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Reclaiming the Comprehensive Test Ban: A Step on the Road to Elimination of Nuclear Weapons

On October 13, 1999, the United States Senate voted down the Comprehensive Test Ban Treaty (CTBT). This vote marked a watershed moment in the history of arms control, strongly signaling to the world that the United States has little interest in elimination of nuclear weapons. The intention of the United States to pursue nuclear advantage rather than nuclear abolition was made manifest not only in the vote itself, but in the debate which preceded it. The Clinton administration, and its allies in the Senate, portrayed the CTBT not as a step along the road to nuclear disarmament but as a means to preserve the decisive technological advantage in nuclear weaponry held by the United States and as a means to prevent non-nuclear weapons states from acquiring nuclear weapons.

But in the view of most of the peoples and nations of the world, the CTBT was supposed to be, first and foremost, a disarmament treaty. It was supposed to cut off the modernization and development of nuclear weapons and lead to their deterioration and eventual elimination. That is why people everywhere have worked tirelessly since the 'Ban the Bomb' days in the 1950's to end nuclear testing. That is why most of the world's countries have made the CTBT their top disarmament priority in international negotiating forums. And that is why the vast majority of Americans support the CTBT today.

In international treaty forums, the United States has acknowledged that the CTBT is supposed to be a step along the road to elimination of nuclear weapons, rather than a means to preserve the nuclear oligopoly for a few states for all time. In 1995, for example, in a set of "Principles and Objectives for Nuclear Non-Proliferation and Disarmament" accompanying the extension of the Nuclear Non-Proliferation Treaty (NPT), the U.S. and other treaty parties reaffirmed their commitment to the Treaty, and set out further steps for implementing its provisions. The "Principles and Objectives" document reaffirmed the NPT Article VI obligation on the part of the nuclear weapons states to "pursue negotiations in good faith on effective measures relating to the cessation of the arms race at an early date and to nuclear disarmament..." and listed the CTBT first among measures "important in the full realization and effective implementation of Article VI."¹

Yet the Senate debate on the treaty has made clear that the Administration's intent is to 'ban the bang, not the bomb' and that the U.S. plans to maintain and modernize its nuclear arsenal indefinitely, with or without explosive underground testing. The Clinton Administration presented the Treaty to the Senate with a package of "safeguards," including a commitment to maintain an extensive array of nuclear weapons research, testing, and production facilities. These "Stockpile Stewardship" programs, currently funded at over \$4.5 billion a year, call for new nuclear weapons facilities of unprecedented sophistication, and for continued nuclear weapons design and production. (See Nuclear Weapons for the 21st Century below). This 'deal,' deemed necessary by the Administration to win over the nuclear weapons laboratories, the nuclear forces in the military, and their allies in Congress, fundamentally undermines global expectations for the CTBT as expressed in its Preamble: '... the cessation of all nuclear weapon test explosions... by constraining the development and qualitative improvement of nuclear weapons and ending the development of advanced new types of nuclear weapons constitutes an effective measure of nuclear disarmament and nonproliferation in all its aspects.' And in the end, we have been left with the worst of all possible outcomes: billions of dollars for intensive innovation

in nuclear weapons science and simulation, no test ban treaty, and no international mechanism to monitor and enforce a prohibition on nuclear weapons tests.

In today's Washington debates, the only permissible vision is of a future dominated by the nation which can perpetually outstrip all others in the deployment of high-tech state violence. That is why the CTBT debate was flawed from the outset: even its advocates refused to mention nuclear disarmament, arguing instead that the Treaty would preserve and enhance the superiority of U.S. weaponry. In a world where this kind of thinking prevails, one kind of catastrophe or another always will be a moment away.

The fate of the planet is too important to leave to those who can speak only in terms of the endless accumulation of power. It is time for all of us to start demanding a better future. We can start by bringing the debate over a Comprehensive Test Ban back in line with our international treaty commitment to work towards the elimination of nuclear weapons.

The CTBT in Context: U.S. Nuclear Weapons Programs and the Test Ban Regime

Nuclear Weapons Testing: Smaller Bangs, but Still Testing the Bombs

Nuclear weapons testing never really went away— it just has been hidden from public view. Once a major impetus to the “Ban the Bomb” movement as nuclear test explosions rained fallout across the globe from 1945 to 1962, U.S. nuclear testing went underground as a result of the Limited Test Ban Treaty, signed in 1963, which banned full scale nuclear explosions in the open air. Then, as now, the nuclear weapons establishment insisted on a wide range of “safeguards” to assure the continued ability to develop nuclear weapons after full-scale testing was restricted, including extensive research facilities at the nuclear weapons laboratories and a continuing program of underground nuclear tests, hundreds of which were conducted in subsequent years. The Limited Test Ban Treaty did little to restrict the ability of the United States and the U.S.S.R. to refine their nuclear arsenals, with smaller, lighter warhead designs tested underground leading to the hair-trigger arsenals of the present, replete with multiple warhead, highly accurate missiles deployed on an assortment of sophisticated delivery systems.

Today, the cycle of nuclear weapons design continues, despite the fact that the United States last exploded a nuclear weapon underground in 1992. The Nevada Test Site remains both in readiness for resumption of underground testing and in use for a wide range of weapons experiments, including “subcritical” tests in which high explosives and

plutonium are exploded underground without a self-sustaining nuclear reaction. Similar tests are conducted in steel tanks above ground at the Los Alamos National Laboratory, using an isotope of plutonium with a higher critical mass than that used in weapons. This procedure may allow weapons designers to use test devices which more closely resemble nuclear weapons primaries, the first stage of thermonuclear warheads. Although these are tests only of materials and components rather than full nuclear warheads, the Stockpile Stewardship program of which they are a part is intended to provide increasingly advanced capabilities to integrate data from a variety of testing techniques into simulations of nuclear weapons performance. (See Nuclear Weapons for the 21st Century).

When conducted underground at the same site used for full-scale nuclear weapons tests, subcritical experiments make verification of a test ban more difficult, and manifest to the world both the existence of a vigorous nuclear weapons research program and the intention to retain the capability for full-scale underground tests. While no verification regime can provide absolute certainty, closing all nuclear test sites and terminating “subcritical” tests which can resemble nuclear explosive tests when monitored from a distance would help simplify verification, while increasing international confidence that the nuclear weapons states were scaling back their weapons development efforts.

Nuclear Weapons for the 21st Century: The

Stockpile Stewardship Program

Despite the end of the Cold War and its obligation under the NPT to negotiate in good faith to end the arms race and eliminate nuclear weapons, the U.S. has publicly stated that “[n]ational security policies in the post-Cold War era require that all historical capabilities of the weapons laboratories, industrial plants, and NTS [the Nevada Test Site] be maintained,” and that “denuclearisation... is not feasible based on current national security policy.”² To sustain this vast complex of nuclear weapons facilities, the U.S. is spending over \$4.5 billion dollars a year on the “Stockpile Stewardship” program, more than was spent on average during the Cold War on directly comparable activities.

And in fact, this money is buying far more than what is needed to maintain “all historical capabilities.” In addition to keeping its nuclear test site ready for the resumption of full scale underground tests, the U.S. Department of Energy (DOE) is spending billions on new and more advanced nuclear weapons research and production facilities.

These include:

- The National Ignition Facility (NIF), now being built at the Livermore National Laboratory in California. The NIF is a laser driven fusion machine the size of a football stadium, designed to create very brief, contained thermonuclear reactions. It is slated to be used for a wide range of applications from training weapons designers in nuclear weapons science to nuclear weapons effects testing.
- The Dual Axis Radiographic Hydrotest Facility (DARHT). This facility, near completion at the Los Alamos National Laboratory in New Mexico, will join several already existing facilities where mockups of primaries, the first stage of a thermonuclear weapon, are imploded while very fast photographic or x-ray images are generated, thus allowing scientists to “see” inside. DOE already is developing technology for an even more sophisticated “hydrodynamic testing” facility, the Advanced Hydrotest Facility.
- Pulsed power technologies: Further experiments

exploring the extreme conditions created in a nuclear weapon explosion are studied using various types of “pulsed power,” in which a large amount of energy is stored up and then released very quickly in a small space. The energy source can be chemical high explosives or stored electrical energy. Pulsed power facilities at both DOE and Department of Defense laboratories are used to explore nuclear weapons function and effects and directed energy weapons concepts, and could lead over the long run to a wide range of high technology weapons, including new types of nuclear weapons.

The data streams from these and other experimental facilities, along with that from “subcritical” tests and the archived data from over 1000 past U.S. nuclear tests, will be integrated via the Accelerated Strategic Computing Initiative (ASCI), a multi-billion dollar supercomputing program which reaches beyond the weapons laboratories, seeking to incorporate the nation’s leading universities into an effort to attract and train yet another generation of nuclear weapons designers. Smaller, modernized nuclear weapons production processes are being developed to allow flexible, small lot manufacturing, with contingency plans for resumption of large-scale production. DOE also plans to use improved computer-aided design and manufacturing techniques to shorten the nuclear warhead design and production cycle.

This array of facilities can be used to do more than merely maintain existing nuclear warheads in working order. As Sandia National Laboratory director C. Paul Robinson noted in his testimony to the Senate Armed Services Committee on the CTBT, while the national laboratories “cannot create completely new concepts without testing, many previously tested designs could be weaponized to provide new military capabilities.” Robinson observed that

For example, if nuclear weapons emerge as the right answer to deter the use of other weapons of mass destruction in a regional conflict, the nuclear weapons we currently deploy may carry too high a yield and be far too disproportionate a response to be a credible deterrent. Proven designs of lower yield exist that might be

adaptable for new military requirements in the future. I believe that such weapons could be deployed this way without the need for nuclear tests.³

One such modification, the B61-11 gravity bomb, already has been developed and deployed without underground testing. The B61-11 is an earth-penetrating bomb with a variable yield, which can be delivered by the B-2 Stealth bomber. Under the rubric of exercising Stockpile Stewardship capabilities, the weapons laboratories also are developing replacement warhead designs for submarine launched ballistic missiles (SLBM) carried on Trident submarines, although no deployment plans have been made public. Upgrades of non-nuclear components also currently underway could result in increases in accuracy for a substantial portion of the SLBM warhead inventory.

This ongoing program of intensive nuclear weapons research, design, and testing has fostered

widespread doubts about U.S. commitment to “good faith” negotiations for nuclear disarmament required by the Non-Proliferation Treaty, and has provided arguments for those in other states who favor nuclear weapons development to question the purposes of the CTBT. Indian Prime Minister Atal Bihari Vajpayee, for example, stated shortly after India’s 1998 round of nuclear weapons tests that “taken as a whole, the CTBT is discriminatory because it allows nuclear weapons states with advanced technology capabilities to continue their nuclear weapons programme. And so also is Nuclear Non-Proliferation Treaty (NPT). There is no question of India accepting any treaty that is discriminatory in character.”⁴

If there is any U.S. “leadership” on nuclear weapons issues, it must appear to the world to be heading in the wrong direction. Rather than seeking multilateral solutions to international conflict and lowering tensions by disassembling the enormous military machinery of the Cold War, the United States is setting the pace for a new century of high technology arms competition, with a constantly modernized nuclear arsenal still brandished as the ultimate threat.

What Can We Do to Get a Comprehensive Test Ban and a Real National Debate about the Path to Elimination of Nuclear Weapons?

There are no easy answers to this question. Our political process has failed badly to address these issues in a serious and comprehensive way, and ordinary citizens acting alone have little voice in forums dominated by huge, entrenched institutions and concentrated wealth. But if you care about this issue, you are not alone. And when we act together with thousands and then millions of others, ordinary people can make themselves heard. In 1995, groups seeking a truly international approach to nuclear weapons issues, not tied to the national security policy of any individual state, founded the Abolition 2000 Global Network to Eliminate Nuclear Weapons. In less than five years, the Statement issued by Abolition 2000 has attracted over 1350 endorsing organizations in 88 countries, including over 450 organizations in the United States. In October 1999, a number of the U.S. Abolition 2000 groups launched the US Campaign to Abolish Nuclear Weapons, part of the Abolition 2000 Global Network.

Around the world, Abolition 2000 endorsers and their allies are working to focus attention on the continuing danger nuclear weapons pose for us all, and on the damage already caused by a half century of nuclear weapons testing, production, and deployment. To get involved, contact the Western States Legal Foundation or reach the Abolition 2000 Global Network at its international clearinghouse, housed at the Nuclear Age Peace Foundation, 1187 Coast Village Road Suite 121, Santa Barbara, California 93108-2794; (805) 965-3443; Fax (805) 568-0466, World Wide Web address www.abolition2000.org. The Mission Statement of the U.S. Campaign to Abolish Nuclear Weapons and the Abolition 2000 Statement are reproduced below.

US CAMPAIGN TO ABOLISH NUCLEAR WEAPONS

Part of the Abolition 2000 Global Network

MISSION STATEMENT

To ensure a just, secure, healthy and sustainable world for our children, grandchildren, all future generations and all living things, we aim to educate public opinion and mobilize persistent popular pressure to move the United States government to take prompt and unequivocal actions to eliminate nuclear weapons.

These actions must include halting continued development of new and modified nuclear weapons, de-alerting nuclear forces, addressing the environmental degradation and human suffering arising from testing, production, deployment and use of nuclear weapons, and undertaking negotiations with other countries on a treaty for their elimination.

Our objective is nothing less than the universal, complete, verifiable, and enduring abolition of nuclear weapons.

ABOLITION 2000 STATEMENT

A secure and livable world for our children and grandchildren and all future generations requires that we achieve a world free of nuclear weapons and redress the environmental degradation and human suffering that is the legacy of fifty years of nuclear weapons testing and production.

Further, the inextricable link between the "peaceful" and warlike uses of nuclear technologies and the threat to future generations inherent in creation and use of long-lived radioactive materials must be recognized. We must move toward reliance on clean, safe, renewable forms of energy production that do not provide the materials for weapons of mass destruction and do not poison the environment for thousands of centuries. The true "inalienable" right is not to nuclear energy, but to life, liberty and security of person in a world free of nuclear weapons.

We recognize that a nuclear weapons free world must be achieved carefully and in a step by step manner. We are convinced of its technological feasibility. Lack of political will, especially on the part of the nuclear weapons states, is the only true barrier. As chemical and biological weapons are prohibited, so must nuclear weapons be prohibited.

We call upon all states particularly the nuclear weapons states, declared and de facto to take the following steps to achieve nuclear weapons abolition. We further urge the states parties to the NPT to demand binding commitments by the declared nuclear weapons states to implement these measures:

1. Initiate immediately and conclude by the year 2000 negotiations on a nuclear weapons abolition convention that requires the phased elimination of all nuclear weapons within a time bound framework, with provisions for effective verification and enforcement.*
2. Immediately make an unconditional pledge not to use or threaten to use nuclear weapons.
3. Rapidly complete a truly comprehensive test ban treaty with a zero threshold and with the stated purpose of precluding nuclear weapons development by all states.
4. Cease to produce and deploy new and additional nuclear weapons systems, and commence to withdraw and disable deployed nuclear weapons systems.

5. Prohibit the military and commercial production and reprocessing of all weapons-usable radioactive materials.
6. Subject all weapons-usable radioactive materials and nuclear facilities in all states to international accounting, monitoring, and safeguards, and establish a public international registry of all weapons-usable radioactive materials.
7. Prohibit nuclear weapons research, design, development, and testing through laboratory experiments including but not limited to non-nuclear hydrodynamic explosions and computer simulations, subject all nuclear weapons laboratories to international monitoring, and close all nuclear test sites.
8. Create additional nuclear weapons free zones such as those established by the treaties of Tlatelolco and Raratonga.
9. Recognize and declare the illegality of threat or use of nuclear weapons, publicly and before the World Court.
10. Establish an international energy agency to promote and support the development of sustainable and environmentally safe energy sources.
11. Create mechanisms to ensure the participation of citizens and NGOs in planning and monitoring the process of nuclear weapons abolition.

A world free of nuclear weapons is a shared aspiration of humanity. This goal cannot be achieved in a non-proliferation regime that authorizes the possession of nuclear weapons by a small group of states. Our common security requires the complete elimination of nuclear weapons. Our objective is definite and unconditional abolition of nuclear weapons.

* The convention should mandate irreversible disarmament measures, including but not limited to the following: withdraw and disable all deployed nuclear weapons systems; disable and dismantle warheads; place warheads and weapon-usable radioactive materials under international safeguards; destroy ballistic missiles and other delivery systems. The convention could also incorporate the measures listed above which should be implemented independently without delay. When fully implemented, the convention would replace the NPT.

References

1. 1995 Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, Principles and Objectives for Nuclear Non-Proliferation and Disarmament, NPT/CONF,1995/L.5, 9 May 1995.
2. Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management, United States Department of Energy, September 1996, p. S-3, S-48.
3. Statement of C. Paul Robinson to the U.S. Senate Armed Services Committee, October 7, 1999.
4. Interview with Indian Prime Minister Atal Bihari Vajpayee, *India Today*, May 25, 1998.