



Russian nuclear forces, 2007

RUSSIA CONTINUED TO REDUCE its nuclear stockpile during 2006, while at the same time developing new land- and sea-based forces.¹ We estimate that as of early 2007, Russia has approximately 5,670 operational nuclear warheads in its active arsenal. This includes about 3,340 strategic warheads (a slight decrease from last year) and approximately 2,330 nonstrategic warheads. An additional 9,300 warheads are believed to be in reserve or awaiting dismantlement, for a total Russian stockpile of approximately 15,000 nuclear warheads.

Policy pronouncements. Russian military officials repeatedly emphasized the importance of nuclear weapons and compared and contrasted Russian and U.S. nuclear arsenals throughout 2006. In response to a report that the United States was achieving nuclear supremacy and to claims that Russia would have vastly fewer nuclear weapons in the future, Col. Gen. Yury N. Baluyevsky, chief of the general staff of the Russian

armed forces, countered: “This is not true, there will be thousands of them” by 2010.²

In his annual address to Russia’s Federal Assembly in May 2006, President Vladimir Putin said that nuclear deterrence and “the strategic balance of forces” remain central to Russian nuclear policy.³ Putin clarified what he meant by “the strategic balance of forces” in a November meeting of

balance will mean that our strategic deterrence forces must be capable of destroying any potential aggressor, no matter what modern weapons systems this aggressor possesses.”⁴

In June 2006, Putin proposed that START I be replaced with a new treaty when it expires in December 2009, warning that “the stagnation we see today in the area of disarmament is of particular concern.”⁵ Yet in forecasting Russia’s response to the demise of START I, which prohibits changing the warhead loading on existing missiles, Col. Gen. Nikolai Solovtsov, commander of the Strategic Rocket Forces (SRF), declared in December that Russia will begin to substitute the single warheads on Topol-M ICBMs with multiple warheads.⁶

Also in June, the Russian government published a white paper on nonproliferation that stated that terrorist use of a weapon of mass destruction is “the greatest threat faced by Russia,” a conclusion in line with those reached by U.S., British, and French governments about the dangers they also face.⁷ Concerns about the proliferation of intermediate-range ballistic missiles prompted rumors in the media that Russia might withdraw from the 1987 U.S.-Soviet Intermediate-Range Nuclear Forces (INF) Treaty, which bans ballistic missiles with ranges between 500 kilometers (310 miles) and 5,500

Projected strategic warheads, 2007–2020

	2007	2012	2020
ICBMs	1,843	665*	254*
SLBMs	624	600	744
Bombers	872	788	728
Total	3,339	2,053	1,726

* Assumes no MIRV on Topol-Ms.

his armed forces command staff, dismissing mere numerical comparisons: “It is not the number of weapons and nuclear warheads that is important, it is the quality of weapons that is important.” He stressed that there be a unified command system “to ensure the implementation of plans to establish fundamentally new strategic weapons systems.” Putin’s comments effectively presented Russia’s declaratory policy regarding the use of nuclear weapons. “For us,” Putin said, “this idea of maintaining the strategic

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kilometers (3,410 miles). Russian defense ministry officials cited as a precedent the 2002 U.S. withdrawal from the Anti-Ballistic Missile (ABM) Treaty, adding that Moscow considers the INF Treaty a Cold War relic and that other nations, not bound by the treaty, might acquire such missiles.⁸

The U.S. ballistic missile defense program continues to be an irritant to Moscow, especially U.S. plans to deploy radars and interceptors in Poland and the Czech Republic. Baluyevsky had some harsh words about the idea: "The deployment of missile defenses in Europe near Russian borders is an unfriendly move, to put it mildly. Its interception range will cover a significant portion of the European part of Russia, and its integration with U.S. information resources will further strengthen the anti-Russian potential of this facility." Additionally, the U.S. installations would force Moscow "to search for countermeasures which would be asymmetrical and clearly much cheaper," according to Baluyevsky.⁹

Intercontinental ballistic missiles (ICBMs). Russia deploys approximately 1,840 nuclear warheads on 493 ICBMs of five types. The most significant development in 2006 was the deployment of the Topol-M1, the road-mobile version of the single-warhead Topol-M (NATO designation SS-27). The Topol-M1 will gradually replace the SS-25 ICBM. The SRF announced that the first regiment of Topol-M1s had become operational on December 10, when three missiles joined the 54th missile regiment at Teykovo, northeast of Moscow. Approximately six Topol-M1s will be deployed in 2007, with a total of 50 by 2015.

The mobile Topol-M1 can roam an area covering "tens of thousands of square kilometers, as a rule, in wooded areas," said Solovtsov in May 2006. When on combat duty, the Topol-M1s "permanently change the routes of their movements," he said. Furthermore, the new Topols are supposedly hard to detect, thanks to

"new camouflage methods to make a Topol imitate the environment."

"It is physically impossible to detect under which fir or birch a Topol-M1 is hidden, even from space," Solovtsov claimed.¹⁰

The silo-based version of the Topol-M was first deployed in 1997. Five regiments with a total of 42 missiles are operational, with the fifth regiment building up to a full complement of nine missiles. Reports of 44 deployed missiles in early 2006 were premature; the actual number was 42 by mid-2006. Three additional stored missiles reported by the July 2006 START memorandum of understanding (MOU) suggest that the Topol-M force could have increased to 45 by late 2006 or early 2007. Russia plans to have approximately 70 Topol-Ms in silos by 2015.

Over the last year, Russian government officials provided new details about a maneuverable reentry vehicle for the Topol-M. (For background, see "Russian Nuclear Forces, 2006,"

March/April 2006 *Bulletin*.) During a press conference with foreign media on January 31, 2006, Putin described the weapon as "a new missile system that as yet has no equivalent anywhere else in the world." Putin said he shared the principles of the system with French President Jacques Chirac at a military space facility in Russia, adding that the weapon "is not a response to ABM systems, because it does not matter to these missiles whether there is an ABM system in place or not, for, as I have said, they operate at hypersonic speed and can change their trajectory both in terms of course and altitude. ABM systems, meanwhile, are designed to

Russian strategic offensive weapons

	Type	Name	Launchers	Year deployed	Warheads x yield (KILOTONS)	Total warheads
ICBMs	SS-18	Satan	80	1979	10 x 550/750 (MIRV)	800
	SS-19	Stiletto	126	1980	6 x 550/750 (MIRV)	756
	SS-25	Sickle	242	1985	1 x 550	242
	SS-27	Topol-M	42	1997	1 x 550	42
	SS-27A	Topol-M1	3	2006	1 x 550 (?)	3
			493			1,843
SLBMs	SS-N-18 M1	Stingray	5/80 *	1978	3 x 200 (MIRV)	240
	SS-N-23	Skiff	6/96	1986	4 x 100 (MIRV)	384
			11/176			624
Bombers	Tu-95 MS6	Bear H6	32	1984	6 x AS-15A ALCMs or bombs	192
	Tu-95 MS16	Bear H16	32	1984	16 x AS-15A ALCMs or bombs	512
	Tu-160	Blackjack	14 **	1987	12 x AS-15B ALCMs, AS-16 SRAMs, or bombs	168
				78		872
GRAND TOTAL						~ 3,339***

ABM: antiballistic missile; ALCM: air-launched cruise missile; ASM: air-to-surface missile; ASW: antisubmarine weapon; ICBM: intercontinental ballistic missile; MIRV: multiple independently targetable reentry vehicle; SAM: surface-to-air missile; SLBM: submarine-launched ballistic missile; SLCM: sea-launched cruise missile; SRAM: short-range attack missile. *One Pacific-based Delta III has been converted to a missile test-launch platform. **Two Tu-160s that were to enter service in 2005 have not yet become operational. ***An additional 9,300 intact strategic and nonstrategic warheads are estimated to be in reserve or awaiting dismantlement.

provide defense against ballistic missiles that follow a ballistic trajectory to reach their targets. We are talking about a completely different system.” Regarding the new hypersonic weapon, Putin declared: “This is a missile that can deliver a nuclear warhead.”¹¹

In February 2006, Baluyevsky reportedly said that the maneuverable reentry vehicle “can either follow a preset flight maneuvering program or be retargeted when it is already over enemy territory.”¹²

Though Russia has reacted unfavorably to U.S. plans to deploy conventional warheads on its Trident submarine-launched ballistic missiles (SLBMs), Baluyevsky reportedly has said that the maneuverable reentry vehicle tested on the Topol-M might someday be equipped with a conventional warhead.¹³

Russia continued to reduce its SS-25 missile force in 2006, withdrawing about 30 missiles from service, which leaves approximately 242 deployed SS-25s. If Moscow sustains this retirement rate, then all SS-25s will be gone by 2015. On August 3, 2006, Moscow test-launched an SS-25.

The SS-19 force remains relatively stable, with only a few missiles removed from service over the last two years. The July 2006 START MOU listed 126 SS-19s, the same number as the January 2006 MOU. We estimate that all but the 30 newest SS-19s will be withdrawn by 2012, with the newer missiles remaining in service possibly until 2030. On November 9, the SRF successfully test-launched an SS-19 missile from a silo launcher at Baikonur in Kazakhstan; the warhead landed at the designated point at the Kura test range on the Kamchatka Peninsula.

The number of SS-18s has also stayed fairly stable. We estimate

Russian nonstrategic and defensive weapons

	Type	Name	Launchers	Year deployed	Warheads x yield (KILOTONS)	Total warheads
ABM	51T6/53T6	Gorgon/ Gazelle	32/68	1989/1986	1 x 1000/10	100
Air defense	SA-10	Grumble	1,900	1980	1 x low yield	600
Land-based aircraft	Bombers/ fighters	n/a	~ 490	n/a	ASM or bombs	974
Naval	Submarines/ surface ships/ fighters	n/a	n/a	n/a	SLCMs, ASWs, SAMs, ASMs, bombs, or torpedoes	655
GRAND TOTAL						2,329

that all but the 40 newest SS-18s (R-36M2s) will be retired before 2009. The service life of the SS-18 has been extended through 2020.

Nuclear-powered ballistic missile submarines (SSBNs). Russia deploys 11 boats—six Delta IVs and five Delta IIIs—with two of its four fleets, a level far lower than its Cold War high of 62 strategic subs. The submarines can carry up to 624 warheads on 176 SLBMs. Russia decommissioned a sixth Delta III in 2006 and will likely withdraw more as the new Borey-class SSBN becomes operational. Three Typhoon-class SSBNs are still technically part of the fleet, but they do not have operational missiles. One of them, the *Dmitri Donskoi*, is used to test-launch the new Bulava SLBM.

Completion of the first, long-awaited Borey-class SSBN, the *Yuri Dolgoruki*, has been delayed once again. The boat is expected to begin sea trials this year at the earliest, with full operation slipping into 2008, more than a decade after construction began. The second Borey-class SSBN, the *Alexander Nevsky*, which was laid down at the Severodvinsk shipyard in March 2004 with delivery scheduled for 2008, will probably be delayed as well. Construction of a third boat,

tentatively named *Vladimir Monomakh*, began in March 2006 and is scheduled to be completed in 2012. Defense Minister Sergei Ivanov stated on February 7, 2007 that Russia plans to build as many as eight Borey-class SSBNs by 2015, two more than the navy previously announced. This will require a significant increase in construction at the Severodvinsk shipyard.

Russia’s submarine program suffered a serious setback in 2006 when three consecutive test-launches of the new Bulava SLBM failed, possibly causing a further delay in the operational deployment of the first Borey SSBN. The third stage of a Bulava missile test-launched from the White Sea failed on December 24, following the in-flight destruction of another Bulava on October 25, after it veered off course. On September 7, a Bulava launched from the submerged *Dmitri Donskoi* in the White Sea had also failed. The embarrassments followed the notorious 2004 incident in which a test missile failed to even eject from the missile tube as Putin looked on.

Test-launches of Russia’s two older SLBMs, the SS-N-18 M1 and SS-N-23, were more successful. Two days after the first Bulava failure in September, the Delta IV *Yekaterinburg* launched an SS-N-23 from a

submerged position near the North Pole. The missile's three unarmed warheads impacted on the Kizha range in the Arkhangelsk region 2,600 kilometers (1,612 miles) away. This compressed-trajectory flight marked the first time since 1995 that an SLBM was fired from the vicinity of the North Pole. The next day, a Pacific-based Delta III SSBN successfully launched an SS-N-18 M1 toward the Kizha range.

The Russian Navy is increasing the number of SSBN patrols, after a record low of none in 2002. According to information obtained by U.S. naval intelligence, Russia conducted five SSBN patrols in 2006. Defense Minister Sergei Ivanov reportedly stated on September 11 that five SSBNs were on patrol.¹⁴ That all patrols occurred at approximately the same time, instead of being spread out over 12 months, suggests that Russia doesn't have a real operational sea-based deterrent posture with ongoing patrols.

Strategic bombers. Russia's long-range bomber force remained unchanged in 2006, with 14 Tu-160 Blackjacks, 32 Tu-95 MS6 Bear H6s, and 32 Tu-95 MS16 Bear H16s. Lt. Gen. Igor Khvorov, commander of Strategic Bomber Aviation, stated in December: "We have enough aircraft to carry out the missions entrusted to Strategic Bomber Aviation and to meet existing threats."¹⁵

The Russian Air Force has ordered a modernized Tu-160 Blackjack bomber. The new Tu-160 "will meet all the necessary requirements for at least another 30 years," according to Khvorov.¹⁶ The first of the improved aircraft was expected to be deployed by the end of 2006 but has been delayed. The bomber force will be reduced to 50 planes by 2015, probably resulting in the decommissioning of the Tu-95 MS6 Bear-H6.

All the bombers can carry the nuclear AS-15A (Kh-55) air-launched cruise missile (ALCM) as well as deliver nuclear bombs. An advanced nuclear cruise missile, the Kh-102, has been under development for more than a decade and is still not deployed. Some AS-15As are being converted to conventional missiles (Kh-555s), similar to the U.S. conventional ALCM program.

Two Tu-160s and two Tu-95s launched a series of cruise missiles at a northern testing ground in August 2006. Six nuclear-capable nonstrategic Tu-22M Backfire C bombers simultaneously delivered bombs and missiles at the Guryanovo testing ground in southern Russia and at the Emba test range in Kazakhstan.¹⁷

Nonstrategic weapons. We estimate that Russia has approximately 2,330 operational nonstrategic nuclear weapons for delivery by antiballistic missiles, air defense missiles, tactical bombers, and naval cruise missiles and torpedoes. Russia conducted an operational test-launch of the 53T6 Gazelle nuclear antiballistic missile on December 5 from the Sary Shagan test range in Kazakhstan.

In 1992, President Boris Yeltsin pledged that Russia would eliminate all of its warheads for ground-launched tactical missiles, artillery

shells, and mines and declared that it would produce no more. Russia was also to dispose of half of its airborne and surface-to-air warheads and one-third of its naval warheads. In 2004, the Russian Foreign Ministry stated that "more than 50 percent" of all these warhead types have been "liquidated."

Implementation of the Yeltsin initiative would leave Russia with a stockpile of some 6,500 nonstrategic warheads, about one-third of them operational. But since 2004, Russia has not provided any information on the status of its nonstrategic nuclear weapons, and the U.S. government has repeatedly accused it of failing to implement all of Yeltsin's promises. In June 2006, a senior Russian defense official said Moscow would not talk about the weapons because they are not covered by international treaty.¹⁸ Instead, the June 2006 white paper criticized the deployment of U.S. nonstrategic nuclear weapons in Europe.¹⁹

Nuclear force projection. "Over the next five years, we will have to significantly increase the number of modern long-range aircraft, submarines, and launch systems in our strategic nuclear forces," Putin said in May 2006.²⁰ But during the past several years, Russian military officials have made numerous public statements about their plans for the strategic forces—statements that suggest more abbreviated development than that described by Putin.

Based on these statements it is possible to make a "best estimate" of the likely evolution of Russia's strategic nuclear forces over the next 15 years, with the caveat that such projections are fraught with considerable uncertainty. We predict a 48 percent decrease in the overall warhead level, including an 86 percent reduction in warheads on the ICBM force (unless Russia decides to MIRV the Topol-M), a 19 percent increase in the number of warheads on the SSBN force, and a 17 percent decrease in warheads on the bomber force. By this estimate, Russia's strategic arsenal in 2020 would have approximately 1,726 nuclear weapons. Failure to extend START could increase the total. ✱

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