The spread of ever more sophisticated weaponry-including chemical, biological, and nuclear weapons-and of the missiles capable of carrying them represents a growing danger to international security. This proliferation exacerbates and fuels regional tensions and complicates U.S. defense, planning. It poses even greater dangers to U.S. Forces and facilities abroad, and possibly even the United States itself. So for it make kind of treaties like N.P.T. & C.T.B.T. etc.

What is the (NPT) Non-Proliferation Treaty?

The Treaty on the Non-Proliferation of Nuclear Weapons (known as the Non-Proliferation Treaty or NPT) is a cornerstone of global security. The NPT aims to prevent the spread of nuclear weapons to additional states while ensuring fair access to peaceful nuclear technology under international safeguards (audits and inspections). There are two categories of parties to the treaty—nuclear weapon states (NWS) and non-nuclear weapon states (NNWS). Under the treaty, NWS are defined as the five states that exploded a nuclear device before January 1, 1967 (United States, Soviet Union [now Russia], United Kingdom, France, and China).

The Non-Proliferation Treaty was signed in 1968 and came into force in 1970 as the centerpiece of the global non-proliferation regime that codified the international political norm of non-nuclear–weapons status.\(^1\) The NPT regime also includes a number of treaties restricting nuclear testing. The Partial Test Ban Treaty (1963) outlawed atmospheric, space, and underwater nuclear testing. The Threshold Test Ban Treaty (1974) outlawed underground tests of more than 150 kilotons yield. The elusive goal of a total ban on nuclear testing was seemingly

\(^{1}\) We use the term ‘regime’ to refer to norms, rules, procedures and behavior around which actor expectations – converge in the issue-area of non-proliferation even in the absence of formal international organization. The non-proliferation regime includes the norms of international nuclear behavior and the network of international treaties, institutions, export controls and nuclear trade agreements.
realized in 1996 with the endorsement by the UN General Assembly of the Comprehensive Test Ban Treaty (CTBT). But, in part due to the rigid entry-into-force provisions of the CTBT,² and in part due to changed administrations in Washington and the changed climate of arms control after “9/11”, the CTBT is unlikely to enter into force in the foreseeable future.

The NPT:

- Forbids the five member states with nuclear weapons from transferring them to any other state
- Forbids member states without nuclear weapons from developing or acquiring them
- Provides assurance through the application of international safeguards that peaceful nuclear energy in NNWS will not be diverted to nuclear weapons or other nuclear explosive devices
- Facilitates access to peaceful uses of nuclear energy for all NNWS under international safeguards
- Commits all member states to pursue good faith negotiations toward ending the nuclear arms race and achieving nuclear disarmament.

The NPT embodies the international community's efforts to prevent the further spread of nuclear weapons and its aspirations for global disarmament. It also facilitates cooperation in the peaceful uses of nuclear energy under International Atomic Energy Agency (IAEA) safeguards. For these reasons, the NPT is generally recognized as the foundation of the international nuclear nonproliferation regime.

The NPT took effect on March 5, 1970, after being opened for signature on July 1, 1968. The growth in the treaty's membership toward universality has been steady. Beginning with 43 original parties in 1970, membership increased to 96 in 1975, 132 in 1985, and 178 in 1995. By July 1998, 187 parties had joined the NPT. Cuba acceded to the treaty on November 4, 2002, thereby becoming the

² China joined the NPT regime in March 1992, followed by France in August, thereby bringing all five known NWS within the NPT fold. Thus if analogous clauses had been written into the NPT that treaty would never have entered into force.
188th party to the NPT. More countries have ratified the NPT than any other arms control or disarmament agreement in history. As of April 2004, only three states have not signed the treaty: India, Israel, and Pakistan. Democratic People’s Republic of Korea (DPRK, also known as North Korea) announced its withdrawal from the NPT on January 10, 2003, and its withdrawal came into effect on April 10, 2003.

**Why is the Treaty Important?**

The NPT is an indispensable legal and political instrument in preventing further proliferation of nuclear weapons. In the absence of the NPT, many other countries might well acquire nuclear weapons. Without the NPT safeguards requirements, monitoring and inspections of nuclear materials and facilities in non-nuclear weapon states would be significantly weakened. Moreover, the treaty set the stage for the negotiation of a comprehensive nuclear test ban by highlighting this measure in its preamble.

Israel, India, and Pakistan are known or believed to possess nuclear weapons today. Because they did not detonate a nuclear explosive device before January 1, 1967, however, they are not considered Nuclear Weapon States under the NPT. This means that if they were to join the treaty, they would have to do so as Non-Nuclear Weapon States, eliminate their nuclear arsenals, and accept comprehensive IAEA inspections on all of their nuclear activities. This was the path followed by South Africa, which possessed nuclear weapons from 1979 until 1991, when it joined the NPT. North Korea joined the treaty as a NNWS in 1985, but did not comply with the NPT’s requirement to place all of its nuclear material under comprehensive safeguards. North Korea withdrew from the treaty in 2003.

**How Does the Treaty Work?**

**Nuclear Weapon States (NWS)—(China, France, the Soviet Union [now Russia], the United Kingdom, and the United States):**

- may retain their nuclear arsenals;
- may not transfer nuclear weapons to anyone;
• may not assist any non-nuclear weapon states (NNWS) to acquire, manufacture or control nuclear weapons; and
• commit to pursuing negotiations in good faith towards ending the nuclear arms race and achieving nuclear disarmament.

Non-Nuclear Weapon States:

• must not build, acquire, or possess nuclear weapons;
• may research, produce, and use nuclear energy for peaceful purposes; and
• must accept safeguards (audits and intrusive on-site monitoring) on all of their nuclear activities and materials to verify they are not being used for nuclear weapons.

The NPT entails a careful balance of commitments between the nuclear weapon states that are party to the treaty and its other, non-nuclear weapon state members. Under the treaty, a country is defined as a nuclear weapon state if it had detonated a nuclear explosive before January 1, 1967, when the treaty was nearing completion. The NPT is a "bargain" between the nuclear "haves" and the nuclear "have-nots."

The nuclear weapon states under the treaty are China, France, the Russian Federation (as successor of the Soviet Union), the United Kingdom, and the United States. Under the NPT, the nuclear weapon states promise not to transfer nuclear weapons to any other state or assist any non-nuclear weapon state in acquiring, manufacturing or controlling nuclear weapons. Although they are permitted to retain their nuclear weapons, nuclear weapon states are also committed under the treaty to engage in negotiations on nuclear disarmament and on ending the nuclear arms race. The NPT is the only multilateral treaty that legally binds the five nations that had nuclear weapons in 1967 to pursue nuclear disarmament negotiations.

The NPT regime provides incentives and reassurances to states willing to renounce nuclear weapons. In exchange for the commitment to forego developing nuclear weapons, non-nuclear weapon states gain access to nuclear materials and technology for peaceful uses of nuclear energy under International Atomic
Energy Agency (IAEA) safeguards. The NPT commits the non-nuclear weapon states not to build, acquire, or possess nuclear weapons and to accept safeguards on all of their nuclear activities and materials to confirm that these are not being used for nuclear weapons.

IAEA safeguards serve as the verification mechanism for the NPT ensuring that NNWS are complying with their nonproliferation obligations. NNWS are required to conclude an agreement with the IAEA for the application of comprehensive or full-scope safeguards. Safeguards—accounting and auditing procedures, including on-site inspections—are to be applied to all nuclear materials in NNWS that could readily contribute to the development of nuclear weapons. Full-scope safeguards are designed to ensure timely detection should nuclear materials be diverted from peaceful purposes; however, they do not verify that a state has not acquired a nuclear weapon by other means even though that is one of the prohibitions under the treaty. These safeguard agreements are to enter into force not later than 18 months after the date of initiation of negotiations between the NNWS and the IAEA.

Over the years, the IAEA has broadened the scope of the materials and facilities that safeguards cover and strengthened safeguards techniques. In 1992, following revelations that Iraq had violated its safeguards obligations under the NPT by operating nuclear facilities that it had not declared to the IAEA, the IAEA Board of Governors reaffirmed the agency's authority to conduct "special inspections" of suspected undeclared sites in NPT non-nuclear weapon states. In 1997, the IAEA Board of Governors adopted a model protocol, which, when ratified by an NPT non-nuclear weapon state, will provide expanded inspection authority for the IAEA in that state. Known as the "Additional Protocol" (INFCIRC/540), it will give the IAEA increased access to all aspects of a non-nuclear weapon state's nuclear program, even where nuclear material is not involved; require more detailed information on that program; allow for use of improved verification technologies (such as environmental sampling); and require more extensive inspections at declared nuclear sites.

The NPT History
In practice, we face four nuclear choices: the status quo, proliferation, nuclear rearmament, or abolition.\(^3\) India’s, Pakistan’s and North Korea’s tests confirmed the folly of believing—in defiance of common sense, logic, and history—that a self-selecting group of five powers could indefinitely retain their monopoly on the world’s most destructive weaponry.

It is truly remarkable how those who worship at the altar of nuclear weapons threaten to excommunicate for heresy others wishing to join their sect. The first country to engage in nuclear breakout in 1998, India then deplored North Korea’s test in 2006 as a threat to regional peace and stability that highlighted the dangers of clandestine proliferation. Thus did India, quickly followed by Pakistan, join the ranks of the nuclear powers’ preaching nuclear abstinence for others while engaged in consenting deterrence themselves. Other members of the nuclear club condemned North Korea’s test as “brazen,” “grave,” “provocative,” and “intolerable.” That test and Iran’s ongoing defiance are symptoms, not the cause, of the NPT’s disrepair. Maybe it is time to return with some seriousness and urgency to the dream of a nuclear-weapon-free world.

In a major foreign policy speech at DePaul University in Chicago in October 2007, Democratic presidential hopeful Senator Barack Obama declared: “America seeks a world in which there are no nuclear weapons.” In this he followed in the footsteps of an eminent panel of former US secretaries of defence and state—George Shultz, William Perry, Henry Kissinger—and Senator Sam Nunn, former chairman of the Senate Armed Services Committee. They published an op-ed that electrified disarmament activists by calling on Washington to take the lead in the abolition of nuclear weapons.\(^4\) They did not dispute that nuclear weapons confer many national security benefits. Rather, they argued that these were subordinate to the threats posed to US security by the uncontrolled proliferation of such weapons. As startling as their conversion—on the road to Tehran rather than Damascus—was the newspaper in which it was published, the very bastion of US conservatism. They followed a year later by publishing a second article, also in the Wall Street Journal, noting the worldwide


positive response that their call had evoked. In particular, they highlighted the serious and substantive work that it had produced among a coalition of Americans aiming to marry the vision of a nuclear-weapon free world to a series of progressive steps to pull the world back from the nuclear precipice, such as reducing warhead numbers and limiting the role of nuclear weapons in security policy.5

Ironically, therefore, sections of the admittedly retired national security elite are coming round to embracing and championing the nuclear-weapons-free cause during a decade in which the formerly energized popular movement has been dormant. At the same time, such views are not universally shared. A group of retired NATO generals argued recently for an alliance “policy of deterrence by proactive denial” that includes both pre-emption and prevention. They put forward the concept of “interactive escalation” based on “escalation dominance” that can use “all instruments of soft and hard power, ranging from the diplomatic protest to nuclear weapons.” In their view, “nuclear weapons—and with them the option of first use—are indispensable... and nuclear escalation continues to remain an element of any modern strategy.”6

In this context, it is worth recalling three further pointers from post-1945 history that contrast starkly with received wisdom. First, the most spectacular Soviet territorial and political advances in Europe came during the period of American atomic monopoly. Second, the implosion, collapse, and disappearance of the Soviet Union occurred after the achievement of strategic parity with the United States. And third, the dramatic reductions in nuclear arsenals in the first half of the 1990s resulted from unilateral initiatives (reinforced by the power of positive reciprocity) by Mikhail Gorbachev and George H. W. Bush, not from verifiable agreements signed after protracted negotiations. They reflected and in

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5 Shultz, Perry, Kissinger and Nunn, “Toward a Nuclear-Free World,” Wall Street Journal, 15 January 2008. They were joined by Madeleine Albright, James Baker, Zbigniew Brzezinski, Frank Carlucci, Warren Christopher, Melvin Laird and Colin Powell as well as a number of scholars in a project housed at Stanford University’s Hoover Institute. The two factors different from their time in office that might explain their conversion to the abolitionist cause is the fear of terrorists acquiring nuclear weapons and the far bigger gap between the conventional capabilities of the United States and any other single power or coalition of states.

turn contributed to improved political trust and the dismantling of “the vast apparatus of ideological hostility that had been built up” over four decades.\footnote{David Cortright, “Overcoming Nuclear Dangers,” \textit{Policy Analysis Brief} (Muscatine, Iowa: Stanley Foundation, 2007), 10}

The NPT can fairly be judged to have been the most brilliant, half-successful, arms-control agreement in history. The number of countries to sign embraced virtually the entire family of nations. Yet at the same time, the nuclear arsenals of the N5 (of which France and China signed the NPT only much later) expanded enormously. The global total of nuclear warheads climbed steadily after 1945, peaked in the mid-1980s, fell dramatically for about a decade, and then stabilized in the new millennium.\footnote{The two parts of the story are told well in Richard Rhodes, \textit{Arsenals of Folly: The Making of the Nuclear Arms Race} (New York: Knopf, 2007), and Jonathan Schell, \textit{The Seventh Decade: The New Shape of Nuclear Danger} (New York: Metropolitan, 2007). See also Paul Lettow, \textit{Ronald Reagan and His Quest to Abolish Nuclear Weapons} (New York: Random House, 2005).} With four decades having elapsed since 1968, the N5 should surely be held guilty of violating their solemn obligation to disarm. This harsh judgment is reinforced by the 1996 advisory opinion of the World Court, made at the request of the General Assembly, that Article 6 requires them to engage in and bring to a conclusion negotiations for nuclear abolition\footnote{Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, July 8, 1996, ICJ Reports 1996.} (see Table 1).

Despite this history and background, a surprising number of arms control experts focus solely on non-proliferation to demand denial of technology and materiel to all who refuse to sign and abide by the NPT, and punishment of any who cross the threshold. The term “non-proliferation ayatollahs” could well be applied to them.

The Bush administration has justified new weapons and uses by shifting US nuclear posture from deterrence to use, redefining their mission from a nuclear stalemate with a superpower peer to waging and winning wars against countries that cannot fight back in kind. To paraphrase Donald Rumsfeld, apropos of coalitions, the existence, numbers and lethality of nuclear weapons will determine missions, not the other way round.\footnote{Quoted in \textit{Reader’s Digest}, May 2002. Discussing the idea of “floating coalitions,” Rumsfeld asserted that “we’ll end up with an awful lot more support if we let the mission determine the coalition than we would if we forced the coalition to determine the mission.”} It is not possible to convince others of the futility of nuclear weapons when the facts of continued possession and doctrines and threats of use prove their utility. Refining and miniaturizing
nuclear weapons, developing new doctrines and justifications for their use, and lowering the threshold of their use weaken the taboo against them and erode the normative barriers to nuclear proliferation.

The problem is not nuclear proliferation per se, but rather nuclear weapons themselves. They could not proliferate if they did not exist. Because they do exist, they will proliferate. The policy implication of this logic is that the best guarantee of nuclear non-proliferation is nuclear disarmament through a universal, nondiscriminatory, verifiable, and enforceable nuclear weapons convention that bans the possession, acquisition, deployment, testing, transfer and use of nuclear weapons. This would solve the problem of non-proliferation as well as disarmament.

The focus on the former to the detriment of the latter ensures that we get neither. If we truly seek non-proliferation, we should prepare for disarmament. How do we move from analysis and prescription to action and nuclear abolition? To begin with, some practical and concrete measures are long overdue: to start by bringing the CTBT into force, negotiating a verifiable fissile materials treaty, retrenching from launch-on-warning postures, and standing down nuclear forces. That is, reviving, implementing, and building on existing agreements for reducing the role, readiness, and numbers of nuclear weapons as well as introducing further degrees of separation between the possession and launch of nuclear weapons by modifying the doctrines and practices of deployment.

But these amount to tinkering with the present system, not moving forward with a bold and comprehensive vision. What we need are rules-based regimes that are based on the principles of reciprocity of obligations, participatory decision making, and independent verification procedures and compliance mechanisms. In the words of a former US deputy secretary of defense, “America is sleepwalking through history, armed with nuclear weapons. The Cold War left us with a massive inventory of weapons we no longer need, an infrastructure we can no longer use or maintain, and no thought of where our future lies.” The three policy imperatives are to encourage the reduction of nuclear inventories among the NWS, strengthen controls over nuclear stockpiles

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and material among them and minimize the attraction of the nuclear option to those who do not have these weapons.

The NPT is the result of a long line of negotiations among various states concerned with the use of nuclear technology for both peaceful and destructive purposes. With the nuclear bombing of Hiroshima and Nagasaki in mind and risks of the spread of nuclear weapon technology growing, the international community sought ways to prevent any future use or acquisition of such destructive weapons.

In 1946, the UN General Assembly established the UN Atomic Energy Commission to deal with the problems raised by the discovery of nuclear energy. Due to disagreements between the United States and the Soviet Union, this commission was unsuccessful in drafting a nonproliferation treaty.

Later that year, the United States proposed the Baruch Plan, named after U.S. diplomat Bernard Baruch. According to this plan, the United States would give up its nuclear weapon program after all other states had ceded their nuclear materials to international control. The Soviet Union opposed the plan and wanted the United States to turn over its nuclear weapons before other countries gave up their nuclear materials. These differences could not be resolved. The Soviet Union tested its first nuclear weapon in 1949, and by 1950, both the Soviet Union and the United States were engaged in a nuclear arms race. In 1952, the United Kingdom tested nuclear weapons for the first time.

In the 1950s, several programs were launched to develop peaceful nuclear projects and guard against nuclear weapons proliferation. In 1953, U.S. President Dwight Eisenhower established the "Atoms for Peace" program through which the United States concluded nuclear cooperation agreements with 40 friendly countries between 1956 and 1959. As a result, 26 states, that accepted U.S. safeguards on U.S.-origin nuclear materials and equipment against military use of nuclear technology were provided with research reactors, nuclear training, and reactor fuel (fissionable material). The Soviet Union developed a similar program during this period to provide peaceful nuclear technology to the nations in its
orbit. Meanwhile, in Western Europe, EURATOM was established in 1958 to facilitate peaceful nuclear development within the European Community.

The establishment of the International Atomic Energy Agency (IAEA) in 1957 provided the institutional foundation for promoting the peaceful uses of nuclear energy and for the application of safeguards by an international organization to ensure that nuclear assistance was not being used to serve any military purpose. Inspections implemented by the United States and the Soviet Union for their own nuclear were taken over by the IAEA during the 1960s. The IAEA published its first set of uniform safeguards standards in 1961 (INFCIRC/26). Further refinements were devised and safeguards were extended to a broader range of nuclear activities through subsequent safeguards documents, promulgated in 1964 and 1967 (INFCIRC/66/Rev.2). The IAEA would later become the institution that verifies the NPT commitments of the NNWS.

The idea of creating a nonproliferation treaty acquired greater urgency in February 1960, when the first French nuclear weapon test was carried out in Algeria. This test raised fears of other countries following suit. At that time, several countries were actively researching nuclear technologies, including among others, Germany, Israel, India, Italy, Japan, Sweden, and Switzerland. A driving force behind a nonproliferation treaty was the superpowers' shared interest in ensuring that West Germany, as well as other advanced industrial countries, would not develop nuclear weapons.

While the IAEA was still evolving, between 1958 and 1961, proposals at the United Nations supported the negotiation of a treaty that would prevent the further spread of nuclear weapons. These efforts culminated in the 1961 adoption (by the UN General Assembly) of a resolution sponsored by Ireland, "Prevention of the Wider Dissemination of Nuclear Weapons." It called for measures to prevent the spread of nuclear weapon technology to additional states and for all countries to desist from acquiring or transferring nuclear weapons. The impetus provided by the "Irish Resolution" led the way for the negotiation of the NPT. This resolution focused only on stopping nuclear proliferation without explicitly tying it to stopping the nuclear arms race between the United States and the Soviet Union.
The Cuban Missile Crisis of October 1962 brought the United States and the Soviet Union to the brink of a nuclear war. This crisis, as well as international pressure to halt atmospheric nuclear testing resulted in a Partial Test Ban Treaty (PTBT) negotiated by the United States, United Kingdom, and the USSR. But just two years later, in October 1964, China conducted its first nuclear test, and this event renewed international interest in devising a multinational treaty to prevent further nuclear weapon proliferation.

The Cold War between the United States and Soviet Union underscored the real possibility of nuclear war. At the same time, most of the industrially advanced NNWS formed alliance relationships giving them the benefit of a nuclearumbrella either through the U.S.-led North Atlantic Treaty Organization (NATO) or the Soviet-led Warsaw Treaty Organization (Warsaw Pact). These alliances offered an alternative to the national development of nuclear weapons, by providing nuclear defense guarantees respectively by the United States and the Soviet Union. Both superpowers deployed large numbers of nuclear weapons and delivery systems on the territories of their respective NNWS allies. Unlike the Soviet program, under which these weapons remained under the exclusive control of the USSR, several NATO NNWS, under the aegis of NATO's Nuclear Planning Group, engaged in military exercises that would allow them to deliver U.S. nuclear weapons in time of war, although the United States maintained control over the weapons in peacetime. This aspect of NATO's nuclear doctrine and planning remains controversial to this day. Some argue that the doctrine, which continued after the creation of the NPT, is contrary to Articles I and II of that treaty, which prohibit the transfer of control over nuclear weapons to any NNWS. Others contend that the exercises were training programs only and control over U.S. nuclear weapons was, in fact, never transferred to an NNWS.

Negotiating the Treaty

The pre-negotiation phase was characterized by the following discussions, which occurred simultaneously:
bilateral negotiations between the United States and the Soviet Union;
• multilateral negotiations on a draft text of the NPT in the Geneva-based Eighteen-Nation Disarmament Committee (ENDC); and
• discussions between the United States and its NATO NNWS allies focusing on the continuation of collective defense under the U.S. nuclear umbrella.

UN General Assembly Resolution 2028, adopted in 1965, provided the conceptual basis for the NPT. The resolution outlined five governing principles:

1. both the NWS and NNWS must be obligated not to engage in nuclear weapon proliferation;
2. there should be an appropriate balance between the obligations undertaken by the NWS and the NNWS;
3. the treaty should constitute a step toward nuclear disarmament, as well as toward general and complete disarmament;
4. there should be practical provisions to ensure the treaty's effectiveness; and
5. the establishment of nuclear-weapon-free zones (NWFZs) should not be curtailed in any way under the treaty.

In 1965, the United States and the USSR each submitted drafts of a nonproliferation treaty to the ENDC and the UN General Assembly, respectively. During early negotiations, the United States made plans for a Multilateral Nuclear Force (MLF) under NATO auspices, consisting of nuclear-armed naval vessels under a multinational NATO military command. The MLF was meant to reassure its NATO allies of the credibility of U.S. nuclear guarantees. The Soviet Union reacted with alarm to such a proposal as it was irrevocably opposed to any possibility of West Germany gaining access to nuclear weapons. In response to unyielding Soviet opposition and the impracticality of the plan, in 1967 the United States gave up plans for a MLF.

The bilateral delegations were eventually able to break deadlock on verification and safeguards. U.S. and Soviet negotiators George Bunn and Roland Timerbaev had gotten to know each other during walks in the mountains outside
of Geneva. They came to an agreement that they thought would be acceptable to
their governments and allies, and each reported to his respective capital that the
draft text had been proposed by the other side. After some minor revisions, the
language that would become Article III of the NPT was approved and eventually
presented to the ENDC.

Negotiations in the ENDC took place among three political blocs:
Western (NATO), Eastern (Warsaw Pact), and non-aligned. The non-aligned
states sought to condition their nonproliferation commitments on progress by the
NWS towards disarmament. In 1967, Mexico proposed language that would
eventually form the basis for Article VI of the NPT. It was further suggested that
the treaty be of limited duration with a regular mechanism to review compliance,
whereas the United States and the USSR preferred a treaty of unlimited duration.

After much debate and intensive negotiations on collective security
arrangements and balanced obligations, the United States and Soviet Union
submitted a revised version of the NPT to the ENDC in 1968. Upon entry into
force, the treaty would allow for review conferences every five years and require
a conference after twenty-five years to decide whether or not to extend the treaty.
On June 12, 1968, the UN General Assembly approved Resolution 2372, which
endorsed the treaty and requested the depositary governments (United States,
United Kingdom, and Soviet Union) to open it for signature. The depositary
states were charged with accepting the instruments or documents of ratification
for accession to a treaty and notifying all other states party to the treaty of any
new ratification. Sixty-two states, including the three depositary states, signed the
treaty that day.

To address concerns of the NNWS, the U.S., U.K., and USSR submitted
positive security assurances stating that nuclear aggression or threats against any
NNWS member of the NPT would require immediate action by the UN Security
Council. They were incorporated into UN Security Council Resolution 255, on
June 19, 1968. Negative security assurances were also given by the NWS to NPT
member NNWS and members of nuclear-weapon-free zones. According to these
assurances, each NWS undertook not to threaten to use, or to use nuclear
weapons against such NNWS provided that these states were not allied with or
acting in concern with another NWS in launching an attack. In 1995, these assurances were reaffirmed through UN Security Council Resolution 984.

The NPT entered into force on March 5, 1970, after the three depositaries and 40 additional states had ratified it. France and China did not sign the NPT in 1968, but France pledged to behave as if it were a member. Eventually, in 1992, both China and France joined the treaty.

**Current Challenges**

Today the NPT faces unprecedented challenges in its nearly 40-year history, as new proliferation threats augment long-standing concerns. Following the successful outcome of the 2000 Review Conference, very little progress was made during the review process for the 2005 Conference. The 2005 Review Conference failed to agree on any substantive issues in its final document. The states parties have become increasingly unable to cope with differences both in how they perceive security challenges and on what constitutes full compliance with the treaty.

Despite the fact that the NPT has more parties than any other arms control or disarmament agreement, there are continuing concerns regarding the three states that have not signed the treaty-India, Israel, and Pakistan-and the one state that withdrew from the treaty-North Korea-which conducted underground nuclear tests in October 2006 and May 2009.

In addition, many believe that Iran's nuclear program indicates its intent to develop a nuclear weapons capability. As a result, further restrictions on access to nuclear technology for peaceful uses may be sought at the expense of states that remain in good standing with their NPT obligations. Others argue that the 2008 decision by members of the Nuclear Suppliers Group (NSG) to exempt India from NSG guidelines undermines the grand bargain of the treaty, thus making serious attempts to strengthen controls infeasible. Divisions between the NWS and NNWS have also widened. NNWS believe that NWS are not fulfilling their legal obligations under Article VI to pursue negotiations in good faith on effective measures related to disarmament. These obligations were enshrined in
the agreements reached at the 1995 and 2000 Review Conferences-agreements which were largely disregarded by some NWS in the 2005 review cycle.

The international environment surrounding nuclear nonproliferation and disarmament has notably improved since the start of the Obama administration in 2009, and gained momentum after his groundbreaking speech in Prague in April 2009. Against this new backdrop, the 2010 Review Conference was successful in agreeing on the substantive final document by consensus due to major states parties’ political will and flexibility to produce a constructive outcome. Yet, the real challenge is how to make tangible progress on the agreed commitments toward the next Review Conference and beyond. In order to implement those commitments, all the states parties must show strong political will to achieve full implementation of all objectives of the NPT.

Treaties already negotiated and signed could unravel through non-ratification or breakouts. The testing of nuclear weapons could be resumed. The lengthening list of proliferation-sensitive concerns include North Korea’s nuclear weapons capability and its nuclear test of 2006;13 worries expressed by the International Atomic Energy Agency (IAEA) about Iran’s nuclear program;14 reports that Saudi Arabia may be contemplating an off-the-shelf purchase of nuclear weapons;15 reports of misdeeds by South Korea,16 Taiwan,17 and Egypt;18 apprehensions of a new uranium enrichment plant that would give Brazil a

nuclear breakout capability;\textsuperscript{19} disappointment at the under-funding of the Nunn-Lugar Cooperative Threat Reduction program; dismay at Russia’s retreat, beginning in the 1990s, from its historical commitment to a no-first-use policy; anxieties about the 27,000 nuclear warheads with a total yield of 5,000 megatons held by the five nuclear powers (with Russia and the United States accounting for more than 26,000); fears that Washington is lowering the threshold of normative barriers to the use of a new generation of nuclear weapons; evidence of an extensive multinational nuclear black market that demonstrated the inadequacy of the existing export controls system; and the prospect of terrorists’ acquiring nuclear weapons. Pakistan is often dubbed the most dangerous place on earth because of the lethal nexus of an unstable military dictatorship, Islamist groups bitterly hostile to the West, terrorists, and nuclear weapons.\textsuperscript{20}

Washington announced its commitment to negotiate a legally binding fissile material cut-off treaty but without verification provisions. Space talks remain blocked. The Six Party Talks make but fitful progress in keeping North Korea from establishing a fully functioning nuclear weapons program. Iran sends conflicting messages on compliance with NPT commitments and its pursuit of a nuclear energy program for peaceful purposes. For four decades, the world has lived with five, then eight and now nine nuclear powers. Can we live with a tenth, if that be Iran? Can we live with a tenth if it increases the likelihood of an eleventh, twelfth, or more?

The disquieting trend of a widening circle of NPT-licit and extra-NPT nuclear weapons powers in turn has a self-generating effect in drawing other countries into the game of nuclear brinkmanship. Concerns persist about the potential leakage of “loose nukes” from Russia to terrorists. Worst-case scenarios see terrorists using nuclear or radiological weapons to kill hundreds of thousands

\textsuperscript{20} A tongue-very-firmly-in-cheek press conference by a Pakistani military spokesman pointed to: US command and control being lax relative to Pakistan, the history of nuclear accidents in the United States, the record of US proliferation to allies Britain and France, a commander-in-chief who confessed to having been an alcoholic, and the fundamentalism and religious fervor of the American people and administration. See Hugh Gusterson, “A Pakistani View of U.S. Nuclear Weapons,” \textit{Bulletin of the Atomic Scientists}, 5 February 2008 (The Bulletin Online, www.thebulletin.org/columns/hugh-gusterson/20080205.html). The Pakistani general even offered technical advice and assistance to the US to improve its nuclear weapons handling procedures, to which Pentagon officials responded stiffly that the US role was to give, not receive, advice on nuclear weapons safety and security issues.
of people. As far as we know, however, no terrorist group has the competence to build nuclear weapons. Nor is there any firm evidence to suggest that nuclear weapons have been transferred to terrorist organizations. The only good news stories are that Libya walked away from that path in December 2003,\(^{21}\) Iraq does not have such weapons, and North Korea shut down its plutonium production in July 2007 under international inspection and destroyed the cooling tower at its nuclear weapons plant in June 2008.\(^{22}\)

The global governance mechanisms for non-proliferation and disarmament are in a sorry state. The Conference on Disarmament has been immobilized, unable even to agree on an agenda for a decade. In a speech in January 2008, Secretary-General Ban Ki-moon could only declare helplessly that he was “deeply troubled” by its “impasse over priorities” and warned that it was “in danger of losing its way.”\(^{23}\) The World Summit in 2005 failed to agree on a single sentence on the hot and essential subject. Reliance on the Security Council as the forum of choice for enforcing compliance is deeply problematical for three reasons. China, France Russia, the United Kingdom and the United States, the council’s five permanent members (P-5), are the five NPT-licit nuclear powers (N5); the council is severely unrepresentative and unaccountable; and the P-5/N5 have been among the most arms-exporting and war-prone countries since 1945.

\(^{21}\) The Bush administration was quick to claim the Libyan renunciation of the nuclear option as a tangible success of its Iraq war policy. It is just as plausible to link the Libyan decision to domestic political compulsions, the adverse impact of the international sanctions imposed on it in the 1980s, and the trend line for a negotiated end to the stalemate visible since the Clinton administration. See Thomas E. McNamara, “Why Qaddafi Turned His Back on Terror,” International Herald Tribune, 5 May 2004; Flynt Leverett, “Why Libya Gave Up the Bomb,” New York Times, 23 January 2004; Geoff D. Porter, “The Faulty Premise of Pre-emption,” New York Times, 31 July 2004; and Thomas E. McNamara, “Unilateral and Multilateral Strategies against State Sponsors of Terror: A Case Study of Libya 1979–2003,” in Uniting Against Terror: Cooperative Nonmilitary Responses to the Global Terrorist Threat, ed. David Cortright and George A. Lopez (Cambridge, Mass: MIT Press, 2007). Many Arabs believe that as a result of the difficult insurgency in Iraq after the war, it is Washington that became more receptive to long-standing Libyan overtures and signals for an end to the confrontation. Thus both versions agree on the war being the deal maker, but for opposite reasons. In truth, the Libyan case is a good example of an integrated strategy of diplomacy, economic engagement, and security assurances. The crisis with North Korea was exacerbated by the Bush administration’s abandonment of just such a strategy that had been followed by the Clinton administration.

\(^{22}\) Having said that, on 19 September 2008 North Korea said it had stopped disabling the Yongbyon nuclear reactor and was making “thorough preparations” to restart it. Foreign ministry official Hyun Hak-bong said that Pyongyang had suspended work to put the plant out of action because the US had not fulfilled its part of a disarmament-for-aid deal. http://news.bbc.co.uk/2/hi/asia-pacific/7624601.stm, downloaded on 29 September 2008.

The normative barriers to the acquisition and use of nuclear weapons appear lowered. While consciousness of the risks of nuclear weapons falling into the hands of terrorists, militant fanatics, and other nonstate groups has grown enormously, the collective memories of the horrors of Hiroshima and Nagasaki have begun to fade beyond Japan (where the memory remains intensely painful and powerful). In January 2007, the doomsday clock of the Bulletin of Atomic Scientists was set at 11.55—the closest to doomsday since the end of the Cold War—where it remains today.

The rising anxieties about nuclear weapons are rooted in two major and parallel developments: the so-called renaissance of nuclear power and a resurgence of old-fashioned national security threats that supposedly had ebbed with the end of the Cold War. Between them, they highlight how all three legs of the NPT stool—nuclear power for civilian use, nuclear non-proliferation, and nuclear disarmament—are straining the regime, perhaps close to the breaking point. The widening circle of NPT-licit, extra-NPT, and NPT-noncompliant nuclear weapons powers indicates the extent to which the contradictions and tensions inherent to the NPT have ripened and the regime’s weaknesses have become increasingly apparent. When the regime’s many weaknesses and anomalies are factored in, we begin to understand why its fabric seems so frayed. Can it be repaired and continue to form the centerpiece of global nuclear arms control policy? Or would it be better to abandon the NPT and look to a new nuclear weapons convention as the chief cure for the world’s nuclear ailment?

Issues of the treaty's three pillars:

1. Nuclear Disarmament; Disarmament Project
2. Nonproliferation:
   - Nonproliferation/Compliance
   - Safeguards
   - Export Controls
3. Peaceful uses of Nuclear Energy

Other relevant issues:

- Security Assurances
- Nuclear-Weapon-Free Zones; NWFZ tutorial
- 1995 Resolution on the Middle East
- Universality
- Withdrawal
- Nuclear Security

NPT Outliers and Countries of Concern:

- India
- Pakistan
- Israel
- North Korea
- Iran

Nuclear Disarmament

All states parties to the NPT, in particular the nuclear weapon states (NWS), have a legal obligation in accordance with Article VI of the treaty to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and towards nuclear disarmament. In addition, the NWS agreed at the 1995 Review and Extension Conference to undertake "systematic and progressive efforts to reduce nuclear weapons globally" (program of action in the "Principles and Objectives for Nuclear Non-proliferation and Disarmament") as part of the package to extend the treaty indefinitely. At the 2000 NPT Review Conference, states parties adopted by consensus a final document including "Thirteen Practical Steps" for systematic and progressive efforts to implement nuclear disarmament to which all states parties are committed under Article VI. The final document calls for an unequivocal undertaking by the NWS to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament. However, since the 2000 Review Conference, very little progress has been made to implement these 13 practical steps. Under the Bush administration, the policies of the United States, in particular, have been a significant setback to the disarmament agenda. The United States turned away from a number of elements of the decisions reached at
A renewed enthusiasm for nuclear disarmament has emerged in recent years. Advocates received a huge boost in 2007 when a bipartisan quartet of senior U.S. statesmen with significant national security credentials published an op-ed, and their follow-up in January 2008, in the *Wall Street Journal* calling for a world free of nuclear weapons.

This created political space for serious discussions about the desirability and feasibility of nuclear disarmament. A number of leaders from around the world have offered their support for this goal. Most importantly, the change of the U.S. administration has brought significant momentum to nuclear disarmament. President Obama reaffirmed America's commitment to seek a world without nuclear weapons in his April 5, 2009 speech in Prague. Four days earlier, the U.S. President and Russian President Dmitry Medvedev, representing the two states possessing 95% of the world's nuclear weapons, jointly expressed their commitment to "achieving a nuclear free world." With this commitment in mind, at the summit on July 6-7, the United States and Russia agreed to negotiate a new comprehensive legally binding agreement on reducing the number of the two countries' nuclear arsenals to replace the START treaty. However, their original goal to finalize the negotiations before the START expired on December 5, 2009 was not accomplished. Despite the delays, progress in the negotiations has brought the two sides close to the conclusion of the new treaty according to governmental officials. However, even if the new treaty is concluded soon, the prospect of ratification before the NPT Review Conference in May is bleak. Another important issue is President Obama's pledge to work on CTBT ratification. For the first time in almost 10 years, the United States participated in the CTBTO Article XIV Conference sending Secretary of State Hillary Clinton. However, the ratification will also encounter serious obstacles given the political environment of the U.S. Congress. In addition, of the 44 states for which ratification is required for the CTBT's entry into force, eight states have yet to
ratify it, including China. India, Pakistan, and the DPRK have not yet signed the treaty.

While NNWS welcomed recent initiatives in nuclear disarmament by the world's largest two nuclear weapon states, NNWS are eager to see more concrete actions towards the implementation of prior NPT disarmament promises. At the 2009 NPT PrepCom, Indonesia, representing the Non-Aligned Movement, expressed this sentiment, saying that "while we note the recent statements by NWS of their intention to pursue actions in achieving a world free of nuclear weapons, we reaffirm the need for urgent actions by the NWS to achieve these goals. These actions are needed to bolster the 13 practical steps in the field of nuclear disarmament."

During the previous administration, the United States succeeded in excluding any reference to the 1995 and 2000 commitments in the agenda of the ultimately failed review conference in 2005. However in 2009, the United States for the first time accepted reference to these commitments as part of the 2010 agenda but noted that "many years have passed since those decisions were taken [and] we must be mindful of how much global circumstances have changed." While the United Kingdom and the Russian Federation seem to be on board with the new U.S. positions, France is considered as being more intransigent in terms of new progress in disarmament discussions within the NPT context.

Nonproliferation/Non-Compliance

One of the most serious challenges facing the NPT is non-compliance with the Treaty's core of nonproliferation obligations by states parties seeking to develop nuclear weapons clandestinely.

The most notable is North Korea's nuclear weapons development. It withdrew from the NPT in 2003 and tested its nuclear devices in October 2006 and May 2009. Iran continues to enrich uranium in spite of UN Security Council Resolutions condemning its actions. Iran's opaque intentions and continued refusal to fully comply with International Atomic Energy Agency (IAEA) and UN Security Council resolutions have led many to believe that Iran may soon be able to develop nuclear weapons.
Many states, particularly in the Western group, have expressed concerns that noncompliance with the treaty's provisions erodes confidence and potentially undermines nonproliferation, disarmament, universality, and peaceful uses of nuclear energy. Finding a way to address compliance issues has been a major challenge during the 2005 and 2010 review cycles. States like Iran, Syria, Libya, and Egypt have been unwilling to accept any language in final documents or chairmen's summaries condemning their activities, which has led to diplomatic impasse on several occasions.

The 2008 preparatory committee chairman's working paper (link to the chair's WP) called on all states to bring about diplomatic solutions to concerns about compliance and strengthen confidence among all States parties. UN Security Council Resolution 1887 (2009) noted that "enjoyment of the benefits of the NPT by a State Party can be assured only by its compliance with the obligations there under." Although this resolution did not mention Iran by name, it specifically reaffirmed the sanctions resolutions relating to the illicit nuclear activities of Iran and North Korea.

IAEA Safeguards

Since the establishment of the International Atomic Energy Agency (IAEA), the IAEA safeguards system has played a key role in nuclear nonproliferation and the peaceful use of nuclear energy. Under NPT provisions, all non-nuclear weapon states are obliged to conclude a comprehensive safeguards agreement with the IAEA. Without a comprehensive safeguards agreement in force, the IAEA cannot give credible assurances that no nuclear material is being diverted for use in nuclear weapons or nuclear explosive devices. In a comprehensive safeguards agreement, countries "declare" all their nuclear facilities and materials. The IAEA then uses the declaration as a kind of nuclear inventory checklist for that country, verifying its correctness through inspections, measurements, and surveillance.

However, the discovery of Iraq's clandestine nuclear weapon program after the 1991 Gulf War demonstrated that IAEA verification focusing only on declared nuclear material and activities was not sufficient. Moreover, since 1993,
the IAEA has been unable to implement its comprehensive safeguards agreement with North Korea. The events during the 1980s and early 1990s in both Iraq and North Korea proved that a more effective verification system is essential to detect a clandestine nuclear weapons program and build confidence that states are in compliance with nonproliferation obligations. In addition to concerns over Iraq and North Korea, discoveries of undeclared nuclear activities Iran and the disclosure of Libya's undeclared nuclear activities underlined the need to strengthen the safeguards system. The safeguards paradigm shifted from verifying the "correctness" of a country's declaration to verifying that it was both "correct" and "complete."

Strengthening the IAEA verification system is one of the most urgent challenges for the IAEA and the NPT. The IAEA must be able to provide credible assurances not only about declared nuclear material in a state but also about the undeclared nuclear material and activities. In order to enable the IAEA to make this conclusion, NPT state parties need to have both a comprehensive safeguards agreement and an Additional Protocol in force. The Additional Protocol is a voluntary additional agreement between an NPT state party and the IAEA to provide a comprehensive picture of a country's nuclear and nuclear-related activities, including nuclear-related imports and exports. With the agreement in place, the IAEA will have access to any place on a nuclear site and to other locations in a country where nuclear material is, or may be present. A country with this agreement in place is also required to provide access to all locations that are, or could be, engaged in activities related to the nuclear fuel cycle and, in cases where such access may not be possible, to make every reasonable effort to provide access without delay. As of December 2009, 94 of the agency's 151 member states have Additional Protocols that have entered into force. Moreover, some thirty NPT parties have yet to fulfill even their basic Article III requirement of concluding a comprehensive safeguards agreement with the IAEA.

During review cycles of both 2005 and 2010 Review Conferences, the importance of achieving universal adherence to the Additional Protocol by all NNWS party to the NPT, particularly those states with sensitive nuclear
technology, was emphasized. Many states parties, mainly western group countries, called for IAEA Additional Protocols to be adopted as the safeguard standard for the NPT.

Export Controls

Nuclear export controls are laws, regulations, or treaties designed to restrict the transfer between countries of sensitive nuclear materials and technology. Such controls are vital for nonproliferation because most countries would require some level of foreign assistance to develop nuclear weapons or missiles. The political challenge with any type of export control lies in the fact that a substantial amount of sensitive technology is dual-use, meaning that it could help a nuclear weapons program but could also be legitimately used for peaceful purposes. This is particularly true of fuel cycle technology such as equipment for enrichment and reprocessing. Non-nuclear weapons states are very reluctant to support any system restricting technology that could potentially be useful for economic development.

Both multilateral regimes and national export control systems play an important role in controlling the spread of nuclear weapons. UN Security Council Resolution 1540 (2004) requires all states to establish domestic export controls to prevent the proliferation of materials and technology that could be used for nuclear, chemical, and biological weapons as well as their delivery vehicles. The Zangger Committee and the Nuclear Suppliers Group provide assistance to countries in setting up and implementing national nuclear-related export control mechanisms. Complementary international activities, such as the Proliferation Security Initiative (PSI), seek to work within the limits of national and international laws to strengthen existing export control measures and nonproliferation treaties.

A number of proposals for strengthening export controls have been mooted during the NPT review process by the Western Group. Some countries have proposed that having an IAEA additional protocol in force be a condition of supply for nuclear technology. Some states have also urged that if a recipient state or be found in non-compliance with its safeguards agreement, the supplier
state would have a right to acquire and return the nuclear material and equipment or any nuclear material produced by it.

**Peaceful Use of Nuclear Energy**

Iran's suspected covert nuclear weapons program, the revelation of Libya's clandestine nuclear weapon development program, and the emergence of global clandestine supply networks (such as that headed by the Pakistani scientist A.Q. Khan) have refocused IAEA safeguards activities on controlling nuclear fuel cycle technologies. In 2003, then-IAEA Director-General Mohamed ElBaradei advocated a multilateral approach based on improved control over nuclear technology, operational transparency, and nuclear fuel supply assurances for civilian use to those countries that have decided not to acquire enrichment and reprocessing plants needed to have the complete nuclear fuel cycle.

In June 2004, ElBaradei commissioned an international Expert Group including representatives from 26 countries to examine the nuclear fuel cycle and multinational approaches. The group released its report on Multilateral Approaches to the Nuclear Fuel Cycle in February 2005. The report outlines five approaches to strengthen controls over fuel enrichment, reprocessing, spent fuel repositories, and spent fuel storage. At the 2005 NPT Review Conference, while most of the states parties recognized the importance of preventing further proliferation of nuclear weapons, many states parties, particularly developing countries, were concerned that any additional restrictions on access to the civilian nuclear fuel cycle would contradict the provisions of Article IV. Some of these states argued that proposals to internationalize nuclear fuel cycles may further enhance the discriminatory nature of the NPT and cement the technological dominance of the NWS over the NNWS.

In recent years, a number of states as well as NGOs and private sector entities have crafted various fuel assurance proposals. No less than 12 different options are being seriously examined, but at some point, a diverse coalition of states will have to rally around one proposal or some sort of compromise if there is any hope of gaining consensus on the initiative in 2010. Such a multilateral nuclear fuel regime would be an important step towards placing all fuel cycle
facilities under international control, and it would remove a principal motivation for states to pursue indigenous enrichment and reprocessing. This in turn would give a clearer indication of the intention of States that do choose to pursue such capabilities.

Security Assurances

The issue of security assurances against the use or threat of use of nuclear weapons has been debated since the outset of the NPT negotiations in the early 1960s.

There are two kinds of security assurances: positive security assurances and negative security assurances. Positive security assurances were adopted at the UN Security Council as Resolution 255 in 1968. This resolution recognized that the Security Council "would have to act immediately to provide assistance, in accordance with their obligations under the United Nations Charter," to a state victim of an act of nuclear weapons aggression or object of a threat of such aggression. Although this commitment was welcomed by the NNWS, the non-aligned states expressed the need during the negotiations of the NPT for a legally binding commitment by the nuclear weapon states (NWS) not to use nuclear weapons against NNWS, namely, "negative security assurances." The Soviet Union, United Kingdom, and United States, however, took the position that the matter should be pursued "in the context of action relating to the United Nations, outside the treaty itself but in close conjunction with it." Action taken “outside” the NPT has come to mean, resolutions by the UN Security Council and protocols annexed to NWFZ treaties. The desire by the NNWS not to be threatened by nuclear weapons did, however, lead to the inclusion of a disarmament component in the treaty, namely Article VI.

All NWS have made several formal pledges in the past not to threaten to use, or use nuclear weapons against NNWS parties to the NPT, with certain qualifications. The United States, for example, has reserved the right to use nuclear weapons against an NPT NNWS if that state attacks the United States or its allies in concern with or in alliance with a NWS. Despite the language in the
negative security assurances, the U.S. government has never declared no-first use of nuclear weapons in response to biological or chemical weapon attacks.

The issue of security assurances received attentions when the Bush Administration more explicitly expressed the potential use of nuclear weapons against NNWS in its updated U.S. security doctrine. The Bush administration's strategies to maintain the use of nuclear weapons as a retaliatory measure in the case of a WMD attack against the United States are described in official strategy documents such as The National Security Strategy (September 2002) and the National Strategy to Combat Weapons of Mass Destruction (December 2002).

UN Security Council Resolution 984, adopted in 1995, formally acknowledged the commitments of the NWS to negative security assurances, but did not address the need by NNWS for legally binding assurances.

At both the 1995 and 2000 NPT Review Conferences, the importance of security assurances was emphasized. Although a Final Document was not adopted at the 1995 NPT Review and Extension Conference, in the "Principles and Objectives for Nuclear Nonproliferation and Disarmament," the Conference adopted language on negative security assurances, stating, "further steps should be considered to assure non-nuclear weapon States parties 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."

The 2000 Review Conference mandated the Preparatory Committee to make recommendations to the Review Conference on negative security assurances. At the 2002 Prep Com, many NPT parties stressed that efforts to conclude a universal, unconditional, and legally binding instrument on security assurances to NNWS should be pursued as a matter of priority. The Chairman's summary at the 2003 Prep Com also proposed that negative security assurances could take the form of an agreement or protocols to the treaty, without prejudice to the legally binding security assurances already given by the five NWS in the framework of the treaties regarding nuclear-weapon-free zones (NWFZs). At the 2004 Prep Com many NNWS, especially the Non-Aligned Movement countries, reiterated that they placed a high priority on negative security assurances and
called for specific recommendations on “legally binding security assurances by the five nuclear-weapon-states” to the 2005 Rev Con. China was the only NWS to support this call. The United States—together with the other NWS—strongly opposed these efforts to expand negative security assurances to encompass global-legally binding assurances.

Although the third session of the Prep Com for the 2010 Review Conference failed to agree on a set of recommendations, the draft recommendations called for NWS to make legally binding negative security assurances.

**Nuclear-Weapons-Free Zones (NWFZs)**

Article VII of the NPT assures the right of states to establish specified zones free of nuclear weapons. The role of nuclear-weapon-free zones (NWFZs) in strengthening the security of the states that belong to such zones was recognized when the NPT was drafted. Members of NWFZ treaties are required to conclude safeguards agreements with the IAEA. To date, the Treaty of Tlatelolco in Latin America and the Caribbean, the Treaty of Rarotonga in the South Pacific, the Treaty of Bangkok in Southeast Asia, the Treaty of Pelindaba in Africa, and the Central Asia Nuclear Weapon Free Zone (CANWFZ) Treaty have established regional NWFZs. All five treaties have entered into force. In addition to these NWFZ treaties, other agreements, including the Antarctic Treaty, the Outer Space Treaty, the Moon Agreement and the Seabed Treaty denuclearize and demilitarize specific areas of the globe, as well as outer space. (Mongolia also declares itself, and is internationally recognized, as a single-state nuclear-weapon-free zone.)

NWFZs are tightly intertwined with the issue of negative security assurances. Nuclear weapon states (NWS) that have ratified the relevant protocols to NWFZ treaties undertake legally binding commitments to respect the status of these zones and not to use or threaten to use nuclear weapons against states parties to such treaties. At this stage, only the states parties to the Treaty of Tlatelolco enjoy legally binding negative security assurances from all the NWS, because all the NWS have ratified the relevant protocol to this treaty.
None of the NWS has signed the protocol to the Bangkok Treaty because they object to the inclusion of continental shelves and exclusive economic zones (EEZ) in the zone. They also argue that the terms of the treaty impinge on freedom of transit in the zone, which they contend is inconsistent with the UN Convention on the Law of the Sea. In addition, the NWS assert that the continental shelves and EEZ are not clearly defined in the South China Sea, creating ambiguity over the scope of the treaty and protocol obligations. The United States is also concerned about precise language of the protocol regarding legally binding negative security and the permissibility of port calls by ships which may carry nuclear weapons.

The security assurance protocol to the Pelindaba Treaty was ratified only by China, France, and the United Kingdom. The United States has signed the protocol, but it is pending ratification. When the United States signed the protocol, a U.S. official reiterated that the protocol will not limit the options available to the United States in response to any possible future attack by an African NWFZ party using WMD.

The first zone to be established entirely in the northern hemisphere, the CANWFZ is also strategically important in terms of counterterrorism. Given the significance of the CANWFZ in terms of its geopolitical and security situation, the establishment of such a zone in the region shows strong commitment to nuclear nonproliferation and disarmament by these countries. In addition to the political implications, the CANWFZ Treaty stipulates concrete provisions relevant to strengthening the regional and international nonproliferation regime. The treaty obligates the Central Asian states to legally adhere to the Additional Protocol to the IAEA safeguards on their civilian nuclear facilities. In addition, these countries are required to meet international standards for the physical protection of nuclear material.

1995 Resolution on the Middle East

In 1995, the Review Conference adopted a resolution calling upon all states of the Middle East to join the Treaty and place all nuclear facilities under IAEA safeguards, and take practical steps towards establishing an effectively
verifiable zone free of nuclear, chemical, and biological weapons as well as their delivery systems. Egypt is leading a charge to establish a subsidiary body at the 2010 Review Conference "to consider practical steps to promote the earliest implementation" of the 1995 resolution and it has been suggested that a "shepherd" be appointed to consult with all countries in the region and report to the conference. While a set of recommendations was not adopted at the 2009 Prep Com, the implementation of the Middle East Resolution gained widespread support in the process of the negotiations.

Divergent views over proliferation and security issues in the Middle East derive from the nuclear weapons program in Israel, the only non-NPT country in the region, and Iran's suspected nuclear weapons program, both of which have contributed to past failures in the NPT review process. It is likely that achieving agreement among states parties on practical measures for making progress on the implementation of the 1995 Middle East Resolution will be one of the most important determinants of the success or failure of the 2010 Review Conference.

**Universality**

After Cuba acceded to the NPT in 2002, only three states—India, Israel, and Pakistan—remained outside the treaty, and all three possess nuclear weapons. North Korea withdrew from the treaty in 2003 and tested nuclear devices in 2006 and 2009. Though North Korea may be induced to rejoin the treaty as a NNWS, it is unlikely that any of the other three would do so. It is equally unlikely that the NPT could be amended to allow these countries to join as a NWS. Thus universality remains an often-stated but elusive goal. Some countries have proposed calling on these outlier states to "adhere" to the treaty, meaning that they would assume the same nonproliferation and disarmament obligations as the NWS; however, the majority of states insist on calling on the outliers to join the NPT as NNWS immediately and without conditions.

**Withdrawal**

Article X of the NPT gives a Party the right to withdraw from the treaty "if it decides that extraordinary events, related to the subject matter of [the]
Treaty, have jeopardized the supreme interests of its country." This raises concerns that a country could withdraw from the NPT either to escape consequences for past treaty violations or to use technology and material procured and developed under the guise of peaceful purposes for nuclear weapons. The International Commission on Nuclear Non-proliferation and Disarmament supports three responses to this issue. First, the UN Security Council should regard such withdrawals as "prima facie a threat to international peace and security, with all the punitive consequences that may follow from that under Chapter VII of the UN Charter." Second, the NPT Review Conference could declare that materials, equipment, and technology obtained under the NPT cannot be used for non-peaceful purposes and should be returned to the greatest extent possible. Third, states should agree that IAEA safeguards will be applied in perpetuity to material and equipment. This could be done either by modifying existing safeguards agreements or by making it a condition of supply.

At the 2009 Prep Com, several States made concrete proposals in an attempt to prevent Article X from being used as an "escape hatch" for states that have violated their nonproliferation commitments, while at the same time not infringing upon the sovereign right of states to withdraw from treaties. The European Union proposed that any notification of withdrawal "should prompt the Security Council to consider this issue and its implications as a matter of urgency, including examination of the cause for the withdrawal." The United States suggested mandating "consultations among Parties prior to" withdrawal, the return of all nuclear material and equipment provided before its withdrawal, or "at a minimum continued application of safeguards." Russia proposed that any state exercising its sovereign right of withdrawal from the treaty be required to provide a detailed statement explaining the circumstances of the "extraordinary events" leading to the decision, as described in Article X in the treaty.

**Nuclear Security**

The terrorist attacks against the United States on September 11, 2001 have brought a greater awareness of nuclear terrorism to the international community. Preventing terrorists from acquiring nuclear material or other radioactive material from power plants, research facilities, hospitals, industry, or
from insecure nuclear weapons facilities has become a top priority for the international community. The issue of nuclear security has been an area of growing concern for NPT states parties. The United States will host a global Summit on Nuclear Security in April 2010 in Washington, DC where more than 40 heads of state will gather to discuss the need to prevent nuclear terrorism and secure vulnerable materials.

Responding to the threat of nuclear terrorism, the IAEA Board of Governors in March 2002 approved an Action Plan to Combat Nuclear Terrorism. During both 2005 and 2010 review cycles, many states parties including the United States and the European Union and the representatives from the IAEA emphasized the importance of strengthening safeguards of nuclear materials given the increase in the perceived threat of nuclear terrorism.

There are several possible ways that terrorists could obtain nuclear weapons, such as manufacturing, purchasing, or stealing them. However, all of these are extremely difficult and involve formidable challenges and risks, as well as resources. Nevertheless, terrorists could possibly obtain nuclear weapons. A particular concern is that terrorists might acquire highly enriched uranium and use this fissile material to make a simple nuclear explosive device.

In this context, IAEA highlighted the importance of ensuring comprehensive and effective physical protection of nuclear material. The Convention on the Physical Protection of Nuclear Material (CPPNM), which covers physical protection during international transport, and other IAEA-issued standards provide countries with guidelines on ways to voluntarily secure their nuclear and radioactive materials. However, mandatory and legally binding international standards for the physical protection of nuclear material within a state do not exist. In July 2005, parties to the Convention agreed on major changes to make it legally binding for states parties to protect nuclear facilities and material for states’ peaceful use, storage, and transport. In order to bring the changes into effect, ratification by two thirds of the states parties is required.

The increasing security concerns over nuclear terrorism demand more international cooperation. The G-8 Global Partnership Against the Spread of
Weapons of Mass Destruction adopted at the Kananaskis Summit in June 2002 provides funding to secure nuclear and radioactive materials around the world. States parties to the NPT have generally supported this initiative. Moreover, UN Security Council Resolution 1540 adopted in April 2004 requires states parties to criminalize proliferation of weapons of mass destruction and their delivery systems by non-state actors as an essential undertaking to reduce the dangers of proliferation of WMD to terrorist groups. Many countries, mainly from the Western Group expressed their endorsement for the Resolution at the 2005 Review Conference.

Another important international legal instrument to deal with nuclear terrorism, the Draft International Convention on the Suppression of Acts of Nuclear Terrorism, proposed at the UN General Assembly in 1996, was adopted by the UN General Assembly on April 1, 2005. The Convention opened for signature on September 14, 2005. The Convention opened for signature on September 14, 2005, and with the 22nd ratification (Bangladesh), the treaty entered into force on July 7, 2007.

**Nuclear Weapons in India**

India’s nuclear program commenced shortly after the country gained independence in 1947. In the late 1940s, Prime Minister Jawaharlal Nehru started a dual-use nuclear program, designed to develop nuclear energy, which helped India develop the technical capabilities to build nuclear weapons. After China's first nuclear weapons test in 1964, India began explicit research on nuclear weapons as part of a project to use nuclear explosions for peaceful purposes. Yet, after its 1974 test of a peaceful nuclear explosion, India did not test another nuclear device until May 1998. Ever since conducting two nuclear tests during that month, the Indian government has built a nuclear arsenal to give India a "credible minimum deterrent." It has also declared a doctrine of "no-first use" for its nuclear weapons.

Experts estimate that, by the end of 1999, India had enough weapon-grade fissile material for approximately 65 nuclear weapons. India's historical objections to the NPT have been based on its own nuclear aspirations, and Indian
officials have denounced the treaty a form of "nuclear apartheid" that allows the NWS to maintain their arsenals while forcing others to give up their nuclear aspirations. Indian diplomats point to a lack of progress on disarmament by the NWS as proof that the treaty has been unfairly implemented.

**US-India Nuclear Cooperation Deal**

Reversing its long held nonproliferation policy toward non-parties to the NPT, on July 18, 2005, U.S. President Bush announced a cooperative agreement to pursue full-scale civilian nuclear cooperation with India. This agreement is part of a trend to develop closer U.S.-Indian relations, which have been warming since 2001, when India began supporting the U.S. War on Terror. On December 18, 2006, after months of deliberation and debate, President Bush signed the "Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act," which allows Washington to cooperate with Delhi on civilian nuclear projects. The Hyde Act constrains the type of nuclear technology that the United States could transfer to India, and includes penalties that would limit further cooperation if India tests more nuclear weapons in the future.

On July 27, 2007, the United States announced that it had reached an agreement with India on the terms governing the U.S. supply of nuclear equipment and technology. In order for the agreement to go into effect, the United States must conclude a bilateral cooperation agreement with India and the Nuclear Suppliers Group must lift restrictions on nuclear transfers to a non-NPT nuclear weapon state. As one of the significant steps, on August 1, 2008, the International Atomic Energy Agency (IAEA) Board of Governors approved a safeguards agreement with India by consensus.

Since civilian nuclear cooperation between states has been considered one of the incentives for joining the NPT, the principal concern of critics is that this agreement would negatively impact the NPT regime by allowing India to obtain the same privileges as NPT parties. Concerns also exist that this would lead to recognition of India as a nuclear weapon state, and support the expansion of India's nuclear weapons capabilities. During late 2007, the deal stalled due to opposition from lawmakers in both the United States and India. In late July 2008,
the government of Manmohan Singh won a vote of confidence within the Indian Parliament, demonstrating that his ruling coalition has enough support to continue to rule. The vote took place after communist parties that were blocking the passage of the U.S.-India nuclear deal left Singh's coalition. The new coalition led by Singh supports the U.S.-India deal, opening space for Singh's Congress Party to finally pass the agreement.

Regardless of India's support for the nuclear deal, continued U.S. opposition within Congress may doom the agreement. American lawmakers would still have to approve the deal for it to go into effect. As of August 2008, it seems unlikely that Congress will vote on the agreement before the new U.S. president is elected in November 2009.

**Nuclear Weapons in Pakistan**

Pakistan is believed to have begun its nuclear weapon program in 1972, although no nuclear tests were conducted until 1998. Pakistan procured uranium enrichment technology surreptitiously from Western European countries. Beijing provided Pakistan with nuclear weapon design assistance before China joined the NPT. Pakistan conducted six nuclear tests in May 1998, shortly after India tested two nuclear devices of its own. It is estimated that Pakistan had enough weapon-grade fissile material for approximately 40 nuclear weapons by the end of 1999. Pakistan seems to operate its nuclear doctrine based on the principles of minimum deterrence, and has not embraced a "no-first use" policy. Pakistani leaders refuse to join the NPT until India does so.

A major proliferation problem linked to South Asia came to light in February 2004, when the Pakistani nuclear scientist Abdul Quadeer Khan confessed to transferring nuclear technology to Iran, Libya and North Korea. Khan, who led the country's nuclear program for approximately twenty-five years, claims he acted independently and without government approval. But whether the Pakistani government was aware of Khan's activities remains unclear. The exact extent of his activities is also unclear, and his network may have had additional customers beyond the three countries listed above. The revelation of Khan's illicit nuclear supply network did, however, reveal
insufficiencies in Pakistan's pre-existing export control laws. In the aftermath of these revelations, the Pakistani Ministry of Foreign Affairs moved to pass new export control regulations. In September 2004, a bill was passed by the Pakistani parliament, strengthening existing nuclear export control laws by instituting harsh penalties for violations, including up to 14 years of imprisonment, seizure of personal assets, and a higher fine.

**Nuclear Weapons in Israel**

Israel has not declared itself a nuclear weapon state, but is widely believed to possess a nuclear arsenal. Israel maintains an opaque nuclear policy, fearing that any outward declaration would exacerbate tensions in the Middle East. It cites its need for a nuclear deterrent against the WMD and missile programs of hostile neighbors. Some scholars believe that a nuclear event in the South Atlantic in 1979 was associated with the Israeli nuclear weapon program, possibly carried out in collaboration with South Africa. Some sources estimate that Israel possesses up to 200 nuclear weapons.

**Israel and the International Nonproliferation Regime**

Israel is a notable outsider from the NPT regime. The issue of Israel's non-adherence to the NPT has been raised repeatedly by other Middle Eastern NPT states at review conferences, which convene every five years to assess implementation of the treaty. By the time of the 2000 Review Conference, Israel was the only state in the Middle East that had not joined the treaty. Israel has responded that acceptance of the NPT, or equivalent treaty undertakings, is dependent upon achievement of a comprehensive peace in the region, and the renunciation of other forms of WMD by all Middle Eastern states.

On September 6, 2007, Israel conducted an air strike against a site in the Syrian Desert, hitting a facility near the Euphrates River. Israeli and American intelligence analysts hypothesized that the destroyed facility had been an unfinished nuclear reactor. U.S. intelligence sources confirmed this ascertain during a press briefing in April 2008. The officials elaborated that the reactor was based on a North Korean design, was incomplete at the time of the air strike, and

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had not been loaded with nuclear materials. IAEA officials have expressed displeasure that Israel and the United States failed to provide the agency with intelligence of Syria's nuclear reactor activities before the September air strike. The IAEA officials have stated that a lack of available evidence on Syria's nuclear activities precluded IAEA action in the matter, arguing in a June 2008 press release that Israel's unilateral strike "undermin[ed] the due process of verification that is at the heart of the non-proliferation regime."

**Nuclear Activities in North Korea**

North Korea announced its withdrawal from the NPT on January 10, 2003, proclaiming that its withdrawal "will come into force automatically and immediately" the next day. North Korea stated that it had suspended its 1993 withdrawal from the treaty on the last day of the required 90-day notice period. Thus, the country did not need to give further notice of its intended withdrawal to other NPT parties and the Security Council as described in Article X of the treaty. Regardless of whether or not the DPRK's view that its withdrawal from the NPT was effective in January 2003, whether its withdrawal only became effective on April 10, 2003 (90 days after the January 10 announcement), or whether its withdrawal should be recognized at all, North Korea no longer considers itself bound to the treaty. North Korea's withdrawal casts a shadow over the validity of the NPT regime, and impacts the peace and security of the Korean Peninsula and Northeast Asia.

North Korea's withdrawal is significant, as this is the first time that a state party has taken such action. However, there exist differences of opinion among states parties over the legality of North Korea's withdrawal procedures. The states parties have yet to collectively respond to this unprecedented challenge. At the 2005 Review Conference, for the first time in NPT history, the treaty had to deal with the issue of withdrawal. Since the Conference failed to adopt any substantive issues in its final document, it was not able to address how to respond to the withdrawal collectively. Nevertheless, the conference offered an opportunity to explore new ways to strengthen the Treaty, including how to prevent further withdrawals.
North Korea's withdrawal could trigger further defections from the treaty, and, in particular, could set a precedent for other states, including Iran. In addition, North Korea's action could provoke other states in the region to pursue nuclear weapons of their own. An additional concern is the potential for North Korea to sell weapons-grade fissile material or nuclear weapons itself to other states and non-state actors, including terrorist groups.

Of more concern is that North Korea continues to be in non-compliance with its IAEA safeguards obligations and refused to open all its nuclear facilities for IAEA inspection even before its withdrawal from the treaty. Since 1993, the IAEA has been unable to fully implement its comprehensive safeguards agreement with North Korea. In October 2002, during a meeting with U.S. Assistant Secretary of State James Kelly, North Korean officials acknowledged the country had a secret development program to produce enriched uranium. In December 2002, North Korea disrupted IAEA safeguards measures at the Yongbyon facilities, and on December 31, 2002, all IAEA inspectors were expelled. In February 2003, the IAEA Board of Governors decided to refer the North Korean issue to the UN Security Council. In April 2003, the UN Security Council expressed its "concern" over the situation in North Korea and said it will keep following developments. The Security Council has, however, not taken further action. The IAEA continues to call for North Korea to promptly accept comprehensive IAEA safeguards and cooperation with the IAEA in their full and effective implementation.

On October 3, 2006, the North Korean Foreign Ministry delivered a "clarification statement" declaring Pyongyang's intention to conduct a nuclear test. Less than a week after the statement was given, on October 9, 2006, North Korea tested its first nuclear device. Because the test did not produce a significant yield, some experts do not consider the event to have been a nuclear explosion.

In reaction to the test, the UN Security Council placed sanctions on North Korea, Resolution 1718. The resolution demanded that North Korea refrain from further nuclear and ballistic missile tests, cease nuclear weapons related activities, reverse its intended withdrawal from the NPT, and accept IAEA safeguards. The resolution placed an embargo on the trade of luxury goods to North Korea, while
banning the transfer of conventional, defense-related items to North Korea, including missiles, combat aircraft, and tanks. Resolution 1718 also banned the sale or transfer of items that could help North Korea build weapons of mass destruction.

On May 25, 2009, North Korea conducted its second nuclear test on the heel of its missile test on April 5th. The UN Security Council unanimously condemned the DPRK's provocative behavior following the test. The members of the Security Council "voiced their strong opposition to and condemnation of the nuclear test conducted by the DPRK." The statement then added that council members "decided to start work immediately on a Security Council resolution on this matter." Statements were issued from each of the permanent members of the Security Council that condemned DPRK actions and called for an international response.

On June 12, 2009, the United Nations Security Council unanimously adopted Resolution 1874, which further tightened existing arms embargos against North Korea and increased the financial restrictions imposed on Pyongyang. Most notably, the new resolution created a legal basis for countries to interdict North Korean ships at sea suspected of carrying items banned by this and other resolutions. The resolution states that the May 25 test was conducted in "violation and flagrant disregard" of earlier UNSC resolutions, namely 1695 and 1718, both passed in 2006 after North Korea carried out ballistic missile and nuclear tests. UNSCR 1874 also demanded that North Korea "not conduct any further nuclear test or any launch using ballistic missile technology."

The Six-Party Talks

Efforts to resolve the crisis peacefully and diplomatically have been made through the Six-Party talks since August 2003 involving the Republic of Korea, China, Japan, Russia and the United States. While the Six-Party Talks process often stalled, progress has been made to some extent. After boycotting the fourth round of the talks in the fall of 2004, in February 2005, North Korea announced that it was indefinitely suspending its participation in the talks. In the same statement, North Korea openly declared that it possesses nuclear weapons. In July
2005, North Korea announced its intentions to rejoin the Six Party Talks. After nearly two years of impasse, a "statement of principles" was agreed on by all parties at the conclusion of the fourth round of talks in mid-September, 2005. The statement included a commitment by North Korea to "abandon all nuclear weapons" and "to return, at an early date, to the NPT." However, North Korea insisted that the dismantlement of its nuclear program be contingent upon receiving a light water reactor, which caused another stalemate. The fifth round of six-party talks started in November 2005. However, significant progress was not made and negotiations were suspended during most of the next year while North Korea conducted ballistic missile tests in July 2006, and tested a nuclear device in October. The talks resumed in December 2006, although progress was not made towards the implementation of the September 2005 "statement of principles" at that time.

On February 13, 2007, in the most successful round of the Six-Party Talks (in part due to a shift in U.S. policy), North Korea agreed to an "Action Plan" based on the 2005 "Statement of Principles." Under the deal North Korea would shut down its nuclear facilities at Yongbyon within 60 days in exchange for 50,000 tons of heavy-fuel aid. Separate bilateral talks with the United States and Japan would also begin in order to normalize relations. In the Action Plan's second phase, if North Korea dismantles its nuclear weapons program completely, another 950,000 tons of heavy fuel oil will be delivered along with other humanitarian, economic, and energy aid. On March 19, 2007, the freeze on assets in Banco Delta Asia was lifted and on July 14, North Korea re-admitted IAEA inspectors. The inspectors verified that indeed the Yongbyon nuclear facility had been shut down.

On October 3, 2007, at the sixth round of the Six-Party Talks, parties reached an agreement to disable North Korea's nuclear program before the end of 2007. The disablement of North Korea's nuclear facilities did begin in November 2007; however, the entire program was not disabled by the end of that year. U.S. State Department officials announced that North Korea had missed the deadline due to confusion surrounding how to cool nuclear fuel rods. On January 4, 2008,
North Korean officials stated that, because foreign energy assistance was not forthcoming, they would slow down the dismantlement of their nuclear facilities.

In March and April 2008, U.S. and North Korean diplomats met to discuss a compromise agreement to North Korea's declaration of its nuclear activities. On April 8, 2008, officials agreed that North Korea would make a declaration regarding its plutonium-based nuclear weapons activities, and comment on its suspected uranium enrichment program.

On April 24, 2008, a U.S. intelligence briefing concluded that North Korea helped build the Syrian nuclear reactor destroyed in a September 2007 air strike by Israel. In an official press conference, U.S. President George W. Bush stated that the U.S. government disclosed information regarding North Korea's assistance with the unfinished Syrian nuclear reactor to compel North Korea to disclose all of its nuclear activities.

In early May 2008, North Korea gave U.S. State Department officials approximately 18,000 pages of documents relating to its nuclear weapons activities at Yongbyon. The United States responded to North Korea's sharing of documents by removing the country from its list of state-sponsors of terrorism. Then, on June 27, 2008, North Korea demolished its 60-foot cooling tower, destroying a visual representation of its plutonium-based nuclear complex at Yongbyon. Experts argue that this move symbolized North Korea's commitment to dismantling its nuclear complex.

Six Party talks resumed in July 2008 for the first time in more than nine months. On July 12, representatives from the six countries agreed on a blueprint for verifying the dismantlement of North Korea's nuclear weapons program. North Korea also agreed to let on-site inspectors verify the dismantlement process at its nuclear facilities. As of late July 2008, details of the verification process were still being debated. Negotiators set a new target for completing the dismantlement, pledging to finish dismantling the nuclear facilities at Yongbyon by the end of October 2008.

Iran
Iran ratified the NPT on February 2, 1970 as one of the original signatory states and concluded its comprehensive safeguards agreement with the IAEA on May 15, 1974. By the mid-1970s, Iran initiated a nuclear power program with the assistance of the United States, but the 1979 revolution ended all nuclear efforts until 1984, when Iran embarked on an extensive fuel cycle research and development program.

Iran's plans for building a civilian nuclear power program, coupled with its security situation, have led many analysts to express concern regarding its intentions to develop nuclear weapons. The concerns over Iran's nuclear program intensified in mid-2002, when U.S. intelligence learned of the existence of two sites—a uranium enrichment facility at Natanz and a heavy water production plant near Arak that had been funded by front companies. Iran later confirmed the existence of the facilities, which it had previously failed to disclose to the IAEA. IAEA investigations also determined that nuclear materials had apparently been introduced to a location known as the Kalaye Electric Plant, in apparent violation of Iran's safeguards obligations.

Iran claimed (and continues to claim) that it has an inalienable right to pursue nuclear technology for peaceful purposes, a right which is reinforced by Article IV of the NPT. However, Iran's plans for building facilities that encompass the full nuclear fuel cycle to support its civilian nuclear power program have prompted much concern among some Western countries, in particular the United States. Critics contend that Iran's development of nuclear fuel cycle facilities capable of enriching uranium—potentially to weapons grade—and producing and separating plutonium, cannot be justified in economic terms, although Iran insists it is pursuing a nuclear program for energy production only. Many countries are concerned that Iran is misusing Article IV of the NPT to obtain and develop technologies and materials that could be used in a clandestine nuclear weapons program.

Some countries have expressed doubts about the need for Iran to pursue such highly advanced nuclear facilities and technology. These doubts increased following the IAEA Director General's June 2003 report to the Board of Governors meeting regarding Iran's failure to declare all its nuclear facilities,
materials, and activities in a timely manner, as required by Iran's comprehensive safeguards agreement. Findings of enriched uranium in environmental samples taken at Natanz and the Kalaye Electric Company heightened international suspicions over Iran's nuclear program. Iran had earlier claimed that it had never tested the equipment at these facilities with uranium.

During the 2003 PrepCom, concerns over Iran's nuclear program were expressed by a number of countries. The chairman of the PrepCom, in his summary report, specifically called on Iran to sign the Additional Protocol and to ensure full and forthcoming cooperation with the IAEA. The Additional Protocol would allow the IAEA to visit any nuclear facility in Iran to check for clandestine nuclear facilities and to investigate any questions or inconsistencies concerning Iran's nuclear program.

The IAEA is working with Iran to verify that Iran's nuclear program will only be used for peaceful purposes. To urge accelerated and full cooperation by Iran, the IAEA Board of Governors adopted a resolution in September 2003. The resolution set an October 31, 2003 deadline for Iran to take all the necessary steps so that the IAEA can ensure verification of compliance with Iran's safeguards agreement. At the November 2003 Board of Governors meeting, the IAEA strongly deplored Iran's past failures and breaches of its obligations to comply with the provisions of its safeguards agreement. At the same time, the resolution commended Iran's offer to actively cooperate with the IAEA following the Board's last resolution in September. The Board also recognized Iran's decisions to conclude an Additional Protocol to its safeguards agreement. On December 18, 2003, Iran signed the Additional Protocol to its safeguards agreement.

In 2004, the IAEA Board of Governors adopted a number of resolutions on the implementation of safeguards in Iran. The resolution adopted without a vote in November 2004 mainly welcomed Iran's voluntary decision "to continue and extend its suspension of all enrichment related and reprocessing activities," and requests that the Director-General continue verifying the maintenance of the suspension of Iran's voluntary decision to suspend its enrichment activities. Although the United States attempted to include stronger words with the goal to refer Iran to the UN Security Council for possible economic sanctions, the
resolution was addressed in a relatively milder tone. The EU 3 (France, Germany and the United Kingdom) initiated negotiations with Iran during the fall of 2004 and reached an agreement under which Iran pledged to temporarily suspend all enrichment-related activities, and to allow the IAEA to verify this suspension. At the March 2005 Board of Governors meeting, the United States again tried to refer Iran to the UN Security Council. While Dr. ElBaradei emphasized that full cooperation and full openness from Iran is essential to come to a conclusion and provide assurance, he also underlined that IAEA inspectors are making good progress in verifying Iran's nuclear program. However, concerns remain over Iranian statements that imply that it would resume enriching uranium.

At the 2005 NPT Review Conference, the United States accused Iran of being in non-compliance with its NPT obligations, stating that "Iran has made clear its determination to retain the nuclear infrastructure it secretly built in violation of its NPT safeguards obligations..." Both the EU 3 and the United States have declared that Iran must permanently cease its enrichment and reprocessing activities to provide assurance that it is only seeking nuclear technology for peaceful purposes.

On September 24, 2005, the IAEA Board of Governors adopted a resolution on Iran declaring for the first time that Iran is in non-compliance with its IAEA safeguards agreement. It did however, not refer Iran to the UN Security Council as the United States had hoped. Contrary to past practice, the Board could not adopt the resolution by consensus since Russia, China, and 10 countries from the NAM abstained. Venezuela voted against the resolution. Given such divisive views on Iran's nuclear issue and Tehran's continuing insistence on the right of peaceful uses of nuclear energy, it is unlikely that Iran's case will be referred to the Security Council in the near future. However, the international community is running out of patience with Iran's reluctance to fully cooperate with the IAEA, as Dr. ElBaradei stated at an interview prior to the Nobel Peace Prize Award ceremony in December 2005.

The resolution passed in September 2005, leaving the door open for future referral of Iran to the Security Council and was finally adopted in February 2006. On February 4, 2006, the 35-nation board of the IAEA voted to "report" Iran to
the Security Council over its decision announced in January, to restart nuclear research. The above resolution passed with 27 votes of approval, 5 abstentions, and 3 opposing votes. This was the first time that Russia and China agreed to go along with the position of the EU-3 and the United States over Iran. However, Russia and China insisted on using the word "report" instead of "refer" in the text of the IAEA resolution. Iran rejected the above resolution calling it, "illegal, illogical and politically motivated." In response to the September 2005 resolution, Iran decided to scrap the "containment and surveillance measures" as defined under the 1997 Additional Protocol, limiting the intrusive powers of the inspectors and putting a halt to snap inspections as well. Iran also resumed small scale enrichment activities at its Natanz facility as of February 16, 2006, and by May, Gholamreza Aghazadeh, the head of Iran's Atomic Energy Organization, claimed that Iran managed to enrich uranium up to 4.8 percent purity. However, he maintained that Iran had no intention of enriching uranium beyond five percent purity, as this level is sufficient for making fuel.

In a parallel diplomatic process vis-à-vis a deal backed by the United States and the European Union, Russia continued to pursue negotiations with Iran that would allow Russia to host Iran's uranium enrichment program leaving only the uranium conversion to be carried out on Iranian soil. However, as negotiations on this point continued, Iran was at pains to make it clear that it considered uranium enrichment to be a sovereign national right to which all states with a peaceful nuclear program are entitled, and would not accept Russia's proposal to host its enrichment. This rejection of the Russian proposal led the United Nations Security Council to convene a formal meeting on March 15, 2006, to discuss a draft resolution penned by France and the United Kingdom, which called on Iran to comply with IAEA demands by suspending uranium enrichment activities. The resolution also called on IAEA Director General Mohammed El-Baradei to report to the UN Security Council on Iranian compliance within 14 days and urged Iran to "ratify and implement in full" the Additional Protocol. Then on March 29, 2006, the UN Security Council released a Presidential Statement on Iran's nuclear program, which called on Iran to take the steps required by the IAEA Board of Governors. It also declared that suspension of enrichment and full verified compliance with the requirements set
out by the IAEA would contribute to a diplomatic, negotiated solution that guarantees Iran's nuclear program is exclusively for peaceful purposes.

Further exacerbating the situation, Iran's President Ahmadinejad made a speech in April 2006 in which he discussed the existence of a second, secret uranium enrichment facility operating with P-2 centrifuges. Undisclosed work on P-2 centrifuges would constitute an additional violation of Iran's safeguard obligations. Following the speech, Iran made it clear that it refused to answer questions regarding the P-2 centrifuges. However, in an effort to avoid Security Council sanctions, Iran volunteered to resume implementation of the additional protocol, allowing snap inspections, if its nuclear dossier were to be dropped by the Security Council and returned to the IAEA. At the same time, Mohammed Saeedi, the deputy head of Iran's Atomic Energy Organization, made it clear that enrichment would continue in spite of renewed implementation of the additional protocol.

In May 2006, the European Union decided to change its tactics in an effort to get Iran to halt enrichment without having to resort to United Nations Security Council sanctions. In a proposal, the EU offered to help Iran obtain advanced civilian nuclear technology in exchange for a cessation of enrichment activities. This proposal also received some support from the White House. Iran's President Ahmadinejad immediately rejected the offer. Similarly, the United States made its own offer to Iran in what was an apparent about-face in U.S. foreign policy vis-à-vis Iran. The U.S. offer involved direct talks with the EU-3 and Iran if Tehran were to agree to suspend its enrichment and reprocessing activities and permit more intrusive international inspections. In response, Iran said that it was willing to engage in direct talks regarding its nuclear activities but rejected the precondition to negotiations that it first suspend its enrichment and reprocessing of uranium.

Iran's refusal to engage in direct talks with the United States caused the U.S. to join forces with Britain, France, China, Russia, and Germany in June 2006 to put together a package of incentives in an effort to entice Iran to abandon its uranium enrichment. This package included four main incentives: 1) the provision of light water nuclear reactors and enriched fuel; 2) support for Iranian
membership in the World Trade Organization; 3) the lifting of restrictions on the use of U.S. technology in agriculture, and 4) the availability of spare parts for civilian aircraft made by U.S. manufacturers. Iran's chief nuclear negotiator, Ali Larijani, responded by saying that there were "problems and ambiguities" in the incentives package, and Iran reiterated in July, that it refused to accept any preconditions for nuclear talks with the West.

Iran's continued rejection of proposals by the West to entice it to cease its uranium enrichment activities and enter into negotiations caused the United States, the United Kingdom, France, Russia, China, and Germany to agree to refer Iran to the United Nations Security Council in July of 2006. As a result, the UN Security Council passed Resolution 1696 on July 31, which demanded that Iran cease its uranium enrichment activities by August 31. The resolution passed 14 votes to 1, with Qatar the lone dissenter.

In August 2006 Iran continued to deny access to IAEA inspectors seeking to visit the Natanz enrichment facility. During that same month, President Ahmadinejad inaugurated a new heavy water production plant at Arak. Iran claims that the Arak Heavy Water Plant is in full compliance with international rules and regulations and is for peaceful purposes only. Later in August 2006, IAEA Director General Mohammed El-Baradei released a report on the implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran. The report stated that Iran has ignored the UN Security Council resolution to suspend all enrichment related activities. The report also stated that while Iran had not acted in accordance with the provisions of the Additional Protocol, it was providing the IAEA with the required reports and continued to comply with basic, mandatory inspections of nuclear material and facilities. The report also indicated that particles of highly enriched uranium had been found on storage containers located at the Karaj Waste Storage Facility.

Despite contentions over Iran's uranium enrichment activities, Russia has continued with the construction of Iran's Bushehr reactor. Sergei Kiriyenko, the head of Russia's Atomic Energy Agency said in September 2006 that the reactor was scheduled to come online in September 2007. Russia also agreed to ship about 80 tons of fuel to the Bushehr Nuclear Power Plant project by March 2007.
However, development plans stalled in March 2007 as Russia reportedly pulled out approximately 2,000 of the technicians and engineers used to support this project, and refused to deliver the promised fuel to Bushehr power plant until Tehran complies with U.N. Security Council demands that it halt its uranium enrichment program. The fate of the Bushehr reactor is currently uncertain.

In October 2006, U.S. President George Bush signed a law that imposes economic sanctions against nations and companies that aid Iran's nuclear program. The Iran Freedom Support Act says that the United States should "not bring into force an agreement of cooperation with the government of any country that is assisting the nuclear program of Iran or transferring advanced conventional weapons or missiles." In that same month Iran put forward its own proposal in an attempt to end the nuclear standoff and satisfy the demands of the IAEA, while maintaining its ability to conduct its own uranium enrichment. The proposal suggests that France will establish a consortium for the production of enriched uranium in Iran; this way France would be able to monitor and control Iran's enrichment activities. France immediately rejected the proposal and said that it would only negotiate with Iran through the U.N. Security Council. Also in October 2006, Iran launched a second cascade of 164-centrifuges at its pilot fuel enrichment plant. It appears that the cascade is being vacuum tested in an effort to assess its durability; reportedly, no UF6 (uranium hexafluoride) has been introduced into the cascade.

In response to Iran's continued uranium enrichment program, the U.N. Security Council supplied Iran with an ultimatum on December 23, 2006, which stated that unless Iran ceased all enrichment activities it would face further sanctions. However, in February 2007 an IAEA report concluded that Iran had actually accelerated its uranium enrichment activities. The report detailed the continued construction of a heavy water reactor, the transportation of 9 tons of gaseous feedstock to the main facility in Natanz, and the planned expansion of centrifuge installations to 3,000 by May 2007. This acceleration of enrichment activities caused the IAEA to approve the suspension of 22 nuclear technical aid projects to Iran as part of imposed U.N. Security Council sanctions.
Negotiations with Iran regarding its nuclear program have been ongoing throughout 2007. There has yet to be any concrete solution to what has already been a long and arduous negotiation between Iran, the IAEA, and the United Nations Security Council.

Ever since its inception, while it has served as the cornerstone of the world nonproliferation and disarmament regime, the NPT has been criticized for being discriminatory, unbalanced and ineffective. Some critics contend that the treaty discriminates against NNWS, since it favors NWS by placing more emphasis on compliance by the NNWS. Additionally, some argue that the unbalanced obligations of the NNWS place them at a permanent military disadvantage and make them more vulnerable to nuclear aggression or intimidation. Furthermore, some critics claim that the NNWS are economically and industrially disadvantaged in developing nuclear energy for peaceful uses, since the treaty does not require the NWS to accept IAEA safeguards. The flipside of this argument is that the NPT has saved many NNWS the huge opportunity costs that would be incurred if their neighbors developed nuclear weapons, and they felt compelled to respond in kind.

Critics also argue that the nuclear nonproliferation pledges and safeguards are ineffectual, citing the cases of Iraq in the past, and North Korea and Iran currently (as discussed in the Current Challenges section.) Other critics note the noncompliance with disarmament objectives by NWS. In addition, since international security situation surrounding nonproliferation issues has significantly changed since it entered into force 40 years ago, many critics contend that the NPT is unable to deal with new threats especially, the possible acquisition and use of nuclear weapons by terrorists. While the treaty is based on a set of "bargains" between the NWS and NNWS, the treaty does have an inherently discriminatory nature. This has led discrepancies between NWS and NNWS in their interpretation of the treaty's key provisions. NWS and NNWS naturally place different priorities on treaty provisions. For instance, NWS, such as the United States, place a much higher priority on the nonproliferation obligations of the treaty, while most NNWS, especially, the NAM states argue that they are in full compliance with these obligations, but that the NWS are
ignoring their disarmament compliance under Article VI. This deep divergence of views about treaty obligations directly contributed to the failure by the states parties to reach agreement on a final outcome document of the 2005 NPT Review Conference.

Another controversial aspect of the treaty that has been at the center of the NPT debate is the difference of opinion on the peaceful uses of nuclear energy. NWS insisted on more stringent measures to verify NNWS' compliance with the IAEA safeguards system. As for the argument about strengthening safeguards, NWS, and most of states parties of the Western Group support the idea of making Additional Protocol safeguards standard.

Although the treaty establishes norms and verification mechanisms that are helping to control noncompliance by some states parties and NPT's achievements are indisputable, loopholes of the treaty and emphasis on selective provisions have exacerbated international security and the treaty's credibility itself. Due to the inefficiency of the treaty, more initiatives outside of the NPT framework-including unilateral, bilateral and coalition of the willing-have become more prominent.

This chapter provides an overview of contrasting views among key states parties on the most controversial issues surrounding the recent NPT debates, such as compliance, rights to peaceful uses of nuclear energy, IAEA Safeguards, and disarmament.

The 2010 NPT Review Conference was regarded as an opportunity to restore faith in the international nonproliferation regime, as well as to draw stronger commitments from nuclear weapons states to make progress toward a world without nuclear weapons. With the increasing momentum for nuclear disarmament and nonproliferation following President Obama's groundbreaking speech in Prague in April 2009 in which he reaffirmed America’s commitment to work toward a world without nuclear weapons, the 2010 Review Conference was an excellent opportunity to make headway toward that goal for the NPT states parties. Particularly, given the decade of setbacks in the international nonproliferation regime, culminating in the disastrous failure at the 2005 Review
Conference, the successful result of the 2010 Review Conference reinvigorated the NPT regime. The international environment surrounding nonproliferation and disarmament has undoubtedly improved since President Obama took office in 2009. However, ongoing challenges both inside and outside of the NPT regime, most notably, North Korea's withdrawal from the treaty and its two nuclear weapons tests, and Iran's suspected desire to develop nuclear weapons programs, have continued to haunt the nonproliferation regime and could cause future setbacks to the NPT regime. Moreover, the NPT's inherent discriminatory nature that is the basis of divergent views toward treaty obligations between NWS and NNWS has been a fundamental obstacle in making concrete progress toward full implementation of NPT obligations. Nevertheless, even with all ongoing concerns, the new positive environment, including the shift in U.S. nuclear policy, was reflected in the result of the 2010 Review Conference. At the 2010 NPT Review Conference, states parties demonstrated their political will and flexibility to produce a constructive outcome.

The 2010 Review Conference agreed on 64 action plans for nuclear disarmament, nonproliferation and peaceful use, and steps toward creating a Middle East Zone free of weapons of mass destruction. While the Review Conference successfully produced the substantive final document by consensus, there were many compromises that made the final document rather weak. Some criticized the final document for the absence of new, concrete commitments to disarmament and strengthening nuclear safeguards. Rather, the final documents reconfirmed the commitments agreed upon in at the 2000 Review Conference. There are enormous obstacles to achieving progress in these action plans. Making any progress in all three pillars of the NPT depends on states parties' political will. As the most universal of the arms control treaties, the NPT has, since its entry into force 40 years ago, served to prevent nuclear proliferation, created the movement for nuclear disarmament, and promoted peaceful uses of nuclear energy. Given its almost universal nature, the treaty serves as an important vehicle toward global progress on nuclear nonproliferation and disarmament issues. The NPT states parties have worked to strengthen the IAEA safeguards system and have improved the NPT review process to promote full implementation of the Treaty. States continue to work towards universal
adherence to the treaty, and the establishment of additional nuclear-weapon-free zones. Making progress toward meeting NPT obligations requires common ground and strong leadership among states parties in close cooperation with civil society.

The increasing support for a world without nuclear weapons resulted in stronger endorsement for a new framework to eliminate nuclear weapons beyond the NPT. As demonstrated at the 2010 conference, NAM countries and several non-nuclear European countries supported the idea to negotiate a nuclear weapons convention that will delegimate nuclear weapons. Moreover, for the first time, the NPT final document referred to a nuclear weapons convention and recognized the humanitarian dimension of the problem of nuclear weapons.

The idea to outlaw nuclear weapons is gradually gaining momentum. Over the next five years, we may very well see real progress toward the beginnings of a nuclear weapons convention.

**The Comprehensive Test Ban Treaty (CTBT)**

The Comprehensive Test Ban Treaty (CTBT)—described as the “longest sought and hardest fought for arms control treaty in history”—was opened for signature in September 1996. The CTBT obligates countries that sign and ratify “not to carry out any nuclear weapon test explosion or any other nuclear explosion.” It provides for an extensive verification regime including an International Monitoring System (IMS) to detect nuclear explosions, a global infrastructure for satellite communications from IMS stations to an International Data Center (IDC) that processes and distributes data to State Parties, and for on-site inspections, which may be requested by any State Party to determine whether suspected cheating has occurred. To implement these verification arrangements, the treaty establishes a Comprehensive Test Ban Organization (CTBTO) located in Vienna.

_Nuclear Test, Nevada Test Site, 1955._
To enter into force, the CTBT must be ratified by the 44 countries that in 1996 possessed nuclear research or power reactors. At present, 41 of these 44 countries have signed the treaty but only 31 have ratified. Non-signatories include India, North Korea, and Pakistan. The United States, which led the effort to conclude a CTBT and was the first to sign the treaty is, along with China, among those who have signed but not ratified. In 1999, the U.S. Senate, whose advice and consent is required for international treaties to become valid and binding, voted not to give its consent to ratify. Beside partisan considerations, this was prompted by concerns with the ability of the United States to maintain the safety, security, and reliability of the U.S. nuclear weapons stockpile, and with the adequacy of the treaty’s verification provisions to detect low-yield tests. The current administration, which in general is skeptical of the value of arms control treaties as a means of enhancing U.S. national security has said that it will not seek Senate reconsideration of the treaty. However, it supports the continuation by all states of the voluntary testing moratorium that is in place, as well as maintaining and completing the IMS, which is seen as value added to U.S. national technical means of detection. But the administration does not support funding for or participation in on-site inspection related activities that would be used as part of challenge inspections after the treaty entered into force.

Background and History

For decades, states seeking to limit nuclear weapons have called for a CTBT in the conviction that a comprehensive test ban would foreclose the ability to develop new and more powerful types of nuclear arms and would be an important stepping stone to the objective of ultimately eliminating all nuclear weapons. Historically, the nuclear powers have depended on nuclear testing to develop new types of nuclear weapons, and to a far lesser extent, to confirm the reliability of their arsenals. The United States and other countries concerned about nuclear proliferation also have supported a CTBT as a means for slowing the spread of advanced nuclear weapon capabilities to additional countries. They have argued that although a state seeking to develop nuclear weapons may not need to conduct a test to build a simple fission bomb, such tests would be necessary to develop more complex and powerful thermonuclear weapons. Some
argue that testing would also be necessary for a new nuclear state to develop small warheads for ballistic or cruise missiles.

First proposed by Indian Prime Minister Jawaharlal Nehru in 1954, successful negotiations on a comprehensive ban became feasible only after the end of the Cold War. Nonetheless, important limits on nuclear testing were adopted during the 46-year hiatus between Nehru’s initiative and the conclusion of a CTBT in 1996. Negotiations between the United States, the United Kingdom, and the Soviet Union were first started in 1958 following Premier Khrushchev’s announcement of a unilateral test ban and President Eisenhower’s subsequent proposal for test-ban negotiations. Efforts receded in the wake of the May 1960 U-2 incident in which a U.S. reconnaissance plane was shot down over the USSR leading to the souring of U.S.-Soviet relations.

In the aftermath of the 1962 Cuban Missile Crisis, which brought the U.S. and USSR to the brink of nuclear war, discussion of a comprehensive test ban was renewed. Disagreement over verification measures, in particular Soviet resistance to on-site inspection of suspected underground testing, precluded agreement on a comprehensive treaty. But shared recognition of the growing danger of above-ground testing to the global environment led to the conclusion of a Limited Test Ban Treaty (LTBT) in 1963. The LTBT prohibited the conducting of any nuclear weapon test explosion or any other nuclear explosion in the atmosphere, under water, or in outer space thereby limiting future tests to those conducted underground. The LTBT was regarded not as an end point, but as a step in the direction of an eventual comprehensive test ban. The treaty preamble underscored that the parties agreed to a limited test ban in the context of “seeking to achieve the discontinuance of all test explosions of nuclear weapons for all time” and that they remained “determined to continue negotiations to this end.” (ed.: emphasis added)

The LTBT was complemented in 1974 and 1976, respectively, by a threshold test ban treaty (TTBT), and a treaty on peaceful nuclear explosions (PNET). The former established a threshold of 150 kilotons for underground nuclear tests, thereby imposing a limit on the power of new nuclear weapons; the
latter was intended to regulate and limit to the same threshold explosions for peaceful nuclear purposes.

The 1968 Nuclear Non-Proliferation Treaty (NPT)—the foundation of the nuclear non-proliferation regime and the most widely adhered to arms control treaty in history—included in its preamble a reassertion of the LTBT commitment to seek to achieve the discontinuance of all nuclear test explosions. The test ban question was raised in all of the subsequent review conferences of the NPT, held every five years, starting in 1975. Differences between the weapon and non-weapon state parties to NPT over the issue accounted for failure to achieve consensus in a number of conference Final Declarations. The 1995 Review and Extension Conference had the task not only of reviewing implementation of the NPT, but also of deciding on its future duration. The NPT had been concluded for an initial period of 25 years from entry into force (1970), at which time the parties were to meet to decide whether to extend the treaty indefinitely or for a fixed period or periods of time (Article 10). The decision was to extend the treaty indefinitely. That decision was made in the context of an agreement on a set of Principles and Objectives for nuclear nonproliferation and disarmament that included, as a key requirement, completion of the negotiation of a universal and internationally verifiable comprehensive test ban treaty no later than 1996. Negotiation of the treaty took place in the Conference on Disarmament (CD), as mandated by the United Nations General Assembly in 1995.

The 1996 deadline was met although not without difficulty. Three issues in particular were sources of controversy. One was a U.S. proposal to include an “easy-out” provision enabling a state to leave the treaty after ten years without any need to provide justification. That drew considerable fire and was withdrawn by the United States in January 1995. A second was whether the treaty should allow very small (low-threshold) nuclear tests or should ban all nuclear tests. A complete ban was agreed to. The third, involving entry into force, was whether the treaty should become legally binding after a certain number of states had ratified it or whether ratification by specific states would be required. The negotiators chose the second option, stipulating that entry into force was
conditioned on signature and ratification by all 44 states included in the most recent International Atomic Energy Agency (IAEA) list of states operating nuclear power or research reactors. India, which at the time was a non-nuclear weapon state, argued that the treaty should include a specific commitment by the nuclear weapon states to eliminate their nuclear weapons in a negotiated finite span of time, and made its support of the draft treaty contingent on such a commitment. India also rejected the entry-into-force formula, contending that in light of its stated inability to endorse the treaty as drafted, making ratification of specific states a requirement for entry into force was contrary to customary international law rules that no obligation can be imposed on a state without its consent. On these grounds, it blocked the consensus needed under CD operating rules to move a treaty to the United Nations General Assembly for consideration. Consensus was bypassed by Australia’s presenting the treaty directly to the General Assembly, which approved it by an overwhelming majority (158 to 3 with 5 abstentions). The treaty was opened for signature on September 24, 1996. The United States was the first state to sign.

**Basic Provisions**

States parties to the CTBT undertake not to carry out any nuclear weapon test explosion or any other nuclear explosion, and to prohibit and prevent any such nuclear explosion at any place under its jurisdiction or control. Parties further undertake to refrain from causing, encouraging, or in any way participating in the carrying out of any nuclear weapon test explosion or any other nuclear explosion (Article 1). The CTBT thus prohibits every kind of nuclear explosion whatever its purpose. The treaty is, however, a test ban treaty and does not address the use of nuclear weapons in war. Nor does it prohibit non-nuclear explosions that may be relevant to maintaining nuclear weapons such as hydrodynamic tests, hydro nuclear experiments, or computer simulations.

Article 2 of the treaty provides for the establishment of a Comprehensive Test Ban Treaty Organization (CTBTO), comprising an Executive Council for decision making and a Technical Secretariat to implement the treaty. Until such time as the CTBT enters into force, a Preparatory Commission consisting of the signatory states, supported by a provisional technical secretariat, and having the
standing of an independent, international, intergovernmental organization, serves to ensure that the necessary steps have been taken to have the treaty enter into force when the 44 requisite states ratify. This includes promoting signature and ratification of the treaty, providing a forum for consultation and cooperation among State Parties, and establishing a global verification regime to monitor compliance with the test ban once it becomes effective. As of January 2003, the Preparatory Commission had met 19 times. A main function of the technical secretariat (a position which also was established on a provisional basis pending entry into force) is to build up the global verification regime and to provisionally operate the International Monitoring System and the International Data Center and related global communications infrastructure, as well as provide training in support of the treaty.

Article 9 stipulates that the treaty is of unlimited duration. However, consistent with most arms control treaties, it also provides that a State Party retains the right to withdraw on six months’ notice if it decides that “extraordinary events related to the subject matter of the treaty have jeopardized its supreme interests.” There is also a provision (Article 8) for a review of the treaty 10 years after entry into force to determine whether its objectives and purposes are being met, and to take into account any relevant new scientific and technological developments.

Treaty Verification

Article 4, amplified by a protocol to the CTBT, provides for the establishment of a unique global verification regime consisting of the International Monitoring System (IMS), an International Data Center (IDC), on-site inspections, and confidence-building measures. It stipulates that the verification system must be functioning at the time the treaty enters into force. Responsibility for completion of this task rests in the hands of the Preparatory Commission and its technical secretariat. The CTBT is the first multilateral arms control treaty providing for cooperative establishment and operation of a worldwide remote sensing network for international treaty monitoring.
The IMS relies on seismic, hydroacoustic, and infrasound (explained below) monitoring technologies to detect transient signals, which are created when energy is released underground, underwater, or in the atmosphere environments. Radionuclide monitoring technologies collect and analyze air samples for evidence of the physical products created and dispersed by the winds. Sixteen radiochemical laboratories support radionuclide monitoring. A total of 321 seismological, hydroacoustic, infrasound, and radionuclide monitoring stations capable of detecting possible nuclear explosions underground, in water, and in the atmosphere, are to be located in 90 countries. When completed, data from each station will be linked to a satellite enabling information to be transmitted to the IDC in Vienna, Austria. The IDC, in turn, will distribute to all states wishing to receive information a bulletin of events detected and located within two days of the event. Member states have the final responsibility for analyzing the data. At present, this remains a work in progress.

The seismological component of the IMS detects and locates seismic events. The system includes 50 primary seismic stations supplemented by 120 auxiliary seismic stations. The principal use of seismic data in the verification system of the CTBT is to distinguish between an underground nuclear explosion and the frequent earthquakes and conventional explosions that occur around the globe.

Hydroacoustic monitoring detects sound waves produced by natural and man-made phenomena in the world’s oceans. Because of the very efficient transmission of acoustic energy in the oceans, only a few stations are required for the IMS. Stations are extremely sensitive and can pick up acoustic waves from underwater events, including explosions, even those at transcontinental distances. A total of 11 stations are included in the CTBT global verification regime.

Infrasound stations, of which there will be 60, detect low-frequency sound waves in the atmosphere produced by natural and man-made events. They enable technicians to distinguish between natural phenomena such as meteorites, explosive volcanoes, and meteorological events on the one hand, and man-made phenomena such as re-entering space debris, rocket launches, and atmospheric explosions on the other.
Radionuclide stations detect radioactive particles released from atmospheric explosions or vented from underground and underwater explosions.

On-site inspection of suspect locations to clarify whether a nuclear explosion has been conducted is provided for in the treaty as a final verification measure. As a general proposition, on-site inspection is the most politically sensitive form of verification, involving physical presence on the sovereign territory of a state, in this case, under adversarial conditions. Every State Party has a right to request an on-site inspection. The provisions regarding on-site inspection in both Article 4 and the Protocol are extensive and detailed. A request may be based on IMS-derived information, or national technical means of verification (for example, remote sensing satellites to monitor activity or reconnaissance aircraft) or both. A request for a special inspection cannot be based on information collected through espionage. Before an on-site inspection may be undertaken, however, 30 of the 51 member Executive Council must vote to authorize the action. The inspection must be conducted in the least intrusive manner possible, so as to protect the national security interests of the inspected State Party and may include managed access measures, (i.e., access restricted within the inspection area to protect sensitive installations and confidential information not related to the purpose of the inspection). Frivolous or abusive requests entail costs for the requesting state ranging from paying the expenses incurred by the CTBTO in conducting the inspection to being barred from serving on the Executive Council. The treaty also encourages states to resolve questions regarding possible violation through consultation before resorting to the on-site inspection procedures. Currently, the United States government supports the IMS and IDC but not the development of on-site inspection capabilities. This reflects the administration’s view that IMS is an independently useful addition to U.S. information and intelligence on possible nuclear testing, while on-site inspection is a treaty-specific activity that it does not currently support.

**Entry-Into-Force Conferences**

Article 14 (2) of the treaty provides for a conference to be held three years after it is opened for signature to promote the ratification process. The first such conference was held in October 1999 in Vienna. It affirmed that the CTBT was
an effective nuclear disarmament and non-proliferation measure and underscored the importance of a universal and internationally verifiable comprehensive treaty. At that time, 154 states had signed the treaty and 51 had ratified. Since then, 11 more states have signed and 46 more have ratified, including three nuclear weapon states (France, Russia, and the U.K.), giving a total of 165 signatories and 97 ratifying states. (See current list of countries that have signed and/or ratified the CTBT.) Twenty-seven states still have not signed. A second conference on facilitating entry into force of the CTBT was held at the United Nations in November 2001. The conference continued to press for entry into force, underscored the importance of the treaty in nuclear disarmament as a means of achieving global security, and highlighted the progress made in creating the IMS. Importantly, the United States did not participate, officially or unofficially, in the conference because of the reversal of U.S. policy towards the CTBT, brought about by the U.S. Senate’s rejection of the treaty in November 1999 and the inauguration, in January 2001, of President George W. Bush, who opposes the pact.

Separately, in September 2002, the Foreign Ministers of Australia, Netherlands, and Japan presented a joint ministerial statement on the CTBT at the United Nations on behalf of 49 states underscoring that the rise in international tensions since the CTBT was negotiated made entry into force even more urgent, affirming the central role of the treaty in global peace and security, and calling on those states whose ratifications were essential to entry into force to do so quickly. A third entry-into-force conference is scheduled to convene in Vienna in September 2003.

The United States is one of the remaining 13 states whose ratification is necessary for the CTBT to enter into force. Arguably, U.S. absence is especially important because it deprives Washington of playing the kind of leadership role it has exercised in arms control and nonproliferation through much of the last half century, including the CTBT. A non-participant is poorly placed to argue that others should do what it has itself not done. The Clinton administration supported the CTBT but failed to organize an effective campaign on behalf of the treaty in the Senate. Conservative Republican Senators opposed to the treaty did organize
effectively and won over moderate, uncommitted Republican Senators. These efforts and parliamentary maneuvers that brought CTBT ratification to a vote before the Clinton administration had time to build support for the treaty led to its defeat.

Although animosity toward President Clinton and other domestic political considerations played a role in the Senate vote, substantive issues were more important to the outcome. Some treaty opponents argued that arms control treaties like the CTBT are simply not in the U.S. national security interest and should not be pursued. Most opponents of the treaty, however, were not inherently opposed to arms control but were driven by three main substantive concerns about the CTBT, which remain at the center of debate more than three years after the Senate voted:

1. STOCKPILE STEWARDSHIP: The impact of the treaty on the ability of the United States to maintain the safety and reliability of its nuclear stockpile and the adequacy of the science-based Stockpile Stewardship Program (SSP), established to ensure that the enduring stockpile remains a safe, effective, and reliable deterrent without having to rely on nuclear testing;

2. VERIFICATION: The capability of the international nuclear test monitoring system to detect low-yield explosions, and hence, how effective and reliable the verification system could be considered to be; and

3. NONPROLIFERATION BENEFITS: Whether the treaty in fact offered significant nonproliferation benefits as claimed by its supporters.

The details of these three issues:

1. The adequacy of stockpile stewardship relates to confidence in the nuclear deterrent in situations where deterrence (the ability to inflict such overwhelming destruction and pain as to prevent a potential aggressor from attacking) is still deemed central to security. Critics contended that without nuclear testing, the United States will be unable to maintain its nuclear weapon expertise or ensure the safety and reliability of its nuclear stockpile, and that in these circumstances,
it would not be able to maintain the necessary confidence in its nuclear deterrent. As well, those dependent on U.S. extended deterrence could lose confidence in its security guarantees and, in some circumstances, might reconsider their nonproliferation undertakings. Opponents of the treaty argued that the cadres of nuclear weapon scientists will lose competence over time in the absence of testing, and that testing in the past has revealed deficiencies in deployed weapons that might not otherwise have been discovered. They took the position that there is no assured alternative to testing and that the stockpile stewardship program, intended as a substitute, is not adequate as it stands today. Some went further and maintained that stockpile stewardship will never be a sufficient alternative to testing; that components of nuclear weapons degrade in unpredictable ways, and that it will take at least a decade to determine if computer simulation (upon which much of the stewardship program is based) is truly a viable surrogate for testing. The CTBT is a permanent zero-yield treaty that forecloses nuclear testing. Opponents concluded that it is imprudent and not in the national security interest of the United States to permanently tie the government’s hands by ratifying a treaty that removes the availability of nuclear testing as a tool for maintaining the safety and security of the stockpile and the integrity of nuclear deterrence.

Supporters of CTBT, on the contrary, argued that the science-based stockpile stewardship program, which was designed as a functional equivalent to nuclear testing (even before conclusion of the CTBT) and expanded over time, was sound, and with sustained administration support and congressional funding, would remain so. They agreed that the stewardship program has to be rigorous, that it must include a capacity to remanufacture aging weapons to their original specifications (something that is not adequate today), and that a high-quality work force has to be maintained.

They noted that testing has traditionally related to the development of new weapons rather than to confirming the reliability of existing ones and that the United States has taken a commitment in the NPT to work toward the elimination of existing nuclear weapons, not toward the development of new types of weapons for which testing would be required. A National Academy of Science report of July 2002 on technical issues related to the CTBT underscored that
“Even in the absence of constraints on nuclear testing, no need was ever identified for a program that would periodically subject stockpile weapons to nuclear tests. Nuclear testing never provided and was never intended to provide a statistical basis for confidence in the performance of stockpiled weapons.” Treaty proponents also pointed out that when President Clinton agreed to a zero-yield CTBT, he expressly included a number of safeguards to protect against unanticipated contingencies. (The treaty does not specifically define what constitutes a test. Zero-yield is used in the CTBT to describe a test ban in which all tests that have a yield of nuclear explosive energy would be prohibited.). Safeguards refer to conditions under which the United States would enter into a CTBT. One of those safeguards is a provision that if the secretaries of Defense and Energy inform the president that a high level of confidence in the safety or reliability of a nuclear weapon type that was deemed critical to the U.S. national deterrent could no longer be certified, the president, in consultation with the Congress, would be prepared to withdraw from the CTBT under the “supreme national interests” clause (Article 9 of the treaty) in order to conduct whatever testing might be required (Safeguard F). Furthermore, non-nuclear testing, which relates to all of the non-nuclear parts of the warhead, is not precluded by the CTBT and is a central component of the stockpile stewardship program.

2. The second issue, verification, focused on whether, and to what extent, a state could successfully conduct a nuclear test and evade detection. Critics have argued that the treaty verification regime is not sufficient to detect low-yield tests (of less than one kiloton). As a consequence, sophisticated advanced nuclear weapon states such as Russia and China, it is argued, would be able to conduct militarily significant tests without being detected, enabling them to verify the reliability of their weapons or even to develop new ones while the United States would be restrained by its commitment to honor the test ban. Such cheating, critics contend, could give these countries a military advantage over the United States, which would honor its non-testing obligations. The opponents of CTBT focus on evasion strategies such as de-coupling of underground nuclear tests or anonymous testing in open ocean areas (such as the still unresolved incident of a suspected nuclear explosion in the Indian Ocean in 1979) where even if detected, it would be difficult, if not impossible, to attribute it to any particular state.
Additionally, opponents have asserted that the treaty cannot be effectively enforced in the event of a violation. As an example, they cite on-site inspection limitations such as the right of a challenged state to declare certain areas (limited in size) as off limits to inspection.

Supporters contended that the treaty verification system coupled with U.S. national monitoring capabilities would create a mutually reinforcing system that increases the prospect of detecting such tests that neither system alone would likely be able to do and, therefore, serves U.S. national security interests. They have acknowledged that it is not possible to detect every low-yield nuclear explosion, but they also have maintained that tests below the one kiloton level (which is the level at or below which states might arguably be able to carry out an undetected explosion) would add little if anything of significance to the nuclear capabilities or level of nuclear threat posed by advanced nuclear states like Russia and China, and that to the extent that it served as a reliability test, it would not provide any significant military advantage.

As for less advanced nuclear states such as India or Pakistan, or potential newcomers like Iran or Iraq with little experience or design sophistication, it is unlikely that they would be able to successfully carry out undetected low-level tests Techniques such as detonating nuclear devices in large underground cavities (de-coupling) in order to reduce the seismic signal of a several kiloton device to below one kiloton are regarded as problematic at best especially for countries without substantial experience in underground nuclear testing.

Treaty advocates contend that the verification system is a valuable addition to U.S. monitoring capabilities and that the two together increase the prospect for detecting militarily significant testing, especially as the treaty provides for short-notice on-site inspections, thereby reducing even further the prospect of testing going undetected. The Bush administration, while opposed to the CTBT has stated, in the context of promoting a new strategic arms reduction treaty with Russia, that U.S. force postures are no longer linked to those of Russia, because of the fundamental change in the relationship from one of strategic rivalry to one of cooperation and collaboration. To date, however, this
new orientation has not apparently reduced the administration’s concerns about Russian cheating scenarios under the CTBT.

3. Treaty opponents have argued that the CTBT would not create any significant or meaningful obstacle to nuclear proliferation and would not only not impede further nuclear proliferation as treaty proponents claimed, but could carry costs to the United States. Those costs were defined in terms of the earlier arguments regarding the negative consequences to the United States of being unable to test the safety, security, or reliability of the nuclear stockpile and of undetected cheating by other countries. Critics also have questioned whether growing real or perceived uncertainty about the integrity of the U.S. nuclear deterrent could cause allies and others dependent on U.S. extended deterrence to reconsider their non-nuclear weapon status.

Furthermore, they have contended that rogue regimes that were undeterred from proliferating despite being adherents to the NPT (e.g., Iraq, North Korea) would not be deterred by a CTBT. In fact, states interested in first-generation nuclear devices about which a great deal was known almost everywhere (i.e., simple fission weapons) could have confidence in the reliability of such weapons even without testing, making the CTBT a non-factor in their calculating the costs and benefits of seeking nuclear weapons. Finally, they see redundancy in the CTBT—states party to the NPT (only India, Israel, and Pakistan are outside the NPT) are already obligated not to acquire nuclear weapons and the CTBT offers no nonproliferation benefit vis-à-vis them. As for the three states not bound by the NPT, they are advanced enough to be able to build more nuclear weapons, even relatively sophisticated fission devices, in which they could have high confidence without testing. Hence, the CTBT does not foreclose further proliferation on their part.

Proponents argue that although the CTBT cannot stop nuclear proliferation by itself, it is a key element of U.S. nonproliferation strategy. They assert that a ban on all nuclear tests would make it more difficult for existing nuclear weapon states to develop new, more advanced nuclear weapons than they already have, and would impede new nuclear states in moving from simple one-stage fission devices to advanced, two-stage thermonuclear weapons without
testing, which would carry with it a high risk of detection by (and presumably the response of) the international community. The CTBT thus raises the political costs of testing, both for the five nuclear weapon states acknowledged by the NPT (the U.S., U.K., Russia, China, and France) and for the three non-NPT states (India, Israel, Pakistan) that have nuclear weapons, as well as for any other state seeking to proliferate.

Additionally, supporters of the treaty underscore that a CTBT is specifically stated in the preamble to the NPT as an objective to be achieved in the process of moving toward nuclear disarmament, which Article 6 of the NPT includes as one of the aims of that treaty. Completing and implementing a universally applicable, non-discriminatory, and internationally verifiable CTBT was one of the objectives specified in the decision to extend the NPT indefinitely in 1995 and pursuing and achieving a comprehensive test ban is thus highly relevant to nonproliferation and to international judgments on whether the United States is meeting its political commitments.

**Bush Administration Policy**

During the 2000 presidential campaign, George W. Bush took the position that the CTBT would not stop nuclear proliferation and that it was not verifiable or enforceable. Since taking office, the president has made it clear that he will not be asking Congress to reconsider the treaty, but that he does support the moratorium on nuclear tests that has been in place for the United States since 1992. At the same time, the administration has taken several steps indicative of emerging policies that would contradict the provisions of the CTBT and the test moratorium. The Nuclear Posture Review, completed in December 2001, called for the development of new nuclear weapon capabilities (either by modifications to existing warheads or possible development of new nuclear weapons) to provide a wider range of options for dealing with hardened and deeply buried targets. Subsequently the administration requested $15 million to begin a three-year feasibility study on development of a new nuclear warhead for deep-earth penetration. Congress endorsed the study, but subject to a number of restrictions including a Defense Department report on the military requirements for such a device, the nuclear-use policy that would apply to it, the categories of targets it
would be intended to hold at risk, and an assessment of conventional weaponry to accomplish the same objectives. In addition, the Congress mandated a study by the National Academy of Sciences on the short- and long-term effects of using a nuclear earth penetrator on nearby civilian population and U.S. military personnel who might carry out operations in the area after such use. The development of a new weapon could lead to the resumption of nuclear testing and a consequent breaking of the moratorium.

Congress also made a decision to ask the administration to prepare cost estimates for readying the Nevada Test Site for resumed testing within 6, 12, 18, and 24 months. The current readiness time for the test site is 36 months. While no formal changes in policy have taken place, these developments point toward the possibility of a change that would have significant impact on the CTBT and the test moratorium and on nuclear testing by a number of countries that for the present have felt constrained by the moratorium.

Proponents of change emphasize the changing international environment, with new states potentially threatening U.S. security and interests by developing weapons of mass destruction, and the importance of addressing those threats by taking the initiative and not counting only on deterrence but also on defense and pre-emptive actions. Opponents of change point out that from the U.S. perspective, the purpose of pursuing a CTBT has been to prevent non-nuclear countries from acquiring nuclear weapons and lesser nuclear states from making the transition from simple nuclear devices to thermonuclear weapons—both of which are intended to serve U.S. national security. From this perspective, a change in U.S. policy on nuclear testing (and on the utility of nuclear weapons) could have a strong adverse affect in political and security terms.

**Next Steps**

Whatever the short-term developments may be, it is clear to critics and supporters of the CTBT and the broader nonproliferation community that the nature and scope of challenges to U.S. national security are growing more complex. The biggest challenge may be determining whether protecting U.S. national security and that of U.S. friends and allies can be achieved while
preserving the regime or whether choices might have to be made. With this in mind, there are at least three questions deserving consideration and debate:

1. How should the United States government proceed with respect to the CTBT? Should it undertake a systematic review of the report submitted by General Shalikashvili and other reports prepared by organizations such as the National Academy of Sciences that provide analysis of technical considerations related to the treaty?

2. If deterrence of aggression for the foreseeable future depends on a reliable and credible nuclear capability, can that objective be achieved without maintaining a testing program? What policy should be pursued with respect to the testing moratorium that has been in place for the United States since 1992?

3. Is there a choice to be made between protecting national security interests and preserving the nonproliferation regime or are these objectives inseparable?

CTBT & CTBTO: where does India stand?

Following Pokharan II tests, USA and India have been carrying on bilateral talks over a range of issues from nonproliferation to security relating to India and Pakistan.

The two sides aside from general diplomatic expressions like "progress", "better understanding of each other" etc, have been cautious in not revealing the substantive portions of the talks. The problem being a sensitive one, it is understandable that little is being revealed to the public and in India even strategic analysts close to the establishment are surprisingly silent. We are told that the talks are in "semi final stage", but cancellation of Clinton’s projected visit to India and Pakistan speaks volumes about the result of the talks.

From India’s point of view the following points need to be highlighted.
* From a position that "India will never sign this unequal Treaty (CTBT), not now, nor later", India has formally declared in the United Nations that it will sign the CTBT before September 1999 and that it will not stand in the way of "entry in force" clause.

* India has already declared a moratorium.

* "No first use" of nuclear weapon has also been affirmed.

* Undertaking not to export nuclear weapon or nuclear weapon related material to other countries has been reiterated, unlike another nuclear weapon country which says something and does something else.

* Most important and little noticed, India no longer insists on time bound linkage on disarmament a source of embarrassment to the weapon powers.

On the other hand the US side maintains that India and Pakistan have not done enough to lift the sanctions and if there is any confirmation needed for the US position, the cancellation of visit of Clinton would validate one. India does not seem to have obtained any tangible concessions besides promise of lifting of sanctions in future. It is said that India has salvaged its Agni development and the necessity to have minimum deterrence has been acknowledged by the US side. These are intangibles and it is not clear why India should seek US approval on measures required for its own security. There is a suspicion that US is shifting the goal posts, a view which is also shared by Pakistan.

From the US point of view, one can understand that it was greatly piqued when India tested the nuclear devices at Pokharan in May, 1998. In one moment the entire edifice built by the nuclear weapon powers to prevent horizontal proliferation and a corner stone of Clinton’s foreign policy crashed. There was embarrassment too as the weapon powers had scant regard for article VI of the Non proliferation treaty where there is a commitment to disarmament. What greater embarrassment could there be when USA was unable to prevent another
weapon power from aiding and abetting Pakistan’s quest for nuclear weapons and delivery systems.

It is also understood that USA must be seen to act decisively so that the would be proliferators would perceive that the steps taken by the weapon powers are seen to be hurting the countries which have "gate crashed" into the nuclear club. It is in this context that India should examine its position and make an assessment whether it would really be possible to get access to dual technologies which have been withheld from it even before Pokharan tests.

Basically India has two options. 1. To accept all the demands put forth by US soon after Pokharan tests and get the sanctions lifted. One aspect to be factored in is whether the sanctions are going to destroy India or whether India can live with it without making much noise about the sanction itself. 2. Follow the Chinese way of proliferation by increments and keep up the strategy of "public denial and private admission", and thus have a leverage over USA. The latter is no option at all as India has but for a one time clandestine purchase of heavy water, has had a very clean record in the matter of proliferation although it is not a signatory to the NPT.

But there is a third option which India could and should actively pursue. If India declares itself to be a nuclear weapon power, it should behave like one. The Pokharan II tests have given sufficient data for the computer codes and no further testing is necessary for weaponization. The CTBT by itself is non discriminatory. Why not accept the CTBT on its own merits and not look for quid pro quo from nuclear weapon powers? Thus India will be able to regain the moral heights necessary to work genuinely for nuclear disarmament. In the discussions that will inevitably ensue on the Fissile Missile Cut Off Treaty (FMCT), if care is taken to ensure that India keeps the fissile material produced in the past, that itself will be an indirect recognition of India as a nuclear weapon State.

It was sad to see a leading weekly magazine in India throwing doubts on the claims of AEC and DRDO that a thermo-nuclear device has been tested. While the columnist tries to make it appear as a "balanced view" with the opinions of both Indian and western analysts, the very caption "Is India’s H-bomb
"a Dud?" shows his bias. His evidence in throwing doubts on the yield of the tests is based purely on seismic recordings made all over the world. There are many factors affecting seismic results, not the least are the nature of rock formations in and around Pokharan test site and also the fact that on the first day, three tests were simultaneously conducted and the signatures of the tests could not be individually identified. While not going into the technical aspects of the question we wish to point out that according to Verification Technology Information Centre, Britain, the system could not identify the multiple events at all. Another global network of IRIS (Incorporated Research Institutions for Seismology showed a single event with 20kT. The USGS which is an authority by itself for seismic methods, based on data received from 125 stations world wide, estimated the yield from 30 to 60 kT, a variation of 100 percent. On top of this, the USGS estimated the location of tests at a place 12 Km from the site itself! What IndiaToday has done is an insult to the Scientist community of the Atomic Energy Commission.

It is important to note that no conclusion can be reached on the basis of seismic data alone. This brings us to the CTBT organization which is fully aware of the limitations of the seismic data alone.

The CTBTO- Comprehensive Test Ban Treaty Organisation is now established in Vienna and the International Data Centre for collecting data has also started functioning in Vienna. It is well known that the "Entry into Force", clause in the CTBT Treaty requires ratification of all the 44 States (including India -thanks to friends like China and Great Britain).

The organisation consists of A. Conference of States parties. B. Executive Council of 51 members elected on a regional basis for routine running of the organisation and C. Technical Secretariat to assist the parties in A and B.

Four kinds of monitoring techniques are envisaged. (1) Seismic monitoring: This consists of a network of two tiers, comprising 50 online primary stations and 120 auxiliary stations which provide data on request. (2) Hydroacoustic: consisting of six hydrophone stations (fixed cable) and five island-seismic stations. These could detect explosions of 1kT and below but one
drawback is that it cannot distinguish between nuclear and conventional explosions. (3) Radionuclides: Perhaps the surest method to detect a nuclear explosion. The technique rests on the detection of Xenon gas produced in nuclear explosions. 80 stations are envisaged with 40 of them equipped with Xenon samplers. (4) Infrasound Monitoring: This is capable of detecting explosions at altitudes ranging from sea-level to about 100Km.

These details are being given only to emphasise that all the four methods together would give near fool proof assessment of a nuclear explosion and such elaborate systems are and should be in place before CTBT comes into force. To come to a conclusion regarding yields and nature of the test device itself based on one aspect of monitoring will be wrong and misleading.

With India likely to be a late entry into the CTBT Organisation, it has a responsibility to ensure that it gets a fair share of monitoring systems.

The CTBT: Negotiations, Provisions, Entry into Force

".... [When India and other developing countries proposed the NPT [Nuclear Non-Proliferation Treaty] a global balance of responsibilities was envisaged. Those who did not have nuclear weapons would not seek to acquire them; those who had them would not try to either refine or develop them or to increase their arsenals. This balance was never honoured ...."

"Nuclear weapons are making a comeback--not in numbers, but in being.... Countries which previously pressed hard for more nuclear cuts have shifted their focus onto softer arms control issues, such as the Comprehensive Test Ban Treaty and the Fissile Materials ban .... Rather than anticipating further deep reductions, the USA and Russia are solidifying their nuclear weapon stockpiles and consolidating their nuclear weapons infrastructure (which) is being modernised into a smaller, cheaper and more sophisticated maintenance apparatus."26

India's decision not to sign the Comprehensive Nuclear Test-Ban Treaty (CTBT) in 1996 was based both on its traditional approach to nuclear disarmament and its national security concerns. Yet this decision has often, somewhat reproachfully been viewed by Western critics as a reversal of India's traditional stand on nuclear disarmament, particularly former Prime Minister Jawaharlal Nehru's 1954 call for a halt to all nuclear testing. To understand India's position during and after the CTBT negotiations, it is necessary to review the historical context of our approach.

**CTBT Negotiations and the Nuclear Nonproliferation Treaty**

The Conference on Disarmament, or CD, calls itself “the sole multilateral disarmament negotiating forum of the international community.” It is affiliated with and funded by the United Nations, yet is autonomous from the U.N. It operates by consensus; each member state can block a decision. On August 10, 1993, the CD gave its Ad Hoc Committee on a Nuclear Test Ban “a mandate to negotiate a CTB.” On November 19, 1993, the United Nations General Assembly unanimously approved a resolution calling for negotiation of a CTBT. The CD’s 1994 session opened in Geneva on January 25, with negotiation of a CTBT its top priority.

The priority had to do with extension of the Nuclear Non-Proliferation Treaty (NPT). That treaty entered into force in 1970. It divided the world into nuclear “haves”—the United States, Soviet Union, Britain, France, and China, the five declared nuclear powers, which are also the permanent five (“P5”) members of the U.N. Security Council—and nuclear “have-nots.” The P5 would be the only States Party to the NPT to have nuclear weapons, but they (and others) would negotiate in good faith on halting the nuclear arms race soon, on nuclear disarmament, and on general and complete disarmament. Nonnuclear weapon states saw attainment of a CTBT as the touchstone of good faith on these matters. The NPT provided for reviews every five years; a review in 1995, 25 years after it entered into force, would determine whether to extend the treaty indefinitely or for one or more fixed periods. The Review and Extension

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27 For text of the treaty, see http://www.state.gov/t/isn/trty/16281.htm#treaty.
Conference of April-May 1995 extended the treaty indefinitely. Extension was accompanied by certain measures, including a Decision on Principles and Objectives for Nuclear Non-Proliferation and Disarmament that set forth goals on universality of the NPT, nuclear weapon free zones, etc., and stressed the importance of completing “the negotiations on a universal and internationally and effectively verifiable Comprehensive Nuclear-Test-Ban Treaty no later than 1996.”

The extension decision, binding on States Party to the NPT, was contentious. Nonnuclear States Party argued that the P5 failed to meet their NPT obligations by not concluding a CTBT. They saw progress on winding down the arms race as inadequate. They assailed the NPT as discriminatory because it divides the world into nuclear and nonnuclear states, and argued for a regime in which no nation has nuclear weapons. The CTBT, in their view, symbolized this regime because, unlike the NPT, the P5 would give up something tangible, the ability to develop new sophisticated warheads. Some nonnuclear states saw NPT extension as their last source of leverage for a CTBT. Other nonnuclear states felt that the NPT was in the interests of all but would-be proliferators, that anything less than indefinite extension would undermine the security of most nations, and that the NPT was too important to put at risk as a means of pressuring the P5 for a CTBT. The explicit linkage finally drawn between CTBT and NPT lent urgency to negotiations on the former.

The CD reached a draft treaty in August 1996. India argued that the CTBT “should be securely anchored in the global disarmament context and be linked through treaty language to the elimination of all nuclear weapons in a time bound framework.” India also wanted a treaty to bar weapons research not involving nuclear tests. The draft treaty did not meet these conditions, which the nuclear weapon states rejected, so India vetoed it at the CD on August 20, barring it from going to the U.N. General Assembly as a CD document. As an alternate way to open the treaty for signing, Australia on August 23 asked the General Assembly to consider a resolution to adopt the draft CTBT text and for the

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Secretary-General to open it for signing so it could be adopted by a simple majority, or by the two-thirds majority that India sought, avoiding the need for consensus. A potential pitfall was that the resolution (the treaty text) was subject to amendment, yet the nuclear weapon states viewed amendments as unacceptable. India did not raise obstacles to the vote, which was held September 10, with 158 nations in favor, 3 against (India, Bhutan, and Libya), 5 abstentions, and 19 not voting.

A sixth five-year NPT review conference was held April 24-May 19, 2000, in New York. U.S. rejection of the CTBT, lack of Chinese ratification, U.S. efforts to seek renegotiation of the ABM Treaty, and efforts to ban nuclear weapons in the Middle East led some to fear a dire outcome of the conference. However, some contentious issues were ironed out or avoided, and concessions were made. For example, a joint statement by the P5 to the conference on May 1 said, “No efforts should be spared to make sure that the CTBT is a universal and internationally and effectively verifiable treaty and to secure its earliest entry into force.” As a result of effort by many nations, the final document of the conference was adopted by consensus. The document included a 13-step Nuclear Disarmament Plan of Action, the first two elements of which called for the early entry into force of the treaty and a moratorium on nuclear explosions pending entry into force.

At the NPT Review Conference of May 2005, the CTBT was a point of contention. For example, Alberto Romulo, Secretary of Foreign Affairs, Republic of the Philippines, said, “Plans to develop new nuclear weapons technology and failure to bring the Comprehensive Test Ban Treaty (CTBT) into force seriously erode the historic foundations of the NPT.” Ihor Dolhov, Deputy Foreign Minister for Foreign Affairs of Ukraine, said, “Ukraine continues to underscore the importance and urgency of an early entry into force of the Treaty and calls

upon all States who have not yet done so to adhere to the Treaty without delay and unconditionally."\textsuperscript{32} Ambassador Ronaldo Sardenberg of Brazil said, "Brazils has consistently called for the universalization of the CTBT, which we consider to be an essential element of the disarmament and non-proliferation regime."\textsuperscript{33}

The eighth NPT review conference was held May 3-28, 2010, at U.N. Headquarters in New York. Many speakers supported the CTBT. Secretary of State Clinton said, "We have made a commitment to ratify the Comprehensive Test Ban Treaty."\textsuperscript{34} Indonesia's Minister for Foreign Affairs, R.M. Marty M. Natalegawa, announced, "Indonesia is initiating the process of the ratification of the Comprehensive Nuclear Test Ban Treaty."\textsuperscript{35} Indonesia is one of the remaining nine nations that must ratify the CTBT for it to enter into force. Natalegawa, in a separate statement on behalf of the Non-Aligned Movement (NAM), said, "The NAM States Parties [to the NPT] strongly urge this Review Conference to clearly and categorically reject the policies of nuclear deterrence and place a ban on all forms of nuclear weapon testing with a view to their total elimination."\textsuperscript{36} A speaker representing the European Union identified "achieving rapid entry into force of the CTBT" as an "indispensable [step] towards fulfillment of the obligations and final objective enshrined in Article VI of the NPT."\textsuperscript{37} The five original nuclear weapon states declared,

We reaffirm our determination to abide by our respective moratoria on nuclear test explosions before entry into force of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and call on all States to refrain from conducting a nuclear test explosion. The moratoria, though important, are not a substitute for legally binding commitments under the CTBT. We will continue our efforts aimed at early entry into force of the CTBT and achieving its universality and call upon all States that have not yet done so to sign and ratify this Treaty.\textsuperscript{38}

In its final document, “the Conference reaffirms the vital importance of the entry into force of the Comprehensive Nuclear-Test-Ban Treaty as a core element of the international nuclear disarmament and non-proliferation regime,” and resolved that “all nuclear-weapon States undertake to ratify the Comprehensive Nuclear-Test-Ban Treaty with all expediency.”\textsuperscript{39}

**Key Provisions of the CTBT**

*Scope* (Article I): The heart of the treaty is the obligation “not to carry out any nuclear weapon test explosion or any other nuclear explosion.” This formulation bars even very low yield tests that some in the nuclear weapon states had wanted, and bars peaceful nuclear explosions that China had wanted, but rejects India’s concern that a CTBT should “leave no loophole for activity, either explosive based or non-explosive based, aimed at the continued development and refinement of nuclear weapons.”\textsuperscript{40} Views differ on whether the ban covers tests with the tiniest nuclear yield; unless cooperative monitoring measures were used, the yield of such tests would be below the threshold of detection. Opponents of the treaty argue that the treaty “fails to define what it purports to prohibit,” that is, a “nuclear test,” and that Russia did not agree to ban even the tiniest nuclear explosions (see “Stockpile Stewardship,” below).\textsuperscript{41} Supporters respond that the


\textsuperscript{40} India, “Statement by Ms. Arundhati Ghose, ... January 25, 1996.”

negotiating record makes clear that Russia agreed that “experiments which do produce a nuclear yield ... would be banned.”  

Organization (Article II): The treaty establishes a Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), composed of all member states, to implement the treaty. The Conference of States Parties, composed of a representative from each member state, shall meet in annual and special sessions to consider and decide issues within the scope of the treaty and oversee the work of the other groups. An Executive Council with 51 member states shall, among other things, take action on requests for on-site inspection, and may request a special session of the Conference. A Technical Secretariat shall carry out verification functions, including operating an International Data Center (IDC), processing and reporting on data from an International Monitoring System, and receiving and processing requests for on-site inspections.

Verification (Article IV): The treaty establishes a verification regime. It provides for collection and dissemination of information, permits States Party to use national technical means of verification, and specifies verification responsibilities of the Technical Secretariat. It establishes an International Monitoring System (IMS) and provides for on-site inspections. The treaty calls for the IMS to have, when complete, 321 stations worldwide to monitor for signals that might indicate a nuclear explosion: 170 seismic stations to monitor seismic waves in the Earth; 11 hydroacoustic stations to monitor underwater sound waves; 60 arrays of infrasound detectors to monitor very low frequency sound waves in the atmosphere; and 80 radionuclide stations to detect radioactive particles and (for half the stations) radioactive xenon gas that a nuclear explosion might produce, as well as 16 radionuclide laboratories to analyze radioactive samples. Of the seismic stations, 50 are to be primary stations to provide data to IDC continuously and in real time, while 120 are to be auxiliary stations to provide data when requested by the IDC. As of August 2011, of the 337 facilities, 29 are planned, 23 are under construction, 21 are undergoing testing, and 264


43 For further information on the CTBTO, see its website at http://www.ctbto.org.
have been certified, that is, they are completed and meet the technical requirements of the Preparatory Commission.\textsuperscript{44} Certified stations transmit data automatically and continuously to the IDC, excepting for the auxiliary stations and the radionuclide laboratories, which transmit data as requested by the IDC.\textsuperscript{45} In March 2008, the Preparatory Commission launched the International Scientific Studies (ISS) Project. A conference to report the results was held in Vienna, Austria, on June 10-12, 2009.\textsuperscript{46} “The ISS aim is to foster the CTBTO Preparatory Commission’s ability to keep pace with scientific and technological progress and to strengthen cooperation between the organization and the scientific community.”\textsuperscript{47} Critics would note that a focus on progress implies less focus on possible difficulties. A similar conference was held June 8-10, 2011, in Vienna.\textsuperscript{48} Another ISS conference will be held in 2013.\textsuperscript{49} In September 2008, the PrepCom conducted its large-scale Integrated Field Exercise 2008 in Kazakhstan to simulate a complete on-site inspection.\textsuperscript{50} The PrepCom called the exercise a success.\textsuperscript{51} In November 2010, the PrepCom held a simulated on-site inspection in Jordan to improve capability to detect evidence of clandestine testing.\textsuperscript{52}

\textsuperscript{44} The Comprehensive Nuclear-Test-Ban Treaty Preparatory Commission provides updated information on these facilities at http://www.ctbto.org/map/#ims.
\textsuperscript{45} Information provided by Annika Thunborg, Chief, Public Information, Comprehensive Nuclear-Test-Ban Treaty Preparatory Commission, personal communication, November 26, 2007.
\textsuperscript{46} For links to publications of the conference, see “ISS09, International Scientific Studies,” http://www.ctbto.org/specials/the-international-scientific-studies-project-iss/.

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Review of the Treaty (Article VIII): The treaty provides for a conference 10 years after entry into force (unless a majority of States Party decide not to hold such a conference) to review the treaty’s operation and effectiveness. Further review conferences may be held at subsequent intervals of 10 years or less. Since the treaty had not entered into force as of August 2011, no Article VIII conference has been held.

Duration and Withdrawal (Article IX): “This treaty shall be of unlimited duration.” However, “Each State Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests.” President Clinton indicated his possible willingness to withdraw from the Treaty using this withdrawal provision, which is common to many arms control agreements, in his speech of August 11, 1995, discussed below, as one of several conditions under which the United States would enter the CTBT. Entry into force (Article XIV): The treaty shall enter into force 180 days after 44 states named in Annex 2 have deposited instruments of ratification, but not less than two years after the treaty is opened for signature. If the treaty has not entered into force three years after being opened for signature, and if a majority of states that have deposited instruments of ratification so desire, a conference of these states shall be held to decide how to accelerate ratification. Unless otherwise decided, subsequent conferences of this type shall be held annually until entry into force occurs. The 44 states are those with nuclear reactors that participated in the work of the CD’s 1996 session and were CD members as of June 18, 1996. This formulation includes nuclear-capable states and nuclear threshold states (in particular Israel, which, along with other States, joined the CD on June 17, 1996), and excludes the former Yugoslavia. Of the 44, as of August 2011, India, North Korea, and Pakistan had not signed the treaty and China, Egypt, Indonesia, Iran, Israel, and the United States had signed but not ratified it. The most recent Article XIV conference was held September 24-25, 2009, at U.N. Headquarters in New York; Secretary of State Hillary Rodham Clinton, among others, delivered remarks at the conference. The next is scheduled for September 23, 2011, at U.N. Headquarters in New York.
Annexes: Annex 1 lists the regional groupings of states; Annex 2 lists the 44 states that must ratify the treaty, pursuant to Article XIV, for it to enter into force.

Protocol: The Protocol provides details on the IMS and on functions of the International Data Center (Part I); spells out on-site inspection procedures in great detail (Part II); and provides for certain confidence-building measures (Part III). Annex 1 to the Protocol lists International Monitoring System facilities: seismic stations, radionuclide stations and laboratories, hydroacoustic stations, and infrasound stations. Annex 2 provides a list of variables that, among others, may be used in analyzing data from these stations to screen for possible explosions.

International Efforts on Behalf of Entry into Force

Article II of the CTBT establishes the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO). However, that organization will not come into existence until and unless the treaty enters into force. As an interim measure, on November 29, 1996, states that had signed the treaty adopted a resolution establishing the Preparatory Commission (PrepCom) for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) “for the purpose of carrying out the necessary preparations for the effective implementation of the Comprehensive Nuclear-Test-Ban Treaty, and for preparing for the first session of the Conference of the States Parties to that Treaty.” 53 The PrepCom held 36 meetings from November 1996 through June 2011; as of August 2011, the next is scheduled for October 2011. Nine meetings of working groups and advisory groups were held in or are scheduled for 2011. The PrepCom also holds training sessions, workshops, etc. 54

The United Nations has conducted entry-into-force conferences under Article XIV every second year beginning in 1999. The final declaration of the 2009 conference stated, “Relevant international developments since the 2007 Conference on Facilitating the Entry into Force of the CTBT make entry into

force of the Treaty more urgent today than ever before,” and adopted 10 measures to promote entry into force. The CTBTO PrepCom served as the secretariat of these conferences. The next such conference is scheduled for September 23, 2011, at U.N. Headquarters in New York. There have been other calls for entry into force. In September 2002, a statement by 18 foreign ministers, including those of Britain, France, and Russia, called for early entry into force. On November 22, 2002, the U.N. General Assembly adopted resolution 57/100 (164 for, 1 against (U.S.A.), 5 abstentions) urging states to maintain their nuclear test moratoria and urging states that had not signed and ratified the CTBT to do so as soon as possible and to avoid actions that would defeat its object and purpose. In a message to the 2003 conference, U.N. Secretary-General Kofi Annan urged the nations that had to ratify the treaty for it to enter into force, and especially North Korea, to ratify, and urged continuing the moratorium: “No nuclear testing must be tolerated under any circumstances.”

A conference of the Non-Aligned Movement, which has 116 members, ended on February 25, 2003. Its Final Document stated that the heads of state or government “stressed the significance of achieving universal adherence to the Comprehensive Nuclear-Test-Ban Treaty (CTBT), including by all the Nuclear Weapons States.” On September 23, 2004, foreign ministers from 42 nations called for prompt ratification of the CTBT, especially by nations whose ratification is required for entry into force. A report by the Weapons of Mass Destruction Commission, an international commission organized by Sweden, issued a report in June 2006 that, among other things, urged all states that have not done so to sign and ratify the CTBT “unconditionally and without delay.” It recommended that the 2007 conference of CTBT signatories “should address the possibility of a provisional entry into force of the treaty.” It stated, “The Commission believes that a U.S. decision to ratify

the CTBT would strongly influence other countries to follow suit. It would decisively improve the chances for entry into force of the treaty and would have more positive ramifications for arms control and disarmament than any other single measure.”59 In September 2006, to mark the tenth anniversary of the CTBT’s opening for signature, 59 foreign ministers issued a joint statement on the treaty that “[c]alls] upon all States that have not yet done so to sign and ratify the Treaty without delay, in particular those whose ratification is needed for its entry into force.”60

In January 2007, George Shultz, William Perry, Henry Kissinger, and Sam Nunn urged the United States to work toward a world without nuclear weapons, with one step “Initiating a bipartisan process with the Senate, including understandings to increase confidence and provide for periodic review, to achieve ratification of the Comprehensive Test Ban Treaty, taking advantage of recent technical advances, and working to secure ratification by other key states.”61 In response, a few weeks later, Mikhail Gorbachev called on nuclear weapon states to ratify the CTBT, among other actions.62 On November 19, former Secretary of Defense Harold Brown and former Director of Central Intelligence John Deutch suggested a five-year renewable CTBT in lieu of the current treaty.63 In January 2008, Shultz, Perry, Kissinger, and Nunn renewed their call for, among other things, “a process for bringing the [CTBT] into effect” and called IMS “an effort the U.S. should urgently support even prior to [CTBT] ratification.”64 In Senate testimony of April 2008, Siegfried Hecker, former Director of Los Alamos National Laboratory, stated that without nuclear tests, “slowly our confidence [in U.S. nuclear weapons] zeroes,” but that resumed U.S. testing runs the risk that other nations would resume testing. “And as I personally today weigh those risks, I definitely come out in favor that it’s in our nation’s and the world’s interest to

actually ratify the Comprehensive Test Ban Treaty.”

On April 30, 2011, foreign ministers from 10 nations stated, “We call on all States which have not yet done so to sign and ratify the CTBT. ...We believe that an effective end to nuclear testing will enhance and not weaken our national as well as global security and would significantly bolster the global non-proliferation and disarmament regime.”

The first Preparatory Committee meeting for the 2010 NPT Review Conference was held in Vienna, Austria, in April and May 2007. The chair of the committee released a paper that stated, “Strong support was expressed for the CTBT. The importance and urgency of its early entry into force was underscored. States which had not ratified the Treaty, especially those remaining 10 States whose ratification was necessary for its entry into force, were urged to do so without delay and without conditions.”

A representative of Germany, speaking on behalf of the European Union, said, “The EU reiterates its call on States, particularly those listed in Annex II, to sign and ratify the said Treaty without delay and without conditions and, pending its entry into force to abide by a moratorium on nuclear testing and to refrain from any action contrary to the obligations and provisions of the CTBT.”

The second Preparatory Committee meeting was held in Geneva in April and May 2008. At the meeting, several dozen states made statements in support of the CTBT and its entry into force.

The conference was held May 3-28, 2010; as noted earlier, many at the conference called for the CTBT to enter into force.

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On September 24, 2008, the fourth CTBT Ministerial Meeting was held at U.N. headquarters; 96 nations signed a statement calling for signing and ratifying the treaty without delay and for continuation of the nuclear testing moratorium.\(^\text{70}\)

On December 2, 2008, the U.N. General Assembly adopted a resolution (document A/63/395) urging states to sign and ratify the CTBT; the vote was 175 in favor, 1 against (United States), and 3 abstentions (India, Mauritius, Syria).\(^\text{71}\)

In December 2008, the American Association for the Advancement of Science, the American Physical Society, and the Center for Strategic and International Studies issued a report, *Nuclear Weapons in 21st Century U.S. National Security*, that listed one component of “a possible new centrist package of nuclear initiatives” as a view commonly held by the committee, “Ratify the Comprehensive Nuclear-Test-Ban Treaty (CTBT), if coupled with other interconnected nuclear initiatives described below.” These initiatives include, among many others, “development of an international nuclear forensics data bank,” “pursuit of a Fissile Material Cut-Off Treaty,” and “[t]he U.S. should continue to refurbish and update its stockpile as necessary without creating new nuclear weapon capabilities through the ‘spectrum of options’ approach.”\(^\text{72}\)

The Congressional Commission on the Strategic Posture of the United States released its report in May 2009 and was divided on the issue of U.S. ratification of the CTBT.\(^\text{73}\)

A Council on Foreign Relations task force, in a 2009 report, “believes that the benefits outweigh the costs and that the CTBT is in U.S. national security interests.”\(^\text{74}\)

On September 23, 2010, 24 foreign ministers issued a joint statement on the CTBT calling on “all States that have not yet done so to sign and ratify the Treaty without delay” and committing themselves “to make the Treaty a focus of attention at the highest political level.”\(^\text{75}\)

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Assembly adopted a resolution (A/RES/65/91) urging states to sign and ratify the CTBT; the vote was 179 in favor, 1 against (North Korea), and 3 abstentions (India, Mauritius, Syria). In contrast to the similar resolution in 2008, this resolution had the sponsorship of all five nuclear weapon states as recognized by the NPT.  

**CTBT & INDIA**

India has pursed a consistent and principled policy on Nuclear disbarment and the CTBT. It is the Policy of & nonaligned country that achieved its independence through non violence. It is a policy rooted in the conviction that nuclear weapons are weapons of Mass destruction and the elimination of nuclear weapons will enhance the security of all people and all nations.

The CTBT had always been visualized as the first definitive and irreversible step along the road to nuclear disarmament. It should have done so in two ways. First, the CTBT should prohibit the designing and development of newer generations of nuclear weapons. Secondly, such CTBT should also signal a shift in the perception of the nuclear weapon states who have sought to ensure their security through their nuclear arsenals for the last fifty years.

When the negotiations began though some what optimistically, that the nuclear weapon states were ready to take such a first step on the road to nuclear disarmament. The negotiations have shown otherwise. It is a sad fact that the nuclear weapon states show no interest in giving up their nuclear hegemony. The negotiations have ended without consensus because the text does not reflect the aspirations of the vast majority of countries for a nuclear weapon face world. India is not alone is voicing these concerns . Many other countries also share this convocation. It is a matter of regret that the conference on Disarmament has stopped negotiations on a CTBT to put forward a flawed text, to meet artificial deadlines, instead of taking advantage of the current moratorium on testing to continue negotiations for a universal CTBT that would meet the terms of the mandate.

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It is also a fact that we have certain national security concerns which make it impossible for US to subscribe to a draft CTBT that is merely on instruments for horizontal no proliferation rather than disarmament. Our security concerns oblige US to maintain our nuclear option. Yet, it is a fact that since we demonstrated our capability in 1974, we have exercise unparalleled restraint. We have refrained from carrying out tests and from weapon ising our option. However, we cannot accept constraints on our options as long as nuclear weapon states continue to rely on their nuclear arsenals for their security. Our position on the CTBT has emerged out of an open and intense national debate at pointed out that the draft treaty would permit vertical proliferation by permitting tests by nonexclusive means. Our policy reflects national consensus.

After we announced our decision that we could not subscribe to this draft treaty, the Article on Entry into force was modified suddenly with the clear aim of imposing obligations on India. This was at the insistence of a small number of countries. Such a provision is unprecedented in treaty negotiating practice and contrary to international legal norms. It denied India its sovereign right of exercise of consent and contains an elements of implied coercion. It placed us in a position that we did not wish to be in. We were told that the text could not be modified but, as we have seen, the draft text has been modified, as we have seen, the draft text has been modified to accommodate one country’s concerns. If this change had not been introduced or the Entry into force provisions amended to address our concerns, we could have stood aside and let the draft text be adopted by those who support it. But his attempt at coercion left us no choice but to indicate our opposition to the draft text, some friendly but to indicate our opposition to the draft text, some friendly countries approached us with proposals of bilateral assurances with regard to this article. While we appreciate the spirit in which these gestures were made, we believe that in a multilaterally negotiated treaty, such private assurances did not address our concerns.

We are aware that some countries with which we have traditionally enjoyed close and mutually beneficial relations have adopted a different approach on the CTBT issue. We have, in keeping with our practice, continued our dialogue. With these countries in order to sensitise them to our concerns. Mutual respect implies respecting the right of sovereign national to pursue their national
interests even if there are differences of view. We are committed to developing and maintaining good relations with all countries and are confident that our differences on this issue will not affect our bilateral ties and friendly relations.

India has had a long standing commitment to multilateralism. This has further accentuated today with the growing integration of our economy into global structures. We are increasingly engaged in our region. The Indian Ocean Rim Initiative and our membership of the ARF are recent developments that reflect acknowledgement of our constructive approach. In SAARC, We are trying to promote effective structures to enhance prosperity which can ensure stability in the region. India will remain engaged in pursuing her policies for promoting place, prosperity and stability and enhancing security in our region. We will also continue enhancing security in our region. We will also continue to work with other countries to strive. For achieving a nuclear weapon fee world.

In the era of nuclear disarmament we are told that US and the Russian Federation no longer target their missiles at each other. Yet, there is a reluctance to accept the notion that elimination of nuclear weapons is the only practical and lasting way to deal with the scourge of nuclear proliferation, as well as to enhance global, security. The acceptance of the philosophy of interdependence and collective security has been successful in dealing with biological and chemical weapons, and we see no reason. Why it cannot be used to rid the world of the nuclear shadow.

Last year, the CTBT was concluded after two and a half years of intensive negotiations. It is a source of great disappointment to US that India, which had made the first call for ending nuclear testing in 1954, was unable to subscribe to the treaty because of its fundamental short comings. The CTBT, as it has emerged, is not longer linked to the process of nuclear disarmament. Further, it only prohibits nuclear explosion testing and, therefore, cannot be described as a comprehensive treaty that would ban all kinds of nuclear testing whether based on explosions or other techniques.

We are not optimistic enough to call for nuclear disarmament to be achieved over night. Yet, we are also realistic enough to believe that the end of the cold war offers us a unique opportunity to demonstrate our commitment to the
goal of a nuclear weapon-free world. This commitment should be translated by commencing negotiations on a Nuclear weapons convention that would prohibit the development, deployment, production, stock piling and transfer of nuclear weapons as also provide for their elimination with in an agreed time frame. It is heartening to note that there is a growing interest in discussing these issues particularly, the technical aspects relating to verification.

Our stand on the comprehensive Test bank Treaty has generated a great deal of debate. Many of you would recall that India was among the first countries demand a complete test ban since the 1950’s. We Welcome the Partial test ban Treaty as a first step towards a comprehensive ban. We have never departed from our goal which is to see a nuclear weapon-free world which for US, is an article of faith. In 1988, the then Indian Prime Minister, Mr. Rajiv Gandhi, Presented to the United Nationals a phased programme aimed as total universal nuclear disarmament by all countries of the world. Such a programme must necessarily begin with the nuclear powers.

Yet, it seems that cold war mindsets persist. Some countries continue to rely on nuclear weapons for their security while trying to fine time their nuclear doctrine and find new roles for their nuclear arsenals. India has always followed a consistent, and Principled policy on nuclear disarmament. It is based on the conviction that these weapons are inherently destabilizing and the global elimination of all nuclear weapons will enhance the security at all nations. We have rejected partial and discriminatory approaches, as reflected in the NPT and the recently concluded CTBI that are dictated by the technological preference of the nuclear weapon states and enable them to perpetuate their nuclear hegemony.

An Indian View Point :-

India’s position is not merely an idealistic position but rooted in our own national interest. With a declared nuclear weapon state to our west and vessels carrying nuclear weapon state north, another undeclared nuclear weapon state to our west, and vessels. Carrying nuclear weapon sailing in the Indian Ocean, India cannot afford to give up here nuclear option or accept any restraint on it, unless there is genuine acceptance of the goal of nuclear disarmament and concrete
movement towards it in a step by step manner as part of a well defined nuclear disarmament process.

It has been India’s consistent policy not to sign unequal, discriminatory treaties. That is why India was not a party to the Nuclear Non-Proliferation Treaty (NPT). India undertake a peaceful nuclear test as for back as 1974 but, as a mark of unparalleled restraint, has studiously refrained from weaponisation. It has scrupulously observed the provisions of the NPT even while remaining out of it. We have not exported nuclear know-how or material to foreign countries. Neither have we openly nor in a clandestine manner helped the process of proliferation. Other have, including some of the major nuclear powers.

The NPT was extended indefinitely in 1995. An openly discriminatory treaty of great importance for the security of the world and the fate of humankind was given an indefinite lease of life. We stood away from the treaty but we were not indifferent to proliferation of nuclear weapons, vertical or horizontal. We were among those countries responsible for inscribing nuclear disarmament on the UN agenda, and since the mid 50s, we have been unwaveringly committed to a nuclear weapon free world. Therefore, when the CTBT came up for debate at the Disarmament conference in Genera, we made it abundantly clear that we would not go with a draft unless it contained a pledge by the nuclear powers that they would proceed towards complete nuclear disarmament with in a reasonable time frame.

Unfortunately, our position was, not taken seriously by the world’s nuclear powers. While the reservations of other states were entertained, our request were studiously denied. In what was devised that made entry into force of the treaty contingent upon Indian ratification. This, after we had firmly expressed our selves against the treaty and all this was done without consultations with all the members of the conference.

The NPT embodies the international community's efforts to prevent the further spread of nuclear weapons and its aspirations for global disarmament. It also facilitates cooperation in the peaceful uses of nuclear energy under International Atomic Energy Agency (IAEA) safeguards. For these reasons, the
NPT is generally recognized as the foundation of the international nuclear nonproliferation regime.

The NPT took effect on March 5, 1970, after being opened for signature on July 1, 1968. The growth in the treaty's membership toward universality has been steady. Beginning with 43 original parties in 1970, membership increased to 96 in 1975, 132 in 1985, and 178 in 1995. By July 1998, 187 parties had joined the NPT. Cuba acceded to the treaty on November 4, 2002, thereby becoming the 188th party to the NPT. More countries have ratified the NPT than any other arms control or disarmament agreement in history. As of April 2004, only three states have not signed the treaty: India, Israel, and Pakistan. Democratic People's Republic of Korea (DPRK, also known as North Korea) announced its withdrawal from the NPT on January 10, 2003, and its withdrawal came into effect on April 10, 2003.