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## COMPREHENSIVE NUCLEAR-TEST-BAN TREATY ORGANIZATION (CTBTO): DEVELOPMENTS

**Established:** 19 November 1996

**Duration:** Indefinite

**Number of Signatories:** 181

**Number of Ratifications:** 150

The [Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization](#) (CTBTO Preparatory Commission) is an international organization established at a meeting of States Signatories to the Treaty on 19 November 1996.

### Developments:

**2009:** At the 2009 NPT Preparatory Committee, held 4 to 15 May in New York, [positive statements](#) were made in regards to the early entry into force of the CTBT. In particular, the U.S. and the Chinese delegations, both Annex 2 States who have not yet ratified the Treaty and are critical to the Treaty's entry into force, stated they would pursue ratification of the CTBT.

On 25 May, the Democratic People's Republic of Korea conducted a nuclear test. At least 61 of the IMS stations detected the explosion. 23 of the IMS seismic stations measured the event at 4.52 on the Richter scale, slightly higher than DPRK's 2006 nuclear test which measured at 4.1. Member States of the CTBTO were notified of the event hours before the announcement of the test by the DPRK. Chairman of the Preparatory Commission Peter Shannon and Executive Secretary Tibor Tóth both made [statements](#) immediately after the announcement of the test, condemning DPRK's actions.

From 10-12 June 2009, the CTBTO Preparatory Commission hosted the [International Scientific Studies \(ISS\) Conference](#) at the Hofburg Congress Center in Vienna, Austria. Around 500 scientists from over 80 countries were invited to participate. More than 200 scientific posters were submitted to the conference, studying and assessing the verification regimes' ability to detect a nuclear explosion, covering the areas of atmospheric transport, data mining, hydroacoustics, infrasound, on-site inspection, radio-

nuclide, seismology and system performance. The scientists praised the verification regime and acknowledged that its infrastructure and methods of analysis had greatly improved over the last decade.

On 2 July 2009, Saint Vincent and the Grenadines signed the Comprehensive Nuclear-Test-Ban Treaty, becoming the 181<sup>st</sup> country to sign the Treaty. With the signing of Saint Vincent and the Grenadines, 30 of the 33 Latin American and Caribbean States are now signatories to the Treaty.

As of 14 July 2009, the total number of IMS Certified Stations comes to 238. There are 40 primary seismic stations, 90 auxiliary seismic stations, 41 infrasound stations, 10 hydroacoustic stations, and 57 radionuclide stations. In addition to these 238 stations, there are 10 radionuclide laboratories. 70% of the 337 CTBT verification and monitoring facilities have now been certified.

On 17 August 2009, Liberia ratified the CTBT. Out of 53 African states, 51 have signed the CTBT, while 37 have both signed and ratified the Treaty. Saint Vincent and the Grenadines ratified the CTBT on 23 September, bringing the number of ratifying states to 150.

**2008:** On 12 February 2008, the Permanent Representative of Sweden, Ambassador Hans Lundborg, was elected the Chairperson of the Preparatory Commission for 2008. Ambassador Lundborg expressed a sense of optimism with regard to the prospects for the Treaty's entry into force, noting that already in 2008 three States had ratified the CTBT, including one Annex 2 State (Colombia). The Chairperson commented on the U.S. decision to fund the CTBTO with \$24 million in 2008, stating that the money was "crucial if the CTBTO is to deliver on the build-up of the verification regime."

From 3-5 March, over 60 scientists from 30 countries met in Vienna for the launch of an International Scientific Study (ISS) project to evaluate the CTBT

verification system. In June 2009, scientists will present research on the four verification technologies, system-wide performance, on-site inspection capabilities, atmospheric transport modeling, and new possibilities for IT analysis.

The CTBTO signed tsunami warning agreements with Japan on 11 August and with Australia and the Philippines on 12 September. These new arrangements will use the International Monitoring Stations (IMS) network to add two and a half minutes of warning time onto each country's civilian system.

On 24 September, a joint ministerial conference was held at the UN in New York to promote the Treaty's entry into force. 96 countries endorsed the [joint statement](#), and speakers included Secretary General Ban Ki-Moon, former U.S. Defense Secretary William Perry, and UN Messenger of Peace, actor Michael Douglas. Shortly after the ministerial meeting, Burundi ratified the treaty, and Timor Leste signed, bringing the number of signatories to 180 and the number of ratifying states to 145.

An on-site inspection (OSI) simulation took place the entire month of September near the former Soviet nuclear test site in Semipalatinsk, Kazakhstan. The inspection team correctly ascertained that the contrived seismic event was not likely to be a nuclear explosion. Argon sampling technology was utilized for the first time ever in a field exercise, and the CTBTO learned many practical lessons by operating in challenging, realistic conditions.

November was an important month for the CTBT as three more States ratified the Treaty, bringing the total number of ratifications to 148. Mozambique ratified on 4 November. Malawi and Lebanon both ratified on 21 November. Indonesia signed a tsunami warning agreement with the CTBTO on 10 November.

The work of the 31<sup>st</sup> Session of the Preparatory Commission was concluded in just two days of meetings (17-18 November) even though four were scheduled. This reflected a sense of common purpose among member states and a renewed commitment to the Treaty and the work of the organization. There were feelings of optimism that this period marked the beginning of the political change necessary for entry into force. As expected, Ambassador Tibor Tóth was reappointed for another four-year term as executive secretary.

**2007:** On 17 March 2007, the Provisional Technical Secretariat (PTS) commemorated its 10<sup>th</sup> anniversary. On this day, the number of International Monitoring Stations (IMS) transmitting data to the International Data Center (IDC) was 193. The PTS began work on 17 March 1997 with nine staff members headed by Ambassador Wolfgang Hoffmann: by its 10<sup>th</sup> anniversary, the PTS had 254 staff members.

The 28<sup>th</sup> session of the Preparatory Commission convened from 19 to 22 June 2007. The budgetary situation dominated the session as the Commission encouraged States to pay their assessed contributions in full and in a timely manner. Executive Secretary Tibor Tóth also requested that Member States consider, on an exceptional basis, providing additional resources to the Commission. The Executive Secretary announced he had decided to implement exceptional austerity measures to avoid a provisional cash deficit in 2007.

During a regional CTBTO workshop in Manila, Philippines, the Pacific Island State of Palau announced that it had completed the national ratification process. The workshop was held from 27-29 June 2007 and aimed to promote Treaty ratification in the South East Asia, the Pacific and the Far East (SEAPFE) CTBT regional grouping. The three main issues addressed at the workshop were the political significance of the Treaty, verification technologies and capacity building, and civil and scientific applications of the IMS.

From 17 to 18 September 2007, in accordance with Article XIV of the CTBT, the fifth Conference on Facilitating the Entry into Force of the Treaty was held at the Hofburg in Vienna, Austria. Acting on behalf of the Secretary-General of the United Nations (the depositary of the Treaty), United Nations High Representative for Disarmament Affairs, Mr. Sergio Duarte opened the Conference on 17 September 2007. The Foreign Ministers of Austria and Costa Rica, H.E. Ursula Plassnik and H.E. Bruno Stagno Ugarte, shared the presidency of the Conference.

There were 106 States Signatories and States that had already ratified the Treaty participating in the Conference. Three states that had not yet signed the Treaty, Iraq, Barbados, and Pakistan, attended the Conference with observer status. The International Atomic Energy Agency (IAEA), the Organization for the Prohibition of Chemical Weapons (OPCW), the Or-

ganization for Security and Cooperation in Europe (OSCE), as well as 16 non-governmental organizations also attended the Conference. India, the United States, and the Democratic People's Republic of Korea – all Annex 2 States – were absent from the Conference.

On 18 September 2007, the Conference adopted by consensus a [Final Declaration](#), which outlined measures to promote the entry into force of the CTBT. In the Declaration, States noted the “overwhelming support for the Treaty and its entry into force” as expressed by the “United Nations General Assembly and other multilateral organizations and initiatives.” States also “affirmed the importance and urgency of signatures and ratifications without delay to achieve early entry into force of the Treaty as one of the practical steps for the systematic and progressive efforts towards nuclear disarmament and nuclear nonproliferation.”

Since the 2005 Article XIV Conference, one State had signed the CTBT, while 15, including one Annex 2 State, had ratified the Treaty. The most recent ratifications came from the Republic of Palau and the Dominican Republic on 1 August and 4 September, respectively. At the close of the Conference, 140 States had ratified the Treaty, including 34 of the 44 Annex 2 States (all Annex 2 States must ratify the Treaty before it enters into force).

In preparation for an Integrated Field Exercise (IFE) planned for September 2008 in Kazakhstan, the CTBTO held a training exercise in Hungary on 30 October simulating an on-site inspection. The exercise conducted at Semipalatinsk, the former Russian nuclear test site, involved over 60 scientists and experts in verification technology.

From 12 to 14 November 2007, the Preparatory Commission of the CTBTO held its 29<sup>th</sup> Session. HE Ambassador Jennifer Macmillan, Permanent Representative of New Zealand and Vice-Chairperson of the Commission opened the session on 12 November in the absence of the Chairperson of the Commission, HE Ambassador Ana Teresa Dengo, Permanent Representative of Costa Rica. A total of 99 States Signatories participated in the meeting.

Executive Secretary Tibor Tóth presented his oral address at the first plenary meeting, addressing the financial situation of the organization in 2007, the

2007 Conference on Facilitating the Entry into Force of the Comprehensive Nuclear Test Ban Treaty, verification achievements, restructuring of the PTS, and the 2008 Program and Budget.

With regard to the implementation of austerity measures and shortfall in payments of assessed contributions, contingency margins of approximately \$16 million were imposed on a number of PTS activities. However, there was a significant increase in payment of full and partial assessed contributions. The number of States Signatories paying in full rose by roughly one third from 2006. The funding shortfall for 2007 stood at \$22.5 million, down from \$24.5 million reported in June 2007.

During the plenary meeting, some States encouraged the PTS to expedite its implementation of the decision of the 27<sup>th</sup> Session of the Commission regarding the provision of data to tsunami warning organizations.

A group of States requested that the Palestinian Ambassador brief the Preparatory Commission on Palestine's application for observer status with the Commission. A large number of States Signatories supported the request for observer status for Palestine. After having a series of consultations, the Chairperson reported to the Commission that there was still no consensus regarding the request. The Chairperson kept the request on the agenda and continued to consult with interested delegates on the issue.

As of 8 December 2007, a total of 141 States had ratified the CTBT, and 177 have signed. Out of the 321 monitoring stations in the IMS, 212 had been fully certified, while 10 out of 16 total radionuclide laboratories had been certified. New state of the art Computer and Operations Centers had also been installed within the PTS. The CTBTO is also in the process of migrating to a new Global Communications Infrastructure (GCI).

**2006:** In February 2006, Working Group B endorsed the planning for the preparation and conduct of an On-Site Inspection (OSI) Integrated Field Exercise (IFE) to be held in the latter half of 2008. OSIs are a fundamental component of the CTBT verification regime. The exercise aims at integrating the efforts of the various units of the PTS that will contribute to the execution of an OSI. The PTS is currently in the planning phase.

The PTS is also continuing its outreach activities aimed at enhancing the understanding of the Treaty and the work of the Preparatory Commission. The most recent outreach activity took place in Kuala Lumpur from 31 May to 2 June, in the form of a workshop designed to promote ratification of the Treaty while exploring the prospects of increased regional and sub-regional cooperation in the installation of IMS stations.

The 26<sup>th</sup> session of the Preparatory Commission convened from 20 to 23 June. In his report, the executive secretary expressed his concern about outstanding assessed contributions, stating that if the current trend were to continue, a significant cash deficit should be expected. It was reported that despite its financial situation, the PTS made substantial progress in the establishment of the Treaty verification regime; five additional IMS stations were certified, bringing the total number of certified IMS facilities to 167 out of 337 and 11 new IMS stations were connected to the IDC, moving the number of stations in IDC operations past the 50% mark.

During the plenary debate, Member States welcomed the ratification of the CTBT by Antigua and Barbuda, Cameroon, Cape Verde, Haiti, Suriname, and Zambia since the last session of the Preparatory Commission. Member States particularly welcomed the ratification of Vietnam, an Annex 2 State. Vietnam's ratification brings the total number of Annex 2 State ratifications to 34; an additional 10 ratifications are required for entry-into-force of the Treaty. Other States that have ratified the CTBT in 2006 include Andorra and Ethiopia.

Furthermore, the PTS was requested to prepare an options paper on a possible contribution of the Commission to tsunami warning systems. It is understood that data from IMS stations can contribute to decreasing substantially the time span needed for issuing a timely tsunami warning.

This year marks the 10<sup>th</sup> anniversary of the opening for the signature of the CTBT. In commemoration of the occasion, as well as to promote increased interaction between the scientific community worldwide, the Preparatory Commission for the CTBTO and State Signatories to the Treaty, a symposium entitled "CTBT: Synergies with Science 1996-2006 and Beyond" was held at Kongresszentrum Hofburg, Vienna from 31 August to 1 September. Statements were delivered by Preparatory Commission Executive Secretary [Tibor Toth](#), United Nations Under-

Secretary-General for Disarmament Affairs [Nobuaki Tanaka](#), as well as a keynote address by IAEA Director-General Mohamed ElBaradei. Particularly appealing to those States that have not yet ratified the CTBT, all speakers underlined the contribution the CTBT would make, upon entry-into-force, in strengthening the nonproliferation regime.

Co-chaired by Australia, Canada, Japan, Finland, and the Netherlands, and signed by 59 foreign ministers, the third annual [Joint Ministerial Statement](#) in support of the CTBT was delivered in New York by Under-Secretary-General for Disarmament Affairs Tanaaka on 20 September. The statement affirmed the urgent need for the Treaty to enter into force as it would contribute significantly towards preventing the proliferation of materials, technologies, and knowledge that can be used for nuclear weapons.

On 9 October 2006, in reaction to the announcement by the DPRK that it had conducted a nuclear test, both the chairman of the 27<sup>th</sup> Preparatory Commission, Volodymyr Yelchenko and executive secretary of the CTBTO, Tibor Toth, issued [statements](#) in their respective capacities.

On 13 October 2006, (Part 1) a Special Session of the Preparatory Commission convened in connection with the announcement by the DPRK that it carried out a nuclear test on 9 October 2006. The Special Session was organized as the first part of the 27<sup>th</sup> Session of the Preparatory Commission. The Special Session was opened by the chairperson of the Preparatory Commission, Ambassador Volodymyr Yelchenko, the permanent representative of Ukraine.

At the plenary meeting of the Special Session, the PTS delivered a briefing on the data of the International Monitoring System and standard products of the International Data Center to State Signatories in connection with the aforementioned announcement. The Commission considered the presentation and expressed appreciation to the PTS both for its presentation and professional work in providing reliable data to States Signatories without delay. Also at the plenary meeting, a large number of States Signatories expressed their deep concern and regret over the declaration by the DPRK that it had conducted an underground nuclear test.

On 20 October 2006, Executive Secretary Tibor Toth [addressed](#) the 61<sup>st</sup> Session of the United Nations General Assembly. He expressed hope that, despite the

recent announcement by the DPRK that it had conducted a nuclear test, the international community would refocus its attention on bringing the Treaty into force and to complete the build-up of the verification system.

Part II of the 27th session of the Preparatory Commission convened from 13-17 November. A total of 93 States participated. Ambassador Yelchenko of Ukraine served as chairperson of the Commission.

During the plenary, States Signatories welcomed the ratifications of the CTBT by Andorra, Armenia, Bosnia and Herzegovina, and Ethiopia, and the succession to the Treaty by Montenegro. States that have not ratified the CTBT, particularly those designated as Annex 2, were urged to do so without delay.

States Signatories also supported the recommendation of Working Group B, for the Commission to adopt the principles and operating rules for the provision of data to tsunami warning organizations. The CTBTO will provide real time and continuous data from primary seismic, auxiliary seismic and hydroacoustic IMS stations to relevant tsunami warning organizations.

The special session, Part I of the Preparatory Commission, was recalled whereby a large number of States Signatories had made statements expressing deep concern and regret regarding the announcement by the DPRK that it had conducted a nuclear test. The statements released by the executive secretary and chairperson respectively soon after the test, were also noted. Participants noted that the event underlined the need for the early completion of the verification regime, including the noble gas stations, and for the early entry into force of the Treaty.

A number of States Signatories expressed their support for the request of Palestine to be granted observer status. The issue lacked consensus, and therefore States requested that the next chairperson of the Commission attempt to resolve the matter.

In his report to the Commission, the executive secretary emphasized that the DPRK test provided an opportunity for the PTS to demonstrate its technical capabilities. He expressed encouragement at the positive feedback and appraisals received from States Parties. The executive secretary also called attention to the lower collections rate than in previous years.

Permanent Representative of Costa Rica Ana Teresa Dengo will serve as the next chairperson of the Pre-

paratory Commission, which is scheduled for June 2007.

**2005:** The Preparatory Commission held its 24<sup>th</sup> session from 27-30 June.

The 24<sup>th</sup> session welcomed the signature of the CTBT by the Bahamas and Rwanda and ratification by Rwanda and Saint Kitts and Nevis. States Signatories also expressed their regrets concerning the outcome of the 2005 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

The Commission welcomed for review the final report on the review of the organizational structure of the PTS. States Signatories noted that the recommendations of the team should be examined by Working Groups A and B and adopted by the commission before their implementation. The Commission decided that Working Groups A and B should convene a joint meeting to analyze recommendations in detail.

In accordance with Article XIV of the CTBT, the Conference on Facilitating the Entry into Force of the Treaty was held 21-23 September at the United Nations Headquarters in New York City.

The Preparatory Commission held its 25<sup>th</sup> session from 14-18 November.

At the 25<sup>th</sup> session, States Signatories welcomed the successful outcome of the Conference on Facilitating the Entry into Force of the Comprehensive Test Ban Treaty held in New York in September. States Signatories also welcomed the adoption of a [Final Declaration and Measures to Promote the Entry into Force of the CTBT](#), given recent disappointments at the multilateral level in the field of disarmament and nonproliferation.

Participants to the 25<sup>th</sup> session welcomed the signature of the Treaty by Lebanon, and its ratification by the Cook Islands, Djibouti, Madagascar, and Vanuatu.

Broad support was expressed for the recommendations of the final report on the review of the organizational structure of the PTS. The 26<sup>th</sup> session will be held in June of 2006.

**2004:** In January, Ambassador Yukio Takasu, Japan's Permanent Representative to the CTBTO Preparatory Commission, began his duties as the chair of the Commission. He was elected chair during the 21<sup>st</sup> session of the Commission in November 2003. At this session, States Signatories also agreed to extend

the tenure of the chair of the Commission from six months to one year.

Libya deposited its instrument of ratification of the CTBT with the United Nations Secretary-General on 6 January 2004. As part of the terms of the Treaty, Libya agreed to host a radionuclide station, RN41, at Misratah. This station will be part of the 337-facility International Monitoring System used to verify compliance with the Treaty.

The 22<sup>nd</sup> session of the Preparatory Commission was held from 22 to 24 June. The Executive Secretary of the Preparatory Commission, Ambassador Wolfgang Hoffman, noted that 130 stations and 4 radionuclide laboratories are participating in the first system-wide performance test which is being carried out by the PTS. He also informed delegates that 83 stations and 4 laboratories of the 337 IMS facilities are now certified, and that legal arrangements between the Commission and Members States have been made to establish 332 IMS facilities in 81 countries. During the session, Member States welcomed the signature of the CTBT by Saint Kitts and Nevis and the Sudan, as well as the ratification of the Treaty by Bahrain, Belize, the Libyan Arab Jamahiriya, Serbia and Montenegro, Seychelles, and the Sudan. In addition, Tunisia announced the completion of its internal ratification process. The commission determined that Timor Leste would be included in the South East Asia, Pacific and the Far East geographical region.

On 23 September, the foreign ministers of 42 nations issued a second [Joint Ministerial Statement](#) calling upon all States to sign and ratify the CTBT, specifically identifying the 12 States whose ratifications are necessary for the Treaty's entry into force and which have yet to ratify the Treaty. The ministers continued to call for the maintenance of voluntary moratorium on nuclear testing. These calls were echoed by UN Secretary-General Kofi Annan, who appealed to States to sign and ratify the Treaty and encouraged the signatories of the joint statement to continue their efforts to promote the Treaty's entry-into-force.

The 23<sup>rd</sup> session of the Preparatory Commission took place 15-19 November. States Signatories welcomed the signature of the CTBT by United Republic of Tanzania and ratification by the Democratic Republic of the Congo, Liechtenstein, Togo, Tunisia, and the United Republic of Tanzania.

States Signatories also noted the progress of the external review team on the organizational structure of the PTS, underlining the importance of transparency

and a balance between technical and political aspects, as well as major policy issues in the review process. States Signatories also noted the importance of a review of the organization and methods of work of the subsidiary bodies, and support was expressed for informal consultations on the issue to be held in 2005.

At this session, the Commission elected HE Ambassador Taous Feroukhi, Permanent Representative of Algeria, as the chair for 2005.

On 19 November, the Commission appointed, by acclamation, Ambassador Tibor Toth as the next executive secretary.

**2003:** The 20<sup>th</sup> session of the Preparatory Commission was held from 24-27 June. States Signatories welcomed the signature of the CTBT by Gambia and ratification by Albania, Cote d'Ivoire, Kuwait, Mauritania, and Oman, as well as the completion of the national ratification procedure in the Libyan Arab Jamahiriya since the previous session of the Commission. They also welcomed the resolution on "Inter-American support for the CTBT" adopted by the Organization of American States at its General Assembly in June 2003.

From 3-5 September, in accordance with Article XIV of the CTBT, the third Conference on Facilitating the Entry into Force of the Treaty was held in Vienna. All States, both signatories and non-signatories, were invited to attend the Conference as well as specialized agencies, international governmental organizations, and non-governmental organizations.

Afghanistan was the only non-signatory to address the Conference. The United States was not officially represented at the meeting. A representative of International Physicians for the Prevention of Nuclear War addressed the Conference on behalf of non-governmental organizations.

The Final Declaration adopted by the Conference reaffirmed "the importance of the Treaty and its entry into force for the practical steps for the systematic and progressive efforts towards nuclear disarmament and nuclear non-proliferation." The Declaration noted with concern that despite the progress made and the international community's strong support for the CTBT, the Treaty had not entered into force seven years after its opening for signature.

The Declaration contained 12 recommended measures to promote the CTBT's entry-into-force, including regional seminars to increase awareness of the

Treaty's important role, the provision by the CTBTO's Provisional Technical Secretariat of legal assistance to States for the ratification process and implementation measures, and the establishment of a contact point for better exchange and dissemination of relevant information. The Conference also encouraged cooperation with civil society.

A key issue at the Conference was the fear that further delay in the CTBT's entry-into-force could lead to a resumption of nuclear testing, resulting in the acquisition of nuclear weapons by terrorists. Delegates also emphasized the need for the universal and complementary application of all instruments dealing with nuclear disarmament and nonproliferation.

The 21<sup>st</sup> session of the Preparatory Commission was held 10-14 November. States Signatories welcomed the recent ratifications of Afghanistan, Algeria, Cyprus, Eritrea, Honduras, Kuwait, Kyrgyzstan, and Oman. States Signatories also welcomed the successful outcome of the Article XIV conference and the adoption by consensus of a Final Declaration and Measures to Promote the Entry into Force of the CTBT.

The Commission also discussed the impending internal reform of the PTS. States Signatories agreed on the importance of a timely review of the organizational structure of the PTS. The Commission also proposed that the organization and methods of work of the subsidiary bodies be reviewed as well. In addition, States Signatories discussed the possible adoption of a split currency system, beginning with the Program and Budget for 2005, in order to deal with the adverse effects of currency fluctuations. Further research into the topic was delegated to working groups.

On 13 November, the Preparatory Commission elected HE Ambassador Yukio Takasu, Permanent Representative of Japan, as the chair for 2004.

**2002:** The Preparatory Commission held three sessions: the 17<sup>th</sup> PrepCom took place from 9-12 April, the 18<sup>th</sup> from 19-22 August, the 19<sup>th</sup> from 11-15 November.

At its 17<sup>th</sup> session, the Preparatory Commission welcomed the signature of the CTBT by Central African Republic and ratification by San Marino of the CTBT since the closure of the previous session of the Commission and urged all States to share legal and technical information and advice to facilitate the process of signature, ratification, and implementation of the

Treaty. The States appreciated the PTS efforts to follow up the recommendations of the external evaluation on the management of human resources. They also expressed wide support for the possible agreement between the Commission and OPANAL.

On 29 April, the Republic of Palau signed a Facility Agreement with the Preparatory Commission. This agreement facilitates the activities of the PTS on Palau in establishing and certifying monitoring facilities to IMS standards.

The PTS installed the 100<sup>th</sup> satellite earth station (VSAT) on 30 May. VSATs, very small aperture terminals, are a key element in the global communications infrastructure (GCI), which transmits data from the facilities of the IMS to the IDC in Vienna.

At the 18<sup>th</sup> session of the PrepCom, the States Parties welcomed the ratification of the CTBT by Burkina Faso, Kazakhstan, and Venezuela. Various views were expressed on the initial draft 2003 Program and Budget Proposals. The States Parties noted the PTS efforts to keep the administration costs at the minimum level.

On 14 September, Australia, Japan, and the Netherlands hosted a "Friends of the CTBT" Foreign Minister's Meeting at the UN Headquarters to promote the Treaty's entry-into-force. The meeting was attended by the foreign ministers of 10 nations: Austria, Hungary, Japan, Jordan, the Netherlands, New Zealand, Peru, the Republic of Korea, South Africa, and Turkey. These ministers, along with the ministers of Canada, Chile, France, Nigeria, the Philippines, Russia, Sweden, and the United Kingdom, issued a [Joint Ministerial Statement](#) calling for all States that have not signed or ratified the CTBT, in particular the States whose ratifications are required for the Treaty's entry-into-force, to do so as soon as possible. The statement also calls for a continuation of the moratorium on nuclear testing.

At the 19<sup>th</sup> session of the PrepCom, the Commission welcomed the signatures by San Marino, Samoa, Georgia, Niger, and Botswana ratified the Treaty in 2002.

**2001:** On 14 March, the Commission signed the Sixteenth Facility Agreement with Peru that would enable the Commission to establish a new auxiliary seismic station and upgrade the existing auxiliary station on its territory.

The Commission held three sessions: the 14<sup>th</sup> session from 24-27 April, the 15<sup>th</sup> session from 21-24 August, and the 16<sup>th</sup> session from 19-23 November.

At its 14<sup>th</sup> session, the PrepCom welcomed the nine ratifications to the CTBT (by Benin, Croatia, Guyana, Kenya, Nicaragua, the Philippines, Saint Lucia, Uganda, and Ukraine) since the previous session and called on States that had not yet signed or ratified the Treaty to do so without delay. The States noted with satisfaction the progress made in the implementation of the seven major programs of the PrepCom, and the progress made in the development of the draft rolling text of the OSI Operational Manual.

At the 15<sup>th</sup> session of the PrepCom, the States Parties welcomed the ratifications (by the Holy See, Malta, and Namibia) and signature (by Yugoslavia) since the previous session and reiterated the importance of the 2001 Conference on Facilitating the Entry-into-Force of the CTBT.

From 11-13 November, in accordance with Article XIV of the CTBT, the second Conference on Facilitating the Entry-into-Force of the Treaty was held in New York. All States, both signatories and non-signatories, as well as specialized agencies, international governmental organizations, and non-governmental organizations were invited to attend the conference. The United States decided not to attend.

The conference adopted a Final Declaration, which reaffirmed the commitment of States Parties to work for the universal ratification of the Treaty and its early entry-into-force. The States Parties noted the progress that had been made in the ratification process and the fact that this progress had been sustained. They noted with regret, though, that the Treaty had not entered into force five years after it opened for signature and stressed their determination to strengthen efforts aimed at promoting the Treaty's entry-into-force at the earliest possible date. The States Parties called on all States to maintain a moratorium on nuclear weapon test explosions or any other nuclear explosions and welcomed progress in building a global infrastructure for treaty verification, including the IMS. The declaration called on those States that had not yet signed the Treaty or ratified it, to do so, particularly those States whose signature is required for the Treaty's entry-into-force, including nuclear weapon states (NWS).

At the 16<sup>th</sup> session of the PrepCom, the States Parties welcomed the signatures (by Belize, Cameroon, and Libya) and ratifications (by Costa Rica, Ecuador,

Jamaica, Latvia, Nauru, Nigeria, Paraguay, Singapore, Sierra Leone, and Uruguay) of the Treaty since the previous session. The States Parties emphasized the importance of the CTBT for international peace and security, especially after the 11 September 2001 terrorist attacks on New York and Washington, DC.

**2000:** In his statement on 25 April at the 2000 NPT Review Conference, Wolfgang Hoffmann, Executive Secretary of the Preparatory Commission for the CTBT, noted that a background paper NPT/CONF.2000/2 prepared by the United Nations Secretariat for this Review Conference, offered comprehensive information on the CTBT and its global verification system. The global verification system -- including an IMS; consultation and clarification procedures; on-site inspections; and CBMs -- ensures the reliable detection and identification of any ambiguous event, and provides a credible deterrent to clandestine nuclear testing. The paper stated that the CTBT is thus more than the expression of the intention of each State Party not to carry out nuclear explosions. It is, at the same time, also a commitment by each State Signatory to ensure the Treaty's viability by establishing a regime to monitor adherence and to detect violations.

The Hoffmann paper added that one of the main tasks of the Preparatory Commission is to build up the worldwide network of stations that comprise the IMS. This cost-effective network of 170 seismological, 60 infrasound, 11 hydroacoustic, and 80 radionuclide stations -- supported by 16 radionuclide laboratories -- will be capable of registering vibrations underground, in the sea and in the air as well as detecting traces of radionuclides released into the atmosphere by a nuclear explosion. The stations will transmit a steady stream of data generated by these four complementary technologies, in near real time, via a global satellite communications system to the IDC, (at the seat of the PrepCom in Vienna), where all the data will be processed. All data, raw or processed, from the monitoring facilities will be made available to the States Signatories. There are provisions on consultation and clarification for dealing with ambiguous events. As a final verification measure, an on-site inspection may be requested.

Ambassador Hoffmann also noted that the CTBTO was building up the IMS according to a schedule determined by its annual program and budget. From the start of its operations in 1997 up to and including the 2000 fiscal year, the amount of money budgeted for capital investment in establishing or upgrading

monitoring stations is \$92.1 million. This sum represents about 43 percent of the total capital investment required to complete the entire monitoring network.

The CTBTO had also readied the IDC, the nerve center of the verification regime, for the first analysis of data, transmitted from IMS stations via the GCI. With the installation of the second of four releases of application software, in 1999, the IDC is capable of distributing IMS data and IDC bulletins and additional information to States Signatories seven days a week to assist them in verifying Treaty compliance.

The Hoffmann paper also reviewed the CTBTO after three years of its work: 10 facility agreements or arrangements have been signed, of which five have entered into force. In addition, 57 States have completed interim exchanges of letters; 204 IMS site surveys have been completed, where required. Site surveys for 53 additional stations are either under way or pending contract; and 77 site surveys for the GCI have been completed. In many cases, these site surveys and subsequent civil work were performed by or in cooperation with IMS staff. There are 88 IMS stations. The installation of 65 additional stations is either under way or pending contract. GCI very small aperture terminals (VSATs) have been installed at 26 of the IMS, National Data Centers, and developmental sites, with 41 more under way. Global satellite coverage was established with the commissioning of four GCI hubs and the frame relay infrastructure to link these hubs to the IDC in Vienna. GCI links to four independent sub-networks were commissioned, and a VSAT link to the independent sub-networks is now undergoing acceptance testing. Twenty-five IMS stations are sending data through the GCI and into the IDC on a test basis, with many more stations planned in 2000. The IDC established the capacity to receive and test data over the GCI.

Preparatory work was initiated in 2000 to provide test IMS data and IDC products to States Signatories. The Commission is also preparing the groundwork for on-site inspections, provided for by the Treaty. The OSI Operational Manual is being developed as a priority task, and the PTS has been supporting the Group of Friends of the OSI Program Coordinator. Initial specifications for equipment related to the four IMS technologies have been adopted, and a passive seismic system for aftershock detection will be received shortly for testing and training. On the invitation of the Government of Kazakhstan, a field experiment simulating aspects of an on-site inspection of a 100-

tonne chemical explosion was conducted in Kazakhstan in October 1999.

To help States Signatories benefit from the CTBT and from the work of the Commission, two International Cooperation Workshops were held in Vienna and Cairo and two more are scheduled in Beijing and Lima. They explored the possible uses of verification technologies and IMS data for other peaceful applications; examined the potential for regional or international cooperation in collecting, analyzing, and using data; highlighted the fundamental importance of the CTBT for global peace and security; and promoted signature and ratification of the Treaty. The support of States Signatories has also been reflected in the collection rate of the assessed contributions, which is 100 percent for the 1996 budget, over 97 percent for 1997, over 96 percent for 1998, over 95 percent for 1999 and already close to 80 percent for 2000. The budget for 1998 was \$58.4 million and for 1999 it was \$74.7 million.

The Agreement to Regulate the Relationship between the United Nations and the Preparatory Commission for the CTBTO was signed in New York on 26 May by UN Secretary-General Kofi Annan and Executive Secretary Wolfgang Hoffmann. The Agreement will enter into force upon its approval by the UN General Assembly. The Preparatory Commission approved the Agreement during its 11<sup>th</sup> session, held from 2 to 5 May.

From 6-8 June, a Regional Workshop for CTBTO International Cooperation and National Implementation /Ratification Procedures was held in Beijing by the CTBTO PrepCom. The 47 participants from the Asia-Pacific region, *inter alia*, reviewed ways and means of promoting cooperation to facilitate the Treaty's verification technologies, and discussed ways to maximize benefits of the application of these technologies.

The 12<sup>th</sup> preparatory session took place in Vienna from 22-24 August. The States signatories welcomed the recent ratifications of the CTBT (Chile, Iceland, Portugal, and Russia) and commented on the progress made in the implementation of the verification programs. The Commission considered reports of Working Group A and Working Group B and adopted the recommendations contained in the reports.

The first Conference on Facilitating the Entry-into-Force of the Comprehensive Nuclear-Test Ban Treaty was held in Vienna, from 6 to 8 October. The conference reaffirmed the importance of a universal and

internationally and effectively verifiable CTBT and pledged to keep working for universal ratification of the Treaty, and its early entry-into-force, as provided for in Article XIV. The Conference's Final Declaration called upon all States that had not yet signed the CTBT to sign and ratify it as soon as possible and, until such time, to refrain from acts that would defeat its object and purpose.

The Preparatory Commission of the CTBTO held its 13<sup>th</sup> session in Vienna on 20-21 November. The signatory States welcomed recent signatures (Guyana, Kiribati, Nauru, Nigeria, and Sierra Leone) and ratifications (Belarus, Cambodia, Gabon, Kiribati, the Lao People's Democratic Republic, Maldives, and the UAE) of the CTBT and commented on the progress made in the implementation of the work program of the Commission. The Commission adopted a program of work and budget for 2001 totaling \$83,499,500. Ambassador Jaap Ramaker of the Netherlands was elected as chair for the first half of 2001.

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