

## Appendix C

# THE COMPREHENSIVE NUCLEAR TEST BAN TREATY

The two biggest milestones in the development of the nuclear non-proliferation regime between April 1995 and 1998 were the successful extension of the Nuclear Non-Proliferation Treaty (NPT) to an indefinite duration and the completion of the Comprehensive Test Ban Treaty (CTBT) in September 1996. A comprehensive nuclear test ban was prefigured in a pledge embodied in the 1963 Partial Test Ban Treaty and was repeated as a goal in the NPT preamble. The U.N. General Assembly's adoption of the CTBT, on September 10, 1996, paved the way for a permanent ban on nuclear explosive testing to become an integral part of the nuclear non-proliferation regime.<sup>1</sup>

The rationale for the CTBT was that it would “constrain the development and qualitative improvement of nuclear weapons; end the development of advanced new types of nuclear weapons; contribute to the prevention of nuclear proliferation and the process of nuclear disarmament; and strengthen international peace and security.”<sup>2</sup> Some opponents doubted that the treaty would totally prevent qualitative improvements of existing nuclear arsenals, or the development of new weapon designs, given the technological capabilities of the established nuclear-weapon states to experiment without fission testing.<sup>3</sup> Other critics objected to the constraints that the treaty might place on the reliability of the U.S. nuclear weapons stockpile, or doubted the verifiability of the treaty in other parts of the globe. Yet others objected to the uncertainties posed by complicated entry-into-force provisions. But it is widely recognized that the CTBT will be, once it comes into force, a major advance in restraining the nuclear arms competition and inhibiting nuclear weapons proliferation.

**Background.** The Conference on Disarmament (CD) in Geneva negotiated the CTBT over a period of two-and-a-half years.<sup>4</sup> Negotiations began in January 1994 (based on the mandate in the December 1993 U.N. General Assembly consensus resolution 48/70) and concluded in mid-1996. Ambassador Jaap Ramaker of the Netherlands, Chairman of the Nuclear Test Ban Committee, met the deadline to complete CTBT negotiation in time for signature at the outset of the General Assembly's fifty-first session.<sup>5</sup> The key controversies that had to be resolved concerned the scope of the treaty, whether peaceful nuclear explosions (PNEs) would be permitted, the conditions for intrusive verification (e.g., challenge inspections), and the terms of entry into force.

Controversy about the scope of the CTBT centered on whether the nuclear-weapon states would be allowed any nuclear explosive exemptions from the test ban to ensure the safety and reliability of their nuclear stockpiles—i.e., very “low-yield” nuclear tests, or “hydronuclear experiments” (HNE)—and on China's demand that “peaceful nuclear explosions” (PNEs) be

allowed for civilian purposes. Initially seeking allowances for experimental low-yield tests, the United States had proposed that a test “which released nuclear energy up to the equivalent of 1.8 kg (4 lb) of TNT explosive power would not be regarded as a violation” of the CTBT.<sup>6</sup> The United Kingdom, France, and Russia wanted any limit on permissible experiments to be set at a higher yield. China officially advocated a ban on any nuclear weapon test explosion but supported an exemption for PNEs.<sup>7</sup>

This controversy began to fade in August 1995, when France and the United States each declared it would support a “true zero yield” CTBT banning any nuclear test explosions and prohibiting hydronuclear experiments. France had been influenced by enormous international criticism of its final series of nuclear tests.<sup>8</sup> The U.S. decision was eased by a JASON report (commissioned by the U.S. Department of Energy), which concluded that sub-kiloton nuclear tests would be of little value in ensuring the reliability of the U.S. nuclear stockpile.<sup>9</sup> Nevertheless, in announcing the U.S. commitment to a true zero-yield test ban, President Bill Clinton explicitly reserved the right to exercise “our supreme national interest rights under a comprehensive test ban to conduct necessary testing if the safety and reliability of our nuclear deterrent could no longer be certified.”<sup>10</sup> On September 14, the United Kingdom followed suit, announcing its support for a zero-yield ban. On October 23, in the aftermath of his Hyde Park summit meeting with President Boris Yeltsin, President Clinton announced that Russia had also agreed to seek a zero yield CTBT.

China continued to insist, however, that PNEs be allowed under a CTBT on the grounds that “any disarmament or arms control treaty should not hinder the development and application of science and technology for peaceful purposes. . . . As a populous and developing country with insufficient per capita energy and mineral resources, China cannot abandon forever any promising and potentially useful technology that may be suited to its economic needs.”<sup>11</sup> At the 1995 NPT Review and Extension Conference, a large, Australian-led group of states had proposed language for a final conference statement that would prohibit PNEs under a CTBT. Given the strong opposition to PNEs by non-nuclear-weapon states—and apparently not wanting to be held responsible for preventing conclusion of the treaty over this demand—China eventually accepted a face-saving formulation proposed by Canada.<sup>12</sup>

China also objected to a treaty right that would allow any given party to demand inspections—so-called challenge inspections—of activities on another's territory. China recognized that such demands would be based on evidence presented by one or two major powers that possessed sophisticated, global “national technical means” (NTM) of verification, such as near-real-

time satellite surveillance. A compromise was eventually reached with China whereby the authorization for on-site (challenge) inspections would require at least 30 votes of the treaty's 51-member executive council.<sup>13</sup>

The issue that dominated the closing stages of the CTBT negotiations concerned the treaty's entry-into-force (EIF) provisions. The issue arose because Russia, China, and the United Kingdom insisted that the 3 nuclear-weapon threshold states—India, Pakistan, and Israel—must become parties to the CTBT before the treaty could take effect. Other nations, including the United States, would have preferred less demanding EIF provisions in order to facilitate early entry into force, and to deny any nation or group of nations the ability to hold its implementation hostage.<sup>14</sup> Chairman Ramaker's compromise formula listed 44 nuclear-capable states (as identified by the IAEA) that were members of the expanded CD (these included the 5 nuclear-weapon states and the 3 threshold states) that would be required to ratify the treaty as a prerequisite for EIF. If the treaty had not entered into force within three years of being opened for signature, Ramaker's formula provided that those states that had already ratified the CTBT could convene a conference to "decide by consensus what measures consistent with international law [could] be undertaken to accelerate the ratification process."<sup>15</sup>

Indian Ambassador Arundhati Ghose formally objected to the EIF provision on June 20, 1996, warning that India was prepared to block a consensus on the treaty text, and thereby prevent its adoption by the CD, unless the provision was made less specific. Ambassador Ghose stated that India "would not accept any language . . . which would affect our sovereign right to decide, in the light of our supreme national interest, whether we should or should not accede to the treaty."<sup>16</sup> India was also opposed to the draft treaty text because it did not contain language definitively prohibiting qualitative improvement of nuclear weapons and committing nuclear-weapon states to a "time-bound" disarmament process.<sup>17</sup> On June 28, at the conclusion of the second part of the 1996 CD session, Chairman Ramaker tabled a draft seeking a consensus. India maintained its opposition on the same grounds as before.<sup>18</sup>

Despite renewed efforts in the CD at the end of July to resolve outstanding differences, the full Nuclear Test Ban Ad Hoc Committee had no choice but to report on August 16 that, due to India's objections, "no consensus" could be reached either on adopting the text of the CTBT or on formally passing it to the CD. In essence, the announcement meant that the CD negotiation had reached a dead end and that no further progress toward opening the treaty for signature could be made in this forum.

On August 22, 1996, Australia moved that the 50th U.N. General Assembly itself consider and adopt the CTBT, opening the treaty for signature at the earliest possible date. The General Assembly adopted the treaty on September 10, by a vote of 158 to 3, with 5 abstentions.<sup>19</sup> The treaty was opened for signature on

September 24, 1996, and on that date was signed by 68 nations, including all five nuclear-weapon states.

The earliest the CTBT can enter into force is September 24, 1998. To accomplish this, however, the CTBT requires that the 44 states that were "members of the [CD] as of June 18, 1996, that formally participated in the work of 1996 session of the Conference," and that have research or power reactors identified by the IAEA deposit their instruments of ratification.<sup>20</sup> As of December 31, 1997, 3 of these 44—India, Pakistan, and North Korea—had not yet signed.<sup>21</sup>

### Synopsis of the CTBT<sup>22</sup>

*Preamble:* The preamble notes that the CTBT serves the goals of both non-proliferation and disarmament and reiterates the international commitment to the "ultimate goal" of eliminating nuclear weapons.

*Basic Obligations:* The treaty parties agree "not to carry out any nuclear weapon test explosion or any other nuclear explosion." This is the "zero yield" formulation which, by not defining a nuclear explosion, seeks to prohibit all nuclear explosions.

*Treaty Organization:* To implement the treaty provisions, a Comprehensive Test Ban Treaty Organization (CTBTO) has been created in Vienna. The CTBTO includes an Executive Council for decision-making and a Technical Secretariat for implementing the treaty's verification provisions.<sup>23</sup>

*Verification:* The treaty's extensive monitoring system includes 24-hour-a-day data collection. The International Monitoring System (IMS) will collect four types of data: seismic, radionuclide, hydroacoustic, and infrasound. Information from these sources is compiled at the International Data Center (IDC), a component of the CTBT based in Vienna. The IDC provides preliminary analysis of the information for treaty parties. When completed, the seismic data collection system will consist of about 170 seismic stations, including about 50 primary stations that send their signals to the IDC in real time. The radionuclide detection system consists of about 80 stations that collect airborne particulates and test for the presence of byproducts of nuclear explosions, such as Xenon. This data is relayed to the IDC on a regular basis. The hydroacoustic and infrasound systems will consist of about 70 sensors on land and underwater that detect the sonic signals produced by explosions. These sensors transmit their data in real time to the IDC.

*Consultation and Clarification:* If a treaty party has questions about "any matter which may cause concern about possible non-compliance," it may request clarification from another party or may request the Executive Council to investigate. In general, the clarifying nation has one or two days to respond.

*On-Site Inspections:* Any state party may request that the Executive Council conduct an on-site inspection to help clarify ambiguous events. After receiving such a request, the Council must make a decision within 96 hours, with a majority vote of at least 30 of 50 members required to support a challenge inspection. If the Council does order such an inspection, the inspec-

tion team must arrive in the suspected nation no less than six days after the inspection request. In making its request for an on-site inspection, a party may present information gathered both from the treaty's data collection network and from that party's own intelligence information (i.e., information based on national technical means).

*Confidence-Building Measures:* To reduce the possibility of misinterpreting legal chemical explosions, such as mining charges, treaty parties are required to notify (preferably in advance) the Technical Secretariat of chemical blasts using more than 300 metric tons of TNT or equivalent blasting material.

*Compliance:* If a suspicious event is inadequately clarified through consultations or on-site inspections, the treaty parties may convene in a special session to "ensure compliance" with the treaty and "to redress and remedy" the situation. The session has three options if it determines that a party has violated the treaty:

- (1) It can restrict or suspend the party's rights and privileges under the treaty;
- (2) It can recommend that "collective measures," such as sanctions, be implemented by the remaining treaty parties; and
- (3) It can bring the matter before the United Nations Security Council. This final option may also be implemented by the Executive Council if the situation is urgent.

*Entry Into Force:* The treaty will enter into force 180 days after 44 specific nations deposit their instruments of ratification with the United Nations. If the treaty has not entered into force by September 24, 1999, the nations that have deposited their instruments of ratification may convene "to consider and decide by consensus what measures consistent with international law may be undertaken to accelerate the ratification process in order to facilitate the early entry into force of this Treaty." The 44 nations required for entry-into-force are: Algeria, Argentina, Australia, Austria, Bangladesh, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Congo (Democratic Republic), Egypt, Finland, France, Germany, Hungary, India, Indonesia, Iran, Israel, Italy, Japan, Mexico, Netherlands, North Korea, Norway, Pakistan, Peru, Poland, Romania, Russia, Slovakia, South Africa, South Korea, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, United States, and Vietnam.

*Duration:* The treaty is of unlimited duration. Any treaty party may withdraw from the pact, giving six-months notice, if treaty-related events "have jeopardized its supreme interests."

*Review:* Review conferences will be held every ten years (or more frequently if a majority of parties agree) to examine the operation and effectiveness of the treaty and to consider new technological developments.

*Peaceful Nuclear Explosions:* If any party wishes, the review conference will consider the possibility of amending the treaty to allow peaceful nuclear explo-

sions. Effecting such an amendment would first require a consensus decision of the review conference to convene an amendment conference. The amendment conference would then need to agree without objection to amend the treaty.

**Prospects for Entry into Force.** Two factors are likely to determine when the CTBT will enter into force. One is the timing of the ratification of the treaty by the five nuclear-weapon states. The other is the willingness of the two prominent holdouts—India and Pakistan—to reverse course, and to sign and ratify the treaty. After India's and Pakistan's May 1998 nuclear explosive tests, it may be difficult for either to adhere to the CTBT unconditionally. Two other states—Israel (which is a signatory) and North Korea—might also delay ratification and final adherence.

Quick ratification of the treaty by the five nuclear-weapon states would increase the incentive for other signatories to ratify. Apparently the other four nuclear powers have been looking for U.S. action on the treaty before initiating or accelerating their own ratification processes.<sup>24</sup> After a year of delay, including a prolonged effort to gain U.S. Senate approval of the Chemical Weapons Convention (CWC), President Clinton transmitted the CTBT to the Senate on September 23, 1997.<sup>25</sup> But as in the case of the CWC, ratification of the CTBT is expected to be a difficult and arduous process. While the Clinton Administration expressed optimism that the Senate's consideration of the treaty will proceed expeditiously, a Senate Foreign Relations Committee spokesman indicated that lawmakers "have a lot of concern" about the CTBT and speculated that the treaty would not be considered before the middle of 1998, at the earliest.<sup>26</sup> The May 1998 nuclear tests in South Asia triggered new statements of skepticism and opposition to the CTBT by U.S. senators.

From the U.S. perspective, the treaty's main political benefit was believed to be that by "helping to dispel the charge that five official nuclear weapon states are perpetuating the Cold War double standard between the nuclear haves and have-nots, it [would] create support for U.S. non-proliferation efforts."<sup>27</sup> Its most important direct military effect would be to constrain the development of advanced nuclear weapons by the emerging nuclear powers.<sup>28</sup> While these benefits are generally recognized, and the treaty enjoys widespread support among the American public, it was slated even before the tests in South Asia to face heavy scrutiny in the Senate on the questions of whether it undercuts the reliability of the U.S. nuclear arsenal and whether it is verifiable.<sup>29</sup> Concerns over verification were heightened after preliminary U.S. intelligence assessment mistakenly claimed that a seismic event in the area close to a Russian nuclear test site (Novaya Zemlya) probably had been caused by a nuclear explosion.<sup>30</sup> The consensus now is that it was a natural tremor.

With respect to the question of whether India and Pakistan would be willing to reverse course and sign the treaty, this seems even more unlikely after the May 1998 tests than before. Since the conclusion of the

treaty, both countries have restated their essential positions: in the case of India, that it will not sign the CTBT unless the treaty includes a timeframe for complete disarmament and, in the case of Pakistan, that it will not sign the treaty until "its concerns about its neighbor are put to rest."<sup>31</sup> Some believe that India and Pakistan, each having tested a series of nuclear devices, might now be willing to sign the CTBT, but India's cryptic hints that this could occur are hedged by much the same conditions that were rejected during the CTBT negotiations in the first instance.

As noted earlier, if the treaty has not entered into force by September 24, 1999, the nations that have

## NOTES

<sup>1</sup>In the mid-1970s, the United States and the Soviet Union concluded two agreements placing ceilings on the permitted yield of an underground nuclear explosion at 150 kilotons (one kiloton is equivalent to the explosive force of a thousand tons of TNT). The 1974 Threshold Test Ban Treaty set this limit for nuclear weapons tests while the 1976 Peaceful Nuclear Explosions Treaty set this limit for "peaceful nuclear explosions." Rebecca Johnson, "A Comprehensive Test Ban Treaty: Signed but Not Sealed," *ACRONYM No. 10*, May 1997, p. 7. The conclusion of the CTBT was consistent with the Principles and Objectives agreed to at the 1995 NPT Extension and Review Conference, which provided, among other things, for "[t]he completion by the Conference on Disarmament of the negotiations on a universal and internationally and effectively verifiable Comprehensive Nuclear-Test-Ban Treaty no later than 1996."

<sup>2</sup>ACDA, "Comprehensive Test Ban Treaty," Factsheet, September 11, 1996.

<sup>3</sup>Rebecca Johnson, "CTBT: Signed but Not Sealed," op. cit., p. 78.

<sup>4</sup>For reviews and analyses of the CTBT negotiations, see Rebecca Johnson and Sean Howard, "A Comprehensive Test Ban: Disappointing Progress," *ACRONYM No. 3*, September 1994; Rebecca Johnson, "Strengthening the Non-Proliferation Regime," *ACRONYM No. 6*, April 1995; Rebecca Johnson, "Comprehensive Test Ban Treaty: Now or Never," *ACRONYM No. 8*, October 1995; Johnson, "CTBT: Signed but Not Sealed," op. cit.; Rebecca Johnson, "Endgame Issues in Geneva: Can the CD Deliver the CTBT in 1996?" *Arms Control Today*, April 1996; Joseph Cirincione, "The Signing of the Comprehensive Test Ban Treaty" (An Arms Control Association Press Briefing with Spurgeon M. Keeney, Jr., Joseph Cirincione, Richard L. Garwin, Gregory E. van der Vink and John Isaacs), *Arms Control Today*, September 1996; Rebecca Johnson, "The Comprehensive Test Ban Treaty: Hanging in the Balance," *Arms Control Today*, July 1996; "The Comprehensive Test Ban Treaty: Analysis, Summary and Text," *Arms Control Today*, August 1996. Factual statements in this section draw extensively from ACDA, "Comprehensive Test Ban Treaty: Chronology During Clinton Administration," Factsheet, September 10, 1996.

<sup>5</sup>U.N. General Assembly Resolution 50/65 was adopted by consensus on December 12, 1995.

<sup>6</sup>Johnson, "CTBT: Now or Never," op. cit., p. 15. Significantly, this U.S. threshold was also tied to a U.S. proposal that would allow a CTBT party to withdraw from the treaty ten years after it entered into force. This was based on a U.S. Department of Energy assessment that it could only assure the reliability of the nuclear stockpile for a ten-year period (Johnson, "CTBT: Signed but Not Sealed," op. cit., p. 8). However, as noted earlier in Appendix B on the 1995 NPT Review and Extension Conference, U.S. National Security Advisor Anthony Lake announced on January 30, 1995 that the United States would no longer insist on a provision in a future CTBT that would allow a party to withdraw from the treaty ten years after it entered into force. He also stated that the United States would extend its existing moratorium on nuclear testing (effective since September 1992) until a CTBT was in place.

<sup>7</sup>Johnson, "CTBT: Signed but Not Sealed," op. cit.

<sup>8</sup>Newly elected President Jacques Chirac announced that, in September, France would resume nuclear testing and conduct eight tests over the following eight months. It would then be ready to

ratified the treaty by then could meet and seek consensus on a set of measures to accelerate the ratification process in order to facilitate the treaty's early entry into force. The treaty does not identify what procedural options would be available to the parties, but those options would likely include bringing the treaty into force provisionally—as was done in the cases of the Conventional Armed Forces in Europe Treaty (CFE) and the General Agreement on Tariffs and Trade (GATT).

sign a CTBT in the fall of 1996. However, in light of mounting international pressure, on January 29, 1996, President Chirac terminated French nuclear testing in the South Pacific. See ACDA, "CTBT: Chronology During Clinton Administration," op. cit.

<sup>9</sup>Johnson, "CTBT: Signed but Not Sealed," op. cit., p. 9. This JASON report had been commissioned by the U.S. Department of Energy.

<sup>10</sup>As cited in Johnson, "Endgame Issues in Geneva," op. cit., p. 15. U.S. support for a zero-yield CTBT, *inter alia*, is conditioned on: (1) "The conduct of a Science Based Stockpile Stewardship program to ensure a high level of confidence in the safety and reliability of nuclear weapons in the active stockpile, including the conduct of a broad range of effective and continuing experimental programs; (2) The maintenance of modern nuclear laboratory facilities and programs in theoretical and exploratory nuclear technology which will attract, retain, and ensure the continued application of our human scientific resources to those programs on which continued progress in nuclear technology depends; (3) The maintenance of the basic capability to resume nuclear test activities prohibited by the CTBT should the United States cease to be bound to adhere to this treaty." See ACDA, "Comprehensive Test Ban Treaty Safeguards," Factsheet, September 22, 1997.

Under the CTBT, experimental programs may use subcritical tests, although some critics argue that subcritical tests violate the spirit of CTBT. These are chemical explosions designed to determine how the components of a warhead, including plutonium or uranium metal, behave under explosive pressures. The data can be used to refine computer models simulating real nuclear explosions. The United States conducted two such tests in July and September 1997 and planned four more for 1998.

<sup>11</sup>Johnson, "CTBT: Signed but Not Sealed," op. cit., p. 27.

<sup>12</sup>"On the basis of a request by any State Party, the Review Conference shall consider the possibility of permitting the conduct of underground nuclear explosions for peaceful purposes. If the Review Conference decides by consensus that such an explosion may be permitted, it shall commence work without delay, with a view to recommending to State Parties an appropriate amendment to this Treaty that shall preclude any military benefits of such nuclear explosions." *Ibid.*, p. 27.

<sup>13</sup>For resolution see editorial "Hope CTBT will be Signed as Soon as Possible," *Wen Wei Po* (Hong Kong), September 11, 1996, in *FBIS*, Sept. 12, 1996.

<sup>14</sup>Johnson, "The CTBT: Hanging in the Balance," op. cit. p. 3.

<sup>15</sup>Craig Cerniello, "India Blocks Consensus on CTB, Treaty May Still Go to U.N.," *Arms Control Today*, August 1996, p. 31. Also see Johnson, "The CTBT: Hanging in the Balance," op. cit. p. 5. Note that the membership of the CD was expanded on June 17, 1996, when 23 new members were admitted for a total of 61.

<sup>16</sup>Johnson, "CTBT: Signed but Not Sealed," op. cit., p. 16.

<sup>17</sup>Cerniello, "India Blocks Consensus on CTBT," op. cit., p. 31; Johnson, "CTBT: Signed but Not Sealed," op. cit., pp. 15, 22-26.

<sup>18</sup>See Barbara Crossette, "India Warns It Won't Sign Test Ban Pact As It Stands," *New York Times*, June 21, 1996; R. Jeffrey Smith, "Nuclear Test Ban Accord Is Elusive as Deadline Nears," *Washington Post*, June 25, 1996; Barbara Crossette, "Nuclear Test Ban Negotiators To End Talks Without Accord," *New York Times*, June 28, 1996;

Fred Barbash, "Nations Fail To Agree on Nuclear Pact," *Washington Post*, June 28, 1996; Fred Barbash, "Nuclear Test Ban Treaty Faces New Risk of Reopening Old Disputes," *Washington Post*, June 29, 1996.

<sup>19</sup>India, Bhutan and Libya voted against. The five abstentions were: Tanzania, Cuba, Syria, Lebanon, and Mauritius. See Johnson, "CTBT: Signed but Not Sealed," op. cit., p. 18. See also ACDA, "CTBT: Chronology During Clinton Administration," op. cit.

<sup>20</sup>See Article XIV (Entry Into Force) and Annex 2 to the treaty. For CTBT text, see <http://www.acda.gov/treaties/ctb.htm> (November 9, 1997). Also see ACDA, "Comprehensive Nuclear Test-Ban Treaty Signatories/Ratifiers," Factsheet, <http://www.acda.gov/factsheet/wmd/nuclear/ctbt/ctbtstg.htm> (November 9, 1997).

<sup>21</sup>ACDA, "Comprehensive Nuclear Test-Ban Treaty Signatories/Ratifiers," *ibid*.

<sup>22</sup>This is a composite based on "CTB Treaty Executive Summary," *Arms Control Today*, August 1996, pp. 17-30; ACDA, "Comprehensive Test Ban Treaty," op. cit.; ACDA, "Comprehensive Test Ban Treaty," Factsheet, September 22, 1997, <http://www.acda.gov/ctbtpage/ctbfs.htm> (November 4, 1997).

As of December 31, 1997, 149 states had signed the treaty and 8 had ratified it. Of the countries whose ratification is required for the CTBT to enter into force, only Japan had ratified. See Arms Control and Disarmament Agency Web site, <http://www.acda.gov/ctbt.htm>; ACDA, "Comprehensive Nuclear Test-Ban Treaty Signatories/Ratifiers," op. cit.

<sup>23</sup>On November 19, 1996, CTBT signatory states met to adopt the Text on the Establishment of a Preparatory Commission for the CTBT Organization. The following day the Preparatory Commission convened to begin the process of developing Rules of Procedure, Financial Regulations, and other necessary measures for the future operation of the organization in implementing the treaty. Since then, the Commission has also begun building the infrastructure for the treaty's International Monitoring System. See ACDA, "CTBT: Chronology During Clinton Administration," Factsheet, September 22, 1997, op. cit.

<sup>24</sup>In Russia CTBT ratification will probably not be considered until late 1998 because of the need to ratify START II and the Open Skies Treaty beforehand.

<sup>25</sup>John F. Harris, "Clinton Tells U.N. He's Ready To Forward Test Ban to Senate," *Washington Post*, September 23, 1997; James Bennet, "Clinton, at U.N., Says He'll Press Senate on Test Ban Pact," *New York Times*, September 23, 1997; Elizabeth Shogren, "Clinton Asks Senate to Ok Nuclear Test Ban; Weapons: President, Using U.N. Appearance to Outline Vision of an Increasingly Integrated World, Also Calls on Other Countries to Ratify Treaty," *Los Angeles Times*, September 23, 1997. ACDA, "Remarks by the President to the 52nd Session of the United Nations General Assembly," <http://www.acda.gov/ctbtpage/ctbunga.htm> (November 4, 1997).

<sup>26</sup>Harris, "Clinton Tells U.N. He's Ready," op. cit. For an extensive collection of documents relating to the CTBT, including early Congressional testimony, see CTBT section of ACDA Web site, <http://www.acda.gov/ctbt.htm>; and Web site of the Coalition to Reduce Nuclear Dangers, <http://www.clw.org/pub/clw/coalition/ctbindex.htm>.

<sup>27</sup>Vincent Dupont and Richard Sokolsky, "On Balance, CTBT Works," *Defense News*, October 13-19, 1997, p. 62.

<sup>28</sup>*Ibid*.

<sup>29</sup>A nationwide poll taken in September 1997 showed that 70.3 percent of Americans think the U.S. Senate should approve the CTBT. See "Poll Shows Support for Nuclear Test Ban Treaty," *U.S. News-wire*, September 26, 1997.

<sup>30</sup>R. Jeffrey Smith, "U.S. Formally Drops Claim of Possible Nuclear Blast," *Washington Post*, November 4, 1997. Also see Bill Gertz, "Russia Suspected of Nuclear Test; Denies Breaking Word," *Washington Times*, August 18, 1997; Jim Wolf, "U.S. Presses Russia on Seismic Event," *Reuters*, August 28, 1997; "Russia Denies It Carried Out Nuclear Test," *Reuters*, August 28, 1997; Lynn Berry, "Russia—Nuclear," *Associated Press*, August 29, 1997; R. Jeffrey Smith, "U.S. Asks for Assurance on Test Ban After Activity Detected at Russian Site," *Washington Post*, August 29, 1996; John Diamond, "US—Russia Nuclear," *Associated Press*, September 13, 1997; R. Jeffrey Smith, "U.S. Official Acted Hastily In Nuclear Test Accusation," *Washington Post*, October 20, 1997.

According to a July 1997 report of the U.S. National Research Council, the United States lacks the technical means to detect and locate all potential small-scale violations of the CTBT. See Robert Burns, "Nuclear Testing," *Associated Press*, July 3, 1997.

<sup>31</sup>Parminder Brar, "Indian and Pakistani Ambassadors Explain CTBT Positions," *USIS Washington File*, June 12, 1997; India Says It Won't Trade Security for N-Treaties," *Reuters*, May 31, 1997. Also see Michael Krepon of the Stimson Center, Amb. Prakash Shah, Permanent Representative of India to the U.N., and Munir Akram of the Embassy of Pakistan, remarks from "A Panel on Facilitating the CTBT's Entry-into-Force," at the Carnegie Endowment Non-Proliferation Conference: *Enhancing the Tools of the Trade*, Washington, D.C., June 9-10, 1997; Tahir Ikram, "Japan Advises Pakistan to Sign CTBT Before India," *Reuters*, July 22, 1997; Sonali Verma, "Japan Cautions India, Pakistan Over Nuclear Treaty," *Reuters*, July 25, 1997; "Indian PM, Mubarak Discuss Economy, Nuclear Test Ban," *Reuters*, October 11, 1997.

On the occasion of the first U.S. subcritical test carried out in July 1997, both India and China raised concerns that the test may have violated the spirit, if not the letter, of the CTBT. See Sonali Verma, "India Says Concerned Over U.S. Nuclear Tests," *Reuters*, July 5, 1997; "China Calls for Adherence to Nuclear Test Ban," *Reuters*, July 3, 1997; Mure Dickie, "China Says Keeping Close Eye on U.S. Nuclear Tests," *Reuters*, July 3, 1997.