

Arms Control Association



Major Proposals to Strengthen the Nuclear Nonproliferation Treaty

**A RESOURCE GUIDE FOR
THE 2010 REVIEW CONFERENCE**

March 2010

Cole Harvey with the ACA Research Staff

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Note on Sources

The majority of research for this project was conducted using official documents of NPT Preparatory Committees and Review Conferences, the Conference on Disarmament, and the United Nations General Assembly First Committee on Disarmament and International Security. These documents are available at www.reachingcriticalwill.org as well as via the UN disarmament homepage, <http://www.un.org/disarmament>. Proposals and state positions listed in the report are based on the most recently available documents.

Web addresses listed in the end notes are not maintained by ACA, and may change.

Cover Photo

UN Secretary General Kofi Annan addresses the nuclear Nonproliferation Treaty Review Conference May 2, 2005 in New York, UN PHOTO/Mark Garten.

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The 2010 NPT Review Conference: *An Opportunity to Strengthen the Regime*

Forty years ago, the nuclear Nonproliferation Treaty (NPT) set into place one of the most important international security bargains of all time: states without nuclear weapons pledged not to acquire them, while nuclear-armed states committed to eventually give them up. At the same time, the NPT allowed for the peaceful use of nuclear technology by non-nuclear-weapon states under strict and verifiable control. The NPT is a good deal that must be honored and strengthened.

Since its inception, the NPT has helped to limit the number of nuclear-weapon states to the five with nuclear weapons at the time of its entry into force (China, France, Russia, the United Kingdom, and the United States) and the four other known nuclear-weapon states (India, Israel, North Korea, and Pakistan), which are not party to the treaty. Dozens of other states might have the bomb today if not for the NPT and associated measures. Over the years, the NPT security framework, combined with effective diplomacy, has led states such as Argentina, Brazil, Sweden, and Libya to abandon their nuclear weapons ambitions. Belarus, Kazakhstan, South Africa, and Ukraine gave up their nuclear weapons and joined the NPT in the 1990s.

The NPT also makes it far more difficult for non-nuclear-weapon states to acquire the material and technology needed to build such weapons and, if they do, to do so without detection. Intrusive international inspections and safeguards against diversion of nuclear technology and material for weapons purposes are now standard practice.

The NPT process and sustained nongovernmental pressure have encouraged the United States and Russia to take action on several nuclear arms control and arms reduction initiatives, from strategic nuclear weapons reductions to a halt on nuclear weapons testing and the negotiation of the Comprehensive Test Ban Treaty (CTBT). These arms control agreements have reduced U.S.-Russian nuclear arms competition and increased transparency, thereby

fostering greater stability and predictability.

The bargain between the nuclear weapons haves and have-nots was further solidified at the 1995 NPT Review and Extension Conference, which led to a decision to extend the treaty indefinitely. That decision was based on a set of interlocking commitments on nonproliferation, the peaceful uses of nuclear energy, and disarmament that included the conclusion of negotiations on the CTBT by 1996, the initiation of negotiations on a fissile material cutoff treaty (FMCT), the universalization of the NPT, and the application of comprehensive safeguards as a condition for the supply of nuclear fuel and technology.

In the context of the pivotal 1995 NPT conference, the nuclear-weapon states issued nonbinding negative security assurances—pledges not to use nuclear weapons against non-nuclear-weapon NPT members—thereby reducing incentives for others to seek nuclear arms for defense.

Leaders from across the globe have worked to create regional nuclear-weapon-free zones (NWFZs) that further reinforce the norm against nuclear weapons possession and use. These include the Treaty of Tlatelolco, which covers Latin America; the Treaty of Rarotonga governing the South Pacific; the Pelindaba Treaty, which establishes an African NWFZ; the Treaty of Semipalatinsk, which created an NWFZ in Central Asia; and the Bangkok Treaty on a Southeast Asian NWFZ. The 1995 and 2000 NPT conferences further reinforced the NWFZ

concept and, at the urging of a key coalition of non-nuclear-weapon states, called for progress toward the realization of a Middle East NWFZ.

The 2000 NPT Review Conference again reiterated and refined the political commitments of the NPT states-parties to strengthen the treaty in all aspects. Most notably, the 2000 conference led to the expression of “an unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament to which all States parties are committed under Article VI” and to the agreement on a set of 13 “practical steps” on nuclear disarmament, including:

- Achievement of the early entry into force of the CTBT;
- further irreversible and verifiable reductions in nuclear arsenals, including entry into force of START II and preservation of the Anti-Ballistic Missile (ABM) Treaty;
- concrete measures to reduce the operational status of deployed nuclear weapons;
- the start of FMCT negotiations and the establishment of a subsidiary body to discuss nuclear disarmament at the Conference on Disarmament; and
- a commitment to the “diminishing role for nuclear weapons in security policies” and the further reduction of nonstrategic nuclear weapons.

The 2000 conference reached an agreement despite 11th-hour wrangling related to Iraq’s ongoing noncooperation with International Atomic Energy Agency (IAEA) and UN investigations of its past nuclear, chemical, biological, and missile arsenals.

Challenges to the NPT Consensus

In the years following the 2000 NPT Review Conference, several developments conspired to erode the consensus action plan that had been adopted by NPT states-parties. The United States led an invasion of Iraq based on exaggerated claims about the renewal of Iraq’s nuclear weapons program that IAEA inspections in Iraq demonstrated were unfounded. The Bush administration rejected key disarmament-related initiatives that were among the 13 practical steps developed by consensus at the 2000 conference, including the CTBT and a verifiable FMCT.

In order to keep its strategic defensive and

offensive missile options open, Washington unilaterally withdrew from the 1972 ABM Treaty, effectively sinking prospects for START II, and instead pursued a one-page agreement with Russia to reduce their operationally deployed strategic nuclear warheads to no more than 2,200 each by 2012, but without any additional verification provisions. In 2003 the Bush administration sought and was later refused congressional support for funding for modifications to a U.S. nuclear warhead that would have improved its earth-penetrating capabilities.

At the same time, new proliferation challenges emerged that have shaken the foundation of the NPT regime in other ways. In October 2002, U.S. and North Korean negotiators met for the first time since the Bush administration took office. At the meeting, the U.S. side accused North Korea of seeking uranium-enrichment technology in violation of the 1994 Agreed Framework, which froze Pyongyang’s nuclear program and put its major nuclear complex under international inspection. Washington, along with its Japanese and South Korean allies, soon suspended heavy fuel oil shipments to North Korea that were part of the Agreed Framework. In January 2003, North Korea declared it would withdraw from the NPT, ejected IAEA inspectors, and resumed work related to the production of plutonium for nuclear weapons.

Weeks later, it became known that Iran had been secretly pursuing nuclear activities for years, including work on a large uranium-enrichment complex at Natanz, in violation of its IAEA safeguards obligations. Less than a year later, in early 2004, U.S. officials revealed that the head of Pakistan’s nuclear program, Abdul Qadeer Khan, had been operating a clandestine nuclear technology supply network that provided key components to Iran, Libya, and North Korea. The revelations about the Khan network and the interdiction of a ship bound for Libya with centrifuge components led to the admission by Tripoli of its own secret nuclear weapons program and a decision by Libya to dismantle that program in exchange for the promise of normalized relations with the West.

The 2005 Review Conference

States-parties convened at UN headquarters for the May 2005 NPT Review Conference at a time of intense strain for the multilateral disarmament and nonproliferation regime. Well before the meeting, the Bush administration signaled that it would not support core disarmament-related commitments and decisions made at the 2000 and 1995 review conferences, while U.S. representatives claimed that their disarmament record was “unassailable.” At the same time, they argued that peaceful nuclear cooperation under the NPT was at risk unless cases of

noncompliance involving North Korea and Iran were forcefully addressed.

Predictably, Egypt and other nonaligned states did not want to allow the repudiation of past NPT conference commitments, which included pursuit of a nuclear-free Middle East and negative nuclear security assurances. Meanwhile, Iran, under investigation by the IAEA for safeguards violations, tried to deflect concerns about the potential military dimensions of its nuclear program by claiming that such accusations were an assault on developing states' right to peaceful nuclear endeavors under Article IV of the treaty.

As a result, the preparatory committee meetings leading up to the 2005 conference were unable to agree on an agenda for the review conference. Consequently, when the conference began, delegates spent the first three weeks bogged down in procedural matters and took up substantive issues only in the final week. It was too little, too late, and the four week-long conference closed in New York on May 27 without any consensus document assessing the state of the treaty, let alone a plan to strengthen it.

Familiar Challenges

Since 2005, many of the challenges facing the NPT have continued unabated. Iran has steadily continued to increase its uranium-enrichment capacity despite multiple UN Security Council resolutions demanding that Tehran freeze its enrichment program, halt a heavy-water reactor project, agree to sign an additional protocol, and address outstanding issues related to the IAEA investigation. Although six-party talks aimed at verifiably dismantling North Korea's nuclear program achieved on-and-off success, North Korea tested a nuclear explosive in October 2006 and conducted a second announced test in May 2009. Absent progress in renewed talks, Pyongyang could resume plutonium-separation work, perform additional ballistic missile flight tests, and conduct additional nuclear test explosions that could allow it to perfect warheads that could be delivered on those missiles.

Moreover, three nuclear-armed states in dangerous regions remain outside the NPT. Israel possesses nuclear weapons, although it will not admit it, and regional rivals India and Pakistan continue to produce fissile material and improve their nuclear arsenals. Compounding the difficulties of achieving nuclear restraint in South Asia and strengthening the NPT, in September 2008 the United States, France, Russia, the United Kingdom, and others pushed the 45-member Nuclear Suppliers Group (NSG) to approve an exemption for NPT holdout India from NSG guidelines that require comprehensive international safeguards as a condition of civil nuclear trade.

Supporters of the so-called Indian nuclear deal will point to the fact that it is contingent on continued Indian adherence to its unilateral nuclear test moratorium, but the deal clearly erodes the credibility of global efforts to ensure that access to nuclear trade and technology is available only to those states, which constitute the vast majority of the non-nuclear-weapon states, that meet global nuclear nonproliferation and disarmament standards. The supply of foreign nuclear fuel to India's civil nuclear sector will enable India to increase the rate of fissile material production for bombs. In response, Pakistan has already committed to further increase its own fissile material production capacity.

With the anticipated global expansion of nuclear energy production capacity and a potential increase in demand for nuclear fuel supply services, additional countries could acquire the capacity to produce fissile material for weapons purposes under the guise of "peaceful" nuclear endeavors in the years ahead. Even if more states grant the IAEA greater authority to monitor and verify compliance through the 1997 Model Additional Protocol, countries can acquire technologies that bring them to the very brink of nuclear weapons capability without explicitly violating the agreement and can then leave the treaty without automatic penalties.

Until recently, at least, the majority of countries felt that the five original nuclear-weapon states were not moving quickly enough to fulfill their NPT pledge to eliminate nuclear weapons. Although the United States and Russia have retired many strategic nuclear warheads under their bilateral treaties, each still deploys more than 2,000 of these weapons, most of which are far more destructive than the bombs that destroyed Hiroshima and Nagasaki more than six decades ago. The two countries hold thousands more reserve strategic and substrategic nuclear warheads. Additionally, China, France, and the United Kingdom maintain hundreds of nuclear warheads of their own. The continuing possession of nuclear weapons by these states, reinforced by lackluster progress on disarmament in the last nine years, erodes the willingness of certain states in the non-nuclear-weapon majority to fulfill their treaty obligations, much less to agree to strengthen the regime.

New Opportunities

The challenges confronting the NPT remain numerous, but there is a new impetus and growing consensus that the treaty can and must be strengthened and updated through universal compliance with nonproliferation and disarmament standards. Obama laid out his priorities in an April 5 speech in Prague, in which he declared that it is U.S. policy to "seek the peace and security of a world

without nuclear weapons” and to provide leadership by example by reducing the role, number, and salience of nuclear weapons in U.S. nuclear policy and pursuing the reconsideration and ratification of the CTBT “immediately and aggressively.” In the same address, Obama called on all nations jointly to build a stronger, global nonproliferation regime. Other leaders, including British Prime Minister Gordon Brown and Russian President Dmitry Medvedev, have made similar calls.

In April 2009, the United States and Russia resumed talks aimed at concluding a new START deal that further and verifiably reduces the two sides’ strategic deployed warheads and nuclear delivery systems. Meanwhile, the Geneva-based Conference on Disarmament, the world’s primary multilateral arms control negotiating body, broke 12 years of deadlock in May 2009 when it agreed on a program of work. Only Pakistan is blocking the implementation of the CD’s work plan. After years of inaction and drift, a real impetus for nuclear disarmament is emerging.

In May 2009 at the Preparatory Committee (PrepCom) meeting for the 2010 NPT Review Conference, U.S. officials reinforced Obama’s April 5 call to action and reiterated the Obama administration’s support for the disarmament-related commitments established at the 1995 and 2000 review conferences, including further efforts to realize a Middle East nuclear-weapon-free zone. The PrepCom responded by agreeing to an agenda for the 2010 review conference—the first time it had agreed on a review conference agenda in a decade.

On September 24, Obama presided over a special UN Security Council meeting on nonproliferation and disarmament, leading to the unanimous approval of Resolution 1887, which constitutes a practical and comprehensive action plan to prevent the spread and use of nuclear weapons. Although not perfect, the document should help build support among NPT member states, especially non-nuclear-weapon states, around a balanced set of nonproliferation, disarmament, and nuclear material security initiatives ahead of the pivotal May 2010 review conference.

After years of talking past one another while Iran built up its uranium-enrichment capacity, senior negotiators from Tehran, Washington, London, Paris, Moscow, Beijing, and Berlin met on October 1. The meeting achieved some modest early progress toward opening up Iran’s Qom enrichment facility to IAEA inspectors and providing limited uranium-enrichment services to Iran that could, if expanded, obviate Iran’s rationale for expanding its enrichment capacity. A new set of Security Council sanctions against Iran may - or may not - hasten a diplomatic solution.

Whether these and other developments mark a true turning point depends on the steps taken in the next few weeks and months. If concrete progress is achieved, it may provide the further positive momentum needed to achieve consensus at the 2010 review conference on a balanced plan of action to strengthen all three pillars of the NPT.

Proposals for Progress

The multiple threats to the cause of nuclear nonproliferation and disarmament make the 2010 NPT Review Conference an indispensable opportunity to demonstrate the political will to strengthen peace and security for all states, not just a few.

The challenges facing the nonproliferation system have prompted a number of states and major nongovernmental organizations to put forward constructive ideas and proposals to strengthen and update the NPT, including proposals to improve implementation and enforce compliance. This *Resource Guide* surveys the issues confronting the NPT and the major proposals designed to address them.

Our hope is that the *Resource Guide* will serve as a starting point for those trying to learn more about the security risks posed by nuclear weapons, a quick guide to reporters and researchers covering the NPT, and a practical tool for those diplomats and policymakers charged with helping to advance the cause of nuclear nonproliferation, disarmament, and global security.

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Verification

Article III of the nuclear Nonproliferation Treaty (NPT) obliges each non-nuclear-weapon state to accept International Atomic Energy Agency (IAEA) safeguards on its nuclear material and facilities to prevent “the diversion of nuclear energy from peaceful uses to nuclear weapons.” Effective verification helps build confidence that a state is not violating its NPT obligations and deters potential violators through the threat of detection.

The current standard of verification for the NPT is a comprehensive safeguards agreement (CSA) between a state and the IAEA. A CSA allows the agency to monitor the state’s declared nuclear materials and activities using cameras, seals, and inspections. A state under a CSA might still be able to pursue a nuclear weapons program by using undeclared materials and facilities, away from the prying eyes of international inspectors. Under a CSA, the IAEA does not have the authority to investigate undeclared sites, even if it has reason to suspect that a state is violating its NPT obligations.

The discovery of a clandestine Iraqi weapons program in the aftermath of the 1991 Persian Gulf War led to the development in 1997 of the IAEA Model Additional Protocol, which empowers the agency to conduct more widespread inspections, including at undeclared locations and on shorter notice. An additional protocol, negotiated between a state and the IAEA based on the 1997 model, is currently a voluntary measure.

In the current NPT review cycle, the United States, the European Union, Japan, and other developed states are keen to see the Model Additional Protocol made obligatory or otherwise universalized. Other countries want to maintain the distinction between legal requirements and “voluntary confidence-building measures, in order to ensure that such voluntary undertakings are not turned into legal safeguard obligations.”¹

Background

- Article III, paragraph 1 of the NPT obliges non-nuclear-weapon states to accept IAEA safeguards on “all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.” Paragraph 2 prohibits states-parties from providing fissile material or nuclear technology to any non-nuclear-weapon state unless IAEA safeguards are in place.
- The current standard of verification is a CSA, which is described in the 1972 IAEA Information Circular (INFCIRC) 153.
- An additional protocol provides the IAEA with enhanced powers to verify that nuclear material and technology are not being diverted to weapons purposes, but it remains voluntary. Additional protocols are negotiated between states and the IAEA based on the Model Additional Protocol laid out in IAEA INFCIRC/540 (Corrected).
- As of May 2009, 91 states had an additional protocol in force. Of the 183 NPT member states, 27 have not implemented a CSA.²

A 1996 UN General Assembly document compiled a list of general verification principles applicable to

all arms control agreements. The document recommends, among other things, that:

- Adequate and effective verification is an essential element of all arms limitation and disarmament agreements.
- Verification in the arms limitation and disarmament process will benefit from greater openness.
- Arms limitation and disarmament agreements should include explicit provisions whereby each party undertakes not to interfere with the agreed methods, procedures and techniques of verification, when these are operating in a manner consistent with the provisions of the agreement and generally recognized principles of international law.
- To assess the continuing adequacy and effectiveness of the verification system, an arms limitation and disarmament agreement should provide for procedures and mechanisms for review and evaluation. Where possible, timeframes for such reviews should be agreed in order to facilitate this assessment.
- To be adequate and effective, a verification regime for an agreement must cover all relevant weapons, facilities, locations, installations and activities.³
- The Final Document of the 2000 NPT Review Conference “fully endorses” the measures contained in the Model Additional Protocol and noted that implementation of an additional protocol provides “increased confidence about the absence of undeclared nuclear material and activities.”⁴
- Step 13 of the 13 “practical steps” adopted at the 2000 review conference calls on states-parties to work toward “the further development of verification capabilities that will be required to provide assurance of compliance with nuclear disarmament agreements.”
- The United Kingdom has been working to develop new verification techniques and technologies in an effort announced at the 2000 review conference. In a white paper issued by the Foreign and Commonwealth Office in February 2009, the United Kingdom calls itself a “disarmament laboratory” and lists four areas of

technical research: authentication of warheads, verification of the chain of custody of weapons components, monitored storage, and management of access to sensitive facilities.⁵

- The United States has launched the Next Generation Safeguards Initiative, which aims “to develop the policies, concepts, technologies, expertise, and infrastructure necessary to sustain the international safeguards system as its mission evolves over the next 25 years.”⁶

Proposals and Positions

The debate over nuclear verification issues revolves around the additional protocol. Many developed states argue that an additional protocol is necessary to ensure confidence that a state is not pursuing nuclear weapons activities using undeclared material at undeclared facilities. Two different proposals have been advanced by those states that wish to see the Model Additional Protocol made universal. Some argue that the review conference should declare an additional protocol part of the standard for verification under the treaty, along with a CSA. Others want to encourage nuclear supplier states to tie nuclear-related exports to the implementation of an additional protocol in the recipient country. Yet, many developing states dispute the importance of an additional protocol and oppose making it a binding feature of the NPT.

Several European states, Australia, Canada, and New Zealand want the review conference to declare an additional protocol part of the standard for verification according to Article III of the treaty and also a condition of nuclear trade. The **Vienna Group of Ten** (Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway, and Sweden) submitted a working paper to the 2009 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference calling on the conference to recognize that a CSA and an additional protocol “represents the verification standard pursuant to article III, paragraph 1, of the Treaty.”⁷ The Vienna Group of Ten also called on the conference to decide that new nuclear supply arrangements should include, “as a necessary precondition, acceptance of an additional protocol.”⁸

At the July 2009 Group of Eight summit in Italy, the leaders of **Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States** pledged to “work to establish the Additional Protocol as an essential standard in the field of nuclear supply arrangements.”⁹

At the 2009 PrepCom, **Russia** stated that, “[i]n the future,” CSAs and their additional protocols “should become a universally accepted standard to verify the compliance of states parties to the NPT” and urged



Petr Pavlicek/IAEA

An International Atomic Energy Agency safeguards inspector seals a transport container housing nuclear fuel removed from a shutdown Latvian research reactor on May 25, 2005. The container held about three kilograms of highly enriched uranium, which was shipped to Russia and processed so that it could no longer be used in a nuclear weapon.

making an additional protocol “an essential new standard” for nuclear supply arrangements.¹⁰

Another group, composed of **Belgium, Lithuania, the Netherlands, Norway, Poland, Spain, and Turkey**, made a similar appeal in a separate working paper, arguing that, “in order to provide credible assurances about the peaceful nature of national programmes, the peaceful use of nuclear energy should be linked with national implementation of the IAEA Additional Protocol.”¹¹

France took a more circumscribed approach, suggesting that implementation of an additional protocol be required for any trade in technology for uranium enrichment or spent fuel reprocessing.¹² Enrichment and reprocessing can be part of the civilian nuclear fuel cycle but can also be used to generate material for nuclear weapons.

European states have generally called for the Model Additional Protocol to become the NPT verification standard. The EU called an additional protocol combined with a CSA “the current verification standard” in a statement on nonproliferation.¹³ **Ukraine** also expressed support for using an additional protocol and a CSA as the NPT standard during general debate at the 2009 PrepCom.¹⁴

Other states make a more general appeal for universal adoption of the Model Additional Protocol, without explicitly calling for the Model Additional Protocol to become the verification standard. Seven countries made such appeals during general debate at the 2009 PrepCom: **China**,¹⁵ **Iceland**,¹⁶ **Indonesia**,¹⁷ **Japan**,¹⁸ **Kazakhstan**,¹⁹ **South Korea**,²⁰ and the **United States**.²¹

Many developing countries reject making the Model Additional Protocol a mandatory aspect of the treaty or a prerequisite for nuclear trade. The **Group of Non-Aligned States**, a large bloc of mainly African, Asian, and Latin American countries, in a working paper submitted to the 2009 PrepCom, recommended that the review conference recognize a “distinction between legal obligations and voluntary confidence-building measures, in order to ensure that such voluntary undertakings are not turned into legal safeguard obligations.” Instead the 118-member group emphasizes the universalization of the CSA and unrestricted nuclear trade with those countries that have brought CSAs into force.²² **Brazil**, which is not a member of the Group of Non-Aligned States, stated that CSAs provide “credible assurance of non-diversion of nuclear material from declared activities.”²³

The **UN Security Council** unanimously passed a resolution on September 24, 2009, calling on all states to ratify an additional protocol with the IAEA. The resolution stated that the protocol and a CSA together form “essential elements of the IAEA safeguards system.”²⁴

On October 15, 2009, the First Committee of the UN General Assembly approved a resolution stressing the importance of universal adherence to the CSA. The same resolution also strongly encouraged “further works” for achieving the universalization of the Model Additional Protocol. The committee endorsed the resolution, which also urged the entry into force of the Comprehensive Test Ban Treaty and a diminished role

for nuclear weapons in national security policies, by a vote of 161-2, with eight abstentions.²⁵ In a reversal from recent years, the United States endorsed the measure. India and North Korea voted in the negative.

Issue summary: There is general consensus among developed states that the Model Additional Protocol should be made the verification standard of the NPT and a necessary condition for the supply of nuclear materials and equipment. Developing states generally oppose making the additional protocol a legally-binding requirement and support it as a voluntary measure, arguing that a CSA is a sufficient safeguard against nuclear proliferation.

Nuclear Fuel Cycle

The peaceful use of nuclear energy is guaranteed to the nuclear Nonproliferation Treaty (NPT) states-parties, as long as those activities are carried out under the supervision of the International Atomic Energy Agency (IAEA). Interest in nuclear power has increased in recent years as an alternative to fossil fuels; 45 civilian reactors are under construction around the world as of May 2009, according to the IAEA.²⁶ Yet, some technologies and procedures, such as uranium enrichment and spent fuel reprocessing to extract plutonium, can be used both as part of a peaceful nuclear fuel cycle and to aid a nuclear weapons program.

The enrichment of natural uranium is an important aspect of the civilian fuel cycle. Enrichment is a physical process that increases the proportion of the fissile uranium-235 isotope present in the fuel. Most civilian reactors require low-enriched uranium (LEU) to generate a sustained reaction. The enrichment process can be continued to produce highly enriched uranium (HEU), which is suitable for use in a nuclear weapon. HEU is also used as fuel in many research reactors around the world and to power nuclear-propelled ships. The nature of Iran's enrichment program at its Natanz and Qom facilities is at the center of the dispute over that country's nuclear program.

Similarly, reprocessing spent fuel from civilian reactors can be used to separate plutonium and uranium from nuclear waste. This material can then be fabricated into fresh fuel, increasing the amount of energy that can be extracted from each batch of fuel. The plutonium that can be recovered from spent fuel could also be used as the core of a nuclear weapon. The plutonium used to power North Korea's nuclear devices was extracted at the reprocessing facility at Yongbyon.

France is the primary international champion of reprocessing, and its reprocessing facility at La Hague in Normandy treats a large quantity of domestic and foreign spent fuel each year.²⁷ The United Kingdom

also performs reprocessing services for international customers, as well as domestically, although its largest reprocessing facility is scheduled to close in 2012.²⁸ Japan is supportive of reprocessing and operated a small-scale facility during 1977–2006, in addition to purchasing reprocessing services from France and the United Kingdom. Completion of a full-scale domestic reprocessing plant in Japan has been delayed for 13 years and is now scheduled for October 2010.²⁹

States have advanced several proposals intended to make the pursuit of national enrichment and reprocessing facilities less attractive to countries pursuing nuclear power. These proposals are designed to assure states that imports of nuclear fuel will not be disrupted for political reasons, potential interruption of the fuel supply being the primary rationale for developing domestic enrichment or reprocessing capabilities.

These proposals generally fall into two categories. The first category, supply assurances, involves stronger guarantees by nuclear supplier states or the IAEA that the supply of nuclear fuel will not be interrupted. The second, more ambitious category involves multilateral approaches to the nuclear fuel cycle. These plans would place stocks of reactor fuel or even full-scale enrichment and reprocessing facilities under international or multinational control.

Background

Article IV, paragraph 1 of the NPT establishes “the inalienable right of all the Parties to the Treaty to develop research, production, and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty.” Paragraph 2 of Article IV underscores that each NPT state-party undertakes to “facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy.”

Proposals and Positions

Mohamed ElBaradei, director-general of the IAEA from 1997 to 2009, has described three principles that any multilateral fuel bank approach should uphold. First, any such approach should be “non-political, non-discriminatory and available to all states in compliance with their safeguards obligations.” Second, any release of fissile material should be determined “by non-political criteria established in advance and applied objectively and consistently.” Third, no state should be required to give up its rights under the NPT regarding any part of the nuclear fuel cycle.³⁰

Russia has proceeded the farthest with its proposal for the International Uranium Enrichment Center (IUEC) located in the Siberian city of Angarsk. States can purchase enrichment services through the center so long as they forgo domestic enrichment capabilities.³¹ The IUEC is a commercial endeavor, organized as a joint-stock company.³² Armenia, Kazakhstan, and Ukraine have decided to join the IUEC, according to a Russian working paper at the 2009 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference, and discussions with other states are in progress.³³

Additionally, the Russian government has proposed the development of a 120-ton reserve of LEU located at Angarsk under IAEA control. In the case of a supply disruption, member states could apply to the IAEA to release some of the reserve LEU.³⁴ In November 2009, the IAEA Board of Governors approved a resolution authorizing the IAEA director-general “to conclude and subsequently implement” agreements with IAEA member states to receive LEU from the Russian reserve if the countries meet basic nonproliferation requirements.

The **Nuclear Threat Initiative**, a nongovernmental organization, offered to contribute \$50 million toward the creation of an LEU stockpile, owned and managed by the IAEA, that could be tapped if normal supply was disrupted. This offer was contingent on IAEA member states raising an additional \$100 million or equivalent amount of LEU to create the

stockpile. That milestone was reached in March 2009. The IAEA Board of Governors must still develop and approve a plan to implement the fuel bank.³⁵

In June 2009, the board met to consider the fuel bank proposal but did not agree to move forward on the issue. Developing countries, led by India, were concerned that the plan would constrain their right to develop and use peaceful nuclear technology. The board chairman referred the proposal for further “discussions and consultations.”³⁶

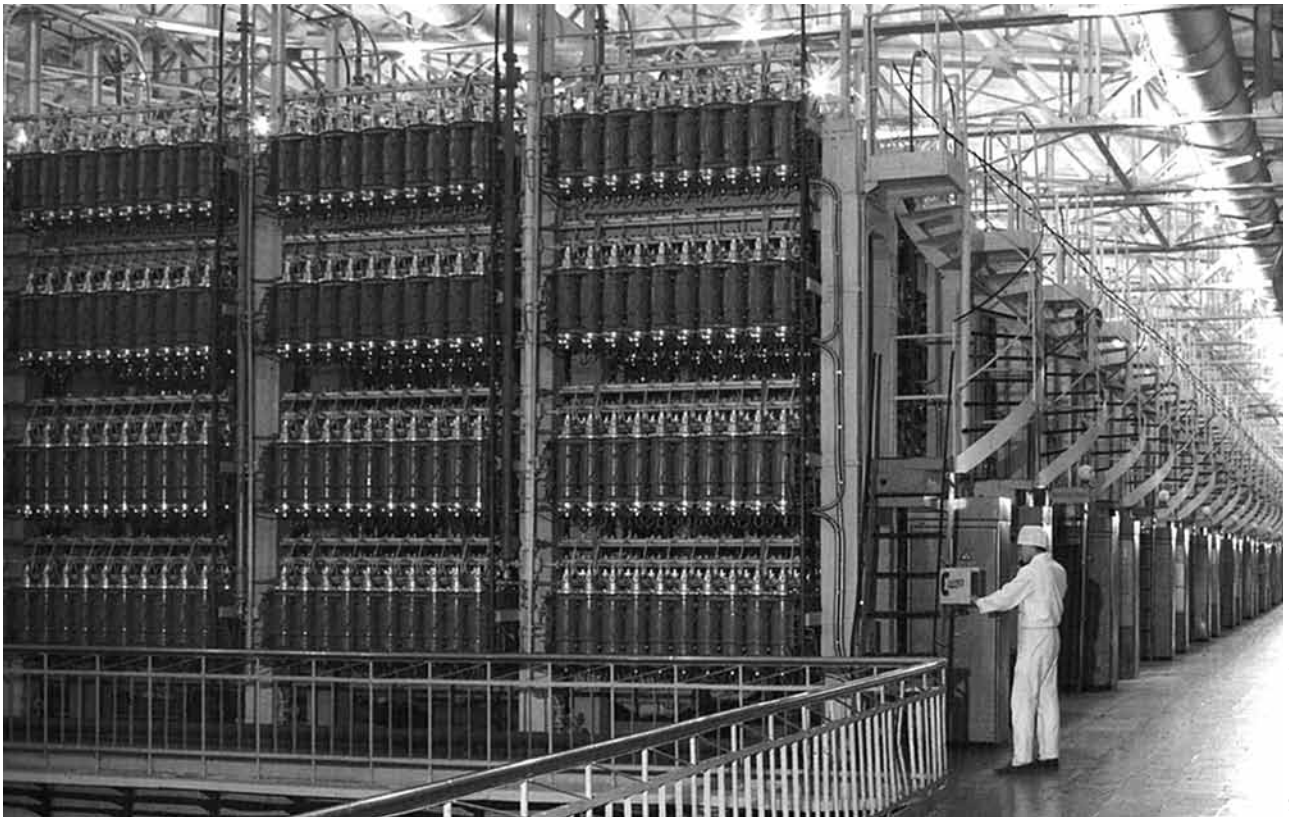
Germany has proposed establishing an extraterritorial enrichment facility overseen by the IAEA, which it calls the Multilateral Enrichment Sanctuary Project. “A host country would have to be willing to cede administration and sovereign rights over a certain area...to the IAEA,” Germany wrote in a 2007 IAEA information circular. “The IAEA would be given the right to exercise controls over low-enriched uranium (LEU) exported from this area, as well as all the rights necessary to construct, run and monitor a uranium enrichment plant.”³⁷

Austria articulated a two-track mechanism in a 2009 PrepCom working paper. Track 1 would establish a “cradle-to-grave” information system, wherein states would provide periodic updates to the IAEA on all their nuclear material and activities, from the mining or import of fissile material to the disposition of nuclear waste.

Under Track 2, the nuclear fuel cycle would become increasingly multilateral. First, the proposal supports an IAEA fuel bank to provide immediate assurance to concerned states. Second, the IAEA would act as a “virtual broker” of fissile material, using the information system set up in Track 1. Third, national fuel-cycle facilities would be encouraged to take on interested states as shareholders. Fourth, all newly built fuel-cycle facilities would come under “compulsory multilateral control.” At the conclusion of this process, an international agreement would limit production or processing of fissile material to facilities under multilateral control.³⁸

The **United Kingdom**, in a 2007 IAEA information circular, proposed an “enrichment bond” as a means of assuring recipient states that their supplies will not be cut off for political reasons. The bond would be an agreement among a supplier state, the recipient, and the IAEA. The agreement would guarantee that national enrichment providers would not be prevented from supplying the recipient state if the IAEA determines that the recipient state is meeting its nonproliferation commitments.³⁹

Under the Bush administration, the **United States** offered to set aside 17 metric tons of HEU, to be down-blended into LEU and made into a fuel reserve that could be accessed in case of a supply disruption. The IAEA would act as an intermediary between the United States and the recipient state.⁴⁰



Russian Ministry of Atomic Energy

Interior view of a cascade hall of Russia's Novouralsk centrifuge enrichment plant.

In 2006 the Bush administration proposed the Global Nuclear Energy Partnership (GNEP). Through GNEP, countries with advanced nuclear technologies would agree to export nuclear fuel to developing countries if the recipient countries agree to give up enrichment and reprocessing technologies.⁴¹ Twenty-five states have signed on to the GNEP statement of principles.⁴² The principle of extending enrichment and reprocessing services to states that renounce those capabilities on their own soil was first articulated by President George W. Bush in a February 11, 2004, speech at the National Defense University.⁴³

France, Germany, the Netherlands, Russia, the United Kingdom, and the United States, the six states that house enrichment facilities supplying the international market, suggested a two-tiered approach in a restricted June 2006 IAEA document. At the "basic assurances" level, the supplier states would agree to substitute for one another to make up for disruptions in supply to states that had chosen not to pursue enrichment and reprocessing domestically. The second tier would provide a physical or virtual reserve of LEU that could be accessed if basic assurances were to fail.⁴⁴

At the 2009 PrepCom, the European Union,⁴⁵ Kuwait,⁴⁶ Liechtenstein,⁴⁷ and the United States⁴⁸ expressed outright support for an IAEA fuel bank during general debate. Many states welcomed the elaboration of the various fuel-cycle proposals that

had been advanced and looked forward to discussing them. Australia,⁴⁹ China,⁵⁰ the EU,⁵¹ the Holy See,⁵² Kazakhstan,⁵³ Namibia,⁵⁴ South Korea,⁵⁵ and Ukraine⁵⁶ all voiced such a sentiment.

The Group of Non-Aligned States, in a statement at the 2009 PrepCom, "rejects, in principle, any attempts aimed at discouraging certain peaceful nuclear activities," that is, enrichment and reprocessing, "on the ground [sic] of their alleged 'sensitivity'." The group argued that the issue of supply assurances and multilateral approaches to the fuel cycle must undergo "extensive, comprehensive and transparent consultations" before the states-parties take any action on the subject.⁵⁷

Issue summary: Several European countries and the United States have advanced proposals for a multilateral mechanism to guarantee the supply of enriched uranium to states that choose to forgo domestic enrichment capabilities. These proposals range from "enrichment bonds" proposed by the United Kingdom to multilateral enrichment facilities. The Nuclear Threat Initiative and IAEA member states have raised \$150 million for an IAEA fuel bank, but the IAEA Board of Governors has not agreed to move forward with the plan. Developing states are concerned that multilateral approaches to the fuel cycle could constrain their right to the peaceful use of nuclear technology enshrined in the NPT.

Export Controls and Interdiction

Export controls govern the international transfer of materials, equipment, and technology that could be used to construct a nuclear weapon. As such, they are a cornerstone of the international nuclear nonproliferation regime. The nuclear Nonproliferation Treaty (NPT) permits the transfer of nuclear material and technology only to states with comprehensive safeguards in place. In practice, two multilateral bodies—the Nuclear Suppliers Group (NSG) and the Zangger Committee—determine which items trigger the NPT safeguards requirement. Some states advocate for tight control of potentially sensitive materials, while others seek to preserve access to such technologies for peaceful purposes. When export controls fail, some states support interdiction efforts to prevent the spread of nuclear material and technology.

The multilateral export control regime was significantly altered on September 6, 2008, when the NSG voted to allow nuclear trade with India, a nonparty to the NPT, despite incomplete international supervision of that country's nuclear activities.

Background

- Article III, paragraph 2 of the NPT regulates the international supply of nuclear material for peaceful purposes: “Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon state for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.” Safeguards as outlined under Article III, paragraph 1 govern activities inside states while Article III, paragraph 2 regulates transfers of relevant goods between states.

- The 37-member Zangger Committee, sometimes called the NPT Exporters Committee, evolved out of informal meetings among nuclear supplier states between 1971 and 1974 that were aimed at interpreting the language of Article III, paragraph 2.

- This committee manages a “trigger list” of nuclear export items that require the Article III safeguards and identifies three conditions under which Article III allows exports to non-nuclear-weapon states: exports are to be used for peaceful purposes only, an International Atomic Energy Agency (IAEA) safeguards agreement must be in place in the recipient state, and the receiving state must agree to apply the same conditions to retransfers of materials to other states.
- Rules determined by the committee are then implemented via national legislation.

- The NSG, a slightly larger body (currently 46 supplier states), was established in 1974 following a nuclear test explosion by India. The NSG's two-part guidelines define which materials and technologies are subject to export controls and are more comprehensive than the Zangger Committee trigger list. Part 1 of the NSG guidelines covers nuclear material as well as components for nuclear reactors, enrichment facilities, and reprocessing plants. Part 1 guidelines are more expansive and detailed than the Zangger Committee trigger list but are focused on the same general categories of products. Part 2 goes beyond the Zangger trigger list by including dual-use items, which can be used either for nuclear-related work or in a conventional industrial capacity.
- NSG rules require that non-nuclear-weapons states, as defined by the NPT, permit international oversight of their full nuclear complex in order to qualify for civil nuclear trade.
- The NSG voted on September 6, 2008, to waive this rule for India, allowing nuclear trade with that country despite incomplete IAEA supervision over New Delhi's nuclear programs.
- NSG guidelines also call for the exercise of "restraint" with respect to exports of sensitive enrichment and reprocessing equipment.
- The 1997 IAEA Model Additional Protocol obliges states to declare all transfers of NSG trigger list items.
- The Proliferation Security Initiative (PSI) was founded at the instigation of President George W. Bush in 2003. The initiative aims to boost international cooperation in the interdiction of biological, chemical, and nuclear weapons; their delivery systems; and associated materials. The PSI does not create any new powers or responsibilities for participating states, which continue to operate on the basis of existing national and international law. Instead, PSI participants are encouraged to share intelligence and cooperate to prevent proliferation of unconventional weapons. Ninety-five countries participate in the PSI as of June 2009. China, India, and Pakistan have expressed concern about the legality of interdictions and the initiative itself.⁵⁸ President Barack Obama has expressed an intention to "institutionalize" the PSI, but administration officials have not articulated what such an effort would entail.⁵⁹

UN Security Council Resolution 1540 on nonproliferation of weapons of mass destruction, proposed by the United States in September 2003 and unanimously adopted in April 2004, calls on states to refrain from helping nonstate actors acquire unconventional weapons, to enact more effective export controls, and to boost the security of unconventional weapons and related material on their territory. Resolution 1540, passed under Article VII of the UN Charter, is legally binding.⁶⁰

- In response to North Korea's second nuclear test on May 25, 2009, the UN Security Council unanimously passed Resolution 1874, which called on member states to inspect ships suspected of carrying weapons or weapons materials to or from North Korea, with the consent of the state operating the vessel, and to seize any such cargo. The resolution also called on all states to inspect suspicious cargo bound to or from North Korea at sea- and airports.⁶¹

Proposals and Positions

Most proposals regarding export controls involve reinforcing the existing Zangger Committee and NSG guidelines. Some states want stricter control over technologies that bear particular proliferation risks, such as uranium enrichment and nuclear waste reprocessing (see Nuclear Fuel Cycle, page 9). Developing states are more concerned with expanding access to nuclear trade and assistance and are opposed to further restrictions.

In a 2007 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference working paper, the **European Union** proposed that the conference "adopt both memoranda of the Zangger Committee and its trigger list as minimum standards in connection with any nuclear cooperation." The EU's ultimate objective, according to the paper, is the universal application of the more comprehensive NSG guidelines.⁶²

The **Vienna Group of Ten** has submitted a working paper on export controls to each of the three PrepComs of the 2010 cycle. The 2009 paper calls for the review conference to decide that the transfer of fissionable material or equipment designed for the processing, use, or production of special fissionable material to a non-nuclear-weapon state should require acceptance of an additional protocol by the receiving state. The group also recommended that the conference call on all states to adopt the principles of the Zangger Committee.⁶³

Australia has urged the review conference to recognize that export controls are a "legitimate and

necessary means” for states to fulfill their obligations under Article III of the NPT. The Australian delegation encouraged all states to ensure that their export controls are consistent with the “major nuclear export control regimes.”⁶⁴

Australia reiterated its decision to limit the supply of uranium to those states having implemented an additional protocol with the IAEA and called on other states to do the same (see Verification, page 5).

Canada has encouraged states to implement export controls based on the NSG and Zangger Committee guidelines. Canada argued further for “the development of a set of stringent internationally-agreed criteria” for transfers of technology used for enrichment and reprocessing.⁶⁵

Japan has called on all states to implement the Zangger Committee understandings and NSG guidelines⁶⁶ and urged states to require that recipient countries have an additional protocol in place before supplying items listed on the Zangger Committee trigger list and NSG Part 1 guidelines.⁶⁷

The **United States** has urged states-parties to come together to turn efforts such as the PSI into “durable international institutions.”⁶⁸

Russia has called for “multilateral consultations on export controls” and “establishing a dialogue with the countries not participating in any multilateral export control regimes.”⁶⁹

The **Group of Non-Aligned States** has recommended the review conference reiterate the obligation of states-parties to “prohibit the transfer of all nuclear-related equipment, information, material and facilities, resources or devices, and the extension of know-how or any kind of assistance in the nuclear, scientific or technological fields” to states not party to the NPT and lacking comprehensive safeguards over their nuclear activities, singling out Israel in particular.⁷⁰

The group also recommended that the review conference stress the commitment of developed countries to assist the developing countries “by allowing them to participate to the fullest extent in the possible transfer of nuclear equipment, materials and scientific and technological information for peaceful purposes.”⁷¹

The **Group of Eight** industrialized countries agreed in July 2009 to observe draft guidelines under consideration by the NSG that would ban the export of any enrichment or reprocessing equipment to any state that has not signed the NPT, has not agreed to an additional protocol to their comprehensive safeguards agreement, or is not in compliance with its safeguards obligations.

In Resolution 1887, **UN Security Council** unanimously encouraged states “to consider whether a recipient State has signed and ratified an additional protocol...in making nuclear export decisions” and called on states “to adopt stricter national controls for the export of sensitive goods and technologies of the nuclear fuel cycle.”

The resolution also encourages nuclear exporters to require, as a condition of nuclear trade, that imported nuclear material and technology be returned to the supplying state in the event that the importer withdraws from the NPT or is found to be noncompliant by the IAEA.⁷²

Issue summary: Several states, such as some EU members, want NPT states-parties to explicitly adopt the Zangger Committee and NSG guidelines as export controls. Others, such as the members of the Vienna Group of Ten and Japan, want some nuclear trade to be tied to the acceptance of an additional protocol by the recipient country. The Group of Non-Aligned States opposes the transfer of nuclear material and technology to states outside the NPT and called on developed states to expand their cooperation with developing NPT states in the nuclear field.

Indian Nuclear Deal

The Nuclear Suppliers Group (NSG) agreed in 1992 to prohibit most nuclear trade with non-nuclear-weapon states, as defined by the nuclear Nonproliferation Treaty (NPT), unless such states allowed international oversight of their entire nuclear complex. The NPT recognizes only those states that detonated a nuclear device prior to January 1, 1967, as nuclear-weapon states. Because India is classified as a non-nuclear-weapon state under this definition and does not permit international oversight of its nuclear weapons production facilities, most nuclear trade with India was banned under this rule.

On September 6, 2008, under pressure from the Bush administration, the NSG agreed to waive the

1992 rule in India’s case, opening up that country to nuclear trade with very few restrictions. The waiver required New Delhi to negotiate an “India-specific” additional protocol with the International Atomic Energy Agency (IAEA), covering its civil nuclear sites. This gesture is largely symbolic since India may choose which nuclear facilities remain off-limits to the agency. In order to win NSG approval for the exemption, the Indian government reiterated several earlier statements regarding its nonproliferation policies on September 5.

Paragraph 3 of the September 6 NSG statement says the “basis” of the India specific waiver includes its July 2005 nonproliferation pledges and the Sept. 5 statement by India’s External Affairs Minister Pranab

CONTINUED ON PAGE 15

Mukherjee, which reiterates New Delhi's pledge to maintain its unilateral nuclear test moratorium.

Following the NSG's reluctant approval of the statement on India, several states delivered national statements that clarify their views on how the NSG's policy on India shall be implemented. Among the states that delivered statements were: Austria, China, Germany, Ireland, Japan, the Netherlands, New Zealand, Norway and Switzerland.

Japan noted that the exemption for India was decided on the condition that India continues to observe its commitments, especially its nuclear test moratorium pledge. Japan noted that if India resumed testing, "the logical consequence is to terminate trade." Most of the other statements also made this point.

Germany added that it expects India to take further nonproliferation and disarmament measures, including "entry into force of the CTBT and a termination of fissile material production for weapons."

Therefore, if India tests, the NSG would likely meet in an emergency session (as already allowed for in the NSG guidelines) and the widespread expectation would be for all NSG states to terminate nuclear trade immediately. U.S. law also allows for the president to suspend nuclear trade if India tests for any reason or violates its safeguards commitments. As then-Sen. Obama (D-Ill.) said on the floor of the Senate on November 16, 2006, "[I]n the event of a future nuclear test by the Government of India, nuclear power reactor fuel and equipment sales, and nuclear technology cooperation would terminate."

Because international safeguards cannot prevent the replication or possible use of sensitive fuel cycle technologies transferred to India for "civilian" purposes for use in its military sector, Paragraph 3.a in the NSG statement on India maintains that Paragraphs 6 & 7 of the current NSG guidelines will continue to apply. This means that NSG states must continue to "exercise restraint" with respect to transfers of sensitive dual use technologies and enrichment and reprocessing technologies to India or any other state.

In addition, in the course of the September 2009 NSG meeting, the United States confirmed that participating NSG governments expressed assurances that they did not intend to transfer enrichment or reprocessing technology to India.

Many states and outside observers see the NSG's decision as a blow to the treaty, "rewarding" a nuclear-armed nonparty and undermining efforts

to restrict nuclear trade to those countries with full-scope international safeguards. Foreign nuclear fuel sales to India for Indian power reactors may marginally help increase India's energy output, but at the same time it will free up India's limited domestic uranium supplies to be used exclusively for bomb-making. Some critics have charged that this is a violation of the letter, if not the spirit of Article I of the NPT. This will very likely lead Pakistan to follow suit and help fuel the South Asian arms race. Others, notably IAEA Director-General Mohamed ElBaradei, saw the deal as a way to enhance cooperation with India and help bring that country into the nuclear nonproliferation "mainstream."

Positions

In a 2009 working paper, **Iran** castigated the 2008 NSG decision to allow nuclear trade with India, saying that the NSG had contravened "the obligation to promote the universality of the Treaty."

Iran called on the nuclear-weapon states to "refrain from cooperating with non-parties to the Treaty... [and] not to transfer any nuclear material, equipment, information, knowledge, or technology to them."⁷³

The **Group of Non-Aligned States** called the India agreement a "matter of great concern" and stated that, "[w]ithout exception, there should be a complete prohibition of the transfer of all nuclear-related equipment, information, materials and facilities, resources or devices" to states not party to the treaty.⁷⁴

China commented on the deal at the 2009 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference, saying that "[t]he universality and integrity of the international non-proliferation regime should be further reinforced. Any practice of selectivity should be discarded."⁷⁵

Indonesia called it "regrettable" that the NSG endorsed nuclear cooperation with India, saying the decision provided "an incentive for that country to remain outside the regime."⁷⁶

ElBaradei, director-general of the IAEA at the time of the agreement, strongly endorsed the deal, calling it a "creative break with the past" and a "step forward for both India and the international community."⁷⁷

With the NSG exemption in place, **France**,⁷⁸ **Russia**,⁷⁹ and the **United States**⁸⁰ have concluded nuclear trade agreements with India that are potentially worth billions of dollars.

The **United States** and **India** have reportedly concluded an agreement regarding the potential reprocessing of U.S.-origin nuclear fuel in a dedicated, IAEA safeguarded Indian reprocessing facility.

Disarmament

Article VI of the nuclear Nonproliferation Treaty (NPT) obliges the nuclear-weapon states to negotiate in good faith toward nuclear disarmament. This provision is one of the crucial pillars of the treaty and an important part of the NPT bargain. The treaty does not specify a timeline for disarmament or steps that are to be taken along the way. As a result, the states-parties have used the review conferences, particularly those of 1995 and 2000, to elaborate principles and objectives for nuclear disarmament. Non-nuclear-weapon states attach high importance to the 1995 and 2000 agreements and sometimes accuse the five recognized nuclear powers as being too slow in fulfilling their obligations.

Background

- Article VI of the NPT states that “[e]ach of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.”

The treaty defines a nuclear-weapon state as any country that detonated a nuclear explosive device prior to January 1, 1967: China, France, Russia, the United Kingdom, and the United States.

China, France, and the United Kingdom each have stocks of nuclear weapons numbering in the low hundreds. Russia and the United States deploy upward of 2,000 strategic warheads, with thousands more in reserve or awaiting dismantlement.⁸¹

The package of decisions produced by the 1995 NPT Review and Extension Conference established three milestones on the road to nuclear disarmament: the negotiation and entry into force of the Comprehensive Test Ban Treaty (CTBT), the negotiation of a fissile material cutoff

treaty (FMCT), and “the determined pursuit by the nuclear-weapon States of systematic and progressive efforts to reduce nuclear weapons globally, with the ultimate goals of elimination those weapons, and by all States of general and complete disarmament under strict and effective international control.”

The 2000 NPT Review Conference agreed to 13 “practical steps” toward nuclear disarmament in keeping with Article VI. The 13 steps recommend, in part:

- Establishment of a subsidiary body in the Conference on Disarmament (CD) with “a mandate to deal with nuclear disarmament”;
- Early entry into force of the CTBT;
- Negotiation of a verifiable FMCT;
- Entry into force of a post-START agreement between Russia and the United States (specifically the now-defunct START II and III initiatives);

- Implementation of the Trilateral Initiative, a fissile-material verification agreement among Russia, the United States, and the International Atomic Energy Agency that was eventually discarded by the Bush and Putin administrations;
 - Unilateral reductions in nuclear arsenals;
 - Reductions in tactical nuclear weapons;
 - A decrease in the operational readiness and doctrinal importance of nuclear weapons;
 - Regular reports by all states-parties on the implementation of Article VI;
 - Further development of verification capabilities; and
 - Engagement as soon as appropriate of all the nuclear-weapon states in the disarmament process.
- The 1991 Strategic Arms Reduction Treaty mandated reductions from approximately 10,000 U.S. and Russian strategic warheads to no more than 6,000 each on no more than 1,600 strategic delivery vehicles. The treaty established a detailed set of counting rules for warheads and delivery systems and also established an extensive set of verification and information exchanges, including 12 types of on-site inspections to monitor compliance. START expired on December 5, 2009.
 - With the expiration of the 1991 Strategic Arms Reduction Treaty (START) on December 5, 2009, there is currently only one treaty governing U.S. and Russian strategic nuclear weapons: the 2002 Strategic Offensive Reduction Treaty (SORT). SORT limits each side to no more than 2,200 “operationally deployed” strategic nuclear warheads by December 31, 2012. The treaty expires the same day. The two sides did not agree on a common set of counting rules for the SORT limits nor does the treaty establish new verification mechanisms, instead relying on START the verification system to provide an indirect means to monitor compliance. In 2006, then-President Vladimir Putin’s proposed to negotiate a replacement for START. Little progress was achieved due to the George W. Bush administration’s opposition to reductions below the SORT limit of 2,200 deployed strategic warheads and to any new limits on strategic delivery systems. In a shift back to the traditional U.S. position, President Barack Obama agreed in April 2009 to work with Russia on a new treaty to further limit nuclear warheads and delivery vehicles.
 - According to the joint understanding reached by Presidents Obama and Medvedev on July 6, 2009, the new Strategic Arms Reduction Treaty will mandate reductions of strategic deployed warheads to no more than 1,500–1,675 each and no more than 500–1,100 strategic nuclear delivery vehicles for each side, with a specific number to be specified in the treaty. This would achieve a 25–30% reduction from current deployed warhead and delivery system levels.
 - The United States currently deploys approximately 2,126 strategic nuclear warheads, while Russia is estimated to deploy in excess of 2,200; the United States currently has approximately 900 strategic nuclear delivery vehicles, while Russia has approximately 600–700.
 - The treaty will establish verification and monitoring systems to verify compliance with the new limit on strategic nuclear delivery systems, and for the first time on deployed strategic warheads.
 - The treaty limits will be in effect “seven years after entry into force of the treaty and thereafter.”⁸²
 - The two sides agreed in April 2009 that “New START” would not limit strategic defensive arms, but it would—as earlier bilateral nuclear arms control treaties have done—recognize that there is a relationship between strategic offensive and strategic defensive weapons.
 - The “New START” will reportedly be signed in April 2010 by the U.S. and Russian presidents.
 - The only limits on Russian and U.S. tactical nuclear weapons are the unilateral 1991 Presidential Nuclear Initiatives. These voluntary measures ended the deployment of U.S. tactical nuclear weapons at sea and of ground-launched tactical nuclear weapons outside



U.S. President Barack Obama and Russian President Dmitry Medvedev sign an agreement outlining the scope and goals for the START follow-on negotiations during a joint press conference at the Kremlin in Moscow July 6.

the United States. Russia implemented similar steps and pledged to destroy its nuclear mines and artillery munitions. The U.S. stations an estimated 200 tactical nuclear bombs in five NATO countries as part of NATO's nuclear-sharing policy. Russia is estimated to possess over 2,000 tactical nuclear weapons.

- In September 1996, the CTBT was opened for signature. The entry into force of the treaty, which would prohibit all nuclear test explosions, is a top priority on the disarmament agenda. Forty-four specific nuclear-capable states must ratify the treaty in order for it to enter into force; all but nine have done so (see Nuclear Testing, page 24).
- As of May 29, 2009, the 65-member CD has agreed to pursue negotiations on a verifiable FMCT. However, the CD has been stalled over procedural objections lodged by Pakistan.

Proposals and Positions

Three major proposals command widespread support. At the 2009 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference, many states

called for the entry into force of the CTBT and the development of a verifiable FMCT and welcomed the commencement of post-START negotiations between Russia and the United States. These three items constitute the central disarmament agenda.

During the Bush administration, the United States had been a major obstacle to this near-consensus. The Bush administration opposed the CTBT, rejected the idea of a verifiable FMCT, and put little effort into post-START negotiations. The Obama administration has reversed those positions.

Many states call for the full implementation of the package of decisions produced by the 1995 NPT Review and Extension Conference and the 13 practical steps toward nuclear disarmament established at the 2000 review conference.

Other major proposals include a global treaty to ban short- and medium-range ballistic missiles, reductions in tactical nuclear weapons, and an international convention that would ban nuclear weapons under a set time frame. These proposals do not currently meet with broad-based support.

Proposals dealing with strategic policy are considered in a separate section (see Strategic Policy, page 34).

China supported consensus measures such as further nuclear weapons reductions by Russia and the United States, the entry into force of the CTBT, and the negotiation of an FMCT. In addition, China

highlighted the importance of “soft” disarmament measures by the nuclear-weapon states, such as detargeting nuclear weapons and adopting a strict no-first-use policy.

Along with Russia, China has expressed concern over the U.S. development of a national missile defense system and the possible weaponization of space.⁸³

The **European Union** advanced a set of proposals in a 2009 working paper, calling for:

- o Universal ratification of the CTBT, completion of an FMCT, and a legally binding post-START agreement between Russia and the United States;
- o Establishment of transparency and confidence-building measures by the nuclear-weapon states;
- o Inclusion of tactical nuclear weapons in the disarmament process;
- o Consultations on a treaty banning short- and intermediate-range ground-to-ground missiles, i.e., a global Intermediate-Range Nuclear Forces (INF) Treaty;
- o Universal implementation of the Hague Code of Conduct against ballistic missile proliferation; and
- o Mobilization in all other areas of disarmament.⁸⁴

A group composed of **Belgium, Lithuania, the Netherlands, Norway, Poland, Spain, and Turkey** echoed the EU’s support for a new post-START agreement and desire to see tactical nuclear weapons reduced. The group encouraged states possessing nuclear weapons to publish accounts of their aggregate holdings, both deployed and in reserve, and called for further progress in reducing the operational status of nuclear weapons. The group also called for the inclusion of tactical nuclear weapons in the general arms control process “with a view to their reduction and elimination.”⁸⁵ Turkey’s endorsement of this recommendation is significant given the presence of U.S. tactical nuclear weapons in that country.

The **Group of Non-Aligned States** recommended that the 2010 review conference:

- o Reaffirm the principles of transparency, verifiability, and irreversibility in nuclear disarmament;

- o Voice concern about the potential for an arms race in outer space and the destabilizing character of a national missile defense system;

- o Call for the full implementation of the 13 practical steps by the nuclear-weapon states;

- o Launch negotiations toward a nuclear weapons convention without delay; and

- o Establish a subsidiary body of the review conference to evaluate the fulfillment of Article VI obligations.⁸⁶

Iran faulted the nuclear-weapon countries for failing to live up to their responsibilities laid out in the 1995 decisions and the 13 practical steps agreed to in 2000 and called on the 2010 review conference to evaluate implementation of the 13 steps. Iran expressed support for a convention banning nuclear weapons and called on the nuclear-weapons states to refrain from:

- o Research and development of nuclear weapons,

- o Any threat of use of nuclear weapons against non-nuclear-weapon states,

- o Modernization of nuclear weapons and related facilities,

- o Deployment of nuclear weapons beyond national borders, and

- o Maintaining nuclear weapons on hair-trigger alert.⁸⁷

Japan published a set of 11 benchmarks for nuclear disarmament on April 27, 2009. These benchmarks were also submitted to the 2009 PrepCom as a working paper. They include, in addition to support for the CTBT, an FMCT, and the Model Additional Protocol:

- o Multilaterally reducing nuclear arsenals following the ongoing negotiations between Russia and the United States;

- o Encouraging nuclear-weapon states to disclose more information regarding their nuclear inventories;

- o Applying the principle of irreversibility by dismantling warheads, delivery systems, test sites, and facilities

belonging to the nuclear weapons complex; and

- o Globalizing the 1987 INF Treaty, which banned medium-range ballistic missiles in those two countries.⁸⁸

During an April 5, 2009, speech in Prague, Obama declared that it is the policy of the **United States** “to seek the peace and security of a world without nuclear weapons.”⁸⁹ Obama listed ratification of the CTBT, further bilateral strategic nuclear arms reductions with Russia, and the negotiation of an FMCT as steps toward disarmament. In a working paper at the 2009 PrepCom, the United States listed its disarmament achievements and stated that the forthcoming Nuclear Posture Review would “guide the United States towards the Administration’s stated goals of reducing the role of nuclear weapons in the national security strategy of the United States.”⁹⁰

The foreign minister of **Russia**, Sergey Lavrov, listed several disarmament proposals favored by his government in an address to the CD. Among them were:

- o The “gradual” engagement of other nuclear powers in the disarmament process;
- o Prevention of the weaponization of outer space;
- o Prevention of strategic weapons equipped with conventional payloads;
- o Ensuring that states do not possess a “nuclear upload potential,” that is, the ability to quickly add nuclear warheads to deployed missiles; and
- o Preventing states from using NPT membership to develop a military nuclear program.

Russia believes that nuclear disarmament is closely linked to U.S. efforts to develop a national missile defense shield. In the same address, Lavrov stated that “[r]eal progress in nuclear disarmament cannot be achieved in a situation when unilateral efforts to develop strategic [missile defense] systems undermine this relationship” between offensive and defensive weapons.⁹¹

Lastly, Russia and the United States are in favor of globalizing the INF Treaty, which prohibited each country from possessing missiles with a range of 500–5,500 kilometers.⁹²

The **United States’** Secretary of State Hillary Rodham Clinton stated in January 2009 that the

United States would seek reductions in all types of nuclear warheads—deployed and nondeployed, strategic and nonstrategic—in a future round of arms control talks with Russia. Russia has refused to engage in talks on tactical nuclear weapons until such time as the United States removes its forward-deployed tactical nuclear bombs from NATO bases in Europe.

NATO’s current defense doctrine claims that forward deployed U.S. nuclear forces in Europe “provide an essential political and military link” between alliance members. The alliance is due to revamp its “Strategic Concept” and may possibly revise its nuclear sharing arrangements by November 2010. In a Feb. 26 letter to NATO’s secretary-general, the foreign ministers of **Belgium, Germany, Luxembourg, the Netherlands, and Norway** called for NATO support for action on nuclear arms control, including “sub-strategic nuclear weapons in subsequent steps towards nuclear disarmament.” On February 1, 2009 **Poland’s** Foreign Minister Radek Sikorski and **Sweden’s** Foreign Minister Carl Bildt called on the United States and Russia to achieve “early progress on steep reductions in sub-strategic nuclear weapons” in a joint op-ed in *The International Herald Tribune*.

Writing in *The Wall Street Journal* in 2007, U.S. statesmen **George Shultz, William Perry, Henry Kissinger, and Sam Nunn** called for a world free of nuclear weapons and laid out recommendations toward that goal.

- o Changing the Cold War posture of deployed nuclear weapons to increase warning time,
- o Eliminating tactical (short-range) nuclear weapons,
- o U.S. ratification of the CTBT, and
- o Continuing reductions in nuclear forces by all nuclear-armed states.⁹³

The four authors wrote a second op-ed in the *Journal* in 2008, in which they repeated their call for a nuclear-free world. The second article recommended that Russia and the United States pursue a cooperative missile defense system to defend Europe, Russia, and the United States from threats in the Middle East.⁹⁴

The **UN Security Council** unanimously adopted Resolution 1887 on September 24, 2009, calling on all states to sign and ratify the CTBT and to refrain from conducting nuclear tests until the treaty enters into force. Similarly, the resolution also calls on the CD to negotiate an FMCT as soon as possible. The council also called on all states to pursue negotiations in good faith on issues relating to nuclear disarmament.⁹⁵

The First Committee of the **UN General Assembly** approved a resolution on the elimination of nuclear weapons on October 15, 2009. The resolution affirms the universality of the NPT and calls on all nonparties to join as non-nuclear-weapon states. It encourages the recognized nuclear-armed states to pursue deeper reductions in all types of nuclear weapons in a transparent manner. Lastly, the assembly called on nuclear-armed states to reduce the operational status of their weapons and to reduce their importance in national security strategies.

The resolution was approved by a vote of 161-2, with eight abstentions. India and North Korea voted in the negative. The United States voted in favor of the measure, unlike in recent years.⁹⁶

The assembly also approved a much more contentious resolution on nuclear disarmament on January 12, 2009. The second resolution encompassed a much broader disarmament agenda, endorsing:

- o Creating nuclear-weapon-free zones;
- o Diminishing the role of nuclear weapons in national security policies;
- o Stopping the development, improvement, production, and stockpiling of nuclear weapons and delivery vehicles;
- o De-alerting and deactivating existing weapons;
- o A legally binding international instrument obliging the nuclear-weapon states not to be the first to use nuclear weapons, and on negative security assurances;
- o Multilateral disarmament negotiations among the nuclear-armed states;
- o Fully implementing the 13 practical steps;
- o Reducing the number of nonstrategic nuclear weapons; and
- o Convening an international conference on nuclear disarmament in all its aspects.

This resolution passed by a vote of 117–45, with 19 abstentions.⁹⁷

The 1995 Package of Decisions and the 13 Practical Steps

At the 2009 PrepCom, many states took the floor during the debate on disarmament issues to endorse the 1995 package of decisions and the 13 practical steps generated by the 2000 review conference. The **Group of Non-Aligned States** called for the “full implementation” of the 1995 and 2000 outcomes and stressed the need for “urgent actions” to fulfill the 13 steps.⁹⁸ The **New Agenda Coalition** recommended that the 2010 review conference reconfirm the 1995 and 2000 decisions.⁹⁹ **Brazil** made similar comments.¹⁰⁰

Some states expressed support for the 1995 and 2000 outcomes while pointing out the changing international environment. The EU, for example, continued to support the two outcomes but “shall bear in mind the current situation.”¹⁰¹ **Norway** called for the 1995 and 2000 decisions to be updated in light of current realities.¹⁰² The **United States** similarly praised the importance of the decisions but cautioned that states-parties “must be mindful of how much global circumstances have changed.”¹⁰³

A Nuclear Weapons Convention

The **Group of Non-Aligned States** have supported the start of negotiations on an international convention eliminating nuclear weapons “without delay.”¹⁰⁴ **Costa Rica** distributed a Model Nuclear Weapons Convention as a working paper at the 2007 PrepCom. The draft convention would ban the “development, testing, production, stockpiling, transfer, use and threat of use of nuclear weapons” and mandate their elimination in phases.¹⁰⁵

China is the sole NPT nuclear-weapon state to call for the conclusion of “an international legal instrument at an early date” that would completely prohibit nuclear weapons.¹⁰⁶

Many states consider the issue of negative security assurances, which would provide assurances to non-nuclear-weapon states that they will not be attacked using nuclear weapons, to be closely related to the issue of disarmament (see Negative Security Assurances, page 26).

Issue summary: There is widespread consensus on three major steps toward disarmament: entry into force of the CTBT, the negotiation of an FMCT, and a new U.S.-Russian nuclear arms reduction agreement. This consensus was lacking during the 2005 review conference, when the United States opposed the CTBT, a verifiable FMCT, and a legally binding START follow-on agreement.

Fissile Material

States-parties are entitled under the nuclear Nonproliferation Treaty (NPT) to pursue the peaceful use of nuclear energy and technologies under International Atomic Energy Agency (IAEA) safeguards. Yet, highly enriched uranium and plutonium, which can be produced by and used for civilian nuclear programs, can be used to create nuclear weapons. The dual-use character of these materials is a prominent challenge to the NPT regime, and is central to the dispute over the nature of Iran's nuclear program.

The negotiation of a treaty to end the production of fissile material for weapons purposes is considered by many to be a crucial piece of the disarmament puzzle, in conjunction with the NPT and the Comprehensive Test Ban Treaty (CTBT).

Of the five recognized nuclear powers, all except China publicly observe unilateral moratoria on the production of fissile material for weapons purposes. China is believed to do so as well but has not declared such a position. India and Pakistan, nonparties to the NPT, continue to produce weapons-grade fissile material, while Israel's position is unclear. North Korea, which withdrew from the NPT in 2003, has threatened to resume the production of plutonium at its Yongbyon processing facility. In response to UN sanctions imposed in April¹⁰⁷ and June 2009,¹⁰⁸ North Korea declared that it has been pursuing a uranium-enrichment program, in addition to its plutonium-extraction activities.

Preventing the theft of fissile material is another challenge. President Barack Obama has begun an initiative to "secure all vulnerable nuclear material" within four years and has announced that the United States will host an international nuclear security summit in Washington in April 2010.

Background

- Article IV of the NPT guarantees "the inalienable right of all Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without

discrimination" and states that "all the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy."

- In 1995, discussions in the Conference on Disarmament (CD) produced the Shannon mandate, a report led by Canadian Ambassador Gerald Shannon. The consensus report forms the basis for negotiations on a fissile material cutoff treaty (FMCT) by calling for an ad hoc committee of the CD to negotiate a nondiscriminatory, multilateral, and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive purposes.³
- An FMCT, by ending the production of the building blocks of nuclear weapons, is considered a crucial step on the disarmament agenda.
 - The package of decisions produced at the 1995 NPT Review and Extension Conference supported the negotiation of such a treaty, as does Step 3 of the 13 practical steps approved at the 2000 review conference.
 - Step 10 of the 13 practical steps calls for "all nuclear-weapon states to place

as soon as practicable, fissile materials designated by each them as no longer required for military purposes under IAEA [supervision]...for the disposition of such material for peaceful purposes, to ensure that such material remains permanently outside of military programs.”

- On May 29, 2009, the CD agreed to establish a working group to negotiate a verifiable FMCT after years of gridlock. The 65-member body was unable to agree on procedural matters before the end of its 2009 session and did not begin substantive work. The first session of the CD in 2010 took place January 18 to March 26.

Proposals and Positions

Support for the conclusion of an FMCT in the CD is nearly unanimous. A number of states advocate for a treaty that goes beyond ending production of fissile material and actually places limits on existing stocks (a fissile material treaty). Owing to the difficulty of crafting such a treaty, this remains a minority view.

Australia,¹⁰⁹ **Canada**,¹¹⁰ **China**,¹¹¹ **the European Union**,¹¹² **the Group of Non-Aligned States**,¹¹³ **Japan**,¹¹⁴ **Russia**,¹¹⁵ and **the United States**,¹¹⁶ among others, supported the start of negotiations of an FMCT. In their statements, all these states called for the negotiation of an FMCT and did not mention existing stocks.

The New Agenda Coalition (Brazil, Egypt, Ireland, Mexico, New Zealand, South Africa, and Sweden) submitted a working paper at the 2007 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference saying that, for any fissile material treaty to be effective, it must cover existing stocks.¹¹⁷

India and Pakistan, prominent nonparties to the NPT, made opposing statements after joining the consensus on a program of work in the CD. **Pakistan** praised the conference for ending a decade of stalemate but argued for a strong fissile material treaty that would limit existing stocks as well as production.¹¹⁸

India, by contrast, declared that it would not accept a treaty that would hinder its strategic program, research, or “three-stage nuclear programme.” The treaty, the Indian delegation continued, “should not place an undue burden on military non-proscribed activities.”¹¹⁹

Pakistan raised procedural objections in the CD following the adoption of a work program. As a result, the CD was unable to begin substantive work on an FMCT during its 2009 session.

At the 2009 Group of Eight summit, the leaders of **Canada, France, Germany, Italy, Japan, Russia**, the



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A billet of highly enriched uranium (HEU) recovered from scrap processed at the Y-12 National Security Complex Plant in Oak Ridge, Tenn.

United Kingdom, and **the United States** called on all relevant states to declare moratoria on the production of fissile material for weapons purposes, pending the negotiation of an FMCT.¹²⁰

President Barack Obama, in his April 5, 2009, speech in Prague, announced an international effort to “secure all vulnerable nuclear material around the world within four years.”¹²¹

Accordingly, **the United States** will host a summit on nuclear security in April 2010. The summit will discuss steps that can be taken to secure vulnerable fissile material, deter nuclear theft and smuggling, and disrupt attempts at nuclear terrorism.¹²²

The UN Security Council unanimously adopted a resolution on September 24, 2009, which called on states to minimize the use of highly enriched uranium for civilian purposes. The resolution expressed support for the convening of the U.S.-sponsored summit on nuclear security.¹²³

Issue summary: There is widespread support among the NPT states for the negotiation of a verifiable FMCT. The 65-member CD, which includes NPT nonmembers India, Israel, North Korea, and Pakistan, has agreed to negotiate such a treaty but failed to agree on procedural matters during its 2009 session.

(Also see Nuclear Security, page 41.)

Nuclear Testing

Many nuclear Nonproliferation Treaty (NPT) states consider the Comprehensive Test Ban Treaty (CTBT) to be the most essential measure of the nuclear-weapon states' commitment to disarmament. The complete prohibition of nuclear test explosions would make it much more difficult, if not impossible, for states to confidently develop sophisticated new types of nuclear weapons. The CTBT, opened for signature in 1996, requires ratification by 44 states listed in its Annex II before it can enter into force. Of those 44 countries, China, Egypt, India, Indonesia, Iran, Israel, North Korea, Pakistan, and the United States have not yet ratified.

Background

- The 1963 Partial Test Ban Treaty outlawed the testing of nuclear weapons at sea, in the atmosphere, or in outer space. Underground tests were allowed to continue. The preamble of the treaty says that the states-parties are “[s]eeking to achieve the discontinuance of all test explosions of nuclear weapons for all time.”
- The preamble to the NPT reiterates the parties' desire to end all test explosions of nuclear weapons for all time, as expressed in the Partial Test Ban Treaty.
- The CTBT prohibits all nuclear testing.
- All five recognized nuclear powers have instituted unilateral moratoria on testing. All five have signed the CTBT, but only France, Russia, and the United Kingdom have ratified it. Nuclear-armed India, Israel, North Korea, and Pakistan have not signed the treaty.
- States-parties to the NPT endorsed the conclusion and entry into force of the CTBT as part of the 1995 package of decisions. Similarly, step one of the 13 “practical steps” recognizes “[t]he importance and urgency of signatures and

ratifications, without delay...to achieve the early entry into force” of the CTBT.

- The Comprehensive Test Ban Treaty Organization (CTBTO) was established in 1997 by the signatories to the treaty. The CTBTO is tasked with developing and implementing the International Monitoring System, designed to detect nuclear tests, and with facilitating the entry into force of the treaty.
- Article XIV of the CTBT allows for states parties to meet to facilitate entry into force. The most recent such meeting, on September 24, 2009, produced a consensus statement in which the participating states pledged to “spare no efforts and use all avenues open to [them]” to secure the entry into force of the treaty.¹²⁴ High-level representatives of more than 100 states attended the conference.¹²⁵
- The UN General Assembly regularly passes a resolution in support of the CTBT. The most recent of these, draft resolution 64/L.47/Rev.1, was approved in the First Committee of the General Assembly on October 30, 2009 by a vote of 175–1, with 3 abstentions. The United States voted in favor of the measure, along with the other recognized nuclear-weapon states.

Only North Korea opposed the resolution, while India, Mauritius, and Syria abstained.

- The U.S. Senate rejected the CTBT on October 13, 1999, by a 51-48 vote, 19 votes short of the 67 needed for ratification. The Bush administration opposed the CTBT and did not seek U.S. ratification. The Obama administration has said that it supports the treaty and will pursue ratification “immediately and aggressively.”

Proposals and Positions

The CTBT enjoys widespread support in the international community. The treaty has been signed by 181 states and ratified by 150, as of October 1, 2009. As a result, many states expressed support for the CTBT in statements or working papers during the 2010 review cycle.

President Barack Obama reversed the policy of his predecessor by vowing to “immediately and aggressively pursue” ratification of the CTBT by the **United States**.¹²⁶ The United States intends to launch a diplomatic effort to win support for the treaty among the remaining Annex II states.¹²⁷

The **Vienna Group of Ten** recommended that the 2010 NPT Review Conference call on the nine Annex II states that have not ratified the CTBT do so “as soon as possible.”¹²⁸ The **European Union** issued a working paper in support of the CTBT, calling it “crucial to nuclear disarmament and non-proliferation.”¹²⁹

Japan listed the prohibition of nuclear testing through the CTBT as one of its “11 benchmarks for global nuclear disarmament” and called on China, India, Israel, Pakistan, and the United States to ratify the treaty.¹³⁰

The **Group of Non-Aligned States** supports the entry into force of the treaty but argues that the nuclear-armed states must take the lead in making the ban a reality. The group recommended that nuclear states ratify the CTBT “with all expediency.” According to the group, ratification by China and the United States would encourage the remaining Annex II states to join the CTBT, including those outside the NPT community.¹³¹ Several CTBT holdout states, including Egypt, India, and Iran, are members of the group.

China “supports early entry into force of the CTBT and will continue to make its efforts to this end,” its delegation noted during general debate at the 2009 Preparatory Committee for the 2010 NPT Review Conference.¹³² China has held this position for some time; at a CTBTO conference in 2003, the Chinese delegation reported that China’s legislature was



Soldiers watch the Operation Buster-Jangle’s “Dog” nuclear test at the Nevada Test Site November 1, 1951.

Department of Energy

“performing its due ratification formalities” regarding the treaty.¹³³ This holding pattern is generally understood to mean that China is waiting for U.S. ratification before it proceeds.

Russia called the CTBT a “crucial factor” of progressive nuclear disarmament and welcomed Obama’s commitment to U.S. ratification of the treaty.¹³⁴

Indonesia, one of the Annex II holdout countries, has announced its intention to ratify the treaty when the United States does. In June 2009, Indonesian Foreign Minister Hassan Wirajuda stated that his country “will immediately follow suit” once the U.S. Senate approves the treaty.¹³⁵

Issue Summary: The CTBT is almost universally supported among NPT members, and its entry into force is a high priority for developed and developing states. U.S. support for the treaty relieves the NPT review process of a major strain that contributed to the failure of the 2005 review conference. U.S. ratification of the treaty could spur others, such as China and Indonesia, to follow suit; but India, Israel, North Korea, and Pakistan—all nonparticipants in the NPT—must still ratify the CTBT before it can enter into force.

Negative Security Assurances

Negative security assurances (NSAs) are commitments made by nuclear-weapon states not to use or threaten to use nuclear weapons against non-nuclear-weapon states. By reassuring non-nuclear-weapon states that they are not under a nuclear threat and therefore have less incentive to pursue nuclear weapons of their own, NSAs are an important part of the nonproliferation tool kit. Many non-nuclear-weapon states see NSAs as an important step toward disarmament as well, by diminishing the role of nuclear weapons in the security policies of nuclear-weapon states. Non-nuclear-weapon states have consistently pressed for stronger NSAs, including a legally binding international instrument that would outlaw the use or threat of use of nuclear weapons against non-nuclear adversaries.

Background

- In April 1995, the five recognized nuclear powers issued voluntary NSAs via the UN General Assembly and Security Council. These commitments are not legally binding.¹³⁶ On April 11, 1995, the Security Council passed Resolution 984, recognizing “the legitimate interest” of non-nuclear-weapon states to receive NSAs.
 - Paragraph 8 of the 1995 Nuclear Nonproliferation Treaty (NPT) Review and Extension Conference package of decisions states that “further steps should be considered to assure non-nuclear-weapon States party to the Treaty against the use or threat or use of nuclear weapons.” It recommends that such steps “could take the form of an internationally legally binding instrument.”
 - On July 8, 1996, the International Court of Justice issued an advisory ruling on the legality of use or threat of use of nuclear weapons. The court found that the use or threat of use of nuclear weapons “would generally be contrary to the rules of international law,” except in “an extreme circumstance of self-defense.”
- The final document of the 2000 NPT Review Conference noted that the conference “agrees that legally-binding security assurances by the five nuclear-weapon States to the non-nuclear-weapon States...strengthen the nuclear non-proliferation regime.”
 - The treaties that establish nuclear-weapon-free zones (NWFZs) have been used to extend legally binding NSAs to NWFZ countries. Nuclear-weapon states may enter into a legally binding commitment not to use nuclear weapons against NWFZ states by signing on to the nonuse protocols of the treaty establishing the zone.
 - All five recognized nuclear powers have ratified the nonuse protocol of the Treaty of Tlatelolco (Caribbean and Latin American NWFZ).
 - All five have signed the nonuse protocols of the Treaty of Pelindaba (African NWFZ), but only China, France, and the United Kingdom have ratified them.
 - The United States is the only recognized nuclear power that has not signed the

nonuse protocol of the Treaty of Rarotonga (South Pacific NWFZ). The four others have signed and ratified the protocol.

- o No nuclear-weapon state has signed the protocols of the Treaty of Bangkok (Southeast Asia NWFZ).
- o No nuclear-weapon state has signed the protocols of the Central Asian Nuclear-Weapon Free Zone.¹³⁷
- As part of the program of work agreed on in May 2009, the Conference on Disarmament (CD) agreed to establish a working group on the subject of NSAs.¹³⁸ The CD was unable to implement the work program during its 2009 session because of procedural wrangling.

Proposals and Positions

The NSA debate is largely a tug-of-war over whether such assurances should be legally binding. The issue is of high importance to many non-nuclear-weapon states.

In a working paper submitted to the 2009 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference, **Iran** called on the international community to negotiate a “universal, unconditional and legally binding instrument on security assurances to non-nuclear-weapon States” as a matter of priority. Iran called the security of the non-nuclear-weapon states-parties against nuclear-armed attack an “important and vital issue” and called for a committee of the review conference to draft a treaty on security assurances to be considered and adopted by the full conference. Iran further suggested that the 2010 review conference adopt a decision saying that “the threat or use of nuclear weapons against non-nuclear-weapon States shall be prohibited.”¹³⁹

The **League of Arab States** similarly proposed that the review conference develop recommendations to ensure the development, as soon as possible, of “comprehensive, unconditional, and legally-binding arrangements” to provide NSAs to non-nuclear-weapon states.¹⁴⁰

The **Group of Non-Aligned States** also endorsed “efforts to conclude a universal, unconditional and legally binding instrument on security assurances to non-nuclear-weapon States” to be pursued as a matter of priority. The group called for a subsidiary body of the NPT review process to consider legally binding security assurances.¹⁴¹

Among the nuclear-weapon states, only **China** has expressed support for a legally binding instrument prohibiting the first use of nuclear weapons “at any time and under any circumstances” and assuring non-nuclear-weapon states against the threat or use of nuclear weapons.¹⁴²

Russia supports the elaboration of an international

convention on NSAs, with the caveat that such a convention “should take in consideration reservations concerning cases when nuclear weapons may be used in accordance with military doctrines and national security concepts of nuclear-weapon States.”¹⁴³

At the 2008 PrepCom, **France** recognized the “legitimate” desire for NSAs among non-nuclear-weapon states and reiterated its assurances given in 1995. France emphasized the importance of NWFZs in establishing NSAs. France called the signature of the nonuse protocols of NWFZs by nuclear-weapon states “by far the most realistic and fruitful approach” to the NSA issue.¹⁴⁴

The **United States** made no comment on NSAs during the review process and generally holds the position that the unilateral commitments given in 1995 are sufficient to reassure the non-nuclear-weapon states.

The **European Union**, which includes nuclear-armed France and the United Kingdom, has expressed its commitment to “promote further consideration of security assurances.”¹⁴⁵

Belgium, Lithuania, the Netherlands, Norway, Poland, Spain, and Turkey collectively took a more assertive stance than the EU, advocating the start of negotiations on legally binding NSAs.¹⁴⁶ Norway and Turkey are not members of the EU, although Turkey is an applicant.

The **New Agenda Coalition** supported the negotiation of a legally binding instrument regarding NSAs within the context of the NPT, “as it would confirm the role of the Treaty and strengthen the nuclear non-proliferation regime.”¹⁴⁷

The First Committee of the **UN General Assembly** approved a draft resolution on October 15, 2009, reaffirming the “urgent need to reach an early agreement” on NSAs, and appealing to all states to develop a common approach. The draft resolution was passed on a vote of 119-0, with 58 abstentions.¹⁴⁸ The United States abstained, rather than vote against the measure as it had in the past.

The **UN Security Council** unanimously passed a resolution on September 24, 2009, which recalled the nonbinding 1995 security assurances given by the nuclear-weapon states and affirmed that such assurances strengthen the nuclear nonproliferation regime.¹⁴⁹

Issue summary: Many non-nuclear-weapon states advocate the negotiation of a legally binding international instrument on NSAs as a matter of priority. Among the nuclear-weapon states, only China supports this position. All nuclear-weapon states issued non-binding NSAs through the United Nations in 1995. Of these, only China’s statement was unconditional.

China and Russia support the negotiation of a legally binding agreement on NSAs, although Russia wants such an agreement to include exceptions based on national security doctrines. France believes that NSAs are best extended through the protocols of NWFZs.

Nuclear-Weapon-Free Zones

All states party to the nuclear Nonproliferation Treaty (NPT), with the exception of the five recognized nuclear powers, are obligated not to develop or produce nuclear weapons. States may go farther than the NPT mandates by creating regional nuclear-weapon-free zones (NWFZs). By joining such a zone, a state reaffirms its pledge not to develop nuclear weapons and undertakes not to allow any nuclear weapons whatsoever within its territory. Such zones are considered an important piece of the disarmament and nonproliferation architecture. The establishment of an NWFZ in the Middle East is a long-standing but elusive goal of the international community.

Background

- Six treaties currently establish regional NWFZs. These treaties, with their dates of entry into force, are:

- The Antarctic Treaty, June 23, 1961
- Treaty of Rarotonga (South Pacific), December 11, 1986
- Treaty of Bangkok (Southeast Asia), March 27, 1997
- Treaty of Tlatelolco (Latin America and the Caribbean), October 23, 2002
- Treaty of Semipalatinsk (Central Asia), March 21, 2009
- Treaty of Pelindaba (Africa), July 15, 2009

- Mongolia is seeking to codify its nuclear-weapon-free status in an international agreement with its two neighbors, China and Russia. Mongolia presented a draft of this treaty to China and Russia in 2007, and the three countries met to discuss the draft in March 2009.¹⁵⁰

- The NPT opens the door for regional NWFZs. Article VII states that “nothing in this treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.”

- The 1995 NPT Review and Extension Conference produced a resolution on the Middle East, co-sponsored by Russia, the United Kingdom, and the United States. The resolution called on Middle Eastern states to “take practical steps in appropriate forums aimed at making progress towards... the establishment of an effectively verifiable Middle East zone free of weapons of mass destruction” and encouraged all states to act in support of this goal. Many non-nuclear-weapon states see the resolution as a linchpin of the decision to extend the NPT indefinitely.

- The Final Document of the 2000 NPT Review Conference reiterated the importance of NWFZs, reaffirmed the resolution on the Middle East, and recalled that all states in the Middle East except Israel are party to the NPT.

- Egypt has sponsored a resolution on establishing a Middle East NWFZ in the UN First Committee every year since 1974. The resolution has been adopted by the UN General Assembly by consensus every year since 1980.
- The UN Disarmament Commission issued a report in 1999 that described a series of principles to guide the negotiation of NWFZs. The commission recommended that negotiators consult with the nuclear-weapon states while drafting the agreement and adhere to the general norms of international law.¹⁵²

Proposals and Positions

Arab states, Iran, and the Group of Non-Aligned States as a whole want to see concrete steps taken within the NPT context to facilitate the creation of an NWFZ in the Middle East. In particular, they call for new committees within the NPT to recommend steps toward the creation of this NWFZ and to monitor the implementation of those recommendations. Some states also advocate holding an international conference to negotiate this NWFZ. All of these parties are primarily concerned with Israel's status as a nonparty to the NPT and *de facto* nuclear-weapon state.

The European Union, Japan, and the United States place greater emphasis on general disarmament in the region, calling on all Middle Eastern states to join the full complement of nonconventional arms control agreements.

In a working paper at the third PrepCom, **Iran** urged states-parties to put pressure on Israel to join the NPT and place its nuclear facilities under International Atomic Energy Agency (IAEA) safeguards. Doing so, Iran stated, "would undoubtedly lead to the early realization of a nuclear-weapon-free zone in the Middle East."

To accomplish this goal, Iran recommended that the 2010 NPT Review Conference establish a subsidiary body to make "concrete recommendations on urgent and practical steps" toward the implementation of the 1995 Resolution on the Middle East. The review conference should also establish a standing committee to monitor implementation of the 1995 resolution.¹⁵³

In a working paper at the 2008 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference, **Egypt** warned that "the credibility and viability of the NPT continues to be undermined" as long as the 1995 package of decisions go unimplemented.

In the same working paper, Egypt listed a series of measures that the review conference should consider to bring a Middle East NWFZ into force. Among these recommendations are:

- Calling on the five recognized nuclear powers to convene a conference of Middle Eastern states to negotiate a verifiable NWFZ,
- Calling on the IAEA to reduce its technical cooperation with Israel until that country joins the NPT regime, and
- Calling for the establishment of a Middle Eastern NWFZ by a certain date.¹⁵⁴

In 2009, Egypt recommended that the review conference call for the convention of an international conference by 2011 to negotiate an effectively verifiable NWFZ in the Middle East. Egypt also echoed Iran's call for a standing committee to monitor implementation of the 1995 resolution on the Middle East.¹⁵⁵

The League of Arab States similarly called on the United Nations to convene an international conference by 2011 to negotiate a Middle Eastern NWFZ. The league also supports the creation of a standing committee to monitor implementation of the 1995 decisions and of a subsidiary body to develop recommendations for the creation of an NWFZ in the Middle East.¹⁵⁶

The Group of Non-Aligned States endorsed these latter two steps, calling for a subsidiary body to recommend practical steps toward the implementation of the 1995 resolution on the Middle East, as well as a standing committee to monitor implementation of those recommendations and report to the 2015 NPT Review Conference.¹⁵⁷

China, in a 2007 statement on regional issues, called on Israel to place its nuclear facilities under IAEA safeguards and to join the NPT as a non-nuclear-weapon state, saying such steps would be "of great significance...for strengthening the international non-proliferation regime."

China affirmed Iran's right to peaceful nuclear energy but urged Iran to "fulfill its relevant international obligations and strive for international trust."¹⁵⁸

Russia agreed that an international conference should be held involving all concerned parties to discuss implementation of the 1995 resolution. Russia further endorsed the idea of appointing a special coordinator to consult with countries in the region and report back to the NPT states-parties.

Russia called on all states in the region to join the NPT and place all nuclear facilities under IAEA supervision, a recommendation implicitly aimed at Israel. At the same time, Russia called on all states in the region to forgo the right to develop uranium-enrichment and chemical reprocessing technologies, a pointed reference to Iran. Ratification of the Comprehensive Test Ban Treaty

(CTBT) by all states in the region would be a further confidence-building measure.¹⁵⁹

The **European Union** advocated a comprehensive approach to a Middle East free of weapons of mass destruction (WMD), saying at the 2009 PrepCom that “practical steps should promote adherence to... a combination of nuclear, chemical and biological non-proliferation, arms control and disarmament agreements,” including the NPT, the Chemical Weapons Convention, the Biological Weapons Convention, the CTBT, and a fissile material cutoff treaty.

The EU recommended that a seminar on Middle East security, disarmament and nonproliferation be convened, to include all concerned parties. The seminar would consider practical confidence-building measures such as small-scale scientific and civil society exchanges. The EU suggested that all five nuclear-weapon states take an active role in this process.¹⁶⁰

Japan noted, like the EU, that implementation of the 1995 resolution on the Middle East would require all states in the region to join the full battery of arms control agreements.¹⁶¹

According to a statement at the 2009 PrepCom, the **United States** “fully supports” the 1995 resolution on the Middle East and pledged to work with all states to implement the resolution’s objectives. The United States tied the conclusion of a Middle East free

of weapons of mass destruction to the Arab-Israeli peace process and universal adherence throughout the Middle East to the full range of disarmament and nonproliferation norms, including the NPT.

The United States pressed Iran on its uranium-enrichment program, saying that, by defying UN Security Council resolutions and the IAEA, Iran is damaging the prospects for a WMD-free Middle East and NPT universality. The United States also called on Syria to cooperate fully with the IAEA.¹⁶²

The **UN Security Council** unanimously adopted Resolution 1887 on September 24, 2009, “welcoming and supporting” efforts to conclude NWFZ treaties.¹⁶³

Issue summary: Six NWFZs are currently in force. Five of these zones cover the entire Southern Hemisphere. The establishment of a zone free of weapons of mass destruction in the Middle East is a long-standing goal of the international community and is of particular importance to many states in the region.

The League of Arab States has called for an international conference to negotiate a Middle Eastern NWFZ. The league, in conjunction with the Group of Non-Aligned States, urged states-parties to establish a subsidiary body within the NPT to make recommendations on the creation of such a zone.

The EU, Japan, and the United States argued that all states in the Middle East must adhere to the full range of nonproliferation and disarmament agreements.

Withdrawal

Every state has the right to withdraw from the nuclear Nonproliferation Treaty (NPT) under Article X if it feels that its “supreme interests” are in jeopardy. The issue became particularly salient following North Korea’s decision to withdraw from the treaty in January 2003 and that country’s subsequent nuclear tests in October 2006 and May 2009. Some states want to specify consequences for withdrawal to prevent states from using nuclear materials and know-how gained under the treaty to pursue a military program.

Background

- Article X of the treaty states that “[e]ach Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.”
- North Korea is the only state to have withdrawn from the treaty. It announced its withdrawal January 10, 2003, claiming to be “totally free from the binding force of the Safeguards Accord” with the International Atomic Energy Agency (IAEA).
- North Korea proceeded to expel IAEA monitors from its Yongbyon reprocessing facility, resumed plutonium extraction, and tested nuclear explosive devices in 2006 and 2009.

Proposals and Positions

States-parties concerned by the North Korean precedent have explored various means of preventing the abuse of Article X to develop a military program using benefits gained under the treaty, while

preserving a state’s legitimate right to withdraw. These proposals have focused on ways to ensure that nuclear material and technology acquired under NPT auspices are not diverted for military purposes. Some states advocate an active role for the UN Security Council in responding to a withdrawal, while some would prefer to deal with the issue in an extraordinary meeting of the NPT states-parties.

Other states, most notably Iran, are skeptical of the Article X debate and believe that states-parties’ energy is better spent on issues of disarmament and NPT universality.

At the 2007 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference, the **United States** tabled a working paper that called on states-parties to develop “a wide range of actions” to dissuade a state from abusing the withdrawal clause. Among the options available, the United States suggested that the UN Security Council:

- Meet promptly to consider the withdrawal. In the case of withdrawal by a treaty violator, the Security Council should consider the full range of options available under the UN Charter.
- Request that the IAEA provide all relevant information about the withdrawing state.
- Undertake consultations with the withdrawing state.

Further, the United States recommended that the IAEA consider:

- o Continued safeguarding of relevant materials and equipment in the withdrawing state;
- o Suspension of supply agreements between the IAEA and a withdrawing state in noncompliance with its safeguard obligations;
- o Suspension of IAEA technical assistance; and
- o Withdrawal of material or equipment provided by the IAEA.

Lastly, the 2007 working paper recommends that nuclear material and equipment in a withdrawing state be returned to supplier countries. The suppliers should secure such arrangements in their bilateral trade agreements. Additionally, the Security Council could mandate that such materials and equipment be returned to the supplying states.

The working paper affirmed that withdrawal is a sovereign right but warned that states should not be able to benefit from violation of the treaty's provisions and escape the consequences by withdrawing.¹⁶⁴

At the 2009 PrepCom, the United States reiterated many of these possibilities, calling for a "menu" of mechanisms that states-parties could use to deter would-be violators.¹⁶⁵

The **European Union** produced a 2007 working paper advancing similar proposals, including:

- o Prompt consideration of the withdrawal by the Security Council;
- o The dispatch of a special IAEA investigative party to the withdrawing state by the Security Council;
- o The continuation of all nuclear materials, equipment, and technology acquired under the treaty by the withdrawing party under IAEA safeguards; and
- o The verifiable dismantlement or return to the supplying state of such material, equipment, and technology.¹⁶⁶

Australia echoed the belief that the Security Council should convene immediately following notice of a withdrawal from the NPT to consider potential action.¹⁶⁷

In a 2007 working paper, **Japan** observed that "[i]t should not be tolerated that a State withdraws from the Treaty after having developed a nuclear weapons capability under false pretenses." Japan agreed that supplier states should recover nuclear "material, facilities, [and] equipment" from a withdrawing state.¹⁶⁸

At the 2008 PrepCom, Japan reaffirmed this position but encouraged states-parties to reinforce positive incentives for states to remain party to the NPT. Japan urged the parties to reaffirm the principle of peaceful uses of nuclear energy and called on the nuclear-weapon states to affirm their existing negative security assurances (NSAs) and to better address nuclear disarmament.¹⁶⁹

Norway also proposed that the states-parties "look for ways to strengthen the positive incentives of remaining within the NPT." To do so, Norway recommended expanding peaceful nuclear cooperation, codifying NSAs within the NPT, and strengthening the review cycle by holding annual meetings.¹⁷⁰

South Korea in 2008 proposed a two-layered approach to an announcement of withdrawal from the treaty.

First, South Korea recommended that states-parties agree to convene an emergency meeting when notified of a withdrawal. This meeting could call on the departing state to clarify its motive for withdrawing, consider ways to ensure that nuclear materials and equipment are returned to supplier states, and consider measures to ensure that these materials remain under IAEA safeguards in the meantime.

At the same time, South Korea endorsed prompt Security Council consideration of the withdrawal.¹⁷¹

Canada, at the 2009 PrepCom, voiced support for an extraordinary meeting of states-parties in the event of a withdrawal.¹⁷² **Indonesia** also supported the idea of an extraordinary meeting, warning that the Security Council's select membership and veto-wielding permanent members could lead to bias.¹⁷³

Russia supported a role for the Security Council in the event of a withdrawal but cautioned that "[n]obody but the Security Council can make a decision on the matter." Not every conceivable withdrawal would warrant urgent consideration by the council, in Russia's view.

Instead, Russia emphasized consultations among the relevant parties and the immediate convening of the IAEA Board of Governors in order to direct the agency to investigate the withdrawing state.

Russia agreed that the review conference should recommend that all nuclear material, equipment, and technologies remain safeguarded after a state's withdrawal from the treaty. The conference should also recommend that imported nuclear materials and equipment be returned to the supplying state.¹⁷⁴



KNS/AFP/Getty Images

North Korean military officers celebrate their country's May 25 nuclear test at the Pyongyang Indoor Stadium on May 26.

The UN High-Level Panel on Threats, Challenges and Change recommended in its 2004 report that a withdrawal from the NPT should prompt immediate verification of the withdrawing state's compliance with the treaty, by mandate of the Security Council if necessary. The panel further recommended that, in the event that violations are discovered, all IAEA assistance should be withdrawn.¹⁷⁵

The Group of Non-Aligned States rejected the UN high-level panel's recommendation, saying that it "goes beyond the provisions of the NPT."¹⁷⁶

Iran considers the issue of withdrawal to be of minor importance when compared to what it called "the non-implementation of disarmament obligations" and "other main priorities like universality of the NPT." Iran concluded in a statement at the 2009 PrepCom that enhanced international cooperation and assistance is the "most effective measure" to prevent future withdrawal from the treaty.¹⁷⁷

The UN Security Council unanimously passed a resolution on September 24, 2009, in which it pledged to "address without delay" any state's notification of withdrawal from the NPT, while noting that discussions are ongoing within the NPT

review process on NPT-based responses to withdrawal. The council affirmed that states remain responsible for any violations of the treaty committed before withdrawal.

The resolution encouraged states to require, as a condition of nuclear trade deals, that imported nuclear material and technology will be returned to the supplying state should the importing state withdraw from the NPT.¹⁷⁸

Issue summary: Australia, the EU, Japan, Russia, South Korea, the United States, and others support a role for the UN Security Council in the event of a withdrawal from the treaty. Several of these states also voiced support for continued IAEA safeguarding of nuclear material in a withdrawing state and the return of nuclear material and technology to suppliers after withdrawal. Canada and Indonesia favor an extraordinary meeting of states-parties to deal with withdrawal. The Group of Non-Aligned States does not treat withdrawal as a high-priority issue and opposed a UN high-level panel's recommendation that withdrawing states should be subject to IAEA verification to ensure that the state lived up to its NPT responsibilities.

Strategic Policy

Nuclear disarmament and nonproliferation are not simply quantitative matters of counting warheads and kilograms of plutonium. The character of nuclear weapons is defined by a state's policy toward them—when and how they may be used—and how they fit into each state's broader strategic calculus. That calculus can include other factors, such as an arsenal's alert status, rival missile defense systems and space-based weapons.

Background

- Article VI of the nuclear Nonproliferation Treaty (NPT) commits each party “to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament.”
- The 13 “practical steps” developed at the 2000 NPT Review Conference listed some measures that could be taken in the realm of strategic policy to speed the disarmament process: concrete agreed measures to reduce the operational status of nuclear weapons, that is, how quickly they may be launched, and a diminishing role for nuclear weapons in national security policies.
- During the Cold War, Soviet and U.S. nuclear weapons were designed to be launched on a few minutes' notice in order to provide a credible second-strike capability.
 - As of November 2007, 450 U.S. Minuteman III ICBMs and “a small number” of nuclear-armed submarines were on “ready alert.”¹⁷⁹
 - Increasing the amount of time between the decision to launch a nuclear weapon and the launch itself, for example, by keeping warheads physically separate from delivery vehicles, is known as de-alerting.
- Other states are concerned about disturbing the strategic equilibrium of which nuclear weapons are a part. China and Russia are proponents of a treaty that would ban weapons in outer space, and Russia was a vocal critic of the U.S. plan, proposed by the Bush administration, to develop strategic missile defense capabilities in Poland and the Czech Republic. The Obama administration has shelved those plans and reoriented its European missile defense policy toward deployment of a smaller, theater-range interceptor system.
- The Conference on Disarmament (CD) agreed in May 2009 to begin substantive discussions on nuclear disarmament, the prevention of an arms race in outer space, and negative security assurances (NSAs). The 65-member body was unable to agree on procedural matters before the end of its 2009 session and did not begin substantive work.

Proposals and Positions

De-alerting and National Security Policies

Chile, Malaysia, Nigeria, New Zealand, Sweden, and Switzerland, calling themselves the “Operational Status Group,” urged nuclear-weapon states to reassess the need to keep nuclear weapons at a high level of readiness. The group

recommended that de-alerting be incorporated into “all future bilateral or plurilateral nuclear disarmament agreements.”¹⁸⁰

The group advanced resolutions in the UN First Committee in 2007 and 2008 calling for decreased operational readiness for all nuclear weapons. The UN General Assembly passed each year’s resolution by a wide majority although no nuclear-weapon state voted in favor of the measure.¹⁸¹

Australia, at the 2009 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference, called on nuclear-weapon states to report on their efforts to “reduce the role of nuclear weapons in their security policies, to reduce the operational status of these weapons, and to de-target their nuclear-armed missiles.”¹⁸²

Norway similarly advocated that nuclear-weapon states “continue and even accelerate the process of lowering the alert level of deployed weapons.” Norway said that the role of nuclear weapons in security policies should be reduced, in part by reaffirming and codifying NSAs (See Negative Security Assurances, page 26).¹⁸³

The **UN General Assembly** approved a resolution on December 2, 2008, that called for a “review of nuclear doctrines, and, in this context, immediate and urgent steps to reduce the risks of unintentional and accidental use of nuclear weapons, including through the de-alerting and de-targeting of nuclear weapons.” This resolution passed on a 118-50 vote, with 14 countries abstaining.¹⁸⁴

An independent commission on weapons of mass destruction headed by former International Atomic Energy Agency Director-General **Hans Blix** recommended in June 2006 that Russia and the United States establish a joint commission to facilitate the de-alerting of their nuclear weapons.¹⁸⁵

Weapons in Outer Space and Missile Defense

China and **Russia** are the primary advocates of an international instrument to prevent the weaponization of outer space. On February 12, 2008, the two states submitted a draft “Treaty on the Prevention of the Placement of Weapons in Outer Space” to the CD. The treaty would outlaw the placement or use of any kind of weapon beyond 100 kilometers above sea level.

China stated that “deployment of weapons in outer space or development of global ballistic missile defense systems...is neither conducive to maintaining international strategic stability, nor beneficial to international arms control and nonproliferation efforts.” China called on the CD to conclude a treaty prohibiting the weaponization of outer space at an early date.¹⁸⁶



Department of Defense

A ground-based interceptor lifts off from Vandenberg Air Force Base, Calif. in December 2008. The United States deploys such long-range missile defense interceptors in California and Alaska.

At the 2009 PrepCom, the Russian delegation recalled President Dmitry Medvedev’s statement that nuclear disarmament can only proceed if the militarization of outer space is prevented. Russia argued that “[n]o real progress can be achieved in nuclear disarmament while global missile defense is deployed unilaterally.”¹⁸⁷

The **Group of Non-Aligned States** recommended that the 2010 review conference agree to “voice concern about the potential for an arms race in outer space, in which the implementation of a national missile defense system could trigger an arms race and further nuclear proliferation.”¹⁸⁸

No First Use

China is the only nuclear-weapon state to have publicly vowed “that it will not be the first to use nuclear weapons at any time and under any circumstances.” China has called on the other nuclear states to do the same.¹⁸⁹

The **Blix commission** recommended that all nuclear-weapon states declare categorically that they will not be the first to use nuclear weapons under any circumstances: preemptively, preventatively, or in response to chemical, biological, or conventional attack.¹⁹⁰

On February 5, 2010, President Dmitry Medvedev approved a revised Russian military and strategic doctrine that outlines the roles for Russia’s nuclear weapons. According to Article 22 of the new doctrine, “Russia reserves the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it and (or) its allies, as well as in response to aggression against the Russian Federation that utilizes conventional weapons that threatens the very existence of the state.”

The wording of this provision is very close to that in Russia’s 2000 doctrine. However, where the 2000 version allows the use of nuclear weapons “in situations critical to the national security of the

Russian Federation,” the 2010 version says they can be used in response to an attack that “threatens the very existence of the state.”

President Barack Obama announced in his April 5, 2009, address in Prague that “[t]o put an end to Cold War thinking, we will reduce the role of nuclear weapons in our national security strategy and urge others to do the same.” The Obama administration is due to release its Nuclear Posture Review, which will revise U.S. nuclear weapons declaratory policy and update U.S. negative security assurances.

Issue summary: A small number of states—Australia, Chile, Malaysia, Nigeria, Norway, New Zealand, Sweden, and Switzerland—made calls at the 2009 PrepCom for nuclear-weapon states to decrease the operational readiness of their arsenals.

China, Russia, and the Group of Non-Aligned States expressed concern over missile defense systems and the possible militarization of space. China and Russia have proposed a draft treaty on the prevention of an arms race in outer space.

China also urged the nuclear-weapon states to declare that they will only use nuclear weapons in response to a nuclear attack.

The U.S. Nuclear Posture Review will update U.S. strategic policy.

Institutional Issues

In the wake of the failure of the 2005 Nuclear Nonproliferation Treaty (NPT) Review Conference, a few states have called for structural reforms to the treaty organization itself. Unlike other international arms control regimes, such as the Comprehensive Test Ban Treaty and Chemical Weapons Convention, the NPT lacks such institutional features as a dedicated secretariat and annual meetings. Some states believe that establishing an NPT secretariat or political bureau or convening more frequent meetings would allow the states-parties to respond more flexibly and effectively to the challenges facing the treaty.

Background

- Article VIII of the NPT allows a majority of states-parties to call for conferences to review the operation of the treaty every five years. Prior to 1995, these conferences were supported by Preparatory Committees (PrepComs) that would meet in the preceding 1-2 years. The PrepComs would consider only procedural and administrative issues, leaving substantive issues to the review conference.

- At the 1995 NPT Review and Extension Conference, the states-parties agreed to extend the treaty indefinitely and hold review conferences every five years as a matter of course.

- The states-parties also agreed in 1995 that a PrepCom should meet in each of the three years preceding the review conference to “consider principles, objectives and ways in order to promote the full implementation of the Treaty.”

- PrepComs and review conferences conduct their work in plenary sessions and in committee. Three main committees each deal with one pillar of the treaty: disarmament, nonproliferation, and the peaceful use of nuclear energy.

- States-parties agreed in 1995 to allow for the creation of subsidiary groups within each main committee to discuss more focused topics. These subsidiary groups are established during the PrepComs in each review cycle.

- The review conferences and PrepComs conduct their business by consensus.

- The meetings are guided by a chair, chosen according to a rotating schedule by three regional groups: the Western group, the Eastern European group, and the Group of Non-Aligned States.

- The review process does not have its own secretariat or political leadership.

Proposals and Positions

Canada has championed the cause of institutional reform and submitted working papers on the subject at the 2005 review conference, as well as at the 2004, 2007, and 2009 PrepComs. Citing the “institutional deficit of the Treaty,” Canada outlined four proposals in the 2009 paper.

- Instead of annual PrepComs leading up to a review conference every five years, Canada recommends that the states-parties hold shorter annual general conferences.

- These general conferences would have decision-making authority, like the present review conferences.
- Canada argues that the first two PrepComs in each review cycle do not take substantive decisions and do little to prepare for the upcoming review conference. Annual general conferences would allow the states-parties to address issues more quickly at less expense.
- To supplement the general conferences, states should be permitted to convene extraordinary meetings to address urgent issues, such as a notification of withdrawal from the treaty.
- Canada recommends that the parties establish a standing bureau to provide leadership and continuity during and between meetings of states-parties. The bureau would be composed of the current conference chair and two past chairs, giving it political standing among the regional groups responsible for choosing the chair.
- The NPT does not currently rely on a dedicated administrative staff and instead draws on the resources of the UN Secretariat. To remedy this, Canada recommends appointing a full-time treaty officer to support treaty

meetings. The officer's salary would be paid by assessed contributions from the states-parties.¹⁹¹

Canada's proposals have not garnered much support, amid all the other issues that occupy the NPT review process. During general debate at the 2009 PrepCom, only two states expressed interest in exploring institutional reform. **Australia** saw "merit in exploring ideas, such as...shorter annual meetings of states-parties to replace the prepcom process,"¹⁹² while **Ireland** stated that the idea requires "immediate attention."¹⁹³

A group composed of **Belgium, Lithuania, the Netherlands, Norway, Poland, Spain, and Turkey** welcomed "the further development of a consultative mechanism for the Treaty, including the consideration of options for an institutional framework," to allow states-parties to respond more quickly to developments and challenges.¹⁹⁴

The **Blix commission** on weapons of mass destruction recommended that the states-parties establish a standing secretariat to coordinate the review conferences, PrepComs, and any other meeting requested by a majority of the parties.¹⁹⁵

Issue summary: Canada is the main proponent of bolstering the NPT's institutional capacity. Canada recommends that NPT states-parties establish a secretariat and standing political bureau, as well as replace the current PrepCom process with shorter annual meetings.

Universality

The nuclear Nonproliferation Treaty (NPT), with its 189 member states, is a nearly universal treaty regime, although three states—India, Israel, and Pakistan—have never joined the treaty and North Korea announced its withdrawal in 2003. As all four are nuclear-armed to some degree, their presence outside the treaty regime poses disarmament and nonproliferation challenges for the states-parties. Many NPT countries call for the nonparties to join the treaty as non-nuclear-weapon states, but few concrete proposals have been advanced to that effect.

Background

- Any state that joins the NPT must do so as a non-nuclear-weapon state, according to Article IX, unless it “manufactured and exploded a...nuclear explosive device prior to 1 January 1967.” None of the four nonparties meet this criterion and would have to accede to the treaty as non-nuclear-weapon states unless the treaty were amended.
- The Final Document of the 2000 NPT Review Conference urged those states not party to the treaty to accede to it “without delay and without preconditions” and to bring into force comprehensive safeguards and an additional protocol.
- Following the 1998 Indian and Pakistani nuclear tests, the UN Security Council passed Resolution 1172, urging all states to join the NPT and the Comprehensive Test Ban Treaty (CTBT).

Proposals and Positions

In a working paper at the 2008 Preparatory Committee (PrepCom) for the 2010 NPT Review Conference, **Egypt** called the lack of NPT universality “the greatest challenge facing the NPT at this juncture.” Egypt recommended that the review

conference adopt a series of practical steps toward achieving universality.

Egypt also urged the review conference to call on states-parties to report on “practical and specific efforts undertaken” to bring about treaty universality.

Lastly, Egypt called for the creation of an NPT Universality Adherence Support Unit within the framework of the NPT.¹⁹⁶

At the 2009 PrepCom, the **League of Arab States** echoed Egypt’s call for the review conference to develop a plan of action for achieving NPT universality. The league also stated that the primary responsibility for bringing nonparties into the treaty regime rests with the nuclear-weapon states, in particular, with Russia, the United Kingdom, and the United States.¹⁹⁷

The **Group of Non-Aligned States** issued a more restrained recommendation, asking the review conference to call on all states-parties to “exert all possible efforts to promote universal adherence to the Treaty and not to undertake any actions that could negatively affect prospects for the universality of the Treaty.”¹⁹⁸ India, North Korea, and Pakistan are members of the Nonaligned Movement outside the NPT context.

Australia¹⁹⁹ and **Japan**²⁰⁰ called on the three nonparties (leaving out North Korea) to join the NPT as non-nuclear-weapon states. Japan highlighted the importance of bringing about a weapons-of-mass-destruction-free zone in the Middle East in this regard.

The **United States** delegation declared that “[u]niversal adherence to the NPT itself—including by India, Israel, Pakistan and North Korea—also remains a fundamental objective of the United States.”²⁰¹

Two prominent international panels recommended bringing the nonparties into the broader nonproliferation framework, rather than into the NPT itself.

The **UN High-Level Panel on Threats, Challenges and Change** recommended in 2004 that states not party to the NPT should pledge their commitment to disarmament and nonproliferation by joining the CTBT and participating in negotiations on a fissile material cutoff treaty. The panel also recommended that states in the Middle East and South Asia begin disarmament talks, with the goal of establishing nuclear-weapon-free zones in those areas.²⁰²

The **Blix commission** on weapons of mass destruction recommended that India and Pakistan join the CTBT and declare moratoria on the production of fissile material for weapons purposes. The commission also called for both states to adopt the International Atomic Energy Agency Model Additional Protocol and to join the Nuclear Suppliers Group and Missile Technology Control Regime.²⁰³

Issue summary: Exhortations in favor of NPT universality are common among states-parties, but few concrete proposals have been made to that effect. While non-NPT members India, Israel, and Pakistan will not likely join the NPT in the near future, it is possible for them to move closer to the nuclear nonproliferation mainstream by complying with the standards, practices, and norms expected of responsible members of the NPT regime.

Nuclear Security

Although the specter of nuclear terrorism has highlighted the importance of ensuring that nuclear material and technology is held securely, the nuclear Nonproliferation Treaty (NPT) regime is mostly concerned with disarmament, nonproliferation, and the peaceful use of nuclear energy. No article of the treaty explicitly deals with preventing nonstate actors from acquiring nuclear material or technology. Instead, a handful of other international agreements form the basis of the global nuclear security architecture.

Background

- The Convention on the Physical Protection of Nuclear Material is the only legally binding international instrument in the area of nuclear security. One hundred forty-two states are party to the convention, which “establishes measures related to the prevention, detection and punishment of offenses relating to nuclear material.”²⁰⁴ Yet, the convention only obliges states to protect nuclear material during international transit.
- The convention was amended in July 2005, expanding cooperation among states-parties and making it legally binding to protect nuclear facilities and material in peaceful domestic use and storage, as well as during transport. The amended convention will enter into force once two-thirds of the parties have ratified it. As of October 2009, only 32 states had adopted the amendments.²⁰⁵
- The International Convention for the Suppression of Acts of Nuclear Terrorism, opened for signature in 2005, criminalizes the planning, threatening, or carrying out of acts of nuclear terrorism and requires states-parties to pass national legislation to that effect. The convention entered into force on July 7, 2007, and has 115 signatories as of February 2009.²⁰⁶

- The Global Initiative to Combat Nuclear Terrorism, founded in 2006, is a nonbinding agreement among states to support a common statement of principles. The 76 partner states pledge to bolster the security of civilian nuclear sites, improve accounting and protection measures for nuclear materials, and share relevant information and intelligence.²⁰⁷
- UN Security Council Resolution 1540, passed in 2004, mandates that states develop national legislation prohibiting nonstate actors from acquiring nuclear, chemical, or biological weapons. Resolution 1540 also requires states to criminalize those who would assist or finance such efforts.

Proposals and Positions

Few proposals have been made in the NPT context to enhance nuclear security. In the past, such proposals have been focused on enhancing existing nuclear security arrangements, such as the Convention on the Physical Protection of Nuclear Material. Nuclear security may be a more prominent issue at the 2010 NPT Review Conference, which will come on the heels of a nuclear security summit hosted by the United States, scheduled for April 2010.

In 2007 the **European Union** distributed a working paper calling on states to work with the International Atomic Energy Treaty (IAEA) to develop

stronger national nuclear security architectures. The paper recommends that states:

- o Establish a regulatory framework to control radioactive materials,
- o Set up a national register to track relevant materials across their lifetimes,
- o Develop a national strategy for the recovery of “orphan” nuclear materials, and
- o Put in place a system to detect the passage of radioactive materials across borders.²⁰⁸

Russia praised the international community for working to establish a “safety net” to prevent nonstate actors from accessing nuclear weapons and material. At the same time, Russia chided states for failing to live up to their obligations under Resolution 1540 and declining to join the Global Initiative to Combat Nuclear Terrorism.²⁰⁹

The EU endorsed the amended Convention on the Physical Protection of Nuclear Material and proposed that states minimize the use of highly enriched uranium (HEU) in civilian activities in order to reduce the risk of theft and illicit trafficking.²¹⁰

Belgium, Lithuania, the Netherlands, Norway, Poland, Spain, and Turkey called for a “comprehensive and mutually reinforcing approach” to nuclear security, including the International Convention for the Suppression of Acts of Nuclear Terrorism, the IAEA, the Global Initiative to Combat Nuclear Terrorism, the Proliferation Security Initiative, and voluntary efforts to reduce HEU use in civilian reactors.²¹¹

The **Vienna Group of Ten**, in a 2009 working paper, suggested the review conference call on all states to join the Convention on the Physical Protection of Nuclear Material and the 2005 amendment to the convention as soon as possible. The working paper cited the “paramount importance” of the physical protection of nuclear materials and facilities.²¹²

The **United Kingdom** intends to press the issue of nuclear security at the 2010 review conference, calling for security to be treated as a “fourth pillar” of the treaty.²¹³

The **United States** will host a Global Nuclear Security Summit in April 2010. The summit will allow world leaders to develop steps that can be



Mayak Chemical Combine

A worker at Russia's Mayak reprocessing facility in 1994 puts an inner container holding 2.5 kilograms of plutonium in the form of dioxide powder into an outer container. Because very little radiation penetrates the lightweight canisters, they can be safely carried away without radiation shielding. By contrast, transporting a single spent fuel assembly containing 5 kilograms of plutonium would require a cask weighing 20 tons.

taken to “secure vulnerable materials, combat nuclear smuggling...and disrupt attempts at nuclear terrorism.”²¹⁴ In an October 21, 2009 speech, Secretary of State Hillary Clinton echoed the United Kingdom's position that nuclear security should become the “fourth pillar” of the NPT. “Stopping terrorists from acquiring the ultimate weapon was not a central preoccupation when the NPT was negotiated,” Clinton said. “But it is today. And it must remain at the top of our national security priorities.”²¹⁵

Issue summary: Nuclear security is the subject of several international agreements but not addressed explicitly in the NPT. The United Kingdom intends to highlight security issues at the 2010 review conference. The United States will host an international summit on the subject in April 2010.

(See also Fissile Material, page 22.)

NOTES

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Glossary of Terms

Additional protocol: An agreement between a state and the International Atomic Energy Agency (IAEA) that empowers the agency to inspect facilities throughout the state. Based on the Model Additional Protocol detailed in IAEA document INFCIRC/540 (Corrected). Currently a voluntary measure supplementing the Comprehensive Safeguards Agreement.

Blix Commission: Formally the Weapons of Mass Destruction Commission, an independent study group formed in 2003 and led by former International Atomic Energy Agency Director-General Hans Blix. The commission investigated measures to control and eliminate biological, chemical, and nuclear weapons.

Conference on Disarmament (CD): The world's primary international disarmament negotiating body, established in 1979 and comprised of 65 member states. The CD, which is sponsored by the United Nations, negotiated the Comprehensive Test Ban Treaty during 1993-1996 and is currently deliberating on a fissile material cutoff treaty.

Convention on the Physical Protection of Nuclear Material: International agreement mandating the protection of nuclear material during international transit and establishing measures for the prevention and punishment of criminal acts involving nuclear material. The convention was amended in 2005 to require protection of nuclear material during peaceful domestic use and storage, as well as during transit, but this amendment is not yet in force.

Convention for the Suppression of Acts of Nuclear Terrorism: International agreement opened for signature in 2005 that criminalizes the planning, threatening, or implementation of acts of nuclear terrorism and requires states-parties to pass national legislation to that effect.

Comprehensive Safeguards Agreement (CSA): The nuclear Nonproliferation Treaty's current standard of verification required by Article III of the treaty. A CSA allows the International Atomic Energy Agency to monitor all nuclear facilities and materials declared by the state but does not give the agency authority to investigate undeclared sites.

Comprehensive Nuclear-Test Ban Treaty (CTBT): International agreement opened for signature in 1996 that would ban all nuclear test explosions. Forty-four specific states listed in Annex II of the treaty must ratify the treaty before it may enter into force; all but nine have done so.

Comprehensive Test Ban Treaty Organization (CTBTO): Organization established by the signatories to the Comprehensive Test Ban Treaty, charged with implementing the International Monitoring System envisioned in the treaty and with facilitating the treaty's entry into force.

Dual-use technology: A technology that has civilian and military applications.

European Union: A 27-member bloc of European countries that adopt a common foreign policy in international forums, such as the nuclear Nonproliferation Treaty (NPT) review process. Non-EU states Albania, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Moldova, Montenegro, Serbia, Turkey and Ukraine also usually align themselves with EU positions at the NPT.

Enrichment: Uranium enrichment increases the percentage of fissile uranium-235 in a batch of nuclear fuel. Low levels of enrichment are suitable for use in civilian nuclear power reactors, while highly enriched uranium can be used to build a nuclear weapon.

Final Document: The final product of a nuclear Nonproliferation Treaty review conference, the document represents the consensus view of the states-parties.

Fissile material: Material that can undergo atomic fission when bombarded by neutrons. Uranium-235 and plutonium-239 are examples.

Fissile material treaty: A hypothetical treaty that would end the production of fissile material for weapons purposes and also seek to address existing stocks of such material.

Fissile material cutoff treaty: A treaty that would end the production of fissile material for weapons purposes but not address existing stocks. Such a treaty is under discussion at the Conference on Disarmament.

Global Initiative to Combat Nuclear Terrorism: A voluntary association of states, established in 2006, committed to sharing information and expertise in order to prevent nuclear terrorism. Seventy-six states currently participate in the initiative.

Group of Non-Aligned States: A 118-member bloc of developing states, the largest group in the nuclear Nonproliferation Treaty context.

International Atomic Energy Agency (IAEA): International organization charged with monitoring and safeguarding nuclear material and facilities under the nuclear Nonproliferation Treaty and with helping states pursue peaceful nuclear programs through technical cooperation.

Intermediate Nuclear Forces (INF) Treaty: A 1987 treaty between the United States and the Soviet Union, requiring both countries to eliminate their missiles with ranges between 500 and 5,500 kilometers. Four former Soviet territories—Belarus, Kazakhstan, Russia and Ukraine—implement the treaty along with the United States.

League of Arab States: A regional organization of 22 North African and Middle Eastern states.

Main committee: Preparatory Committees and review conferences for the nuclear Nonproliferation Treaty are divided into three main committees, each with responsibility for one pillar of the treaty: disarmament, nonproliferation, and peaceful uses of nuclear energy.

New Agenda Coalition: A group of seven developed and developing states that coordinate their policies in the nuclear Nonproliferation Treaty forum. Formed in 1998, the coalition often attempts to bridge the differences between the nuclear-weapon states and the Group of Non-Aligned States. The members of the coalition are Brazil, Egypt, Ireland, Mexico, New Zealand, South Africa, and Sweden.

Non-nuclear-weapon state: As defined by the nuclear Nonproliferation Treaty, any state that did not detonate a nuclear explosive device prior to January 1, 1967.

Nuclear-weapon state: As defined by the nuclear Nonproliferation Treaty, a state that manufactured and exploded a nuclear weapon prior to January 1, 1967. Those states are China, France, Russia, the United Kingdom, and the United States.

Nuclear fuel cycle: The life cycle of uranium used as fuel for a reactor. The “front end” of the cycle (prior to use in a reactor) includes mining, milling, and enrichment. After uranium has been used in a reactor, the spent fuel can be placed in long-term storage or reprocessed (the “back end” of the cycle). Reprocessing allows a portion of the spent fuel to be returned to a reactor as useable fuel but is costly and presents a proliferation risk.

Nuclear Posture Review (NPR): A classified review of U.S. nuclear strategy, mandated by Congress. The Obama administration is currently conducting an NPR, expected to be complete in early 2010. An unclassified version will also be released.

Nuclear Nonproliferation Treaty (NPT): International agreement on nuclear disarmament, nonproliferation, and the peaceful use of nuclear energy that entered into force March 5, 1970. Nuclear-armed states-parties pledged to work toward disarmament, non-nuclear-weapon states-parties agreed to forswear nuclear weapons, and all agreed to share in the peaceful use of nuclear energy.

Nuclear Suppliers Group (NSG): Founded in 1974, this 47-member group of nuclear exporters maintains an extensive list of nuclear and dual-use items that require export controls according to the group’s rules.

Nuclear weapons convention: A nuclear weapons convention would outlaw the production of nuclear weapons and require states that possess them to dismantle their arsenals according to a set timeline.

Operational Status Group: A group of six states within the nuclear Nonproliferation Treaty context that push for decreased operational readiness of nuclear weapons. The group is composed of Chile, Malaysia, Nigeria, New Zealand, Sweden, and Switzerland.

Principles and Objectives, 1995: As part of the package of agreements that secured the indefinite extension of the nuclear Nonproliferation Treaty at the 1995 Review Conference, states-parties agreed to a set of principles covering disarmament, nonproliferation, and peaceful uses of nuclear energy. The principles included support for the Comprehensive Test Ban Treaty and a fissile material cutoff treaty, endorsed the establishment of a nuclear-weapon-free zone in the Middle East, and called for states to require that Comprehensive Safeguards Agreements be a condition of nuclear trade.

Preparatory Committee (PrepCom): Each nuclear Nonproliferation Treaty review conference is preceded by Preparatory Committee meetings in each of the three years prior to the conference. The PrepComs decide on procedural matters such as the agenda for the review conference and may also issue substantive recommendations.

Proliferation Security Initiative (PSI): A nonbinding association of 91 states, launched in 2003, aimed at encouraging intelligence sharing and cooperation in interdiction of biological, chemical, and nuclear weapons transfers. The PSI operates on the basis of existing international and national law and does not create any new powers or responsibilities.

Reprocessing: A chemical process whereby uranium and plutonium may be extracted from used nuclear fuel and returned to the fuel supply. Reprocessing can increase the amount of energy extracted from a batch of fuel but is costly and presents proliferation risks.

Research reactor: Small nuclear reactors used for scientific research and the production of radioactive materials used in medicine and industry. Many utilize highly enriched uranium as a fuel, unlike larger civilian power reactors, which operate on low-enriched uranium.

Resolution 1540: A legally binding 2004 resolution of the UN Security Council mandating that states

establish domestic controls to prevent nonstate actors from acquiring nuclear, chemical, and biological weapons or related materials.

Review conference: Conferences of the nuclear Nonproliferation Treaty states-parties held every five years to review and enhance the implementation of the treaty.

Special nuclear material: Plutonium or enriched uranium.

START: The Strategic Arms Reduction Treaty, signed in 1991, limiting the United States and Russia to no more than 6,000 strategic warheads on 1,600 delivery vehicles. The treaty contains extensive counting rules and verification procedures. It expires December 5, 2009.

Strategic Offensive Reduction Treaty (SORT): Signed in 2002 and limiting the United States and Russia to 1,700-2,200 operationally deployed strategic nuclear warheads by December 31 2012, the day the treaty expires. The treaty does not contain any counting rules or verification procedures.

Tactical nuclear weapons: Short-range nuclear weapons of limited yield intended for use on the battlefield.

Thirteen “practical steps”: At the 2000 nuclear Nonproliferation Treaty Review Conference, states-parties agreed to 13 steps toward fulfilling their Article VI obligations. They represent the most recent international consensus on the disarmament agenda.

UN First Committee: A subsidiary of the UN General Assembly responsible for drafting resolutions on disarmament issues.

UN High-Level Panel on Threats, Challenges and Change: An international commission established in 2003 on the initiative of UN Secretary-General Kofi Annan to consider the challenges facing the United Nations in the 21st century. The panel addressed nuclear issues, among many others.

Vienna Group of Ten: A nuclear Nonproliferation Treaty group composed of Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden.

Zangger Committee: A group of 37 states, formed in 1971, to determine which items require nuclear Nonproliferation Treaty safeguards as mandated in Article III.

Treaty on the Non-Proliferation of Nuclear Weapons (NPT)

The States concluding this Treaty, hereinafter referred to as the “Parties to the Treaty”,

Considering the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples,

Believing that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war,

In conformity with resolutions of the United Nations General Assembly calling for the conclusion of an agreement on the prevention of wider dissemination of nuclear weapons,

Undertaking to co-operate in facilitating the application of International Atomic Energy Agency safeguards on peaceful nuclear activities,

Expressing their support for research, development and other efforts to further the application, within the framework of the International Atomic Energy Agency safeguards system, of the principle of safeguarding effectively the flow of source and special fissionable materials by use of instruments and other techniques at certain strategic points,

Affirming the principle that the benefits of peaceful applications of nuclear technology, including any technological by-products which may be derived by nuclear-weapon States from the development of nuclear explosive devices, should be available for peaceful purposes to all Parties to the Treaty, whether nuclear-weapon or non-nuclear-weapon States,

Convinced that, in furtherance of this principle, all Parties to the Treaty are entitled to participate in the fullest possible exchange of scientific information for, and to contribute alone or in co-operation with other States to, the further development of the applications of atomic energy for peaceful purposes,

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race

and to undertake effective measures in the direction of nuclear disarmament,

Urging the co-operation of all States in the attainment of this objective,

Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water in its Preamble to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,

Desiring to further the easing of international tension and the strengthening of trust between States in order to facilitate the cessation of the manufacture of nuclear weapons, the liquidation of all their existing stockpiles, and the elimination from national arsenals of nuclear weapons and the means of their delivery pursuant to a Treaty on general and complete disarmament under strict and effective international control,

Recalling that, in accordance with the Charter of the United Nations, States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations, and that the establishment and maintenance of international peace and security are to be promoted with the least diversion for armaments of the world’s human and economic resources,

Have agreed as follows:

ARTICLE I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

ARTICLE II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

ARTICLE III

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this Article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.

3. The safeguards required by this Article shall be implemented in a manner designed to comply with Article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this Article and the principle of safeguarding set forth in the Preamble of the Treaty.

4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International

Atomic Energy Agency to meet the requirements of this Article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

ARTICLE IV

1. Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty.

2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also cooperate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.

ARTICLE V

Each Party to the Treaty undertakes to take appropriate measures to ensure that, in accordance with this Treaty, under appropriate international observation and through appropriate international procedures, potential benefits from any peaceful applications of nuclear explosions will be made available to non-nuclear-weapon States Party to the Treaty on a non-discriminatory basis and that the charge to such Parties for the explosive devices used will be as low as possible and exclude any charge for research and development. Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States. Negotiations on this subject shall commence as soon as possible after the Treaty enters into force. Non-nuclear-weapon States Party to the Treaty so desiring may also obtain such benefits pursuant to bilateral agreements.

ARTICLE VI

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

ARTICLE VII

Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.

ARTICLE VIII

1. Any Party to the Treaty may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to the Treaty. Thereupon, if requested to do so by one-third or more of the Parties to the Treaty, the Depositary Governments shall convene a conference, to which they shall invite all the Parties to the Treaty, to consider such an amendment.

2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. The amendment shall enter into force for each Party that deposits its instrument of ratification of the amendment upon the deposit of such instruments of ratification by a majority of all the Parties, including the instruments of ratification of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. Thereafter, it shall enter into force for any other Party upon the deposit of its instrument of ratification of the amendment.

3. Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realised. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further

conferences with the same objective of reviewing the operation of the Treaty.

ARTICLE IX

1. This Treaty shall be open to all States for signature. Any State which does not sign the Treaty before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time.

2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United Kingdom of Great Britain and Northern Ireland, the Union of Soviet Socialist Republics and the United States of America, which are hereby designated the Depositary Governments.

3. This Treaty shall enter into force after its ratification by the States, the Governments of which are designated Depositaries of the Treaty, and forty other States signatory to this Treaty and the deposit of their instruments of ratification. For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January, 1967.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession, the date of the entry into force of this Treaty, and the date of receipt of any requests for convening a conference or other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

ARTICLE X

1. Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include

a statement of the extraordinary events it regards as having jeopardized its supreme interests.

2. Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty.

ARTICLE XI

This Treaty, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

Source: International Atomic Energy Agency, INFCIRC/140, April 22, 1970.

UN Security Council Resolution 1887

SEPTEMBER 24, 2009

“The Security Council,

“Resolving to seek a safer world for all and to create the conditions for a world without nuclear weapons, in accordance with the goals of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), in a way that promotes international stability, and based on the principle of undiminished security for all,

“Reaffirming the Statement of its President adopted at the Council’s meeting at the level of Heads of State and Government on 31 January 1992 (S/23500), including the need for all Member States to fulfil their obligations in relation to arms control and disarmament and to prevent proliferation in all its aspects of all weapons of mass destruction,

“Recalling also that the above Statement (S/23500) underlined the need for all Member States to resolve peacefully in accordance with the Charter any problems in that context threatening or disrupting the maintenance of regional and global stability,

“Reaffirming that proliferation of weapons of mass destruction, and their means of delivery, constitutes a threat to international peace and security,

“Bearing in mind the responsibilities of other organs of the United Nations and relevant international organizations in the field of disarmament, arms control and non-proliferation, as well as the Conference on Disarmament, and supporting them to continue to play their due roles,

“Underlining that the NPT remains the cornerstone of the nuclear non-proliferation regime and the essential foundation for the pursuit of nuclear disarmament and for the peaceful uses of nuclear energy,

“Reaffirming its firm commitment to the NPT and its conviction that the international nuclear non-proliferation regime should be maintained and strengthened to ensure its effective implementation, and recalling in this regard the outcomes of past NPT Review Conferences, including the 1995 and 2000 final documents,

“Calling for further progress on all aspects of disarmament to enhance global security,

“Recalling the Statement by its President adopted at the Council’s meeting held on 19 November 2008 (S/PRST/2008/43),

“Welcoming the decisions of those non-nuclear-weapon States that have dismantled their nuclear weapons programs or renounced the possession of nuclear weapons,

“Welcoming the nuclear arms reduction and disarmament efforts undertaken and accomplished by nuclear-weapon States, and underlining the need to pursue further efforts in the sphere of nuclear disarmament, in accordance with Article VI of the NPT,

“Welcoming in this connection the decision of the Russian Federation and the United States of America to conduct negotiations to conclude a new comprehensive legally binding agreement to replace the Treaty on the Reduction and Limitation of Strategic Offensive Arms, which expires in December 2009,

“Welcoming and supporting the steps taken to conclude nuclear-weapon-free zone treaties and reaffirming the conviction that the establishment of internationally recognized nuclear-weapon-free zones on the basis of arrangements freely arrived at among the States of the region concerned, and in accordance with the 1999 United Nations Disarmament Commission guidelines, enhances global and regional peace and security, strengthens the nuclear non-proliferation regime, and contributes toward realizing the objectives of nuclear disarmament,

“Noting its support, in this context, for the convening of the Second Conference of States Parties and signatories of the Treaties that establish Nuclear-Weapon-Free Zones to be held in New York on 30 April 2010,

“Reaffirming its resolutions 825 (1993), 1695 (2006), 1718 (2006), and 1874 (2009),

“Reaffirming its resolutions 1696 (2006), 1737 (2006), 1747 (2007), 1803 (2008), and 1835 (2008),

“Reaffirming all other relevant non-proliferation resolutions adopted by the Security Council,

“Gravely concerned about the threat of nuclear terrorism, and *recognizing* the need for all States to take effective measures to prevent nuclear material or technical assistance becoming available to terrorists,

“Noting with interest the initiative to convene, in coordination with the International Atomic Energy Agency (IAEA), an international conference on the peaceful uses of nuclear energy,

“Expressing its support for the convening of the 2010 Global Summit on Nuclear Security,

“Affirming its support for the Convention on the Physical Protection of Nuclear Material and its 2005 Amendment, and the Convention for the Suppression of Acts of Nuclear Terrorism,

“Recognizing the progress made by the Global Initiative to Combat Nuclear Terrorism, and the G-8 Global Partnership,

“Noting the contribution of civil society in promoting all the objectives of the NPT,

“Reaffirming its resolution 1540 (2004) and the necessity for all States to implement fully the measures contained therein, and *calling upon* all Member States and international and regional organizations to cooperate actively with the Committee established pursuant to that resolution, including in the course of the comprehensive review as called for in resolution 1810 (2008),

“1. Emphasizes that a situation of non-compliance with non-proliferation obligations shall be brought to the attention of the Security Council, which will determine if that situation constitutes a threat to international peace and security, and *emphasizes* the Security Council’s primary responsibility in addressing such threats;

“2. Calls upon States Parties to the NPT to comply fully with all their obligations and fulfil their commitments under the Treaty,

“3. Notes that enjoyment of the benefits of the NPT by a State Party can be assured only by its compliance with the obligations thereunder;

“4. Calls upon all States that are not Parties to the NPT to accede to the Treaty as non-nuclear-weapon States so as to achieve its universality at an early date, and pending their

accession to the Treaty, to adhere to its terms;

“5. Calls upon the Parties to the NPT, pursuant to Article VI of the Treaty, to undertake to pursue negotiations in good faith on effective measures relating to nuclear arms reduction and disarmament, and on a Treaty on general and complete disarmament under strict and effective international control, and *calls on* all other States to join in this endeavour;

“6. Calls upon all States Parties to the NPT to cooperate so that the 2010 NPT Review Conference can successfully strengthen the Treaty and set realistic and achievable goals in all the Treaty’s three pillars: non-proliferation, the peaceful uses of nuclear energy, and disarmament;

“7. Calls upon all States to refrain from conducting a nuclear test explosion and to sign and ratify the Comprehensive Nuclear-Test-Ban Treaty (CTBT), thereby bringing the treaty into force at an early date;

“8. Calls upon the Conference on Disarmament to negotiate a Treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices as soon as possible, *welcomes* the Conference on Disarmament’s adoption by consensus of its Program of Work in 2009, and *requests* all Member States to cooperate in guiding the Conference to an early commencement of substantive work;

“9. Recalls the statements by each of the five nuclear-weapon States, noted by resolution 984 (1995), in which they give security assurances against the use of nuclear weapons to non-nuclear-weapon State Parties to the NPT, and *affirms* that such security assurances strengthen the nuclear non-proliferation regime;

“10. Expresses particular concern at the current major challenges to the non-proliferation regime that the Security Council has acted upon, *demands* that the parties concerned comply fully with their obligations under the relevant Security Council resolutions, and *reaffirms* its call upon them to find an early negotiated solution to these issues;

“11. Encourages efforts to ensure development of peaceful uses of nuclear energy by countries seeking to maintain or develop their capacities in this field in a framework that reduces proliferation risk and adheres to the highest international standards for safeguards, security, and safety;

"12. *Underlines* that the NPT recognizes in Article IV the inalienable right of the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II, and *recalls* in this context Article III of the NPT and Article II of the IAEA Statute;

"13. *Calls upon* States to adopt stricter national controls for the export of sensitive goods and technologies of the nuclear fuel cycle;

"14. *Encourages* the work of the IAEA on multilateral approaches to the nuclear fuel cycle, including assurances of nuclear fuel supply and related measures, as effective means of addressing the expanding need for nuclear fuel and nuclear fuel services and minimizing the risk of proliferation, and *urges* the IAEA Board of Governors to agree upon measures to this end as soon as possible;

"15. *Affirms* that effective IAEA safeguards are essential to prevent nuclear proliferation and to facilitate cooperation in the field of peaceful uses of nuclear energy, and in that regard:

a. *Calls upon* all non-nuclear-weapon States party to the NPT that have yet to bring into force a comprehensive safeguards agreement or a modified small quantities protocol to do so immediately,

b. *Calls upon* all States to sign, ratify and implement an additional protocol, which together with comprehensive safeguards agreements constitute essential elements of the IAEA safeguards system,

c. *Stresses* the importance for all Member States to ensure that the IAEA continue to have all the necessary resources and authority to verify the declared use of nuclear materials and facilities and the absence of undeclared activities, and for the IAEA to report to the Council accordingly as appropriate;

"16. *Encourages* States to provide the IAEA with the cooperation necessary for it to verify whether a state is in compliance with its safeguards obligations, and *affirms* the Security Council's resolve to support the IAEA's efforts to that end, consistent with its authorities under the Charter;

"17. *Undertakes* to address without delay any State's notice of withdrawal from the NPT, including the events described in the statement

provided by the State pursuant to Article X of the Treaty, while noting ongoing discussions in the course of the NPT review on identifying modalities under which NPT States Parties could collectively respond to notification of withdrawal, and *affirms* that a State remains responsible under international law for violations of the NPT committed prior to its withdrawal;

"18. *Encourages* States to require as a condition of nuclear exports that the recipient State agree that, in the event that it should terminate, withdraw from, or be found by the IAEA Board of Governors to be in non-compliance with its IAEA safeguards agreement, the supplier state would have a right to require the return of nuclear material and equipment provided prior to such termination, non-compliance or withdrawal, as well as any special nuclear material produced through the use of such material or equipment;

"19. *Encourages* States to consider whether a recipient State has signed and ratified an additional protocol based on the model additional protocol in making nuclear export decisions;

"20. *Urges* States to require as a condition of nuclear exports that the recipient State agree that, in the event that it should terminate its IAEA safeguards agreement, safeguards shall continue with respect to any nuclear material and equipment provided prior to such termination, as well as any special nuclear material produced through the use of such material or equipment;

"21. *Calls for* universal adherence to the Convention on Physical Protection of Nuclear Materials and its 2005 Amendment, and the Convention for the Suppression of Acts of Nuclear Terrorism;

"22. *Welcomes* the March 2009 recommendations of the Security Council Committee established pursuant to resolution 1540 (2004) to make more effective use of existing funding mechanisms, including the consideration of the establishment of a voluntary fund, and *affirms* its commitment to promote full implementation of resolution 1540 (2004) by Member States by ensuring effective and sustainable support for the activities of the 1540 Committee;

"23. *Reaffirms* the need for full implementation of resolution 1540 (2004) by

Member States and, with an aim of preventing access to, or assistance and financing for, weapons of mass destruction, related materials and their means of delivery by non-State actors, as defined in the resolution, *calls upon* Member States to cooperate actively with the Committee established pursuant to that resolution and the IAEA, including rendering assistance, at their request, for their implementation of resolution 1540 (2004) provisions, and in this context *welcomes* the forthcoming comprehensive review of the status of implementation of resolution 1540 (2004) with a view to increasing its effectiveness, and *calls upon* all States to participate actively in this review;

“24. *Calls upon* Member States to share best practices with a view to improved safety standards and nuclear security practices and raise standards of nuclear security to reduce the risk of nuclear terrorism, with the aim of securing all vulnerable nuclear material from such risks within four years;

“25. *Calls upon* all States to manage responsibly and minimize to the greatest extent that is technically and economically feasible the use of highly enriched uranium for civilian purposes, including by working to convert research reactors and radioisotope production

processes to the use of low enriched uranium fuels and targets;

“26. *Calls upon* all States to improve their national capabilities to detect, deter, and disrupt illicit trafficking in nuclear materials throughout their territories, and *calls upon* those States in a position to do so to work to enhance international partnerships and capacity building in this regard;

“27. *Urges* all States to take all appropriate national measures in accordance with their national authorities and legislation, and consistent with international law, to prevent proliferation financing and shipments, to strengthen export controls, to secure sensitive materials, and to control access to intangible transfers of technology;

“28. *Declares* its resolve to monitor closely any situations involving the proliferation of nuclear weapons, their means of delivery or related material, including to or by non-State actors as they are defined in resolution 1540 (2004), and, as appropriate, to take such measures as may be necessary to ensure the maintenance of international peace and security;

“29. *Decides* to remain seized of the matter.”

The 13 Practical Steps

A SUMMARY

At the 2000 nuclear Nonproliferation Treaty Review Conference, states-parties agreed on 13 “practical steps” toward nuclear disarmament. The steps represent the most recent international consensus on a disarmament agenda.

The states-parties endorsed:

1. The entry into force of the Comprehensive Test Ban Treaty (CTBT);
2. A nuclear testing moratorium pending the entry into force of the CTBT;
3. The negotiation of a nondiscriminatory, multilateral, verifiable fissile material cutoff treaty in the Conference on Disarmament (CD);
4. The establishment of a subsidiary body in the CD to deal with nuclear disarmament;
5. The application of the principle of irreversibility to all nuclear disarmament and reduction measures;
6. An unequivocal undertaking by nuclear-weapon states to eliminate their nuclear arsenals;
7. The entry into force of START II, the conclusion of START III, and the preservation of the Anti-Ballistic Missile Treaty, all three of which are now defunct;
8. The implementation of the Trilateral Initiative among Russia, the United States, and the International Atomic Energy Agency (IAEA);
9. Steps by all nuclear-weapon states toward disarmament, including unilateral reductions, transparency on weapons capabilities, reductions in nonstrategic nuclear weapons, reductions in the operational status of nuclear weapons, a diminishing role for nuclear weapons in national security policies, and the engagement of all the nuclear-weapon states as soon as possible in multilateral disarmament negotiations;
10. The placement of excess military fissile materials under IAEA or other international verification and the disposition of such material for peaceful purposes;
11. Reaffirmation of the objective of general and complete disarmament under effective international control;
12. Regular state reporting in the NPT review process on the implementation of Article VI obligations; and
13. The development of verification capabilities necessary to ensure compliance with nuclear disarmament agreements.

Decisions and Resolutions Adopted by the 1995 NPT Review and Extension Conference: Decision 2

Principles and Objectives for Nuclear Non-Proliferation and Disarmament

The Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons,

Reaffirming the preamble and articles of the Treaty on the Non-Proliferation of Nuclear Weapons,

Welcoming the end of the cold war, the ensuing easing of international tension and the strengthening of trust between States,

Desiring a set of principles and objectives in accordance with which nuclear non-proliferation, nuclear disarmament and international cooperation in the peaceful uses of nuclear energy should be vigorously pursued and progress, achievements and shortcomings evaluated periodically within the review process provided for in article VIII, paragraph 3, of the Treaty, the enhancement and strengthening of which is welcomed,

Reiterating the ultimate goals of the complete elimination of nuclear weapons and a treaty on general and complete disarmament under strict and effective international control,

The Conference affirms the need to continue to move with determination towards the full realization and effective implementation of the provisions of the Treaty, and accordingly adopts the following principles and objectives:

Universality

1. Universal adherence to the Treaty on the Non-Proliferation of Nuclear Weapons is an urgent priority. All States not yet party to the Treaty are called upon to accede to the Treaty at the earliest date, particularly those States that

operate unsafeguarded nuclear facilities. Every effort should be made by all States parties to achieve this objective.

Non-proliferation

2. The proliferation of nuclear weapons would seriously increase the danger of nuclear war. The Treaty on the Non-Proliferation of Nuclear Weapons has a vital role to play in preventing the proliferation of nuclear weapons. Every effort should be made to implement the Treaty in all its aspects to prevent the proliferation of nuclear weapons and other nuclear explosive devices, without hampering the peaceful uses of nuclear energy by States parties to the Treaty.

Nuclear disarmament

3. Nuclear disarmament is substantially facilitated by the easing of international tension and the strengthening of trust between States which have prevailed following the end of the cold war. The undertakings with regard to nuclear disarmament as set out in the Treaty on the Non-Proliferation of Nuclear Weapons should thus be fulfilled with determination. In this regard, the nuclear-weapon States reaffirm their commitment, as stated in article VI, to pursue in good faith negotiations on effective measures relating to nuclear disarmament.

4. The achievement of the following measures is important in the full realization and effective implementation of article VI, including the programme of action as reflected below:

(a) The completion by the Conference on Disarmament of the negotiations on a universal and internationally and effectively verifiable Comprehensive Nuclear-Test-Ban Treaty no later than

1996. Pending the entry into force of a Comprehensive Test-Ban Treaty, the nuclear-weapon States should exercise utmost restraint;

(b) The immediate commencement and early conclusion of negotiations on a non-discriminatory and universally applicable convention banning the production of fissile material for nuclear weapons or other nuclear explosive devices, in accordance with the statement of the Special Coordinator of the Conference on Disarmament and the mandate contained therein;

(c) The determined pursuit by the nuclear-weapon States of systematic and progressive efforts to reduce nuclear weapons globally, with the ultimate goal of eliminating those weapons, and by all States of general and complete disarmament under strict and effective international control.

Nuclear-weapon-free zones

5. The conviction that the establishment of internationally recognized nuclear-weapon-free zones, on the basis of arrangements freely arrived at among the States of the region concerned, enhances global and regional peace and security is reaffirmed.

6. The development of nuclear-weapon-free zones, especially in regions of tension, such as in the Middle East, as well as the establishment of zones free of all weapons of mass destruction, should be encouraged as a matter of priority, taking into account the specific characteristics of each region. The establishment of additional nuclear-weapon-free zones by the time of the Review Conference in the year 2000 would be welcome.

7. The cooperation of all the nuclear-weapon States and their respect and support for the relevant protocols is necessary for the maximum effectiveness of such nuclear-weapon-free zones and the relevant protocols.

Security assurances

8. Noting United Nations Security Council resolution 984 (1995), which was adopted unanimously on 11 April 1995, as well as the declarations of the nuclear-weapon States concerning both negative and positive security assurances, further steps should be considered to assure non-nuclear-weapon States party to the Treaty against the use or threat of use of nuclear weapons. These steps could take the form of an internationally legally binding instrument.

Safeguards

9. The International Atomic Energy Agency is the competent authority responsible to verify and assure, in accordance with the statute of the Agency and the Agency's safeguards system, compliance with its safeguards agreements with States parties undertaken in fulfilment of their obligations under article III, paragraph 1, of the Treaty, with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Nothing should be done to undermine the authority of the International Atomic Energy Agency in this regard. States parties that have concerns regarding non-compliance with the safeguards agreements of the Treaty by the States parties should direct such concerns, along with supporting evidence and information, to the Agency to consider, investigate, draw conclusions and decide on necessary actions in accordance with its mandate.

10. All States parties required by article III of the Treaty to sign and bring into force comprehensive safeguards agreements and which have not yet done so should do so without delay.

11. International Atomic Energy Agency safeguards should be regularly assessed and evaluated. Decisions adopted by its Board of Governors aimed at further strengthening the effectiveness of Agency safeguards should be supported and implemented and the Agency's capability to detect undeclared nuclear activities should be increased. Also, States not party to the Treaty on the Non-Proliferation of Nuclear Weapons should

be urged to enter into comprehensive safeguards agreements with the Agency.

12. New supply arrangements for the transfer of source or special fissionable material or equipment or material especially designed or prepared for the processing, use or production of special fissionable material to non-nuclear-weapon States should require, as a necessary precondition, acceptance of the Agency's full-scope safeguards and internationally legally binding commitments not to acquire nuclear weapons or other nuclear explosive devices.

13. Nuclear fissile material transferred from military use to peaceful nuclear activities should, as soon as practicable, be placed under Agency safeguards in the framework of the voluntary safeguards agreements in place with the nuclear-weapon States. Safeguards should be universally applied once the complete elimination of nuclear weapons has been achieved.

Peaceful uses of nuclear energy

14. Particular importance should be attached to ensuring the exercise of the inalienable right of all the parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with articles I, II as well as III of the Treaty.

15. Undertakings to facilitate participation in the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy should be fully implemented.

16. In all activities designed to promote the peaceful uses of nuclear energy, preferential treatment should be given to the non-nuclear-weapon States party to the Treaty, taking the needs of developing countries particularly into account.

17. Transparency in nuclear-related export controls should be promoted within the framework of dialogue and cooperation among all interested States party to the Treaty.

18. All States should, through rigorous national measures and international cooperation, maintain the highest practicable levels of nuclear safety, including in waste management, and observe standards and guidelines in nuclear materials accounting, physical protection and transport of nuclear materials.

19. Every effort should be made to ensure that the International Atomic Energy Agency has the financial and human resources necessary to meet effectively its responsibilities in the areas of technical cooperation, safeguards and nuclear safety. The Agency should also be encouraged to intensify its efforts aimed at finding ways and means for funding technical assistance through predictable and assured resources.

20. Attacks or threats of attack on nuclear facilities devoted to peaceful purposes jeopardize nuclear safety and raise serious concerns regarding the application of international law on the use of force in such cases, which could warrant appropriate action in accordance with the provisions of the Charter of the United Nations.

The Conference requests that the President of the Conference bring the present decision, the decision on strengthening the review process for the Treaty and the decision on the extension of the Treaty on the Non-Proliferation of Nuclear Weapons, to the attention of the heads of State or Government of all States and seek their full cooperation on these documents and in the furtherance of the goals of the Treaty.

Source: UN Department for Disarmament Affairs, NPT/CONF.1995/32, 1995, Part I, Annex.

NPT States-Parties, Comprehensive Safeguards Agreements (CSA), and Additional Protocols (AP)

NPT States-Parties	CSA	AP
1. Afghanistan	X	X
2. Albania	X	
3. Algeria	X	
4. Andorra	<i>Signed January 9, 2001</i>	
5. Angola		
6. Antigua and Barbuda	X	
7. Argentina	X	
8. Armenia	X	X
9. Australia	X	X
10. Austria	X	X
11. Azerbaijan	X	X
12. Bahamas	X	
13. Bahrain	X	
14. Bangladesh	X	X
15. Barbados	X	
16. Belarus	X	
17. Belgium	X	X
18. Belize	X	
19. Benin	<i>Signed June 7, 2005</i>	
20. Bhutan	X	
21. Bolivia	X	
22. Bosnia and Herzegovina	X	
23. Botswana	X	X
24. Brazil	X	
25. Brunei Darussalam	X	
26. Bulgaria	X	
27. Burkina Faso	X	X
28. Burundi	X	X
29. Cambodia	X	
30. Cameroon	X	
31. Canada	X	X
32. Cape Verde	<i>Signed June 28, 2005</i>	
33. Central African Republic	<i>Approved March 7, 2006</i>	
34. Chad	<i>Approved November 22, 2007</i>	

NPT States-Parties	CSA	AP
35. Chile	X	X
36. China	X	X
37. Colombia	X	X
38. Comoros	X	X
39. Congo		
40. Costa Rica	X	
41. Côte d'Ivoire	X	
42. Croatia	X	X
43. Cuba	X	X
44. Cyprus	X	
45. Czech Republic	X	X
46. Democratic People's Republic of Korea*	<i>In force April 10, 1992</i>	
47. Democratic Republic of the Congo	X	X
48. Denmark	X	X
49. Djibouti	<i>Approved March 3, 2009</i>	
50. Dominica	X	
51. Dominican Republic	X	
52. Ecuador	X	X
53. Egypt	X	
54. El Salvador	X	X
55. Equatorial Guinea	<i>Approved June 13, 1986</i>	
56. Eritrea		
57. Estonia	X	
58. Ethiopia	X	
59. Fiji	X	X
60. Finland	X	X
61. France	X	X
62. Gabon	<i>Signed December 3, 1973</i>	
63. Gambia	X	
64. Georgia	X	X
65. Germany	X	X
66. Ghana	X	X
67. Greece	X	X
68. Grenada	X	
69. Guatemala	X	X

NPT States-Parties	CSA	AP
70. Guinea		
71. Guinea-Bissau		
72. Guyana	X	
73. Haiti	X	X
74. Holy See	X	X
75. Honduras	X	
76. Hungary	X	
77. Iceland	X	X
78. Indonesia	X	X
79. Iran (Islamic Republic of)	X	
80. Iraq	X	
81. Ireland	X	X
82. Italy	X	X
83. Jamaica	X	X
84. Japan	X	X
85. Jordan	X	X
86. Kazakhstan	X	X
87. Kenya		
88. Kiribati	X	
89. Kuwait	X	X
90. Kyrgyzstan	X	
91. Lao People's Democratic Republic	X	
92. Latvia	X	
93. Lebanon	X	
94. Lesotho	X	
95. Liberia		
96. Libyan Arab Jamahiriya	X	X
97. Liechtenstein	X	
98. Lithuania	X	
99. Luxembourg	X	X
100. Madagascar	X	X
101. Malawi	X	X
102. Malaysia	X	
103. Maldives	X	
104. Mali	X	X
105. Malta	X	
106. Marshall Islands	X	X
107. Mauritania	<i>Signed June 2, 2003</i>	
108. Mauritius	X	X
109. Mexico	X	
110. Micronesia (Federated States of)		
111. Monaco	X	X
112. Mongolia	X	X

NPT States-Parties	CSA	AP
113. Montenegro	<i>Signed May 26, 2008</i>	
114. Morocco	X	
115. Mozambique	<i>Approved November 22, 2007</i>	
116. Myanmar	X	
117. Namibia	X	
118. Nauru	X	
119. Nepal	X	
120. Netherlands	X	X
121. New Zealand	X	X
122. Nicaragua	X	X
123. Niger	X	X
124. Nigeria	X	X
125. Norway	X	X
126. Oman	X	
127. Palau	X	X
128. Panama	X	X
129. Papua New Guinea	X	
130. Paraguay	X	X
131. Peru	X	X
132. Philippines	X	
133. Poland	X	
134. Portugal	X	X
135. Qatar	X	
136. Republic of Korea	X	X
137. Republic of Moldova	X	
138. Romania	X	X
139. Russian Federation	X	X
140. Rwanda	<i>Approved June 16, 2009</i>	
141. Saint Kitts and Nevis	X	
142. Saint Lucia	X	
143. Saint Vincent and the Grenadines	X	
144. Samoa	X	
145. San Marino	X	
146. Sao Tome and Principe	X	
147. Saudi Arabia	X	
148. Senegal	X	
149. Serbia	X	
150. Seychelles	X	X
151. Sierra Leone	<i>Signed November 10, 1977</i>	
152. Singapore	X	X
153. Slovakia	X	

NPT States-Parties	CSA	AP
154. Slovenia	X	
155. Solomon Islands	X	
<i>156. Somalia</i>		
157. South Africa	X	X
158. Spain	X	X
159. Sri Lanka	X	
160. Sudan	X	
161. Suriname	X	
162. Swaziland	X	
163. Sweden	X	X
164. Switzerland	X	X
165. Syrian Arab Republic	X	
166. Tajikistan	X	
167. Thailand	X	
168. The former Yugoslav Rep. of Macedonia	X	
<i>169. Timor-Leste</i>	<i>Approved September 11, 2007</i>	
<i>170. Togo</i>	<i>Signed November 29, 1990</i>	
171. Tonga	X	

NPT States-Parties	CSA	AP
172. Trinidad and Tobago	X	
173. Tunisia	X	
174. Turkey	X	X
175. Turkmenistan	X	X
176. Tuvalu	X	
177. Uganda	X	X
178. Ukraine	X	X
179. United Arab Emirates	X	
180. United Kingdom	X	X
181. United Republic of Tanzania	X	X
182. United States of America	X	X
183. Uruguay	X	X
184. Uzbekistan	X	X
<i>185. Vanuatu</i>		
186. Venezuela	X	
187. Viet Nam	X	
188. Yemen	X	
189. Zambia	X	
190. Zimbabwe	X	

Notes: Nuclear-weapon states are bolded. States that have not brought a CSA into force are italicized. Additional protocols are marked only if the agreement is listed as "in force" by the IAEA. Some states are in various phases of bringing an additional protocol into force.

Sources: United Nations Office of Disarmament Affairs (NPT states-parties); IAEA, July 9, 2009, www.iaea.org/OurWork/SV/Safeguards/sir_table.pdf (CSA and AP).

Timeline of the NPT

The following timeline provides a brief history of events related to the nuclear Nonproliferation Treaty from the 1950s to the present.

1950s

July 29, 1957: The International Atomic Energy Agency (IAEA) comes into existence with the mission of promoting and overseeing the peaceful use of nuclear technology. President Dwight Eisenhower had called for the creation of such an agency in his December 1953 “Atoms for Peace” proposal.



Franz Matsch, Austria’s permanent representative to the UN and Paul Robert Jolles, executive secretary of the 18-nation Preparatory Commission for the International Atomic Energy Agency (IAEA), sign a conference agreement to secure facilities for the first General Conference of the IAEA on July 24, 1957 in Vienna.

October 17, 1958: Ireland proposes the first resolution at the United Nations to prohibit the “further dissemination of nuclear weapons.”

1960s

February 13, 1960: France conducts its first nuclear test explosion, becoming the world’s fourth nuclear-armed state, after the United States, the Soviet Union, and the United Kingdom.

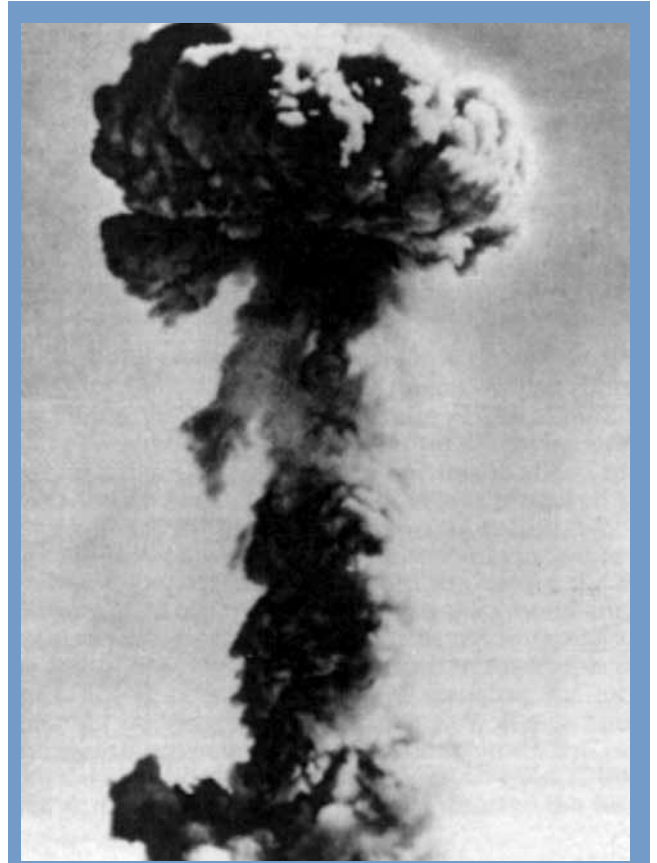
December 4, 1961: The UN General Assembly unanimously approves Resolution 1665, which is based on the earlier Irish draft resolution and calls for negotiations to prevent the spread of nuclear weapons to additional states. The resolution says that countries already having nuclear weapons would “undertake to refrain from relinquishing control” of them to others and would refrain “from transmitting information for their manufacture to States not possessing” them. Countries without nuclear weapons would agree not to receive or manufacture them. These ideas formed the basis of the NPT.

March 21, 1963: In a press conference, President John Kennedy warns, “I see the possibility in the 1970s of the president of the United States having to face a world in which 15 or 20 or 25 nations may have [nuclear] weapons. I regard that as the greatest possible danger and hazard.”

Kennedy made this statement a month after a secret Department of Defense memorandum assessed that eight countries—Canada, China, India, Israel, Italy, Japan, Sweden, and West Germany—would likely have the ability to produce nuclear weapons within 10 years. The study also calculated that, beyond 10 years, the future costs of nuclear weapons programs would diminish and that several more states would likely be able to pursue nuclear weapons, especially if unrestricted testing continued. The risks of such proliferation, which the existing nuclear powers sought to curtail or prevent, largely served as an impetus for drafting the NPT. Today the IAEA assesses that nearly 30 states are capable of developing nuclear weapons, but only nine states are known to possess them.



President John Kennedy addresses the press in March 1963 in Washington, D.C.



October 16, 1964: China conducts its first nuclear test explosion, becoming the world’s fifth nuclear-armed state and leading to the acceleration of India’s nuclear program.

August 17, 1965: The United States submits to the Eighteen Nation Disarmament Committee its first draft proposal to prevent the spread of nuclear weapons. The Soviet Union submits its first draft a month later.

February 14, 1967: The Treaty of Tlatelolco, establishing Latin America and the Caribbean as a nuclear-weapon-free zone, is opened for signature. It is the first of five such regional zones to be negotiated. The other zones cover Africa, Southeast Asia, the South Pacific, and Central Asia.

August 24, 1967: The United States and Soviet Union separately introduce identical draft treaties to the Eighteen Nation Disarmament Committee on preventing the spread of nuclear weapons.

Circa 1967: Israel secretly acquires the capability to build a nuclear explosive device.

June 12, 1968: The UN General Assembly adopts Resolution 2373, endorsing the draft text of the nuclear Nonproliferation Treaty (NPT). The vote was 95 to 4 with 21 abstentions. The four no votes were Albania, Cuba, Tanzania, and Zambia.



July 1, 1968: The NPT is opened for signature and is signed by the Soviet Union, the United Kingdom, and the United States. Article IX of the treaty established that entry into force would require the treaty's ratification by those three countries (the treaty's depositories) and 40 additional states.

China and France, the other two recognized nuclear-weapon states under the treaty, do not sign it. China argued the treaty was discriminatory and refused to sign or adhere to it. France, on the other hand, indicated that it would not sign the treaty but "would behave in the future in this field exactly as the States adhering to the Treaty." Both states acceded to the treaty in 1992.

1970s

March 5, 1970: The NPT enters into force with 46 states-parties.

May 18, 1974: India is the first non-nuclear-weapon state, as defined by the NPT, to conduct a nuclear test. India was not an NPT member, and New Delhi insisted the test was a "peaceful" nuclear explosion to mollify international criticism. In 1997, however, Raja Ramanna, the former director of India's nuclear program, admitted that the 1974 blast was a weapons test, stating, "I just want to make clear that the test was not all that peaceful." Despite India's original characterization of the test as peaceful, it raised alarms within the international community, particularly in Canada and the United States. Both countries had supplied facilities and materials to India for peaceful nuclear purposes and felt betrayed by India's use of them to conduct a nuclear explosion. The United States reacted by leading other nuclear exporters to form the voluntary Nuclear Suppliers Group in 1975 to coordinate stricter

restrictions on global nuclear trade.

Originally, the NPT allowed non-nuclear-weapon states to conduct peaceful nuclear explosions. During the 2000 NPT review conference, however, treaty states-parties agreed to ban such tests in light of the Comprehensive Test Ban Treaty, which was completed in 1996.



A crater marks the site of India's May 18, 1974 underground nuclear test at Pokhran in the desert state of Rajasthan.

September 3, 1974: The IAEA publishes the “trigger list” developed by the Zangger Committee, identifying nuclear items that require IAEA safeguards as a condition of export.

May 30, 1975: The 91 states-parties to the NPT hold the treaty’s first review conference. The treaty members decide to hold such conferences to review

the implementation of the treaty every five years.

January 11, 1978: States participating in the voluntary Nuclear Suppliers Group provide the IAEA with a common set of guidelines they will follow in making nuclear exports. The IAEA publishes the guidelines the next month.

1980s

The decade was dominated by the Cold War superpower competition of the United States and the Soviet Union. Much of the world held its collective breath during the first years of the decade as tensions and the nuclear arms race heated up between the two rivals, leading to popular anti-nuclear protests worldwide and the nuclear freeze movement in the United States. The international community exhaled a bit in the second half of the decade as the United States and the Soviet Union earnestly sat down at the arms negotiating table and for the first time eliminated an entire category of nuclear weapons through the 1987 Intermediate-Range Nuclear Forces Treaty. The two countries also proceeded to negotiate cuts to their strategic nuclear forces, which ultimately would be realized in the landmark 1991 Strategic Arms Reduction Treaty.

Although the U.S.-Soviet nuclear arms race was

center stage, efforts to advance and constrain the nuclear weapons ambitions and programs of other countries played out in the wings, sometimes as part of the superpower drama. For instance, the United States shunted nonproliferation concerns aside in ignoring Pakistan’s nuclear weapons program because of that country’s role in fighting Soviet forces inside Afghanistan. Meanwhile, Iraq, North Korea, and South Africa advanced their nuclear weapons efforts in relative secrecy. In this decade, Iran began to secretly acquire uranium-enrichment-related technology from Pakistani suppliers. Taiwan’s covert nuclear weapons program, however, was squelched by U.S. pressure. Other nonproliferation gains included a joint declaration by Argentina and Brazil to pursue nuclear technology only for peaceful purposes, alleviating fears of a nuclear arms race between the two, and the conclusion of a nuclear-weapon-free zone in the South Pacific. Moreover, the NPT added 30 new states-parties during the decade, including North Korea.



Kazakhstani citizens gather to demand a nuclear test ban at the Soviet nuclear test site near Semipalatinsk in August 1989.

1990s

April 3, 1991: The UN Security Council adopts Resolution 687 requiring Iraq to eliminate its secret nuclear weapons program, which was revealed after the Iraqi defeat in the 1991 Persian Gulf War. Iraq had illegally pursued the weapons program despite being an NPT state-party.

Following the adoption of Resolution 687, the IAEA gained a greater understanding of Iraq's clandestine program and dismantled and sealed its remnants. The realization that Iraq pursued such a program undetected in spite of agency inspections served as a key impetus to strengthen IAEA safeguards. That effort eventually produced the Model Additional Protocol.

The IAEA maintained a presence in Iraq until its inspectors were forced to withdraw in late 1998 on the eve of U.S. and British military strikes against Iraq. Throughout the 1990s, the United States expressed concern that Iraq maintained the ability

and intention to reconstitute its nuclear weapons program, as well as other efforts to produce other "weapons of mass destruction" (WMD). These suspicions led to the adoption of Security Council Resolution 1441 in November 2002, declaring Iraq in material breach of its obligations to comply with international inspections and establishing a renewed inspection process. Although those inspections did not uncover evidence that Iraq had reconstituted its nuclear weapons program, the United States and the United Kingdom asserted that Iraq continued to pursue unconventional arms and, on March 20, 2003, led a military invasion to topple Iraq's leadership. Inspections afterward revealed that the U.S. and British allegations were wrong.

July 10, 1991: South Africa accedes to the NPT. Two years later, the South African government admits that it had covertly built six completed nuclear devices and then dismantled them before joining the accord. The move to get rid of the weapons was seen as preparation for the coming end of apartheid rule.



The UN Security Council votes on Resolution 687 mandating intrusive inspections in Iraq on April 3, 1991 in New York.

March 9, 1992: China accedes to the NPT.

May 23, 1992: Belarus, Kazakhstan, and Ukraine sign the Lisbon Protocol committing to join the NPT as non-nuclear-weapon states. All three had nuclear weapons when they were Soviet republics. On December 5, 1994, Ukraine becomes the last of the three to accede to the NPT.

August 3, 1992: France, the last of the five recognized nuclear-weapon states, accedes to the NPT.

March 12, 1993: North Korea announces its

intention to withdraw from the NPT, but it suspends that withdrawal on June 11, 1993.

April 1, 1993: The IAEA declares North Korea in noncompliance with its safeguards obligations and refers Pyongyang to the UN Security Council.

April 11, 1995: The UN Security Council adopts Resolution 984 acknowledging the unilateral pledges by the five nuclear-weapon states not to use or threaten to use nuclear weapons against non-nuclear-weapon states-parties to the NPT. The move is seen as a way to win greater support for the possible indefinite extension of the treaty.

May 11, 1995: NPT states-parties agree to the treaty's indefinite extension. Article X of the NPT called for a conference of states-parties to be held 25 years after the treaty's entry into force in order to determine whether the treaty would remain in force indefinitely or for other additional periods of time. This conference was held in 1995 and began with considerable uncertainty regarding the nature of any extension. Non-nuclear-weapon states, particularly developing countries belonging to the Nonaligned Movement, expressed disappointment with the lack of progress toward nuclear disarmament and feared that a decision to extend the treaty indefinitely would by default enable the nuclear-armed states to hold on to their nuclear arsenals in perpetuity and avoid any accountability in eliminating them. At the conference, Indonesia and South Africa proposed tying the treaty's indefinite extension to a decision to strengthen the treaty review

process. They also linked it to establishment of a set of principles and objectives on nuclear nonproliferation and disarmament to hold NPT states-parties, particularly the nuclear-weapon states, accountable to their commitments. These principles and objectives include completion of the Comprehensive Test Ban Treaty and negotiations on the cutoff of fissile material production for weapons purposes. The conference also adopted a resolution calling for establishment of a zone free of weapons of mass destruction in the Middle East. This resolution was intended to win support for the indefinite NPT extension from Arab states, which objected to Israel's status outside the NPT and its assumed possession of nuclear weapons. Although only a majority of states-parties was required to approve the indefinite extension, the agreed package of decisions obtained enough support that such a vote was not required.



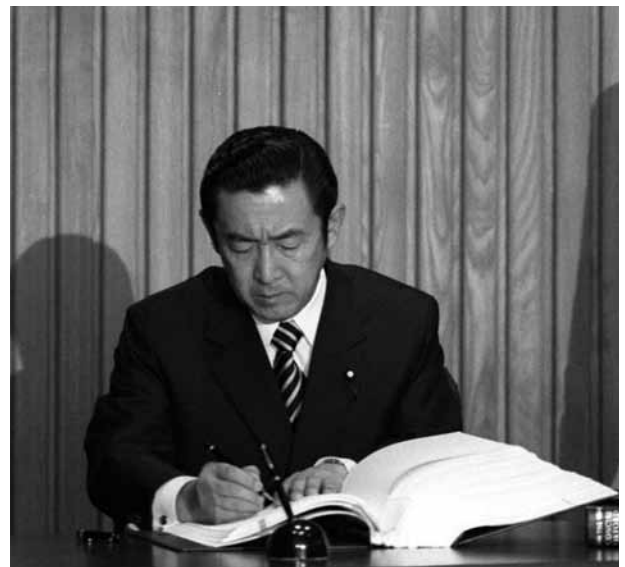
Nuclear Nonproliferation Treaty states-parties vote to extend the treaty indefinitely May 11, 1995 at UN Headquarters in New York.

September 24, 1996: The Comprehensive Test Ban Treaty outlawing nuclear explosions is opened for signature. The treaty has yet to enter into force because not all of the requisite states, including China, India, Pakistan, and the United States, have ratified it.

May 15, 1997: The IAEA adopts the Model Additional Protocol, a voluntary safeguards agreement for a state to give the agency greater powers to verify that illegal nuclear weapons-related activities are not taking place inside that state. The protocol was developed in response to Iraq's and North Korea's illicit actions under the treaty.

May 11 & 13, 1998: India conducts nuclear tests for the second time.

May 28, 1998: In response to India, Pakistan, a nonsignatory to the NPT but a non-nuclear-weapon state by the treaty's terms, conducts its first set of nuclear test explosions.



Japanese Prime Minister Ryutaro Hashimoto signs the Comprehensive Test Ban Treaty September 24, 1996 at UN Headquarters in New York.

2000s

May 22, 2000: The NPT states-parties agree to a 2000 review conference final document that outlines the so-called 13 Steps for progress toward nuclear disarmament, including an “unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals.”

January 10, 2003: North Korea announces its withdrawal from the NPT. North Korea initially announced its intent to withdraw from the NPT a decade earlier following suspicions of NPT violations. After holding talks with the United States, North Korea suspended that withdrawal in June 1993, just a day before it would have come into effect. It further agreed to give up its nuclear weapons program under a 1994 agreement with the United States.

Following the collapse of that agreement in 2002, North Korea declared January 10, 2003, that, with only one day remaining of its previous three-month notification requirement to withdraw from the NPT, its withdrawal would come into effect a day later. Although the legality of North Korea’s process of withdrawal remains in question, subsequent calls by the UN and the IAEA for Pyongyang to return to the NPT demonstrate a recognition that it is currently outside the treaty. Article X of the NPT recognizes the right of states to withdraw from the treaty if that party’s “supreme interests” are jeopardized by “extraordinary events.” States are required to give notice three months in advance before such a withdrawal would take effect. In light of North Korea’s withdrawal and subsequent development of nuclear weapons, the 2005 NPT review conference considered ways to ensure that states that withdraw from the treaty are not able to use technologies and materials obtained while an NPT state-party to pursue nuclear weapons. Discussions of these various proposals are still ongoing.

June 6, 2003: The IAEA issues a report detailing Iranian clandestine nuclear activities that Tehran failed to report to the agency, in violation of its safeguards agreement.

December 19, 2003: Libya announces that it will dismantle its WMD programs, including a secret nuclear weapons program, and agrees to IAEA inspections and adherence to an additional protocol.

September 19, 2005: North Korea commits to abandoning its nuclear weapons and programs and returning to the NPT and to IAEA safeguards in an agreement of the six-party talks on North Korean denuclearization.

September 24, 2005: The IAEA finds Iran in noncompliance with its safeguards obligations after nearly two years of inspections into its undeclared nuclear activities. The agency in February 2006 refers Iran to the UN Security Council, which adopts three sanctions resolutions against Iran over the next two years. IAEA investigations continue into Iran’s past and current nuclear activities.

October 9, 2006: North Korea conducts its first nuclear test explosion.

February 13, 2007: The six-party talks on North Korea’s denuclearization yields an “initial actions” plan to implement Pyongyang’s September 2005 pledge to abandon its nuclear weapons and programs. These initial actions include the shutdown and disablement of North Korea’s Yongbyon nuclear reactor complex and a declaration of its nuclear programs.

September 6, 2008: The Nuclear Suppliers Group agrees to permit trade in nuclear material and technology with India, despite that country’s status as a nonparty to the NPT and de facto nuclear-weapon state.

April 14, 2009: North Korea ends its participation in the six-party talks, after its launch of a long-range rocket draws sanctions from the UN Security Council. North Korea declares it will reverse its 2007 commitments, and resume its nuclear programs.

May 25, 2009: North Korea conducts a second announced nuclear test.



During a May 25 press briefing in Seoul, a South Korean meteorological official displays charts that demonstrate the sudden spike in seismic activity at the time of North Korea’s nuclear test earlier that day.

September 24, 2009: The UN Security Council, meeting in a special summit-level session, unanimously approves Resolution 1887 on nuclear issues.

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