The Russians and Their Nukes

For post–Cold War Russia, the importance of nuclear weapons has increased rather than declined.

By David R. Markov

THE severe political turmoil and fiscal uncertainty in today's Russia have provoked considerable skepticism in the West about the effectiveness and reliability of Russia's Strategic Missile Forces (RVSN).

An examination of the public record of recent RVSN operations suggests the following conclusion: Russia's intercontinental ballistic missile (ICBM) force is still managing to perform its mission, though it faces serious short- and long-term problems. Asked about the RVSN, former Russian national security advisor Alexander I. Lebed described the RVSN as being "rusty but still effective." Indeed, all evidence is that Russia is still capable of waging a general nuclear war.

The importance of strategic nuclear weapons to Russia's overall military strategy has grown, rather than declined, since the collapse of the Soviet Union five years ago. In part, the increased importance stems from the dramatic shrinkage of Russian military forces from more than four million troops under arms at the height of the Cold War to fewer than two million today.

Unable to rely on massive conventional forces, as it has in the past, the Russian military today plans to develop a much smaller, highly mobile force. In practice, this means that Russia's conventional capabilities are stretched thinly over a vast geographic area.

New Russian military doctrine, adopted in 1993, reflected that reality. It resembled US doctrine in the late 1950s and early 1960s, when the Pentagon placed heavy emphasis on nuclear weapons to deter conventional

conflict. Because conventional force capabilities have declined, "nuclear weapons of Russia begin to play a more important role," said Gen. Yevgeni Volkov, a retired senior officer who advised Soviet and Russian Strategic Arms Reduction Talks negotiators and is now a member of the Russian Academy of Cosmonautics and the International Academy of Information.

The new role envisioned by Russian military doctrine seems to be a kind of "nuclear umbrella" that protects Russian ground forces abroad as well as allies and members of the Commonwealth of Independent States. The new doctrine asserts that "deterrence of [conventional attacks on Russia] may also be nuclear."

The Answer to PGMs?

Many Russian military theorists believe nuclear weapons provide the best answer to the challenge posed by conventionally armed precision guided munitions, which have become such an important part of Western military strategies. Russian generals fear that, in a general war, Western nations could employ such "smart munitions" to degrade Russian strategic nuclear forces, without ever having to "go nuclear" themselves.

Consequently, said General Volkov, Russia "should enjoy the right to consider the first [enemy] use of precision weapons as the beginning of an unrestricted nuclear war against it."

Senior Russian officials make clear that the US and the other NATO nations still constitute their main security concern. Recent RVSN training exercises, for example, emphasize responding to a short-warning nuclear attack from the US. Russian suspicions of NATO are heightened by its proposed expansion eastward into the former Warsaw Pact states. Oleg Grinevski, Russia's envoy to Sweden, recently warned, "If NATO expands in Europe, the nuclear threat will increase substantially."

Gen. Igor Rodionov, the Russian Defense Minister, expanded Grinevski's remarks by warning that "matters may go so far that we might retarget missiles, directing them at some European countries that will join NATO."

Defense Minister Rodionov's words are a reminder that, although Russian strategic missiles are not targeted against any country in their day-to-day peacetime mode, they can be retargeted on fairly short notice. Gen. Col. Igor D. Sergeiev, the commander of the RVSN, stated in a recent television interview from his command post that Russia's ICBMs could be "retargeted and launched from this war room in a matter of minutes."

Russia's philosophy for targeting US aimpoints seems little changed from the Cold War. The overall target set is smaller—the result of arms control agreements that have caused the US to remove weapon systems—but Russian nuclear forces still seem to emphasize preemptive strikes against US strategic nuclear forces if war appears imminent.

Several valid methods exist for counting the weapons of the old Soviet Union. An official US-Russian memorandum, using START I "counting rules," provided a snapshot of the forces of Russia, Ukraine, Kazakhstan, and Belarus, as of July 1, 1996. It reported that the total was 966 ICBM launchers (down from 1,398 in 1990) and 5,169 ICBM warheads (down from 6,612 in 1990). These figures included all systems in the inventory, even those that are not operational but have not yet been destroyed.

Another method is to count only those weapons on Russian soil and to count only operational weapons ready for actual launch against an adversary. This accounting technique yields lower numbers. It is the method used in the text and the tables on p. 43.

Today, the RVSN provides about 50 percent of Russia's strategic nuclear delivery vehicles, 54 percent of its warheads, and 75 percent of its megatonnage. They would be assigned to carry out between 50 and 90 percent of Russia's strategic nuclear missions in a general war.

Russia maintains a landbased force of roughly 760 ICBMs with 3,629 nuclear warheads. At present, some 47 percent of the inventory is based in fixed silos. Based in this fashion are all of the SS-18s and SS-19s and a few of the SS-24s. The remaining 53 percent is mobile, comprising all of the SS-25 launchers and SS-24s based aboard railway cars. The Russian ICBM inventory is presented in the table above, current as of November.

Emphasis on Silos

Today, 80 percent of the RVSN's nuclear warheads are to be found on launchers based in fixed silos, with the remainder based on mobile systems. Such a silo-based MIRVed warhead force allows precise targeting of an opponent's silo-based nuclear forces. Mobile forces, like the road-mobile

Where They Are

Missile Field Location	ICBM Type	Number at Site	RVs at Site
Aleysk	SS-18	30	300
Dombarovskiy		52	520
Kartaly		46	460
Uzhur		52	520
Kozel'sk	SS-19	60	360
Tatishchevo		107	642
Bershet	SS-24	12	120
Kostroma		12	120
Krasnoyarsk		12	120
Tatishchevo		10	100
Barnaul	SS-25	36	36
Drovyanaya		18	18
Irkutsk		36	36
Kansk		45	45
Nizhniy Tagil		45	45
Novosibirsk		45	45
Teykovo		36	36
Vypolzovo		9	9
Yoshkar-Ola		36	36
Yur'ya		45	45
Unassigned		16	16

SS-25 and rail-mobile SS-24 ICBMs, however, are neither as effective in rapidly responding to nuclear attacks nor able to do so with the same accuracy as fixed-site ICBMs. These mobile ICBMs are more survivable and provide a hedge against surprise attack.

For Russia, the mobile ICBMs have other disadvantages, including their heavy personnel requirements (roughly five to six times that of a silo-based ICBM) and their higher maintenance costs (roughly two to four times that of a silo-based ICBM). Any move to shift more of the Russian deterrent onto mobile systems would exact a high cost in rubles and personnel.

The RVSN also bears a heavy burden of dependence on Ukraine for critical spare parts for their inventories of SS-18s, SS-19s, and SS-24s. Many of these missiles are rapidly reaching the end of their service lives and will require maintenance, midlife extensions, or replacement. At present, 50 percent of the Russian ICBMs have exceeded their planned service lives.

Russia has already obtained, in a barter arrangement, 127 SS-19s from Ukraine and should be able to maintain a START I force of 105 systems. In addition, Russia has embarked on a midlife improvement program for the SS-19 to extend its service life by at least 10 years.

Russia's supply dependencies will likely shape the kind of ICBMs that Moscow deploys during the next decade. Currently, the only ICBM produced in Russia is the SS-25, built at the Votkinsk Plant Production Association. This facility has seen its production, which topped out at 62 SS-25s per year, drop to only nine ICBMs in 1994. Current Western media estimates place SS-25 production at 10 to 11 per year in the past two years.

An improved version of the SS-25, called SS-X-27 by NATO, has been in development since 1993. After its third flight in July 1996, General Sergeiev, the RVSN commander, announced the start of series production. However, this program is roughly one and a half to two years behind schedule and will be deployed on far fewer test launches than previous Russian ICBM designs.

The SS-X-27 will be based in three configurations: in converted SS-18 silos, in new silos, or on new road-mobile transporter-erector-launchers. The first 10 SS-X-27 ICBM complexes will be put on alert in 1997 and will become the backbone of the ICBM force.

However, several influential Russian commentators are dissatisfied with the SS-X-27 and have called for the development of an 80- to 120-ton liquid-fuel missile fitted with 10 medium-size nuclear warheads. Proponents of this option have claimed that such a system could be developed in three to five years and at a reasonable cost.

Thoroughly Professional

The RVSN currently comprises 192,000 troops, representing about 96 percent of authorized end strength. Nearly all of these troops are thoroughly professional officers who hold advanced degrees and who were screened for reliability prior to acceptance into the RVSN.

Chronic budgetary shortfalls, assignments to remote locations, and declining purchasing power of low wages have all affected RVSN personnel. Living conditions are difficult. The Russians have reported that 48 percent of all RVSN fatalities in 1996 were suicides. Many RVSN personnel live in substandard housing and receive their wages only sporadically. Overall, the Russian government owes the RVSN a total of nearly 500 million rubles in back wages and rations. Indeed, some RVSN servicemen and -women go without pay for months. All of these problems have raised considerable concern in the West (and among some Russian observers) about the reliability of RVSN personnel.

Recent press reports in the US and in Russia suggest that Russia's control of its nuclear forces may be eroding or in need of serious strengthening. The Washington *Times* in October noted a US government warning that Russia's nuclear command-and-control system "is being subjected to stresses it was not designed to withstand as a result of wrenching social change, economic hardship, and malaise within the armed forces." Still further, the report stated that the RVSN recently implemented procedures to report accidental or unauthorized missile launches. Such a possibility exists, given the technical capability of the RVSN's command posts to launch their missiles without prior approval from Russia's political leadership or General Staff.

Despite such dire predictions, US Defense Secretary William J. Perry stated in a press conference after his visit to Moscow in October that "All evidence through the years has been the Russians put their best and the most highly qualified troops to that assignment, and I have every reason to believe that is still the case and that they are still under good control."

Russian military leaders are less concerned about the possibility of an unsanctioned launch than they are with another danger—a swift, sudden decapitation strike against Russia.

This concern led to the deployment of a "doomsday" command-and-control complex called "Perimeter." This system was designed to permit the RVSN to launch its forces in time of war even if all command-and-control systems were disabled or destroyed.

A Samsonite Briefcase

The main wartime automated nuclear command-and-control coding system is called "Kazbek." This system is designed to authorize the launching of a nuclear strike and is initialized by the Russian leadership's "nuclear briefcase" (called "Cheget" by the Russians). The black, Samsonite briefcase, fitted with three combination locks, can communicate to the Russian General Staff the requisite codes granting permission to launch an attack.

Russia maintains three such nuclear suitcases (called the "football" in the US). The Russian President, the Minister of Defense, and the Chief of the General Staff each have one handy at all times. The General Staff receives the signal and initiates the strike through the passing of authorization codes to missile silo launch complexes or by remotely launching individual ICBMs.

This process was put to the test on January 25, 1995. A Norwegian sounding rocket was detected by Russian early warning systems, and Russian President Boris N. Yeltsin used his "nuclear briefcase" to activate the Kazbek system. Authorization for the launch of a nuclear strike was given to the General Staff, but the attack was not initiated; the rocket was traveling away from Russia, not toward it. An investigation found that a prelaunch

notification message issued by the Norwegians was not properly delivered to Russia's early warning forces.

This incident generated one of the few media reports on the operation of Russia's nuclear command-and-control system since the 1991 coup and was the only reported post–Cold War activation of the Kazbek system.

According to a November 1996 report of the RVSN Military Council, 76 percent of the missile divisions were assessed to be "good" and the remainder were judged "satisfactory." The report assessed missile division performance during numerous RVSN exercises and operational missile training launches held in 1996. In addition, efforts are under way to replace some 40 percent of the operational training exercises with specially equipped classroom simulators designed to perform tactical drills.

Despite the RVSN's major financial difficulties, it has conducted 30 ICBM combat-training launches since 1992. Six combat-training launches and one new missile test launch were made in 1996. The first combat-training launch of 1996 took place on April 17. The SS-25 was launched from Plesetsk Missile Range in the Arkhangel'sk region, close to the Arctic Circle, and struck a target on the Kamchatka peninsula.

The second combat-training launch took place on June 6. The RVSN launched a 20-year-old SS-19 ICBM that had been on continuous combat alert before launch. According to the commander of the RVSN, the ICBM's six warheads hit targets on Kamchatka. This test was designed to confirm whether the SS-19 could be safely stored and its operational service life extended.

New Missile Tested

On July 25, the RVSN test-launched the new SS-X-27 from the Plesetsk Missile Range. This was the third launch of the improved SS-25.

The third combat-training launch of 1996 took place on October 3. It was conducted as part of a two-day strategic command-and-staff war game called "Redoubt '96." Prime Minister Victor Chernomyrdin, General Rodionov, and General Sergeiev participated. The war game involved all three legs of the Russian strategic nuclear triad and included the combat-training launch of an SS-25, the firing of a submarine-launched ballistic missile (SLBM) from a strategic submarine, and the launch of a cruise missile from a Tu-95 "Bear-H" bomber.

On November 2 and 3, Mr. Chernomyrdin participated in several combat-training tests. He launched an SS-25 from Plesetsk Missile Range and an SLBM from a submarine in the Barents Sea.

The fifth combat-training launch of 1996 was held on November 9. The final event—the sixth—came on November 30, when Russian officials launched an SS-24 from a railcar; its 10 warheads hit their targets in Kamchatka. Until then, the Russians had not test-launched a mobile SS-24 for six years, a spokesman disclosed.

The way ahead for the RVSN is anything but clear, and the course for Russia's missile force will turn on several variables. Gen. Col. Victor I. Yesin, chief of Strategic Missile Troops Main Staff, said that developments during the next 10 to 15 years will be determined by Russia's economic condition, government arrangements with industry, and limits imposed by the START I and START II treaties.

Russia delayed START II ratification throughout 1996. The provisions of this treaty would greatly affect Russia's strategic force mix and allocation of weapons among the legs of its triad of ICBMs, SLBMs, and bombers. The results of this realignment would impede the RVSN's ability to execute its current targeting plan and would force a change. Restructuring would require investment of $40 billion to $50 billion to purchase new systems, according to START II critics in Russia.

This level of investment would greatly strain the present defense budget. The RVSN received only 56 percent of its approved 1996 defense budget. Current estimates place the 1997 defense budget at only one-third of the requested amount. If this is the final budget result, many of Russia's problems outlined above will worsen. ■

Russia's ICBM Force

Missile Type	Deployed Missiles	Warheads per Missile	Total Warheads	Percent of ICBM Warheads
SS-18	180	10	1,800	49.6
SS-19	167	6	1,002	27.6
SS-24 silo	10	10	100	2.8
SS-24 rail	36	10	360	9.9
SS-25	367	1	367	10.1
Total	**760**		**3,629**	

The Mix of Weapons

Category of Weapon	Launchers	Percent of Total	Warheads	Percent of Total
Fixed silo basing	357	47.0	2,902	80.0
Mobile road/rail basing	403	53.0	727	20.0
Multiple-warhead system	393	51.7	3,262	89.9
Single-warhead system	367	48.3	367	10.1

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