

# LEARN ABOUT NUCLEAR WEAPONS

## ***Partial Test Ban Treaty***

Indian Prime Minister Nehru brought the issue of nuclear testing to the UN in 1954, calling for a global ban on nuclear testing. As early as 1958, attempts were made to negotiate a treaty to halt nuclear testing. Initially the US and the UK declared a one-year moratorium on nuclear testing. The Soviet Union joined just a few days later. This first attempt was abandoned in 1961 due to political tensions and military developments. The Soviet Union resumed nuclear testing, and was quickly followed by the US.<sup>1</sup> Around the globe, people began to see the risks posed by radioactive contamination resulting from nuclear tests and pressure increased on nuclear weapon states to solve the problem. In 1963 the Soviet Union, the US, and the UK negotiated the Partial Test Ban Treaty (PTBT) which prohibited nuclear testing in the atmosphere, under water, and in outer space. France and China did not join the treaty.

The PTBT failed to prohibit underground nuclear testing and the development of new types of nuclear weapons. Underground testing can also cause radioactive fallout, as the explosions often burst through the surface and release radioactive particles. The PTBT also failed to prevent increases in existing nuclear stockpiles. In fact, nuclear weapon states increased the number of nuclear tests after 1963, and their nuclear arsenals doubled in size between 1963 and 1970.<sup>2</sup>

## ***Comprehensive Test Ban Treaty***

To come to terms with the nuclear weapons states' development of new nuclear weapons, to prevent proliferation of nuclear weapons to new states, and to ban all forms of nuclear testing, a stronger treaty was necessary. In 1996 the Comprehensive Test Ban Treaty (CTBT) was adopted by the UN, after lengthy negotiations in the Geneva-based Conference on Disarmament (CD). The CTBT prohibits all forms of nuclear testing, including peaceful tests. However, the treaty allows for so called subcritical nuclear tests, where no actual nuclear explosion occurs. An International Monitoring System (IMS) will make sure no nuclear testing takes place.<sup>3</sup> The CTBT also allows for short-notice on-site inspections of nuclear facilities.

In order to enter into force and become part of international law, the CTBT must be signed and ratified by the 44 nuclear-capable states (i.e., states with nuclear power or research facilities). As of March 2008, three of these states— India, Pakistan and North Korea — have not signed the treaty. Nine others (China, Egypt, Indonesia, Iran, Israel, and the US) have not ratified. A total of 178 of the world's 195 states have signed the CTBT and 144 have ratified.<sup>4</sup>

Boxes: What is the meaning of signatures and ratification?

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| Sign | When an international treaty is being negotiated, |
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|        | government representatives from each state normally attend the negotiations. Usually officials deal with treaty details from Foreign ministries, supported by experts. The head of government or a minister from each state then signs the treaty, to mark the end of negotiations and the reaching of an agreement. Usually, however, a government is only mandated to negotiate for its state, not to make the final approval of a treaty. |
| Ratify | The right of final approval is normally held by the parliament in each state. The parliamentary approval signals the state's ratification of a treaty. Since the elected parliaments are seen as “superior” to governments, parliaments are not forced to ratify a treaty that has been negotiated and signed by the government. This is why some states have signed treaties but not ratified.  |

It seems hard to convince the remaining nine states, whose ratification is needed for the CTBT to enter into force, to complete this task. But even if the CTBT does not enter into force in the near future, there still seems to be an understanding among states about the cessation of nuclear testing. The test moratoria declared by most nuclear weapon states is a sign of this common understanding.

At the 2000 NPT RevCon, a decision was made that no nuclear testing may be done until the entry into force of the CTBT – a principle that also India and Pakistan seem to adhere to. After the nuclear tests by India and Pakistan in May 1998, these two states declared themselves nuclear weapon states. The 2000 NPT RevCon, however, made clear that nuclear testing by no means entitles the states the status of nuclear weapons states or any other unique position. These two states, as well as Israel were encouraged to immediately and unconditionally join the NPT as non-nuclear weapon states.

Even if all states would declare nuclear testing moratoria, the entry into force of the CTBT is still of utmost importance. Under the treaty, the undertaking not to test nuclear weapons becomes legally binding on all states, rather than today's reversible decision by individual nuclear weapons states not to test. The CTBT is considered a necessary step towards nuclear disarmament and nonproliferation, as the treaty basically prevents development of new nuclear weapons. The treaty also hinders the qualitative arms race — the technical capacity and sophistication of nuclear weapons systems, as distinct from numbers of warheads. The CTBT does not prohibit nuclear research, but it is difficult to develop new nuclear weapons without testing.

The US is one of the states that has to ratify the CTBT before it can enter into force. Former President Bill Clinton signed the treaty in 1996, but the US Senate voted against the treaty in 1999. President George W. Bush has expressed a wish to withdraw the US signature from the treaty, but is under pressure from Congress not to do so. The signature therefore remains.<sup>5</sup> A review of the US nuclear policy in 2002 – the Nuclear Posture Review (NPR) – recommended that the US should not ratify the CTBT but stick to the nuclear test moratorium. In this way, the US can decide for itself whether or not to resume nuclear testing. The NPR also recommended that the time to prepare for a nuclear test be shortened from 2-3 years to a maximum of 12 months.<sup>6</sup> A new review of nuclear

strategy will be submitted to Congress and the administration in December 2008.<sup>7</sup>

### ***Comprehensive Test Ban Treaty Organization (CTBTO)***

The Comprehensive Test Ban Treaty Organization (CTBTO) verifies member state compliance with the CTBT. A preparatory commission for the CTBTO is now working to facilitate an early entry into force of the treaty and to assure smooth operation of the IMS as soon as the treaty enters into force. The verification system consists of the IMS, short-notice on-site inspections, and confidence building measures among states.

The International Monitoring System (IMS) comprises a network of 321 monitoring stations and 16 radionuclide laboratories that monitor the Earth for evidence of nuclear explosions. The system uses four verification methods, utilizing the most modern technology available. Seismic, hydroacoustic and infrasound stations are employed to monitor the underground, underwater, and atmospheric environments, respectively. Radionuclide stations can detect radioactive debris from atmospheric explosions or vented by underground or underwater nuclear explosions. Today, even before the entry into force of the CTBT, the IMS has more than 200 active monitoring stations that submit important information used to evaluate seismic activities (earthquakes, tsunamis etc.) and determine whether these are nuclear explosions.<sup>8</sup>

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1 <http://www.fas.org/nuke/control/ctbt/chron1.htm>

2 <http://www.nuclearfiles.org/menu/key-issues/nuclear-weapons/issues/testing/introduction.htm>

3 <http://www.nuclearfiles.org/menu/key-issues/nuclear-weapons/issues/testing/introduction.htm>

4 <http://www.ctbto.org/>

5 The Importance of International Treaties. Is Ratification Necessary. Jeffrey L. Roberg, World Affairs, Spring2007, Vol. 169 Issue 4, s 184.

6 <http://www.globalsecurity.org/wmd/library/policy/dod/npr.htm>

7 Scully, Megan. CongressDaily, 11/8/2007, p6

8 <http://www.ctbto.org/>