Europeans Should 'Buckle Up'

by Ralph Bosshard

Jan. 31—*Swiss Lt. Col. (ret.) Ralph Bosshard, during the years 2014-2017, served in the Organization for Security and Cooperation in Europe (OSCE) peacekeeping mission in Ukraine, where in 2014 he served as Senior Planning Officer in the Special Monitoring Mission to Ukraine, which brought him to Kiev, Mariupol, and Dnepropetrovsk. Until 2017 he served as the Special Military Adviser to the Permanent Representative of Switzerland to the OSCE and to the Swiss Ambassador to Kiev. From 2017 to 2020 he served as Operations Officer in the OSCE High-Level Planning Group, planning for a military peacekeeping operation in the South Caucasus. This article, translated from the German, appears in* EIR *by permission from the author. It was first published January 15, 2025 on the Swiss website Globalbridge.ch.*

Jan. 15—After the United States of America had put the knife to the throat of the whole world with the "Conventional Prompt Global Strike" program, Russia decided a few years ago to hold back and minimally put pressure on the Europeans.[1] However, Russian President Vladimir Putin made it clear some time ago that the U.S.A. would also suffer its share of the damage if things came to the worst.

Army.mil

An ATACMS system.

While the Ukrainian army in the east of the country is having to surrender terrain, villages and towns every day, public discussion in the West has long been focused on long-range weapons, from which some people expect real miracles. ATACMS, Storm Shadow, HIMARS missiles and others are intended to carry out strikes deep into Russia. Conversely, the Russian armed forces have been using their latest arsenal of long-range weapons in recent months: The use of short-range missiles and cruise missiles of the types Iskander, Kinzhal and Tsirkon, as well as the medium-range missile "Oreshnik," not only had a physical effect but also served as a demonstration of Russia's technological capabilities—and also as a test with a view to future confrontations. The short flight times of all these missiles give a victim only a few minutes to react.

New Needs—New Solutions

Discussions about non-nuclear strategic weapons have been taking place in Russia and the Soviet Union since the 1980s, when the Chiefs of General Staff Nikolai Ogarkov and Sergei Akhromeyev began to doubt the usefulness of nuclear strategic deterrence. The war in Ukraine has now shown that the Russians have quietly built up a conventional first-strike capability. In parallel, work on the nuclear weapons arsenal continued, as it had to be ensured that nuclear weapons of all kinds could overcome the more advanced defense systems. This required a significant increase in speed and thus the development of new propulsion systems.

One such new form of propulsion is magnetohydrodynamic propulsion. This makes use of the fact that electrically conductive liquids such as seawater can be accelerated in an electromagnetic field. The same applies to extremely hot, ionized air. This property can

be used to power watercraft, for example, but also to protect missiles from overheating during flight through the Earth's atmosphere and to control them. It is undisputed that the Russians have a great deal of knowledge in this field.[2] Russian engineers have obviously brought such propulsion systems to operational readiness in recent years.

Because What Cannot Be, Cannot Be

Large parts of the Western press continue to deny Russia's ability to develop the most modern weapons technology. But it would not be the first time in recent history that Russia has been ahead in certain areas of technology. The most telling example in today's context concerns the technology of ramjet engines, without which flight speeds of more than three times the speed of sound (Mach 3) are hardly possible. In 1991, an attempt by the U.S. Navy to develop a low-flying, supersonic anti-ship missile powered by a ramjet engine failed due to technical failures, delays in the schedule and a massive increase in program costs. (See "Martin Marietta AQM-127 SLAT" in *Directory of U.S. Military Rockets and Missiles.*) The Navy then promptly procured the Kh-31 Krypton anti-ship missile, developed in Soviet times, from Russia as a target drone. Until a few years ago, this was used to train ship crews in defense against the most modern anti-ship missiles (Joseph Trevithik, "Navy Needed Targets To Mimic Supersonic Anti-Ship Missiles So They Bought Real Ones From Russia," in The Warzone, May 7, 2020).

The year 1999, with NATO's attack on Serbia (which was in violation of international law), was probably the first turning point in political-military relations in Europe, which may have prompted Russia to build on the research results of the last years of the Soviet era and to develop new strategic weapons. The U.S. Conventional Prompt Global Strike program was the second incentive, and the worsening of the situation in Ukraine in 2013 was the third (see generally: Jill Hruby: *Russia's New Nuclear Weapon Delivery Systems—An Open-Source Technical Review*, edited by the Nuclear Threat Initiative, November 13, 2019, and *Congressional Research Service: Russia's Nuclear Weapons: Doctrine, Forces, and Modernization, Updated April 21, 2022,* Washington DC, pp. 23-31).

Atomic Bombs in Space

The Fractional Orbital Bombardment System (FOBS) was developed in the Soviet Union in the 1960s. Put simply, it means that a nuclear bomb is fired into a low Earth orbit and left to circle the Earth until a decision has been made as to when and where it should strike. The nuclear warhead can then be slowed down—like other spacecraft—to enter the Earth's atmosphere and fly towards its target. The warning time for such warheads is very short, which was considered a threat to stability and led to the ban on FOBS weapons systems in the SALT II treaty. (See Asif A. Siddiqi, "The Soviet Fractional Orbital Bombardment System: A Short Technical History" (PDF), in *Quest, the History of Spaceflight Quarterly*, Volume 7, Number 4, Spring 2000, pp. 22-33.)

The Soviet Union had the R-36-O intercontinental ballistic missile with FOBS, each with a warhead with an explosive force of 1–3 MT. NATO called it the SS-9 *Scarp*. There was also a variant with three separate warheads, so-called Multiple Independently-targetable Re-entry Vehicles (MIRVs), which could also eject decoys to overcome enemy missile defenses. The SS-9 was stationed in individual, widely distributed silos that could withstand the use of a 1-MT weapon in close proximity. The missile's reaction time in normal readiness was three to five minutes and could be maintained almost indefinitely. In the event of an attack with ballistic missiles, it was therefore the ideal means of a launch-on-warning strategy. This is a procedure in which the launch order to one's own intercontinental missiles is given immediately after a warning of the approach of enemy missiles is received.

Counterattack with Announcement

The disadvantage of FOBS technology is that it requires a much more powerful missile than conventional intercontinental ballistic missiles, similar to a missile designed to put a satellite into orbit. This may have been one of the reasons why the Soviet military was able to agree to a ban on this category of weapons towards the end of the Cold War. The launch of such a powerful intercontinental missile would now be detected by surveillance satellites, which would mean that the element of surprise would be lost. And such a warhead can certainly be shot down in orbit. Another disadvantage of FOBS technology is the longer flight time, which gives an enemy enough time to launch its own nuclear missiles. (See Miroslav Gyűrösi, "The Soviet Fractional Orbital Bombardment System Program," Technical Report APA-TR-2010-0101, in *Air Power Australia*, updated April, 2012.)

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Distances from the Russian coasts to the U.S. coasts.

In the course of dismantling the arms control system, for which the West is complicit, Russia also took up the FOBS concept again and developed the new intercontinental ballistic missile "Sarmat".[3] The latter can also orbit the Earth, but not in an orbit. Instead, after being detached from the launch vehicle, it descends at a shallow angle to the upper layers of the atmosphere and bounces off them. This process can be repeated several times.

The Sarmat silos are protected by a new system that has received little attention in the West. The active defense system Mozyr (Russian*:* комплекс активной защиты КАЗ) consists of fixed guns that fire a "cloud" of metal balls and arrows that destroy attacking warheads directly above the silo. The development of this system began in the 1980s, but then stalled because sufficiently powerful radar devices for target detection and computers for calculating trajectories were not available.

Slow, but well protected and almost impossible to stop: If someone were to attack Russia with missiles, the Sarmat would surely strike back.

Nuclear Bombs Against Aircraft Carriers

Russia has also upgraded its underwater capabilities. The Poseidon is an underwater drone with a global range and a nuclear warhead. The Russian Navy has a lot of experience with nuclear propulsion—including painful experiences—and has taken advantage of the progress made in building smaller nuclear reactors. A single nuclear propulsion system generates enough energy to enable an underwater vehicle to travel thousands of kilometers, at great depths and at high speeds. So far, the Russian side has been stingy with technical details, but there is talk of a range of 10,000 km at a speed of at least 100 km/h at a depth of 1,000 m. (See H.I. Sutton: "*Poseidon Torpedo*," in *Covert Shores*, February 22, 2019.)

Poseidon torpedoes can attack naval bases from great distances and destroy entire naval fleets with nuclear weapons.

The Poseidon U-Drone can be launched from the large submarines that the Russian Navy has at its disposal. It is also possible that the drone will wait on the seabed until it is activated. However, the stationing of nuclear weapons on the seabed beyond the 12-mile limit violates the Seabed Arms Control Treaty of 1972. This prohibits the stationing of weapons of mass destruction on the seabed beyond the territorial sea, i.e., the 12-mile zone. Russia could also station the Poseidon in its territorial waters.

The use of nuclear weapons against large warships

was considered and tested shortly after the atomic bombs were dropped on Hiroshima and Nagasaki. In Operation Crossroads in 1946 in Bikini Atoll, the explosion of an atomic bomb with an explosive force of 23 kT triggered a tsunami that sank or irreversibly contaminated the decommissioned aircraft carriers and battleships that had been set up as test targets. After the detonation, a first wave of 29 m. height was created. The beach of Bikini Island, 6 km away, was hit by nine waves of up to 5 m. high.[4]

The Poseidon's nuclear warhead is said to have a variable yield of 2 to 100 MT, i.e., 1,000 times the warhead of Operation Crossroads. If Poseidon is really to be used against ports, the effects would probably be comparable to those of Crossroads, just ten times stronger. The 500- meter-high tsunami wave that is sometimes reported may be a bit high, but even 50-meter-high waves penetrating deep inland would probably cause severe devastation to ports and cities on the coast.

Slowly but Inevitably

With the help of the magnetohydrodynamic drives mentioned above, it is possible to build very quiet submarines and even submarine drones. However, even with conventional technology, drives are possible today which are so quiet that modern submarines are extremely difficult to locate. This was shown by the collision between two nuclear submarines from France and Great Britain in the Atlantic in 2009. But quiet drives are not the only thing that makes life easier in war in the depths of the oceans: Hydroacoustic means are the best known, but there are certainly other methods for locating submerged submarines. Changes in the magnetic field, for example, and radioactive emissions can also give off telltale signatures. In addition, noises under the ice pack or from other ships can mask the propulsion noises of submarines.

The Poseidon is primarily seen as a second-strike weapon that hits military facilities and population centers on the coast. However, it is unlikely that it can be controlled or recalled after being launched, because telecommunications with objects diving so deep over long distances is not easy for purely physical reasons. This suggests a highly developed navigation system that may even be combined with artificial intelligence and could thus be able to avoid previously unknown obstacles and counter enemy defenses.

Overall, Western naval forces would have a hard time detecting and intercepting a Poseidon U Drone. However, the days-long transit time makes the weapon unsuitable for a surprise first strike. It brings slow but inevitable destruction.

Bombers Without Pilots

The Burevestnik project seems to be perhaps the most difficult to realize technically and the least documented at present. Although the Burevestnik is sometimes referred to as a low-flying supersonic missile (SLAM) or a supersonic cruise missile, it is more of an unmanned bomber that can fly over very long distances at very low altitudes at Mach 3.5 and drop several nuclear bombs on its flight path. It is likely to be powered by a nuclear ramjet engine, as only such a system can generate the enormous energy required to make a 14-meter-long missile with a diameter of 2 m. fly at a height of just a few meters at the speed of a rifle bullet. (See Alexander S. Yermakov: *The Nuclear Triad: Alternatives from The Days Gone By and Possible Futures*, Working Paper No. 68/2022, Russian International Affairs Council (RIAC), Moscow, November 8, 2022.)

With the Burevestnik, the Russians took up an old idea from the USA from the late 1950s and benefited from advances in metallurgy and navigation. The stresses on the materials are enormous and the strong radioactive emissions from the engine make it advisable to do without a crew.

Theoretically, thanks to the practically unlimited energy available, the Burevestnik can emit an electromagnetic pulse on its flight path at high altitudes that does not cause physical damage to living beings and objects on the ground, but destroys all unprotected radio receivers and electronic data processing equipment. (See Dr. Peter Vincent Pry, "The Russian Federation's Military Doctrine, Plans, and Capabilities for Electromagnetic Pulse (EMP) Attack" in defconwarningsystem.com, February 4, 2021.) The effects on a modern society that this would have—a failure of electricity and water supplies, as well as telecommunications—would be devastating. Going back to the early 19th century would probably be the order of the day. A weapon like the Burevestnik is not covered by arms control treaties, because it represents a new category of weapon. (See Mark Melamed, Lynn Rusten: *Russia's New Nuclear Weapon Delivery Systems, Implications*

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Distance from the interior of Russia to the interior of the USA (Colorado).

for New START, Future Arms Control, and Strategic Stability, in the Nuclear Threat Intiative website, nti.org, November 2019.)

But even when flying at high altitudes at 4½ times the speed of sound, the Burevestnik can take up to two hours to reach targets in the United States from deep inside Russia.

In addition, due to the radioactive emissions from the engine, it is probably not particularly "stealthy." The suitability of the system for surprise use is therefore questionable. Maintaining a high level of operational readiness would also not be technically easy. (Compare the USAF's SLAM (Supersonic Low-Altitude Missile). The Burevestnik is probably not the weapon for a surprise first strike.

Main Opponent: Europe

It is becoming apparent that Russia is already preparing for the looming paradigm shift in global security: The deployment of new hypersonic weapons and in particular the Oreshnik medium-range missile were the first demonstrations to the West. *Overall, Russia is keeping its arsenal for a global nuclear second strike up to date and is diversifying its means for this. In addition, it is building up a non-nuclear strategic deterrent capability against its neighbors. But the most important thing is that*

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Distances from the interior of Russia to the edges of Europe.

Russia is turning its attention to its new main opponent, Europe. The Europeans, who believed that they could trump Russia with the USA at their back, may soon find themselves without their big brother.

The scenario is similar to that during the Cold War, when German Chancellor Helmut Schmidt feared that the stationing of Soviet medium-range missiles, namely the RSD-10 Pioneer, or SS-20 as it was called in NATO, could lead to a decoupling of Germany's security from that of the USA. In concrete terms, the fear was that the USA and the Soviet Union could agree to leave things at that after a devastating nuclear war in Germany. In contrast, decoupling is desired today.

With the NATO Double-Track decision of 1979, the West combined rearmament with an offer of negotiations. The latter is simply not evident in the context of the Ukraine war at present. The West believed that it could bring Russia to its knees with the help of Ukraine and may now believe that it can get out of the affair with a few apologetic words. That will not work. The Ukrainian attacks on the Russian early warning radar stations and the bases of the strategic bomber fleet were certainly interpreted in Moscow as a dress rehearsal for World War III (a collection of diplomatic documents is available here) Territorial concessions on the part of Ukraine are no longer enough. More must be done. Europe must move.

U.S. President Donald Trump, on the other hand, can use the "Multi-Domain Task Force" planned for Germany, which is nothing more than a strategic missile brigade, as a bargaining chip against Russia's new, non-nuclear strategic weapons. The European allies will complain, but Donald Trump has not given the impression in recent weeks that he cares much about the opinion of the Europeans.

End Notes

1. For the CPGS program see "The New START Treaty does not contain any constraints on current or planned U.S. Conventional Prompt Global Strike capability", on the homepage of the U.S. State Department. The State Department says it straight away: "The growth of unrivaled U.S. conventional military capabilities…." See Hans M Kristensen, "Talks at U.S. Strategic Command and University of California San Diego," Federation of American Scientists Global Risk blog, August 12, 2012; Craig Whitlock: "U.S. looks to nonnuclear weapons to use as deterrent," *Washington Post*, April 8, 2010, and "In the works: A missile to hit anywhere in 1 hr," *The Times of India*, April 2, 2010.

2. V.A. Bityurin and Vladimir Zeigarnik from the Institute of High Temperatures at the Russian Academy of Sciences, together with A.L. Kuranov, spoke about the possibilities in aviation in June 1996 at the 27th Plasma Dynamics and Lasers Conference, New Orleans, LA. Their paper, V.A. Bityurin, V.A. Zeigarnik, A.L. Kuranov, "On a perspective of MHD technology in aerospace applications, *AIAA* 96-2355, 27th AIAA Plasma Dynamics and Lasers Conference, June 17-20, 1996, is available for download. Another article by Bityurin: V.A., Bityurin, A.N. Bocharov, "Ground MHD experiments in hypersonic flows," in *Heat and Mass Transfer and Physical Gas Dynamics*, Volume 48, pages 874–880, December 29, 2010.

3. See "RS-28 Sarmat," missilethreat.csis.org, May 17, 2017, last modified April 23, 2024; Taunton Paine, "Bombs in orbit? Verification and violation under the Outer Space Treaty," in *The Space Review, March* 19, 2018; Drago Bosnic, "RS-28 'Sarmat' ICBM—why Russia needs such doomsday weapons," in infobrics.org, April 21, 2022. According to Western findings, it has the ability to put nuclear bombs into low-Earth orbit as well as to launch the atmospheric glider *Avangard* (see Mark Melamed, Lynn Rusten: *Russia's New Nuclear Weapon Delivery Systems, Implications for New START, Future Arms Control, and Strategic Stability*, in the Nuclear Threat Intiative website, nti.org, November 2019; "Avangard" in missilethreat.csis.org, July 31, 2021; and "Avangard (Hypersonic Glide Vehicle)," in Missile Defence Advocacy Alliance; "Ukraine War: Russia's 2nd Regiment Of Avangard Hypersonic Missile, With 'Mach 27' Speed, Takes Up Combat Duty" in *Eurasian Times*, December 17, 2022. Compare *NATO Science & Technology Organization: Science & Technology Trends 2020-2040, Exploring the S&T Edge*, Brussels, Belgium, March 2020, Chapter F, "Hypersonics," pp. 86–93, figure F.2, p. 87.

4. See Samuel Glasstone, Philip Dolan, *The Effects of Nuclear Weapons* (3rd ed.), U.S. Government Printing Office, Washington DC, 1977, p. 52 and p. 249.