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## Accelerating the Entry Into Force of the Comprehensive Test Ban Treaty and Securing a Fissile Material Cut Off Agreement

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Ten years ago this month, the Conference on Disarmament (CD) concluded negotiations on the hardest fought and longest sought nuclear arms control treaty: the Comprehensive Nuclear Test Ban Treaty (CTBT). It was endorsed and opened for signature at UN headquarters the next month. With the completion of the CTBT, negotiations on a global fissile material cut off treaty (FMCT) became the next major priority for the CD.

Today, despite widespread support for the CTBT, a *de facto* global nuclear test moratorium, and professed support for a global FMCT by every state that has acknowledged it has nuclear weapons, the CTBT has still not entered into force and the CD has not yet initiated FMCT negotiations.

This paper will briefly discuss the status these two vital steps to cap the growth and further development of nuclear arsenals. It will also outline several steps that can and must be undertaken by governments to accelerate progress on CTBT entry into force and the conclusion of an FMCT.

### **A. The Comprehensive Test Ban Treaty**

In the context of today's ongoing tensions between nuclear-weapon states and would-be nuclear-weapon states, illicit nuclear trading, and efforts by the nuclear-weapon states to improve their nuclear weapon capabilities, the CTBT is more important than ever. Its entry into force is overdue.

Establishing a global and effectively verifiable zero-yield test ban through the CTBT is essential for four major reasons: to impede the development of new types of nuclear warheads and reduce dangerous nuclear arms competition; to obstruct the emergence of new nuclear powers; to ensure completion of the international monitoring system and availability of on-site inspections to detect and deter cheating; and to restore confidence in the nuclear Nonproliferation Treaty (NPT). The CTBT was among the steps identified in the 1995 decision of the NPT Review and Extension Conference and 2000 Review Conference.

Article XIV of the CTBT requires that a specific list of 44 states must ratify the treaty before it can formally enter into force. Thirty-four of these states, including France, Russia, and the United Kingdom have signed and ratified. Sadly, a relatively small but important set of CTBT "rogue states" are standing in the way. The failure of the U.S. Senate to give its advice and consent for ratification in 1999, the current administration's opposition to the treaty, and the reluctance of 9 other key states to approve the treaty means that the formal entry into force of the treaty is still years away.

## **Maintaining the Conditions Necessary for CTBT Entry Into Force**

The first requirement for CTBT entry into force is to avoid further adverse developments that could lead to a resumption of testing or increase the difficulty of securing the ratification of the remaining hold-outs.

Failure in any one of the following areas could sink the CTBT and lead to a dangerous action reaction cycle of nuclear proliferation:

**1. Maintaining the U.S. Signature on the CTBT.** Shortly after taking office senior Bush officials announced they would not ask the Senate to reconsider the CTBT. Since 2001, the Bush administration has tried to deflect domestic and international criticism of its policy by insisting that there are no immediate plans to resume testing. But at the same time, the Bush team has considered or pursued a series of moves that could erode the technical and legal barriers blocking the resumption of testing, and some Senators, such as Jon Kyl (R-AZ), have proposed a legal review of U.S. obligations under the CTBT.

In one instance, officials from the Office of the Secretary of Defense circulated a memorandum in January 2002 that proposed that President Bush repudiate the United States 1996 signature on the CTBT, which, under a common understanding of international law (Article XVIII of the Vienna Convention on Treaties) still bars the United States from conducting nuclear test explosions. Officials at the National Security Council, then preoccupied with the war in Afghanistan and other matters, chose not to schedule a meeting to consider the proposal.

It is still possible that officials in the Bush administration might still seek to repudiate the U.S. signature, though I believe it to be unlikely so long as international pressure on the United States to ratify the treaty continues and is communicated at the highest levels.

**2. Avoiding New Weapons Development.** Though the Energy Department has determined each year for the last decade that the U.S. nuclear arsenal remains safe and reliable without nuclear testing, critics of the test ban still claim that as time goes on there will likely have to be some tests performed in order to address possible aging problems in the nuclear stockpile.

The good news is that all of the technical evidence available shows that these critics are wrong. As a July 2002 report of the U.S. National Academy of Sciences, reported, the United States "has the technical capabilities to maintain confidence in the safety and reliability of its existing nuclear-weapon stockpile under [a test ban], provided that adequate resources are made available to the Department of Energy's nuclear-weapon complex and are properly focused on this task."

According to the National Academy panel, which included three former lab directors, age-related defects mainly related to non-nuclear components can be expected, but nuclear test explosions "are not needed to discover these problems and is not likely to be needed to address them." Rather, the panel says, the key to the stewardship of the arsenal is a rigorous stockpile surveillance program, the ability to remanufacture nuclear components to original specifications, minimizing changes to existing warheads, and non-explosive testing and repair of non-nuclear components.

However, the Bush administration has initiated a new and poorly defined program to design and build new warheads to "replace" certain warhead types already in the arsenal. This "Reliable Replacement Warhead" program, or RRW for short, could become a problem. The impetus for

the program is the claim among many lab officials and some congressional members that the current approach to stockpile stewardship is unsustainable and unreliable and that RRW will allow U.S. weapons scientists to exercise their skills. The Department of Energy said in 2005 that the goal of the RRW program is to produce a small quantity of new replacement warheads by 2012-2015 for the W-76 warhead, which is widely deployed on U.S. submarine-based ballistic missiles.

While the RRW proponents claim the program will actually reduce the possibility that the United States might resume nuclear testing to test fixes in the current arsenal, it is possible that if the warhead designs are too extensively reworked, technical uncertainties may arise that lead some in the U.S. nuclear, military, or political establishment to press for the resumption of nuclear testing.

Furthermore, given the fact that current U.S. nuclear doctrine calls for new nuclear capabilities to help make nuclear weapons more “useable” in warfare, the RRW program may also open the way to research, development, production, and even testing of new nuclear warheads with new military capabilities. Even if nuclear testing is not required, such work may provide other states with cause or an excuse to pursue new nuclear weapons capabilities and spur further nuclear arms competition.

China is slowly improving its long-range nuclear arsenal and could improve its ability to place multiple warheads on its ICBMs if it were to resume nuclear testing.

To head off these possibilities, *all states* possessing nuclear weapons should agree to halt all qualitative improvements in their nuclear warheads, whether or not these improvements constitute new warhead designs that might require nuclear proof testing or new “replacement” warheads or “modifications” of existing designs that provide new military capabilities.

**3. Support for the CTBTO and International Monitoring System.** Most Bush administration officials, even those who do not support CTBT ratification, recognize that the United States benefits from monitoring capabilities that are currently only available through the CTBT’s International Monitoring System (IMS), including monitoring stations in Russia, China, and other sensitive locations that the United States would otherwise not be able to access. As a result, the United States has continued to pay the majority—but not all—of its annual contribution to the CTBTO Preparatory Commission.

But the CTBTO is vulnerable to cuts in the U.S. contribution to the effort, which comprises some 20% of the organization’s annual budget of just under \$100 million (USD). In 2005, the Bush administration requested and Congress later approved \$14.35 million for the CTBTO’s IMS-related activities, which is \$7.65 million below the U.S. assessment.

Further reductions of the U.S. contribution would put the United States further in arrears and would have a severe impact on the ability of the CTBTO to operate at all. It may also erroneously be interpreted by some states as a sign that the United States is preparing to get back in the business of nuclear weapons testing. Without a near-term influx of funds from the United States or other states to make up the shortfall, the CTBTO may need to trim back on its work to build and prepare the treaty’s monitoring and verification system.

**4. Reinforcing the Indian Nuclear Test Moratoria.** During the course of the recent debate in India about the Bush-Singh proposal to end the international civil nuclear trade ban on India in exchange for India's commitment to maintain its nuclear test moratorium and adopt other nonproliferation practices, opposition politicians and some weapons scientists have hinted that India may want to resume testing. While the current Indian Government officially claims that it has not need to conduct further nuclear tests at this time, India is slowly modernizing its strategic forces and a future BJP-led government could change policy unless the international community works harder to draw India into the CTBT regime.

**5. Improving Test Site Monitoring and Transparency Measures.** Ongoing activities at the U.S., Russian, and Chinese test sites, primarily in the form of subcritical nuclear experiments, may breed allegations that these governments are conducting surreptitious nuclear test explosions. In fact, in the spring of 2002, U.S. intelligence officials briefed Congress that they believed that Russia may have conducted supercritical nuclear experiments at the Novaya Zemlya test site. While this assessment was based on limited information and was technically-flawed, it reveals the risks of operating in a climate of opacity and suspicion.

All acknowledged nuclear-weapon states should pursue initiatives to increase transparency at their test sites to dispel any concerns about ongoing activities at those sites and clear up erroneous allegations. In fact, in 2001, Russia proposed "additional verification measures for nuclear test ranges going far beyond treaty provisions," after entry into force. Such steps can and should be pursued before entry into force.

### **Moving Toward Entry Into Force**

The good news today is that the number of states-parties has gradually risen, most of the recent "threats" to the CTBT have been turned back, and most of the conditions necessary for progress toward entry into force are improving. But to move forward concerned governments must be far more proactive than they have been to date. To alter the current stalemate on the CTBT, treaty work harder in the following key areas:

**1. Rekindling the Debate in the United States.** More than anything, there must be renewed leadership in Washington for the reconsideration and ratification of the CTBT. This leadership is not there at the moment, but may develop in two years when there is a new administration. As the United States approaches its 2008 election, it is vital that key U.S. Senators help put the treaty back on the U.S. political map through hearings, work with their colleagues, and through exchanges with technical experts and allied governments. Close allies of the United States can stimulate this process through public and private calls to Republican and Democratic political leaders and presidential candidates to make the case that the CTBT is a high priority and is essential to strengthening the global nuclear nonproliferation system.

**2. Action by China.** The leadership in Beijing must also fulfill its repeated and now somewhat empty promise to pursue the ratification process, which together with U.S. action, could catalyze India and Pakistan to enter into the CTBT or else a legally-binding, bilateral test ban. The Chinese government says that it "fully supports the CTBT" and its early entry into force. It claimed at the 2005 Article XIV Conference on Entry Into Force—as it did at the 2003 conference—that it has submitted the treaty to the Standing Committee of People's National Congress for approval and that "all necessary work is underway in a serious and orderly fashion." There does not appear to be any domestic political obstacle in the way that should

prevent China's ratification before the end of this year. In the absence of such action, China owes a detailed explanation for its continued delay and a timetable for its ratification process.

**3. Action by other CTBT Hold-Out States.** Other states necessary for entry into force must do their part and ratify the treaty. By securing the ratification of states such as Colombia, Egypt, and Indonesia, and Israel, the pressure on the remaining "hard cases" (United States, China, India, Iran, Pakistan, and North Korea) will build and/or the possibility of provisional application of the CTBT will become more realistic.<sup>1</sup> Special Representative for the CTBT Ambassador Jaap Ramaker and the Friends of the CTBT group have been pursuing this strategy with some success. Vietnam, one of the 44 states required for entry into force, ratified earlier this year. There is no serious reason why states such as Indonesia and Colombia, which are leaders of the NAM and profess to support the CTBT, should continue to dither.

**4. High-level engagement from the "Friends of the CTBT."** The numerous statements by individual governments, the EU, the NAM, the OAS, and the Article XIV CTBT Entry Into Force Conference in favor of the CTBT are essential to the maintenance of the test ban norm and pressure on hold-out states to sign and/or ratify the treaty. On the 10<sup>th</sup> anniversary of the treaty's opening for signature, dozens of foreign ministers are expected to reiterate their call for other states to join the CTBT.

While important, such statements are not sufficient. Unfortunately, top leaders of states committed to the CTBT also often fail to press their counterparts in the 10 CTBT hold-out states to reconsider their opposition to the treaty or move forward with ratification. If they are truly committed to the treaty, friend states must exercise much more consistent, top-level diplomacy in support of CTBT entry into force.

**5. Test Ban Diplomacy the Nuclear Suppliers Group.** In the coming months, the United States is expected to put forward another version of its proposal to exempt India from the guidelines of the NSG that restrict nuclear commerce with states, such as India, that do not accept full-scope IAEA safeguards. The move would be unprecedented, especially for a state (India) that still refuses to consider signing the CTBT, and from a state (United States) that refuses to reconsider ratification of the CTBT. The situation is also unprecedented in that it provides states supportive of the CTBT with an opportunity to leverage more support from states that do not fully support the treaty.

Rather than ignore this opportunity, NSG member states should require— as one condition for exempting India from the NSG full-scope safeguards standard—that New Delhi makes a legally-binding commitment not to conduct nuclear weapon test explosions or nuclear explosions of any kind. At the very least, key NSG states should seek a commitment from the United States government to reconsider its policy on the CTBT by initiating a formal interagency review no later than the end of mid-2009.

Entry-into-force of the CTBT is within reach. But as a result of the actions of a few of states, the viability of a verifiable, comprehensive ban on nuclear tests – and the future of the NPT itself – is in jeopardy. No single government should be allowed to stand in the way of the historical opportunity to permanently end the scourge of nuclear testing, an indispensable step towards eliminating nuclear weapon threats and preventing nuclear war.

## **B. The Fissile Material Cut Off**

Like the CTBT, progress toward a global, verifiable fissile material cut off (FMCT) is stalled, but for different reasons. Ending the production of fissile material—plutonium and highly enriched uranium—for weapons purposes has been on the international arms control and nonproliferation agenda for decades.

The FMCT would reinforce the nuclear Nonproliferation Treaty (NPT) and lock in the halt on production of fissile material for weapons currently observed by the five established nuclear-weapon states: China, France, Russia, the United Kingdom, and the United States. Perhaps more significantly, a verifiable FMCT would cap the supply of bomb material available to NPT holdouts India; its nuclear rival, Pakistan; and Israel.

There has been a near-critical mass of support for the FMCT for several years. Four of the five original nuclear-weapon states have publicly declared they have suspended fissile production for weapons purposes. The fifth, China, is believed to have halted such production. India and Pakistan continue to produce plutonium and highly enriched uranium, but have stated that they support negotiation of a global FMCT. Israel's fissile production activity is not well known, but it has not publicly expressed opposition to a multilateral and verifiable FMCT. North Korea restarted production of relatively small quantities of plutonium for weapons purposes, but has agreed to verifiably halt such production in the past.

Though the Conference on Disarmament adopted in 1995 the Shannon mandate for the negotiation of an effectively verifiable global FMCT, the concept has been relegated to the diplomatic shadows as differences over negotiating priorities have blocked negotiations.

### **New Difficulties and Opportunities**

In 1993, China shifted its position at the Conference on Disarmament and said it would support the so-called "A-5" proposal to form ad hoc working groups on the FMCT and other issues of concern. But the next year, the United States broke with its own longstanding support for a "verifiable" FMCT and announced that it would not support negotiations based on the Shannon mandate. A July 29, 2004 Bush administration release said: "Effective verification of an FMCT would require an inspection regime so extensive that it could compromise key signatories' core national security interests and so costly that many countries will be hesitant to accept it."

On May 18, 2006, then-Acting Assistant Secretary for International Security and Nonproliferation Stephen Rademaker again urged conference members to devote their energies to the FMCT and offered a draft FMCT text that would establish a declaratory ban on fissile production for weapons that would enter into force when the five original nuclear weapon states deposit their instruments of ratification. With regard to verification, Rademaker said it would be up to states to monitor each other's compliance, and if a serious problem arose, the UN Security Council could be requested to look into the matter. He told reporters afterward that the draft U.S. agreement was not a "take it or leave it" proposition and that the United States believed that it could be negotiated within a year.

However, Rademaker also said the United States sees "no need...for the negotiation of new multilateral agreements on nuclear disarmament, outer space, or negative security assurances." Other states, including China and Russia insist that the CD should pursue a "balanced program" of action.

Even if the deadlock over the CD's agenda can be resolved, there are ongoing differences between the United States and most other CD members on the substance of a fissile material cut off treaty. The two most significant issues of contention are whether the treaty should address existing stockpiles and whether it should have verification measures.

Several countries assert that a treaty on fissile materials should not only end future production for weapons but also prevent existing stockpiles from being used to build new weapons. Pakistani Ambassador Masood Khan further argued May 16 that stockpiles had to be dealt with because "inequalities should not be frozen and perpetuated." The U.S. draft would exclude stockpiles. China and Russia agree with such an exclusion.

In response to the ongoing U.S. opposition to negotiating verification measures for an FMCT, several delegations, including Australia, Brazil, Canada, India, South Africa, the United Kingdom and Japan, have expressed their preference for an effectively verifiable FMCT. To move forward, however, they have said they would support negotiations on the FMCT without prejudice to the final outcome on verification.

Most states, including India and Canada, continue to argue that the FMCT can and should be effectively verifiable. Canadian Ambassador Paul Meyer warned May 16 that "an FMCT which proves ultimately to be merely a vague declaratory statement of good intentions about future production does the international community a disservice." On May 17, India's Ambassador Jayant Prasad said "we believe that an FMCT should incorporate a verification mechanism in order to provide the assurance that all States party to it are complying with their obligations."

Even if negotiations on the FMCT were to begin without prejudice to the outcome on verification, it is clear that it would take years to achieve a consensus on what level of verification and transparency would be necessary to achieve confidence that states are complying with the treaty.

### **Moving Forward**

The situation in Geneva is troubling and intractable unless positions change. While the United States is not the only party guilty of blocking progress, it could do the most to move the FMCT forward by:

- **Agreeing to a "balanced" CD work program; and**
- **Agreeing to negotiate toward an effectively verifiable FMCT.**

It is theoretically possible that China and Russia might drop their insistence on ad hoc discussion groups on the subject of preventing an arms race on outer space, but given that they have already compromised on their earlier position to hold *negotiations* on these issues, this is not likely. It is also unlikely that NAM states at the CD will drop their support for an ad hoc discussion group on nuclear disarmament given that this is has been the longstanding goal of these states.

As most people familiar with international safeguards realize, verifying that a few key states are not producing weapons-grade plutonium and highly-enriched uranium at less than a dozen known production facilities worldwide is a difficult but technically possible and feasible task. (For more discussion, see: "Can a Fissile Material Cut Off Treaty Be Effectively Verified?" by

John Carlson, *Arms Control Today*, January/February 2005.) The United States in the minority on the verifiability of an FMCT and should be more flexible with respect to achieving a verification and transparency regime that would satisfy other states.

One useful way in which the CD might follow up its recent dedicated discussion on the FMCT would be to initiate a series of technical workshops on strategies to verify a fissile cut off. Such workshops should also involve International Atomic Energy Agency safeguards experts.

In addition, states supportive of a verifiable FMCT and skeptical of allowing civil nuclear trade with India could use their leverage in the context of the NSG. Before granting an exemption for India from the NSG full-scope safeguards standard, NSG member states should secure a commitment from the United States to reconsider its policy on the verifiability of the FMCT and its opposition to the “A-5” proposal.

### **An Alternative**

If the Conference on Disarmament fails by the end of this year to take up the new U.S. proposal on the FMCT, the United States and other states should consider a new approach to break the deadlock.

Based on the recent U.S. draft FMCT proposal, the United States in conjunction with other leading states should invite China, France, Russia, the United Kingdom, India, Israel, and Pakistan to a diplomatic conference to initiate negotiations toward a multilateral treaty—with modest verification and transparency provisions—banning the further production of fissile material production for weapons purposes as a first step toward a verifiable global fissile production cutoff treaty. As this initiative is pursued, further work at the CD on the FMCT and/or other issues could move forward.

In July 2005, Indian Prime Minister Singh has committed India to adopt the same nonproliferation standards and practices as the other advanced nuclear states. Those practices include stopping fissile production for weapons. Nevertheless, India may object to such an approach because it believes its “minimal nuclear deterrent” is not yet sufficient, it should recognize that the negotiation and entry into force of such an agreement will take some time—time enough for it to continue to produce additional fissile material for its arsenal. It should also recognize that by joining such an agreement, opposition at the NSG to changes in export restriction now affecting India would evaporate.

For China, such an arrangement may be difficult to accept because it too wants to keep its fissile production options open, but it should recognize that it would cap India’s program and reduce Pakistan’s demands on China to assist it in keeping pace with its larger and more capable neighbor.

If the world’s leading governments are genuinely interested in halting the growth and the development of the world’s nuclear stockpiles and ending the stagnation in the global nuclear disarmament and nonproliferation process, now is the time to make their rhetoric a reality through action on the CTBT and FMCT.

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<sup>1</sup> Some supporters of the CTBT have proposed that states-parties consider some form of provisional application if no significant headway toward securing ratifications among the remaining Annex 2 states and if financial support for

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the CTBTO erodes significantly. However, political support for such an approach does not yet exist and its pursuit could diminish support for the direct route to formal entry into force. While consensus on provisional application may not be necessary from a legal perspective, politically, such a move would require near-consensus at least among ratifying states. Building such a consensus would require time and coordinated strategies among states-parties in favour of pursuing such a strategy—perhaps as much or more than it will take to convince the remaining hold out states to join. Provisional EIF without the participation of the United States, China, India, Pakistan, Israel, and Iran is little or no better than the current situation in which all but two of these states have already signed the CTBT and are bound by their signature not violate the purpose or intent of the treaty.