, a bold initiative consistent with America's moral heritage. The effort could have a profoundly positive impact on the security of future generations. Without the bold vision, the actions will not be perceived as fair or urgent. Without the actions, the vision will not be perceived as realistic or possible.

We endorse setting the goal of a world free of nuclear weapons and working energetically on the actions required to achieve that goal, beginning with the measures outlined above.

*A conference organized by Mr. Shultz and Sidney D. Drell was held at Stanford University's Hoover Institution to reconsider the vision that Reagan and Mr. Gorbachev brought to Reykjavik. In addition to Messrs. Shultz and Drell, the following participants also endorse the view in this statement: Martin Anderson, Steve Andreasen, Michael Armacost, William Crowe, James Goodby, Thomas Graham Jr., Thomas Henriksen, David Holloway, Max Kampelman, Jack Matlock, John McLaughlin, Don Oberdorfer, Rozanne Ridgway, Henry Rowen, Roald Sagdeev and Abraham Sofaer.*



# Toward a Nuclear-Free World

BY GEORGE P. SHULTZ, WILLIAM J. PERRY, HENRY A. KISSINGER, AND SAM NUNN

*The Wall Street Journal* | January 15, 2008

**T**he accelerating spread of nuclear weapons, nuclear know-how and nuclear material has brought us to a nuclear tipping point. We face a very real possibility that the deadliest weapons ever invented could fall into dangerous hands.

The steps we are taking now to address these threats are not adequate to the danger. With nuclear weapons more widely available, deterrence is decreasingly effective and increasingly hazardous.

One year ago, in an essay in this paper, we called for a global effort to reduce reliance on nuclear weapons, to prevent their spread into potentially dangerous hands, and ultimately to end them as a threat to the world. The interest, momentum and growing political space that has been created to address these issues over the past year has been extraordinary, with strong positive responses from people all over the world.

Mikhail Gorbachev wrote in January 2007 that, as someone who signed the first treaties on real reductions in nuclear weapons,

he thought it his duty to support our call for urgent action: “It is becoming clearer that nuclear weapons are no longer a means of achieving security; in fact, with every passing year they make our security more precarious.”

In June, the United Kingdom’s foreign secretary, Margaret Beckett, signaled her government’s support, stating: “What we need is both a vision—a scenario for a world free of nuclear weapons—and action—progressive steps to reduce warhead numbers and to limit the role of nuclear weapons in security policy. These two strands are separate but they are mutually reinforcing. Both are necessary, but at the moment too weak.”

We have also been encouraged by additional indications of general support for this project from other former U.S. officials with extensive experience as secretaries of state and defense and national security advisors. These include: Madeleine Albright, Richard V. Allen, James A. Baker III, Samuel R. Berger, Zbigniew Brzezinski, Frank Carlucci, Warren Christopher, William Cohen, Lawrence

*The accelerating spread of nuclear weapons, nuclear know-how and nuclear material has brought us to a nuclear tipping point. We face a very real possibility that the deadliest weapons ever invented could fall into dangerous hands.*

Eagleburger, Melvin Laird, Anthony Lake, Robert McFarlane, Robert McNamara and Colin Powell.

Inspired by this reaction, in October 2007, we convened veterans of the past six administrations, along with a number of other experts on nuclear issues, for a conference at Stanford University's Hoover Institution. There was general agreement about the importance of the vision of a world free of nuclear weapons as a guide to our thinking about nuclear policies, and about the importance of a series of steps that will pull us back from the nuclear precipice.

The U.S. and Russia, which possess close to 95% of the world's nuclear warheads, have a

special responsibility, obligation and experience to demonstrate leadership, but other nations must join.

Some steps are already in progress, such as the ongoing reductions in the number of nuclear warheads deployed on long-range, or strategic, bombers and missiles. Other near-term steps that the U.S. and Russia could take, beginning in 2008, can in and of themselves dramatically reduce nuclear dangers. They include:

- *Extend key provisions of the Strategic Arms Reduction Treaty of 1991.* Much has been learned about the vital task of verification from the application of these provisions. The treaty is scheduled to expire on Dec. 5, 2009. The key provisions of this treaty, including their essential monitoring and verification requirements, should be extended, and the further reductions agreed upon in the 2002 Moscow Treaty on Strategic Offensive Reductions should be completed as soon as possible.
- *Take steps to increase the warning and decision times for the launch of all nuclear-armed ballistic missiles, thereby reducing risks of accidental or unauthorized attacks.* Reliance on launch procedures that deny command authorities sufficient time to make careful and prudent decisions is unnecessary and dangerous in today's environment. Furthermore, developments in cyber-warfare pose new threats that could have disastrous consequences if the command-and-control systems of any nuclear-weapons state were compromised by mischievous or hostile



The four leaders attend the United Nations Security Council Summit on Nuclear Nonproliferation and Nuclear Disarmament, September 2009

hackers. Further steps could be implemented in time, as trust grows in the U.S.-Russia relationship, by introducing mutually agreed and verified physical barriers in the command-and-control sequence.

- *Discard any existing operational plans for massive attacks that still remain from the Cold War days.* Interpreting deterrence as requiring mutual assured destruction (MAD) is an obsolete policy in today's world, with the U.S. and Russia formally having declared that they are allied against terrorism and no longer perceive each other as enemies.
- *Undertake negotiations toward developing cooperative multilateral ballistic-missile defense and early warning systems, as proposed by Presidents Bush and Putin at their 2002 Moscow summit meeting.* This should include agreement on plans for countering missile threats to Europe, Russia and the U.S. from the Middle East, along with completion of work to establish the Joint Data Exchange Center in Moscow. Reducing tensions over missile defense will enhance the possibility of progress on the broader range of nuclear issues so essential to our security. Failure to do so will make broader nuclear cooperation much more difficult.
- *Dramatically accelerate work to provide the highest possible standards of security for nuclear weapons, as well as for nuclear materials everywhere in the world, to prevent terrorists from acquiring a nuclear bomb.* There are nuclear weapons materials in more

than 40 countries around the world, and there are recent reports of alleged attempts to smuggle nuclear material in Eastern Europe and the Caucasus. The U.S., Russia and other nations that have worked with the Nunn-Lugar programs, in cooperation with the International Atomic Energy Agency (IAEA), should play a key role in helping to implement United Nations Security Council Resolution 1540 relating to improving nuclear security—by offering teams to assist jointly any nation in meeting its obligations under this resolution to provide for appropriate, effective security of these materials.

As Gov. Arnold Schwarzenegger put it in his address at our October conference, “Mistakes are made in every other human endeavor. Why should nuclear weapons be exempt?” To underline the governor's point, on Aug. 29–30, 2007, six cruise missiles armed with nuclear warheads were loaded on a U.S. Air Force plane, flown across the country, and unloaded. For 36 hours, no one knew where the warheads were, or even that they were missing.

- Start a dialogue, including within the North Atlantic Treaty Organization (NATO) and with Russia, on consolidating the nuclear weapons designed for forward deployment to enhance their security, and as a first step toward careful accounting for them and their eventual elimination. These smaller and more portable nuclear weapons are, given their characteristics, inviting acquisition targets for terrorist groups.

*The U.S. and Russia, which possess close to 95% of the world's nuclear warheads, have a special responsibility, obligation and experience to demonstrate leadership, but other nations must join.*

*In some respects, the goal of a world free of nuclear weapons is like the top of a very tall mountain... and it is tempting and easy to say we can't get there from here. But the risks from continuing to go down the mountain or standing pat are too real to ignore.*

- Strengthen the means of monitoring compliance with the nuclear Non-Proliferation Treaty (NPT) as a counter to the global spread of advanced technologies. More progress in this direction is urgent, and could be achieved through requiring the application of monitoring provisions (Additional Protocols) designed by the IAEA to all signatories of the NPT.
- Adopt a process for bringing the Comprehensive Test Ban Treaty (CTBT) into effect, which would strengthen the NPT and aid international monitoring of nuclear activities. This calls for a bipartisan review, first, to examine improvements over the past decade of the international monitoring system to identify and locate explosive underground nuclear tests in violation of the CTBT and, second, to assess the technical progress made over the past decade in maintaining high confidence in the reliability, safety and effectiveness of the nation's nuclear arsenal under a test ban. The Comprehensive Test Ban Treaty Organization is putting in place new monitoring stations to detect nuclear tests—an effort the U.S. should urgently support even prior to ratification.

In parallel with these steps by the U.S. and Russia, the dialogue must broaden on an international scale, including non-nuclear as well as nuclear nations.

Key subjects include turning the goal of a world without nuclear weapons into a practical enterprise among nations, by applying the necessary political will to build an international

consensus on priorities. The government of Norway will sponsor a conference in February that will contribute to this process.

Another subject: Developing an international system to manage the risks of the nuclear fuel cycle. With the growing global interest in developing nuclear energy and the potential proliferation of nuclear enrichment capabilities, an international program should be created by advanced nuclear countries and a strengthened IAEA. The purpose should be to provide for reliable supplies of nuclear fuel, reserves of enriched uranium, infrastructure assistance, financing, and spent fuel management—to ensure that the means to make nuclear weapons materials are not spread around the globe.

There should also be an agreement to undertake further substantial reductions in U.S. and Russian nuclear forces beyond those recorded in the U.S.-Russia Strategic Offensive Reductions Treaty. As the reductions proceed, other nuclear nations would become involved.

President Reagan's maxim of "trust but verify" should be reaffirmed. Completing a verifiable treaty to prevent nations from producing nuclear materials for weapons would contribute to a more rigorous system of accounting and security for nuclear materials.

We should also build an international consensus on ways to deter or, when required, to respond to secret attempts by countries to peak out of agreements.

Progress must be facilitated by a clear statement of our ultimate goal. Indeed, this is the only way to build the kind of international trust and broad cooperation that will be

required to effectively address today's threats. Without the vision of moving toward zero, we will not find the essential cooperation required to stop our downward spiral.

In some respects, the goal of a world free of nuclear weapons is like the top of a very tall mountain. From the vantage point of our

troubled world today, we can't even see the top of the mountain, and it is tempting and easy to say we can't get there from here. But the risks from continuing to go down the mountain or standing pat are too real to ignore. We must chart a course to higher ground where the mountaintop becomes more visible.

*The following participants in the Hoover Institution–NTI conference also endorse the view in this statement: General John Abizaid, Graham Allison, Brooke Anderson, Martin Anderson, Steve Andreasen, Mike Armacost, Bruce Blair, Matt Bunn, Ashton Carter, Sidney Drell, General Vladimir Dvorkin, Bob Einhorn, Mark Fitzpatrick, James Goodby, Rose Gottemoeller, Tom Graham, David Hamburg, Siegfried Hecker, Tom Henriksen, David Holloway, Raymond Jeanloz, Ray Juzaitis, Max Kampelman, Jack Matlock, Michael McFaul, John McLaughlin, Don Oberdorfer, Pavel Podvig, William Potter, Richard Rhodes, Joan Rohlfing, Harry Rowen, Scott Sagan, Roald Sagdeev, Abe Sofaer, Richard Solomon and Philip Zelikow.*

# How to Protect Our Nuclear Deterrent

BY GEORGE P. SHULTZ, WILLIAM J. PERRY, HENRY A. KISSINGER, AND SAM NUNN

*The Wall Street Journal* | January 20, 2010

**T**he four of us have come together, now joined by many others, to support a global effort to reduce reliance on nuclear weapons, to prevent their spread into potentially dangerous hands, and ultimately to end them as a threat to the world. We do so in recognition of a clear and threatening development.

The accelerating spread of nuclear weapons, nuclear know-how, and nuclear material has brought us to a tipping point. We face a very real possibility that the deadliest weapons ever invented could fall into dangerous hands.

But as we work to reduce nuclear weaponry and to realize the vision of a world without nuclear weapons, we recognize the necessity to maintain the safety, security and reliability of our own weapons. They need to be safe so they do not detonate unintentionally; secure so they cannot be used by an unauthorized party; and reliable so they can continue to provide the deterrent we need so long as other countries have these weapons. This is a solemn responsibility, given the extreme consequences of potential failure on any one of these counts.

For the past 15 years, these tasks have been successfully performed by the engineers and

scientists at the nation's nuclear-weapons production plants and at the three national laboratories (Lawrence Livermore in California, Los Alamos in New Mexico, and Sandia in New Mexico and California). Teams of gifted people, using increasingly powerful and sophisticated equipment, have produced methods of certifying that the stockpile meets the required high standards. The work of these scientists has enabled the secretary of defense and the secretary of energy to certify the safety, security and the reliability of the U.S. nuclear stockpile every year since the certification program was initiated in 1995.

The three labs, in particular, should be applauded for the success they have achieved in extending the life of existing weapons. Their work has led to important advances in the scientific understanding of nuclear explosions and obviated the need for underground nuclear explosive tests.

Yet there are potential problems ahead, as identified by the Strategic Posture Commission led by former Defense Secretaries Perry and James R. Schlesinger. This commission, which submitted its report to Congress last year, calls for significant investments in a repaired and modernized nuclear weapons infrastructure

and added resources for the three national laboratories.

These investments are urgently needed to undo the adverse consequences of deep reductions over the past five years in the laboratories' budgets for the science, technology and engineering programs that support and underwrite the nation's nuclear deterrent. The United States must continue to attract, develop and retain the outstanding scientists, engineers, designers and technicians we will need to maintain our nuclear arsenal, whatever its size, for as long as the nation's security requires it.

This scientific capability is equally important to the long-term goal of achieving and maintaining a world free of nuclear weapons—with all the attendant expertise on verification, detection, prevention and enforcement that is required.

Our recommendations for maintaining a safe, secure and reliable nuclear arsenal are consistent with the findings of a recently completed technical study commissioned by the National Nuclear Security Administration in the Department of Energy. This study was performed by JASON, an independent defense advisory group of senior scientists who had full access to the pertinent classified information.

The JASON study found that the “[l]ifetimes of today's nuclear warheads could be extended for decades, with no anticipated loss in confidence, by using approaches similar to those employed in Life Extension Programs to date.” But the JASON scientists also expressed concern that “[a]ll options for extending the life of the nuclear weapons stockpile rely on the continuing maintenance and renewal of expertise and capabilities in science, technology, engineering, and production unique to the nuclear

weapons program.” The study team said it was “concerned that this expertise is threatened by lack of program stability, perceived lack of mission importance, and degradation of the work environment.”

These concerns can and must be addressed by providing adequate and stable funding for the program. Maintaining high confidence in our nuclear arsenal is critical as the number of these weapons goes down. It is also consistent with and necessary for U.S. leadership in nonproliferation, risk reduction, and arms reduction goals.

By providing for the long-term investments required, we also strengthen trust and confidence in our technical capabilities to take the essential steps needed to reduce nuclear dangers throughout the globe. These steps include preventing proliferation and preventing nuclear weapons or weapons-usable material from getting into dangerous hands.

If we are to succeed in avoiding these dangers, increased international cooperation is vital. As we work to build this cooperation, our friends and allies, as well as our adversaries, will take note of our own actions in the nuclear arena. Providing for this nation's defense will always take precedence over all other priorities.

Departures from our existing stewardship strategies should be taken when they are essential to maintain a safe, secure and effective deterrent. But as our colleague Bill Perry noted in his preface to America's Strategic Posture report, we must “move in two parallel paths—one path which reduces nuclear dangers by maintaining our deterrence, and the other which reduces nuclear dangers through arms control and international programs to prevent proliferation.” Given today's threats of nuclear proliferation and nuclear

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terrorism, these are not mutually exclusive imperatives. To protect our nation's security, we must succeed in both.

Beyond our concern about our own stockpile, we have a deep security interest in ensuring that all nuclear weapons everywhere are resistant to

accidental detonation and to detonation by terrorists or other unauthorized users. We should seek a dialogue with other states that possess nuclear weapons and share our safety and security concepts and technologies consistent with our own national security.



# Deterrence in the Age of Nuclear Proliferation

BY GEORGE P. SHULTZ, WILLIAM J. PERRY, HENRY A. KISSINGER AND SAM NUNN

*The Wall Street Journal* | March 7, 2011

As long as there has been war, there have been efforts to deter actions a nation considers threatening. Until fairly recently, this meant building a military establishment capable of intimidating the adversary, defeating him or making his victory more costly than the projected gains. This, with conventional weapons, took time. Deterrence and war strategy were identical.

The advent of the nuclear weapon introduced entirely new factors. It was possible, for the first time, to inflict at the beginning of a war the maximum casualties. The doctrine of mutually assured destruction represented this reality. Deterrence based on nuclear weapons, therefore, has three elements:

- It is importantly psychological, depending on calculations for which there is no historical experience. It is therefore precarious.
- It is devastating. An unrestrained nuclear exchange between superpowers could destroy civilized life as we know it in days.
- Mutual assured destruction raises enormous inhibitions against employing the weapons.

Since the first use of nuclear weapons against Japan, neither of the superpowers, nor any other country, has used nuclear weapons in a war. A gap opened between the psychological element of deterrence and the risks most leaders were willing to incur. U.S. defense leaders made serious efforts to give the president more flexible options for nuclear use short of global annihilation. They never solved the problem, and it was always recognized that Washington and Moscow both held the keys to unpredictable and potentially catastrophic escalations.

As a result, nuclear deterrence was useful in preventing only the most catastrophic scenarios that would have threatened our survival. But even with the deployment of thousands of nuclear weapons on both sides of the Iron Curtain, the Soviet moves into Hungary in 1956 and Czechoslovakia in 1968 were not deterred. Nor were the numerous crises involving Berlin, including the building of the Wall in 1961, or major wars in Korea and Vietnam, or the Soviet invasion of Afghanistan in 1979. In the case of the Soviet Union, nuclear

*Continued reliance on nuclear weapons as the principal element for deterrence is encouraging, or at least excusing, the spread of these weapons, and will inevitably erode the essential cooperation necessary to avoid proliferation, protect nuclear materials and deal effectively with new threats.*

weapons did not prevent collapse or regime change.

Today, the Cold War is almost 20 years behind us, but many leaders and publics cannot conceive of deterrence without a strategy of mutual assured destruction. We have written previously that reliance on this strategy is becoming increasingly hazardous. With the spread of nuclear weapons, technology, materials and know-how, there is an increasing risk that nuclear weapons will be used.

It is not possible to replicate the high-risk stability that prevailed between the two nuclear superpowers during the Cold War in such an environment. The growing number of nations with nuclear arms and differing motives, aims and ambitions poses very high and unpredictable risks and increased instability.

From 1945 to 1991, America and the Soviet Union were diligent, professional, but also lucky that nuclear weapons were never used. Does the world want to continue to bet its survival on continued good fortune with a growing number of nuclear nations and adversaries globally? Can we devise and successfully implement with other nations, including other nuclear powers, careful, cooperative concepts to safely dismount the nuclear tiger while strengthening the capacity to assure our security and that of allies and other countries considered essential to our national security?

Recently, the four of us met at the Hoover Institution with a group of policy experts to discuss the possibilities for establishing a safer and more comprehensive form of deterrence and prevention in a world where the roles and risks of nuclear weapons are reduced and

ultimately eliminated. Our broad conclusion is that nations should move forward together with a series of conceptual and practical steps toward deterrence that do not rely primarily on nuclear weapons or nuclear threats to maintain international peace and security.

The first step is to recognize that there is a daunting new spectrum of global security threats.

These threats include chemical, biological and radiological weapons, catastrophic terrorism and cyber warfare, as well as natural disasters resulting from climate change or other environmental problems, and health-related crises. For the United States and many other nations, existential threats relating to the very survival of the state have diminished, largely because of the end of the Cold War and the increasing realization that our common interests greatly exceed our differences. However, an accident or mistake involving nuclear weapons, or nuclear terrorism fueled by the spread of nuclear weapons, nuclear materials, and nuclear know-how, is still a very real risk. An effective strategy to deal with these dangers must be developed.

The second step is the realization that continued reliance on nuclear weapons as the principal element for deterrence is encouraging, or at least excusing, the spread of these weapons, and will inevitably erode the essential cooperation necessary to avoid proliferation, protect nuclear materials and deal effectively with new threats.

Third, the U.S. and Russia have no basis for maintaining a structure of deterrence involving nuclear weapons deployed in ways

that increase the danger of an accidental or unauthorized use of a nuclear weapon, or even a deliberate nuclear exchange based on a false warning.

Reducing the number of operationally deployed strategic nuclear warheads and delivery vehicles with verification to the levels set by the New Start Treaty is an important step in reducing nuclear risks. Deeper nuclear reductions and changes in nuclear force posture involving the two nations should remain a priority. Further steps must include short-range tactical nuclear weapons.

Fourth, as long as nuclear weapons exist, America must retain a safe, secure and reliable nuclear stockpile primarily to deter a nuclear attack and to reassure our allies through extended deterrence. There is an inherent limit to U.S. and Russian nuclear reductions if other nuclear weapon states build up their inventories or if new nuclear powers emerge.

It is clear, however, that the U.S. and Russia—having led the nuclear buildup for decades—must continue to lead the build-down. The U.S. and its NATO allies, together with Russia, must begin moving away from threatening force postures and deployments, including the retention of thousands of short-range battlefield nuclear weapons. All conventional deployments should be reviewed from the aspect of provocation. This will make America, Russia and Europe more secure. It will also set an example for the world.

Fifth, we recognize that for some nations, nuclear weapons may continue to appear relevant to their immediate security. There are certain undeniable dynamics in play—for

example, the emergence of a nuclear-armed neighbor, or the perception of inferiority in conventional forces—that if not addressed could lead to the further proliferation of nuclear weapons and an increased risk they will be used. Thus, while the four of us believe that reliance on nuclear weapons for deterrence is becoming increasingly hazardous and decreasingly effective, some nations will hesitate to draw or act on the same conclusion unless regional confrontations and conflicts are addressed. We must therefore redouble our efforts to resolve these issues.

Achieving deterrence with assured security will require work by leaders and citizens on a range of issues, beginning with a clearer understanding of existing and emerging



Shultz, Nunn and Perry speak to Parliamentarians, London, 2011

security threats. The role of non-nuclear means of deterrence to effectively prevent conflict and increase stability in troubled regions is a vital issue. Changes to extended deterrence must be developed over time by the U.S. and allies working closely together. Reconciling national perspectives on nuclear deterrence is a challenging problem, and comprehensive solutions must be developed. A world without nuclear weapons will not simply be today's world minus nuclear weapons.

Nations can, however, begin moving now together toward a safer and more stable form of deterrence. Progress must be made through a joint enterprise among nations, recognizing the

need for greater cooperation, transparency and verification to create the global political environment for stability and enhanced mutual security. Ensuring that nuclear materials are protected globally in order to limit any country's ability to reconstitute nuclear weapons, and to prevent terrorists from acquiring the material to build a crude nuclear bomb, is a top priority.

Moving from mutual assured destruction toward a new and more stable form of deterrence with decreasing nuclear risks and an increasing measure of assured security for all nations could prevent our worst nightmare from becoming a reality, and it could have a profoundly positive impact on the security of future generations.

# Broad Global Support

**A**round the world, former prime ministers, military leaders, foreign secretaries and other key leaders across the political spectrum have added their voices to the call for change. Leaders from 13 countries penned like-minded op-eds in the ongoing effort to galvanize the public and government officials. To read the op-eds, go to [www.NuclearSecurityProject.org](http://www.NuclearSecurityProject.org)

## Australia

“Imagine There’s No Bomb.” Malcolm Fraser, Gustav Nossal, Barry Jones, Peter Gration, John Sanderson and Tilman Ruff, April 8, 2009, *The Age* and *The Sydney Morning Herald*

## Belgium

“Toward a Nuclear-Weapon-Free World.” Willy Claes, Guy Verhofstadt, Jean-Luc Dehaene and Louis Michel, February 19, 2010, *De Standaard*

## Canada

“Toward a World Without Nuclear Weapons.” Jean Chrétien, Joe Clark, Ed Broadbent and Lloyd Axworthy, March 25, 2010, *The Globe and Mail*

## France

“For Global Nuclear Disarmament, the Only Means to Prevent Anarchic Proliferation.” Alain Juppe, Michel Rocard, Alain Richard and Bernard Norlain, October 14, 2009, *Le Monde*

## Germany

“Toward a Nuclear-Free World: A German View.” Helmut Schmidt, Richard von Weizsäcker, Hans-Dietrich Genscher and Egon Bahr, January 9, 2009, *Frankfurter Allgemeine Zeitung* and *International Herald Tribune*

## Italy

“Toward a Nuclear-Weapon-Free World.” Massimo D’Alema, Gianfrance Fini, Giorgio La Malfa, Arturo Parisi and Francesco Calogero, July 24, 2008, *Il Corriere della Sera*

## The Netherlands

“Toward a Nuclear-Weapon-Free World.” Ruud Lubbers, Max van der Stoep, Hans van Mierlo and Frits Korthals Altes, November 23, 2009, *NRC Handelsblad*



## Norway

“A Nuclear Weapon-Free World.” Odvar Nordli, Gro Harlem Brundtland, Kåre Willoch, Kjell Magne Bondevik and Thorvald Stoltenberg, June 4, 2009, *Aftenposten*

## Poland

“The Unthinkable Becomes Thinkable: Towards Elimination of Nuclear Weapons.” Aleksander Kwaśniewski, Tadeusz Mazowiecki and Lech Walesa, April 3, 2009, *Gazeta Wyborcza*



## Russia

“From Nuclear Deterrence to Universal Security.” Yevgeny Primakov, Igor Ivanov, Yevgeny Velikhov and Mikhail Moiseev, October 15, 2010, *Izvestia, Russia: Beyond the Headlines*

“The Nuclear Threat.” Mikhail Gorbachev, January 31, 2007, *The Wall Street Journal*

## South Korea

“A Road Map for a Nuclear-Free World.” Lee Hong-koo, Han Sung-joo, Park Kwan-yong and Paik Sun-yup, June 23, 2010, *JoongAng Daily*

## Sweden

“Swedish Declaration on the Elimination of Nuclear Weapons.” Ingvar Carlsson, Hans Blix, Karin Söder and Rolf Ekeus, April 11, 2010, *DN.se*

## United Kingdom

“Start Worrying and Learn to Ditch the Bomb.” Douglas Hurd, Malcolm Rifkind, David Owen and George Robertson, June 30, 2008, *The Times*

# NUCLEAR TIPPING POINT

A documentary film, *Nuclear Tipping Point*, highlights the work of the four Nuclear Security Project principals. Narrated by actor Michael Douglas and introduced by former U.S. Secretary of State General Colin Powell, the film features interviews with the principals and other leaders, among them former Soviet President Mikhail Gorbachev. After a premiere at Universal Studios in Los Angeles in 2010, the film was broadcast and screened around the world, including at the White House shortly before the 2010 Nuclear Security Summit in Washington, DC. From Israel to India, Argentina to Moscow, people have watched the film and discussed the questions it raises.

The film is available for free at [NuclearTippingPoint.org](http://NuclearTippingPoint.org) in 35-minute and 55-minute versions. The DVD includes subtitles in Chinese, French, German, Japanese, Russian, and Spanish and captions in English for the hearing impaired. The Stanford Program on International and Cross-Cultural Education (SPICE) prepared a guide for high school teachers, which can be used with the film. Free to download, it is available at [spice.stanford.edu](http://spice.stanford.edu).



“ It is important at this time in our international history that we all come together behind this initiative. ”

— Former U.S. Secretary of State Colin Powell in *Nuclear Tipping Point*

# Sustain the Momentum

To learn more and get involved, visit:

[www.NuclearSecurityProject.org](http://www.NuclearSecurityProject.org)

[www.NuclearTippingPoint.org](http://www.NuclearTippingPoint.org)



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