

The Cold War is a memory, but implementing strategic arms reduction is a careful, time-consuming process.

Nuclear Arms Reductions Roll On

By Stewart M. Powell

EVEN in a year of extreme domestic turbulence, Russia carried out all treaty-required strategic arms reductions without interruption. This development marked a notable break with the arms control experiences of the Cold War, when internal politics regularly disrupted the best-laid plans of the superpowers.

In Russia, elimination of warheads went forward throughout 1996 despite a hard-fought national election, Boris Yeltsin's health crisis, and the abrupt sacking of Russian security czar Alexander Lebed—any of which could have derailed the process. By midyear, the number of strategic warheads under Moscow's control had dropped to 8,586 (down from 10,271 in the last days of the USSR). In the US, the warhead count dropped to 8,106 (from 10,563 at the end of the Cold War).

On another front, the US, Russia, and other nations signed the Comprehensive Test Ban Treaty. For Washington and Moscow, though, the main event was still reduction of their longer-range intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and bombers.

Here, the principal emphasis was on executing the first Strategic Arms Reduction Treaty—START I—which had entered into force. At press time, a follow-on agreement—START II—still seemed like a sure thing, but it

Strategic Weapons

Type	United States			Change 1990-2003
	Cold War (1990)	Current (1996)	START I/II (2003)	
ICBM.....	1,000	800	500	-500
SLBM.....	672	480	336	-336
Bomber.....	574	327	182	-392
Total.....	2,246	1,607	1,018	-1,228

USSR/Russia/CIS				
ICBM.....	1,398	966	800	-598
SLBM.....	940	664	424	-516
Bomber.....	162	130	60	-102
Total.....	2,500	1,760	1,284	-1,216

Nuclear Warheads

United States				
ICBM.....	2,450	2,382	500	-1,950
SLBM.....	5,760	3,904	1,680	-4,080
Bomber.....	2,353	1,820	1,320	-1,023
Total.....	10,563	8,106	3,500	-7,063

USSR/Russia/CIS				
ICBM.....	6,612	5,169	800	-5,812
SLBM.....	2,804	2,496	1,744	-1,060
Bomber.....	855	921	710	-145
Total.....	10,271	8,586	3,254	-7,017

Note: The 2003 figures for US and Russia are based on official and unofficial estimates and could change.

met stiff political opposition in Russia and had not formally gone into effect. Moreover, the two nations stepped up their haggling over ballistic missile defense; the 1972 Anti-ballistic Missile Treaty has returned to center stage.

START I Takes Effect

The hard-won START I accord was signed by President George Bush and Soviet President Mikhail S. Gorbachev on July 31, 1991, after nine years of fitful negotiations that super-

seded the discredited SALT II process of the 1970s. After the accord was ratified by the US Senate and the four ex-Soviet nuclear states (Russia, Kazakhstan, Ukraine, and Belarus), it entered into force on December 5, 1994.

Step by step, START I has begun to yield substantial results in the mid-1990s.

The United States and Russia (plus the three other post-Soviet nuclear states) were obligated under START I to drop down to 6,000 "account-

able" warheads by 2001. In October, the US and Russia published a new memorandum of understanding that detailed progress toward complying with that key provision. The MOU indicated that the United States has outpaced Russia in reductions, at least in rough numerical terms.

The MOU showed that, since the treaty went into effect, the United States had eliminated fifty-four percent of the warheads it must remove in order to take the US inventory down to the agreed 6,000-warhead limit. According to the new document, the four post-Soviet nuclear weapon states had done away with about thirty-nine percent of the warheads that they will have to eliminate.

In addition, delivery systems were being reduced at a brisk pace. Presidents Clinton and Yeltsin accelerated the START I cuts to hasten a shift from reliance on relatively vulnerable multiwarhead ICBMs to single-warhead ICBMs, submarine-borne missiles, and cruise missile-equipped bombers. The systems were considered less provocative deterrents because they were less tempting targets or were simply harder to locate and attack.

Under terms of START I, the two nations are obligated to bring their forces below a ceiling of 1,600 launchers—land- and seabased ballistic missiles and bombers.

At the end of the Cold War in 1990, the US fielded 2,246 ICBMs, SLBMs, and bombers. The latest MOU reported that the inventory has shrunk to 1,607 total delivery vehicles [see table, p. 57]. In other words, the United States accomplished ninety-nine percent of required vehicle reduction even though the 2001 deadline is five years away.

The Kremlin and the former Soviet states have trimmed the old Soviet strategic nuclear force to 1,760 total land-, sea-, and air-based systems, a marked cut from the 2,500 it had deployed at the end of the Cold War in 1990. Thus, Russia and the post-Soviet nuclear weapon states have carried out eighty-two percent of the required cuts in strategic nuclear delivery vehicles.

The United States already has removed warheads and missiles from all the missile launchers to be eliminated under START I and has retired and moved to a central elimination

facility all of the heavy bombers scheduled to be dismantled. Consequently, the United States and the former Soviet states already have gone well below a first intermediate ceiling on deployed missile launchers (land- and seabased) and bombers and are several years ahead in their removal and inactivation of their associated warheads.

Under START I provisions, no more than 4,900 of the 6,000 permitted "accountable" warheads are to be loaded onto ballistic missiles, and no more than 1,540 of those 4,900 warheads shall be fitted atop "heavy" ICBMs—the fearsome, Soviet-produced SS-18, with ten warheads. (The US does not possess heavyweight types and is unaffected by the sublimit.) No more than 1,100 warheads can be loaded aboard mobile ICBMs, such as Russia's road-mobile, single-warhead SS-25 weapon.

START I did not mandate any specific cutbacks in bombers. The treaty did permit long-range bombers to carry several nuclear bombs on board and still be counted as one weapon for treaty purposes. Moreover, US heavy bombers could carry up to twenty long-range air-launched cruise missiles and only be counted as having ten weapons on board. These provisions could conceivably permit the United States to deploy up to 9,000 actual nuclear weapons and still remain under the 6,000-warhead "ceiling" for "accountable" warheads.

Troubles for START II

It is the follow-on agreement, START II, that most view as the crown jewel of arms control treaties. Under its terms, Russia and the United States would further reduce their inventories of nuclear weapons and accept a ceiling of 3,000 to 3,500 warheads—in effect, taking both sides back to levels of the mid-1960s. It would, moreover, eliminate the most dangerous and threatening system of the Cold War—the heavy, multiple-warhead ICBM.

However, it was taking longer to achieve ratification of this promising agreement than it took to negotiate it in the first place. The US and Russia worked on the accord through 1991 and 1992 and, on June 17, 1992, agreed to a ceiling of 3,000 to 3,500 strategic warheads. The nations immediately began drafting a new ac-

cord and signed the new treaty on January 3, 1993. However, the Senate did not ratify START II for three years, finally doing so in January 1996. The Russian parliament was taking even longer, despite an unprecedented appeal to the Duma by Secretary of Defense William Perry on October 17.

The landmark accord promised the greatest nuclear arms stability in many decades, with each nation accepting steep cuts in its most treasured strategic forces. The Russians pledged to eliminate all of their multiple-warhead ICBMs—such as the ten-warhead SS-18—and the US accepted a fifty percent reduction in the projected US warheads deployed aboard submarines.

Bomber forces faced changes, as well. For one thing, the nations agreed to abandon the deliberate undercounting of bomber weapons that had taken place under the first START agreement. The Russians and the US declared that each of the actual nuclear weapons aboard heavy bombers could be counted against the 3,500-warhead limit.

With START II in abeyance, Clinton and Yeltsin tried to keep up the political momentum, vowing to "deactivate" all nuclear weapons systems scheduled for elimination under START II once the accord entered into force. The leaders even agreed to try to achieve the START II limits two years early—by 2001. For that to happen, however, the United States would have to underwrite the costs of Russia's destruction of the weapons.

Under START II, the US landbased missile force would be restructured to contain 500 warheads loaded aboard 500 Minuteman III missiles that had been "downloaded" from a triple-warhead to a single-warhead configuration. The landbased deterrent—twenty-three percent of the Cold War-era arsenal—would then account for only fourteen percent of the US warhead count.

Also scheduled to be transformed was the US Navy's strategic submarine fleet. At the end of the Cold War, thirty-two enormous strategic missile-firing boats carried 5,760 warheads on patrols across the world's oceans. Under START II, however, the fleet would be reduced to fourteen *Ohio*-class Trident submarines carrying a total of 336 D5 missiles,

each loaded with five warheads for a total of 1,680. Sea-launched systems that had been fifty-five percent of the US deterrent in 1990 would be reduced under START II to forty-eight percent of the nation's smaller overall force.

The US heavy bomber force that was carrying 2,353 warheads in 1990—twenty-two percent of the total deterrent—would take on a greater proportion of the deterrent mission, carrying 1,320 warheads, or thirty-seven percent of the total.

The Russian force projected under START II would reflect much the same shift to a more stabilizing force of submarines and bombers. The landbased Soviet force that in 1990 could threaten the US with 6,612 warheads accounted for sixty-four percent of the Soviet strategic arsenal. That ICBM force would be reduced to 800 warheads, twenty-six percent of the total. The weapons would be loaded aboard single-warhead SS-19s and road-mobile, single-warhead SS-25s.

The Russian nuclear-powered ballistic missile submarine force, built around the massive and superquiet *Typhoon* class, would take a greater percentage of the Kremlin's nuclear deterrent, bearing 1,744 warheads on 424 SLBMs, or fifty-three percent of the post-START II force. In 1990, the Russian submarine force carried 2,804 warheads, but that represented only twenty-seven percent of the total.

Likewise, Russian Tu-95 Bear and Tu-160 Blackjack bombers would play a greater role, carrying 710 of the estimated 3,254 warheads in the post-START II force, or twenty-two percent of the deterrent. That would represent a sizable change from the Cold War force that placed only 855 of the USSR's 10,271 warheads aboard bombers—or eight percent of the force.

Neither Clinton Administration officials nor their Russian counterparts would discuss prospective START III negotiations for fear of complicating ratification of START II.

Battle of the ABM Treaty

Contributing to the delay of the START II Treaty was refusal of the Russian parliament to endorse such steep cuts in offensive forces without being assured that burgeoning US antimissile defenses would not

erode the effectiveness of a smaller Russian arsenal.

The US and Russia continued to argue about whether US testing and deployment of an antimissile system developed for theater defense would violate the 1972 Antiballistic Missile treaty that prohibited either nation from giving non-ABM systems "capability to counter strategic ballistic missiles."

The White House was under considerable domestic political pressure to press ahead with antimissile defenses. Republicans in Congress agitated for faster deployment, with some calling for renegotiation of the ABM Treaty to permit full-scale development of promising ballistic missile defenses.

President Clinton took a more relaxed view of the potential missile threat from rogue nations, saying that he would reassess the situation in 2000 and decide whether deployment of an antimissile shield now in development was required.

The Clinton Administration tried to negotiate leeway with the Russians nonetheless. In September, Secretary of State Warren M. Christopher and Russian Foreign Minister Yevgeni M. Primakov formally agreed that the United States could develop defenses against theater-range ballistic missiles without breaching the constraints of the ABM accord.

This agreement makes it clear that the US is permitted to deploy Theater Missile Defense (TMD) systems using interceptors with speeds up to 1.8 miles per second, so long as they had not been tested against ballistic missile warheads with velocities faster than 3.1 miles per second or against missiles with ranges of more than 2,174 miles.

Mr. Primakov said a final agreement would "signify the line of demarcation between strategic and theater antiballistic missiles" and could have a "significant and positive effect" on President Yeltsin's efforts to persuade the cautious Russian Duma to ratify START II.

US officials said the demarcation cleared the way for US deployment

of the Army's Theater High-Altitude Area Defense system as well as lower-velocity systems, such as the Army's Patriot Advanced Capability-Level 3 (PAC-3) system and the Navy's area-defense Lower Tier system. The Clinton Administration had already announced unilaterally that the Navy's theater-wide Upper Tier system, with interceptors traveling 4.5 kilometers per second, would comply with the ABM accord. The Russians had not given a specific response to that assertion.

Gestures and Gambits

Even before the two nations started to implement START I, both "de-targeted" their long-range systems in a largely political gesture that spelled a symbolic end to the nuclear standoff for the man in the street. The move helped "strengthen the strategic stability" between the two nuclear superpowers. Presidents Clinton and Yeltsin said when they completed the accord in 1994.

The United States withdrew targeting information from its SLBMs and from its fifty ten-warhead Peacekeeper missiles. The Minuteman III system was targeted "at ocean area targets."

Hopes ebbed, however, for a quick end to the proliferation threat posed by huge amounts of fissile materials withdrawn from Russia's Soviet-era warheads. US-financed efforts to improve Russia's nuclear materials' security failed to ease concerns over the danger of diversion and smuggling. Progress appeared slow, as well, on a US-Russian plan for the United States Enrichment Corp. to buy 500 metric tons of highly enriched uranium withdrawn from Soviet-era warheads over the next twenty years.

Under this "megatons to megawatts" conversion program, the Russians as of August had blended down only thirteen metric tons of the weapons-grade uranium to low-enriched uranium for sale by USEC to commercial nuclear powerplants. The amount represented only three percent of the eventual amount to be converted for commercial use. ■

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