



THE CENTER FOR ARMS CONTROL AND NON-PROLIFERATION

Memorandum to President-elect Obama: A New Arms Control and Non-Proliferation Agenda

June 9, 2008

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DATE: November 5, 2008 (morning after Election Day 2008)

RE: A New Arms Control and Nonproliferation Agenda

Congratulations on your hard-fought victory. As you know, the past eight years of the Bush administration have been disastrous for arms control and nonproliferation initiatives. Among many issues, four stand out:

- Little effort was made to extend or pursue a follow-on agreement to the first Strategic Arms Reduction Treaty (START), which will soon leave only the otherwise toothless Strategic Offensive Reductions Treaty (SORT);
- No progress was made towards ratifying the Comprehensive Nuclear Test Ban Treaty (CTBT), despite its recent proven success in detecting North Korea's low yield blast;
- Moves towards creating a compliance Protocol for the Biological and Toxin Weapons Convention ground to a screeching halt; and
- We may have witnessed the opening salvo towards the weaponization of space.

Your administration, however, can make significant progress in repairing the damage and moving these important issues forward. The following are my policy recommendations and steps to achieve them.

Disclaimer: The author's recommendations above are not exhaustive; rather, they are intended to be the core of a larger arms control and nonproliferation agenda. The Center for Arms Control and Non-Proliferation's work and priorities include these and other important issues.

PURSUE A FOLLOW-ON AGREEMENT TO START I

Following nearly a decade of difficult negotiations, the first Strategic Arms Reduction Treaty (START I) was signed by the United States and the Soviet Union in July 1991. The agreement limits each side to 1,600 deployed strategic nuclear delivery vehicles, including intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and heavy bombers. Using sophisticated counting rules, it also limits each side to 6,000 "accountable" warheads on these vehicles, of which no more than 4,900 may be on ICBMs and SLBMs, 1,540 on heavy missiles (the Soviet SS-18), and 1,100 on mobile ICBMs.

The collapse of the U.S.S.R. five months after the signing of START I, however, left four independent states in possession of Soviet strategic nuclear weapons. After intense negotiations, the United States and Russia, Belarus, Kazakhstan, and Ukraine signed the Lisbon Protocol in May 1992, which made each of the four former Soviet republics parties to the START I agreement. Russia would remain a nuclear weapon state under the nuclear Non-Proliferation Treaty (NPT), while Belarus, Kazakhstan, and Ukraine agreed to eliminate all of the strategic nuclear weapons they inherited and accede to the NPT as non-nuclear weapon states. Following further negotiations, the agreement finally entered into force in December 1994 and Belarus, Kazakhstan, and Ukraine returned to Russia nuclear weapons that had been in their territorial jurisdiction.

Although all five states met the implementation deadline in late 2001, there is still significant value to START I, which is set to expire in December 2009. The agreement established an elaborate legally-binding verification regime that includes formal data exchanges, notifications, and on-site inspections, and currently serves as the foundation for monitoring compliance with the subsequently negotiated Strategic Offensive Reductions Treaty (SORT).

Under SORT, signed in May 2002, the United States and Russia agreed to limit their operationally deployed strategic nuclear warheads (on ICBMs, SLBMs, and heavy bombers) to 1,700-2,200 by the end of 2012, when the agreement expires. These reductions, however, are not irreversible, and were START I to lapse without a follow-on agreement in place, verification of SORT would be made significantly more difficult; indeed, there would be no formal means of verification for the last three years of the agreement.

Not surprisingly, when the Bush administration announced in May 2007 that it would not seek to extend START I and would instead attempt to replace the agreement with a less formal one that contains weaker verification mechanisms, it was met with concern in the intelligence community. At a time when its resources are already stretched thin, the intelligence community regards the verification and transparency elements of the agreement as key information-gathering tools.

As you may recall, these concerns were echoed by Sens. Richard Lugar and Joseph Biden at a Foreign Relations Committee hearing in June 2007. Biden even went so far as to say at the time, "I think it would be the single greatest negative legacy this administration could leave if it leaves us in a situation where there is no future architecture to follow on to START."

Russia has indicated that while it is not interested in extending START I, it is interested in replacing the agreement with another legally binding treaty that makes further cuts in strategic nuclear forces and contains verification measures. A legally binding treaty is crucial to ensure that both countries do not backslide into another arms race, especially with tension growing over basing missile defense sites in Eastern Europe, NATO enlargement and other issues.

Though such an agreement is sure to provoke some opposition (largely over the extent of the cuts), it is not likely to be strong enough to block efforts on this matter. For historical comparison, the Senate voted 93-6 in favor of START I in February 1992, 87-4 in favor of START II in January 1996, and 95-0 in favor of SORT in March 2003.

I urge you to vigorously pursue a legally binding follow-on agreement to START I that includes verification and transparency elements as well as reductions in the nuclear force levels below those contained in SORT.

BUILD A BIPARTISAN CONSENSUS LEADING TO CTBT RATIFICATION

The Comprehensive Nuclear Test Ban Treaty (CTBT) bans "any nuclear weapon test explosion or any other nuclear explosion," and establishes an extensive International Monitoring System (IMS) that allows for short-notice on-site inspections. It was opened for signature in September 1996, when it was signed by 71 states, including the five nuclear-weapon states recognized by the NPT. Since that time, a growing international consensus has emerged in favor of the CTBT: it has now been signed by 178 states and ratified by 144. As recently as December 2007, the U.N. General Assembly adopted a resolution stressing the importance of achieving the earliest entry into force of the CTBT by a vote of 176-1, with the United States being the only country to vote against the measure.

The CTBT will enter into force 180 days after it has been ratified by the 44 states listed in its Annex 2, which includes all who formally participated in the 1996 session of the U.N.

Conference on Disarmament and possessed either nuclear power or research reactors at the time. Of them, 41 have signed the Treaty and 35 have ratified it.

Colombia's recent ratification in January 2008 leaves China, North Korea, Egypt, India, Indonesia, Iran, Israel, Pakistan, and the United States as the last hold-outs. Of these, only North Korea, India, and Pakistan are neither signatories nor ratifiers of the Treaty. From the standpoint of adhering to international law and customs, these are hardly the countries with which the United States should strive to keep company. And without having ratified the Treaty itself, the United States holds limited moral authority to urge other countries to follow suit, not only in regards to the CTBT, but also on other nonproliferation and disarmament initiatives.

Although the United States signed the CTBT in September 1996, it took another year for the treaty to be submitted to the Senate for advice and consent. With 67 votes in favor needed for approval, the CTBT was taken up in October 1999 and defeated 48-51. The vote was largely along party lines with nearly all Democrats supporting the Treaty and nearly all Republicans opposing it. Notably, the CTBT was the first security-related treaty since the Treaty of Versailles nearly 80 years prior that the Senate failed to approve. Drawing conservative Republicans into the fold will be essential to ensuring the treaty's approval.

Opposition to the CTBT was driven by three main concerns. First, the impact of the treaty on the ability of the United States to maintain the safety and reliability of its nuclear stockpile and the adequacy of the Stockpile Stewardship Program (SSP) to ensure that the enduring stockpile remains a safe, effective, and reliable deterrent without having to rely on nuclear testing. Second, the capacity of the international nuclear test monitoring system in detecting low-yield explosions, and the effectiveness and reliability of the verification system. And third, whether the treaty in fact offered significant nonproliferation benefits as claimed by its supporters.

These concerns will likely remain the key sticking points for potential opponents of the CTBT, such as Sen. Jon Kyl. Each of them, however, can be sufficiently addressed so as to maintain previous Democratic support, while attracting the 15 to 20 Republicans necessary to reach the crucial 67 vote threshold.

For instance, there is a growing list of independent technical studies that have concluded the current Stockpile Stewardship and Life Extension programs can continue to ensure that the U.S. nuclear stockpile remains safe, effective, and highly reliable for decades to come. Most recently, the National Nuclear Security Administration announced in November 2006 that, based on a review by the preeminent scientific JASON advisory group, the plutonium pits inside of U.S. nuclear warheads are showing no signs of damage as they age and will remain fully reliable for at least 85-100 years – nearly double the previous estimate of 45-60 years.

Also, as noted in the July 2002 National Academy of Science report, "Even in the absence of constraints on nuclear testing, no need was ever identified for a program that

would periodically subject stockpile weapons to nuclear tests. Nuclear testing never provided and was never intended to provide a statistical basis for confidence in the performance of stockpiled weapons."

The steadily improving verification capabilities of the International Monitoring System (IMS) were on full display during North Korea's October 2006 nuclear test. With less than two-thirds of its facilities operating at the time, the IMS recorded the location and magnitude of North Korea's nuclear test and made key noble gas measurements. Significantly, all public estimates place the test with high confidence in the sub-kiloton range of greatest concern.

Since then, nearly 50 new stations have been integrated into the system and are providing data to the International Data Centre. The number of noble gas stations has also increased by 70% and the network of hydroacoustic stations is now virtually complete. In all, the IMS network currently consists of 225 certified monitoring facilities around the globe, including seismic, infrasound, hydroacoustic, and radionuclide monitoring stations, as well as radionuclide laboratories. Once complete, the IMS will eventually encompass 337 facilities in all. Suffice to say, whatever legitimate concerns surrounding the ability to effectively and reliably verify the CTBT that may have existed in the late 1990s have significantly diminished.

Furthermore, recent events have highlighted the potential nonproliferation benefits of the CTBT. Since it opened for signature in September 1996, India and Pakistan tested a combined eleven nuclear weapons in May 1998, North Korea tested a nuclear device in October 2006, and Iran has made significant strides towards a nuclear weapons capability (much of which was done clandestinely). Both India and Pakistan were reported to have tested sub-kiloton devices, but little information is available to provide any further details. Significantly, India also claimed to have tested a thermonuclear device, despite skepticism that its second stage failed to ignite as planned, and Pakistan claimed to have tested a boosted fission device.

But, as noted by Richard Garwin in October 1999, "The CTBT can be verified with sufficient confidence to prevent any proliferator from developing thermonuclear weapons whether he already possesses fission weapons or develops such weapons clandestinely." While the CTBT may not prevent horizontal nuclear proliferation to other states, it would assist in hindering vertical proliferation, or the further development of nuclear weapon capabilities, especially advanced capabilities, by any within a particular state.

For these and other reasons, the CTBT has been growing in its bipartisan appeal. In their now famous January 2007 *Wall Street Journal* op-ed, former senior officials George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn advocated "[i]nitiating a bipartisan process with the Senate, including understandings to increase confidence and provide for periodic review, to achieve ratification of the Comprehensive Test Ban Treaty, taking advantage of recent technical advances, and working to secure ratification by other key states."

I urge you to work closely with these and others to build this bipartisan consensus leading to the ratification of the CTBT.

URGE BWC UNIVERSALIZATION, ADVANCE CONFIDENCE-BUILDING MEASURES, AND OPEN COMPLIANCE PROTOCOL NEGOTIATIONS

The Biological and Toxin Weapons Convention (BWC) bans the development, production, stockpiling, and transfer of biological agents and related equipment and delivery systems that are intended for hostile use. It was opened for signature in April 1972 and took effect in March 1975 following the ratification of 22 states. Currently, 161 states are parties to the BWC, having both signed and ratified the Convention; 14 states have signed but not ratified it; and 20 states have not yet signed.

Unfortunately, the BWC lacks mechanisms to monitor compliance. Confidence in the Convention has suffered as a result, especially with several high-profile examples of noncompliance, including by the Soviet Union and Iraq. Acknowledging the limited option of appealing to the U.N. Security Council in cases of suspected noncompliance, states parties have sought to strengthen the Convention through a number of efforts

Negotiations on a legally-binding Protocol to monitor compliance began in January 1995 and continued over the next six years. Following the introduction of a "rolling text" in July 1997 that included proposals made until that point, negotiations shifted to resolving outstanding issues, notably the use of on-site inspections and dual-use materials and equipment. Eventually a "composite text" was issued in March 2001 with these issues in mind.

The regime contained in the draft Protocol contained three basic elements: first, mandatory declarations of dual-capable activities and facilities; second, routine visits to declared facilities, without specific evidence of a violation; and third, short-notice challenge investigations of a suspect facility upon a request by a state party, an alleged use of biological weapons, or a suspicious outbreak of disease. The Protocol would also have established an Organization for the Prohibition of Biological Weapons in order to monitor the implementation of the Convention and the Protocol.

Unfortunately, the United States announced in July 2001 that the draft Protocol text was unacceptable and withdrew from further negotiations. Bush administration officials argued that the proposed regime would not only be unable to increase confidence in compliance or deter violations of the Convention, but also that it threatened to compromise legitimate commercial and biodefense research. Other participating countries disagreed, but instead viewed the regime as a flawed, but balanced arrangement that could both increase confidence in compliance with the BWC and protect trade secrets.

The Bush administration's rejection of the draft Protocol was deeply flawed and represented a fundamental misunderstanding of the proposed regime. Given the dual-use

nature of biological materials and equipment used in research and production facilities, the Protocol was not designed to be able to detect violations of the Convention to the same extent that the verification systems for nuclear or chemical weapons treaties are able. Rather, the main goal of the Protocol was to increase transparency and help deter countries from pursuing illicit activities.

Since 2001, the life sciences have become increasingly powerful and dual-use capabilities have become increasingly accessible. It is thus tremendously important for the United States to open new negotiations to develop a mechanism for monitoring compliance with the BWC. Soliciting input from the pharmaceutical industry will be essential to this end.

The United States should also lead an international effort to improve participation in and the content of the Confidence Building Measures (CBM) mechanism of annual information exchange between States Parties. These efforts are of particular importance given that states parties agreed in the Final Declaration of the Sixth Review Conference in 2006 to devote "comprehensive attention" to the CBM mechanism at the Seventh Review Conference, which will occur in 2011.

Concurrently, the United States should actively support the universalization of the BWC. This could include a number of steps drawn from the action plan adopted and implemented with significant success by the Organisation for the Prohibition of Chemical Weapons, such as outreach to regional and sub-regional groupings. One area of particular importance is the volatile Middle East. Efforts should focus on Israel, which has to sign or ratify the BWC, and Egypt, Syria, and the UAE, which have signed but not ratified the Convention. Alternatively, outreach could also follow in the model of the CTBT, which includes appointed "regional coordinators" who ensure that ratification of the Treaty remains on the agenda at regional summits.

Finally, the United States should encourage the modest expansion of the duties and size of the Implementation Support Unit with the goal of enhancing both the CBM and universalization efforts as well as States Parties' implementation of their other obligations under the BWC. The establishment of the ISU at the Sixth Review Conference of the BWC in 2006 was an important first step in overcoming an institutional deficit in biological weapons initiatives which continues to impede cooperation and coordination of the various efforts underway.

I urge you to promote universalization of the BWC, advancement of its confidence building measures, and enhancement of its Implementation Support Unit, and to open negotiations on a compliance mechanism.

NEGOTIATE A TREATY AND OTHER MEASURES TO BAN SPACE WEAPONS

Defined traditionally as destructive systems that operate in outer space after having been launched directly from Earth or parked in orbit, there are four types of space weapons: anti-satellite weapons; laser systems that couple ground-based lasers with airship- or

satellite-mounted mirrors, which could reflect a laser beam beyond the ground horizon; orbital platforms that could fire projectiles or energy beams from space; and high altitude nuclear explosions. Only the last and most devastating of these types is currently prohibited by an international treaty.

The Outer Space Treaty, which opened for signature in January 1967 and entered into force in October of the same year, bans states parties from placing nuclear weapons or other weapons of mass destruction in earth orbit, on the moon, or on any other celestial body. Nearly 100 states have signed and ratified the Treaty, including China, Russia, and the United States.

A norm had informally developed against the weaponization of space, despite the lack of international treaties or laws explicitly prohibiting the placement of nonnuclear anti-satellite systems or weapons in orbit. However, in October 2006 the Bush administration issued its National Space Policy that asserts the right of the United States to conduct "space control" and rejects "new legal regimes or other restrictions that seek to prohibit or limit U.S. access to or use of space."

Three months later, China became only the third country (and the first in two decades) to use a dedicated anti-satellite weapon to shoot down one of its aging weather satellites. In doing so, it created a significant amount of space debris that is a serious danger to other satellites. The test followed reports that China had also managed to "paint" U.S. spy satellites with a ground-based laser the month before. The United States acted next when it destroyed a failed spy satellite with a modified Standard Missile-3 in February 2008.

These events have only served to underscore the necessity and immediacy of international efforts to limit space weapons. At a minimum, the United States should support a "Code of Conduct" that would set out "rules of the road" for operations in outer space. As suggested by outer space expert Michael Krepon and others, the Code would aim to prevent interference with the space objects of other countries, the harmful use of lasers against space objects, and to prevent activities, experiments, or tests that would result in the deliberate generation of persistent space debris. The Code would also promote information exchanges, consultation, and sound traffic management practices in space.

The United States should also push for a legally-binding treaty to ban all space weapons. At approximately the same time that the United States shot down its failing spy satellite in February, Russia and China jointly presented a draft treaty to the U.N. Conference on Disarmament that would prohibit the deployment of weapons in space and the threat or use of force against satellites or other spacecraft. The United States should support these efforts and encourage other countries that may have either the interest or the capabilities to develop space weapons. Of foremost concern are Kazakhstan, India, Israel, Japan, and Pakistan, all of whom possess advanced missile technology and may consider developing space weapon technologies.

Some might object due to the difficulty of verification measures associated with such a treaty, as space technology can be used for both military and civilian purposes. However, a prohibition on the testing and use of destructive anti-satellite systems would be easily verifiable because space launches can be easily tracked and objects in space can be detected and monitored. That any use of space weapons would be met with international condemnation could help deter would-be violators.

The United States has the least to gain and the most to lose in a race involving space weapons. It is reported that since 1959, the United States has invested more than one trillion dollars in space, including enormous sums to develop sophisticated networks of satellites that coordinate the most advanced military in the world. Were these networks to be interrupted or made inoperable, the strength and effectiveness of the U.S. military would be significantly diminished.

In addition, there could be untold damage to the global economy were commercial satellites to be damaged. The U.S. depends heavily on its space assets, so weaponization of space would significantly threaten the country's commercial use of space on which it relies more than any other country. Even small pieces of space debris caused by limited use of space weapons could prove disruptive at best and catastrophic at worst.

I therefore urge you to negotiate a treaty and other measures to ban space weapons.