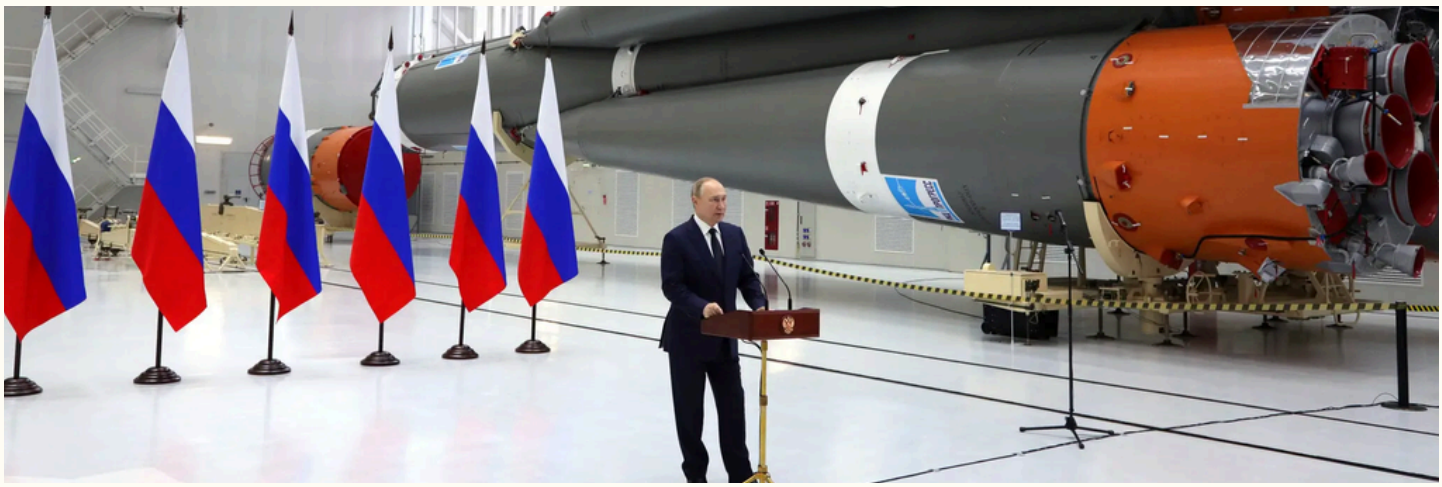
Russia's Nuclear Posture in 2025 and Beyond

Special Edition

Jamestown

In This Issue



(Source: Sputnik)

Russia's Nuclear Posture in 2025 and Beyond

The Jamestown Foundation
December 18, 2025

Introduction

Russia's nuclear posture is undergoing a period of transformation, marked by increased signaling, expanded international partnerships, and accelerated technological innovation. The New Strategic Arms Reduction Treaty (New START) between the United States and Russia expires in February 2026. Russian nuclear behavior and activities that were absent even during the Cold War are now emerging. Moscow uses its civil and military nuclear capabilities as tools to challenge existing security architectures and shape regional dynamics with new partnerships. These developments reflect a broader shift in the Kremlin's approach to brinkmanship in pursuit of its foreign policy and security goals. Understanding the strengths and weaknesses of Russia's nuclear posture is essential in order to guarantee U.S. readiness to detect emerging threats and the ability to pressure any weak points in that posture where and when they surface.

The Jamestown Foundation's recent expert discussion, moderated by Dr. Anna J. Davis, Fellow and Contributing Editor at Jamestown, placed these issues under the microscope and challenged Russian nuclear issues across the whole spectrum of capability, from the military to the civilian and the international statecraft elements of Moscow's nuclear posture. Ambassador John E. Herbst, former U.S. Ambassador to Ukraine and Uzbekistan, and Senior Director of the Eurasia Center at the Atlantic Council, said that the most important

factor to consider in our stance toward Russia's nuclear posture and how it shapes our own security and the security of our allies "is the geopolitical intention of Russia along with the geopolitical capability." He went on to say that this "intention is malign and dangerous. Clearly the most dangerous country in the world today, not because it is the most powerful, but because it is the most willing to take risks and it has a substantial, but perhaps overrated power, is Russia." Ambassador Herbst warned that nuclear threats are being used to slow Western support for Ukraine, even as Russia faces mounting conventional setbacks.

According to Ambassador Herbst:
"Putin's aim is to establish substantial Kremlin control over the policies of the landmass that made up the Soviet Union, which includes as we know, three NATO members. And also to have a veto over the security policies of the former Warsaw Pact states. He's pursuing this objective via a war crime-filled war on Ukraine. Were Putin to achieve his objective of establishing effective political control over Ukraine, dangers to, especially the Baltic States, but also Poland and Romania, go way up, not to mention Georgia and Kazakhstan. So we, the United States, have a critical interest in stopping that."

Dr. Pavel K. Baev, a Research Professor at the International Peace Research Institute, Oslo (PRIO), highlighted the fragility of Russia's strategic forces and the Kremlin's need for arms control talks to mask these vulnerabilities. Dr. Sergey Sukhankin, a Senior Fellow at The Jamestown Foundation, revealed how the global outreach of Russia's state-owned nuclear corporation, Rosatom, is creating long-term leverage across Southeast Asia, the Middle East, Central Asia, Africa, and some areas of Europe. Arseny Sivitsky, CEO of Sarmat AnalytiX, a Political and Geopolitical Risk Consultancy, explained the logic and limits of Russia's "offensive deterrence" doctrine and its showcase systems, including Burevestnik and Poseidon.

The following Special Issue builds on the discussion with expert analysis on Russia's evolving nuclear posture, its technological ambitions, economic constraints, and geopolitical objectives. Each contribution offers analysis to help the United States and its partners understand our adversaries in their own words and in their own terms. We are dedicated to facts and analysis, and making sure that people can understand the world as it is.

Source: Facebook/szijjarto.peter.official

Russia Bets on Nuclear Energy Diplomacy in Hungary

Sergey Sukhankin
December 18, 2025

Executive Summary

- Hungary's Paks-2 nuclear power plant project is creating durable financial, technological, and institutional dependencies on Russia and proving to be a prime case of how Moscow uses nuclear energy as a foreign policy instrument.
- Russia exploits what it perceives as vulnerabilities in Hungary's nuclear regulatory inconsistencies and lack of coherence in EU and U.S. sanctions exemptions.
- Hungary's deepening integration into Russia's nuclear ecosystem poses domestic economic, technological, and financial risks, as well as long-term geopolitical risks to the European Union and the North Atlantic Treaty Organization (NATO), given Hungary's membership and influence in both.
- While Paks-2 expands Russia's energy footprint in Europe, it also exposes the Kremlin's reliance on a narrow set of tools that may erode as political and economic realities shift.

Russia's Nuclear Posture in 2025 and Beyond

On November 5, the Hungarian Atomic Energy Authority issued an official license to Russia's state-owned nuclear corporation, Rosatom, to begin construction of the country's Paks-2 nuclear power plant (NPP) project (Kommersant, November 5). Construction work is scheduled to start in February 2026. Hungary's existing Paks NPP was connected to the grid in the 1980s and currently supplies nearly half of Hungary's electricity. The two new reactors that make up the Paks-2 project are expected to roughly double the country's nuclear generating capacity. On November 21, following the licensing announcement, the U.S. Department of the Treasury, through the Office of Foreign Assets Control (OFAC), issued License No. 132, allowing Russian banks to participate in financing the Paks-2 project (Kommersant; U.S. Department of the Treasury, November 21).

Hungary is one of the most illustrative examples of how Russia uses nuclear energy as a diplomatic tool within the European Union. A green light for the Paks-2 project demonstrates the intersection of energy, financial, regulatory, and political dimensions, as well as Moscow's ability to maintain influence even under sanctions and increasing pressure from the European Union and the United States.

Since Soviet times, Moscow has viewed nuclear energy as more than just electricity-generation technology. The 2023 Concept of the Foreign Policy of the Russian Federation implicitly mentions nuclear energy as one of the tools of Russian foreign policy and a means to strengthen its international image (Russian Ministry of Foreign Affairs, March 31, 2023). Nuclear energy is now a central instrument of Russian foreign policy and a core pillar of the Kremlin's broader "nuclear energy diplomacy" (*diplomatiya v yadernoi energetike*; дипломатия в ядерной энергетике), a specialized domain in which diplomatic and sector-specific institutions coordinate to leverage energy projects in pursuit of geopolitical objectives. Russian analysts have defined the concept as "a functional sphere of diplomatic activity aimed at advancing a state's external energy policy through negotiations, formal agreements, and the involvement of state-owned enterprises and international organizations" (Cyberleninka, accessed December 5).

Moscow has achieved substantial progress between the early 2000s—when Russia's energy diplomacy relied primarily on non-renewable energy resources—and the 2020s, when the nuclear sector emerged as a self-sufficient pillar of Russia's international influence. Rosatom is the world's leading constructor and exporter of nuclear reactors (World Nuclear Industry Status Report, accessed December 5). It is supplying 26 out of the 59 reactors under construction globally as of mid-2024. Rosatom is constructing at least 20 of these units outside Russia, with clients including Bangladesh, the People's Republic of China (PRC), Egypt, India, and Türkiye (see EDM, September 19; World Nuclear Industry Status Report, accessed December 5).

Nuclear energy diplomacy, unlike other forms of energy diplomacy, provides Russia with three competitive advantages (Technosuveren.ru, January 6). First, nuclear energy projects have exceptionally long life cycles. The construction, operation, and decommissioning stages of an NPP stretch across 60–80 years (International Atomic Energy Agency, accessed December 9). Intergovernmental nuclear energy agreements create a dense network of obligations and regular political and technical interactions. Second, the technological complexity of fuel supply, maintenance services, personnel training, participation in International Atomic Energy Agency (IAEA) and Organisation for Economic Co-operation and Development (OECD) research programs, as well as joint research and development initiatives, expands cooperation to several supporting industries and

areas of partnership. Third, despite Russia's general disregard for environmental sustainability, nuclear energy, as a low-carbon energy source, is inseparable from the broader agenda of sustainable development and decarbonization (IAEA, accessed December 9). Consequently, this allows Russia to use nuclear energy as a part of its "soft power" by training personnel and offering educational programs for students and specialists in Russian universities. It also encompasses joint scientific projects and participation in international conferences on energy diplomacy. Additionally, it involves engagement with public opinion—such as Rosatom-themed outreach events, delegation visits to operating nuclear power plants, and various media projects (Rosatomtech.com, September 11; Atommedia.online, September 19).

The Paks-2 project has a long and complex history. Hungary's parliament initially approved the construction of two new reactor units at the Paks site in 2009, but implementation was delayed due to prolonged proceedings with the European Commission and ongoing debates within the European Union regarding state aid rules and procurement procedures (EnergyLand.info, November 6). In 2014, Russia and Hungary signed an intergovernmental agreement on the construction of Paks-2, along with a package of core contracts naming Rosatom as the general contractor. The plan envisioned the construction of two VVER-1200 reactor units with a total capacity of 2,400 megawatts, financed through a Russian state loan of up to 10 billion euros (Atomic Energy 2.0, February 7, 2014). For Viktor Orbán's government, Paks-2 became a symbol of Hungary's "energy sovereignty" (Kommersant, November 28). Aside from purely economic considerations, this project has a deeply symbolic meaning for the Hungarian political leadership, serving to strengthen the country's sovereignty and autonomy within the European Union, dominated by actors such as Germany and France (Ru.reseauinternational.net, November 7).

The Kremlin has exploited controversies and disagreements within the European Union over Rosatom's involvement in the Paks-2 project. In 2017, the European Commission approved Hungary's state financing scheme for the project. In 2025, however, the EU Court of Justice annulled this decision, ruling that the European Commission had not sufficiently assessed whether the state-aid mechanism complied with EU competition and public procurement rules (Euro News, September 11). In return, the Hungarian government, along with the Russian ambassador to Hungary, stated that the court's ruling would not affect the project's implementation and that it would instead be taken into account when adjusting the financing mechanisms (NTV, September 11; Prime, November 24). This creates a potential precedent that Moscow can leverage in its engagements with other partners, arguing for the "separate" and non-sanctioned status of civilian nuclear energy.

The Paks-2 project cannot be viewed in isolation from Rosatom's other overseas ventures in Türkiye, Bangladesh, India, Egypt, and elsewhere (see EDM, September 5). Taken together, these initiatives form a kind of "nuclear network" of Russian interests (Radio Azattyk, October 16, 2024). Unlike many of Russia's other nuclear projects, however, Paks-2 is being implemented within the European Union, under the scrutiny of EU regulators and amid a period of sharp political confrontation with Brussels. This creates specific opportunities for Moscow to reinforce Russia's status as an indispensable technology supplier for parts of the European market and demonstrate the competitiveness of its reactor designs and project-management models. Consequently, the project provides Russia with

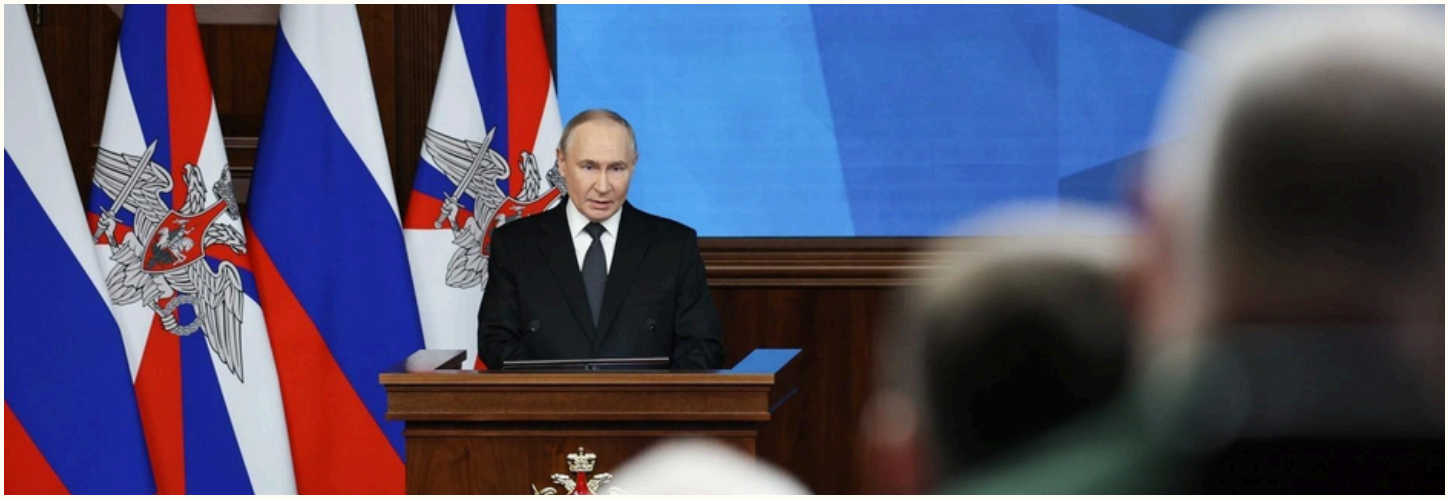
an opportunity to cultivate yet another form of EU dependence—albeit currently limited to individual member states—centered on nuclear energy. It serves as a justification for policies of "technological sovereignty" and "energy diplomacy under sanctions," as reflected in the materials of sector-specific conferences and in public statements by representatives of the Ministry of Energy and Rosatom (Atomic Energy 2.0, November 24).

If completed as planned, the Paks-2 NPP project creates three types of dependencies that will further place Hungary within Russia's orbit along three main lines. First, Hungary will be financially dependent on Russia. Unless any force majeure circumstances arise, a significant share of the plant's costs is covered by a long-term Russian state loan. This creates a stable bilateral agenda for decades ahead and narrows the room for any abrupt political rupture. Second, Hungary will be technologically dependent on Russia by opting for Russia-supplied VVER-1200 reactors—the flagship reactor of Russia's modern nuclear industry, serving as the "gold standard" for new NPPs in Russia as well as for export projects (TASS, accessed December 5). This creates a decades-long (up to 60 years) dependency on Russia, including service and maintenance support. Third, and arguably most important, Budapest's choice is likely to lead to long-term strategic dependence on knowledge and expertise. As a result, emerging networks (both formal and informal), as well as the training of Hungarian specialists, exchanges of expertise, and delegation visits from Paks-2 to Russian nuclear facilities (such as the Leningrad NPP-2 and Concern Titan-2), help create horizontal linkages and durable professional communities.

Russia's potential ability to draw Hungary into its orbit of influence poses a serious threat to European solidarity and cohesion. Strengthening ties between Moscow and Budapest, which has remained one of Russia's key supporters within the bloc since 2022, will also make Paks-2 an international and intra-European project rather than a strictly bilateral project between Russia and Hungary. Russian sources have already boasted that, in addition to the Russian general contractor, the construction involves several U.S., German, French, Swedish, Austrian, and 94 Hungarian companies (Euro News, September 11). If no major geopolitical shifts occur, this emerging configuration may gradually weaken cohesion among Europeans and the overall effect of the existing economic sanctions regime against Russia.

The role of nuclear energy in Russia's diplomacy extends far beyond the sector's commercial interests. It has become one of the key channels through which Russia maintains a presence in the global energy architecture, not least because nuclear projects create long-term and difficult-to-reverse linkages. The case of Paks-2 illustrates the real dangers associated with Russia's strengthening of its stance in Europe's energy security, now through different channels. The long duration of nuclear partnerships will anchor Hungary to Russia for decades through technology standards, fuel supply, and service arrangements. While Paks-2 strengthens Russia's leverage today, it also exposes the Kremlin's reliance on a narrow set of tools that may erode as political and economic realities shift.

To read the article on the Jamestown website, see here.



(Source: President of Russia)

Arms Control Putin-Style Goes Nowhere

Pavel K. Baev
December 18, 2025

Executive Summary

- Russian President Vladimir Putin's offer to extend the New START arms limitations reflects a performative attempt to signal Russia's commitment to strategic stability, while masking weaknesses in its nuclear modernization.
- The Kremlin narrows current peace talks to territorial concessions and widens the broader bilateral agenda with proposals such as a tunnel connecting Alaska to Chukotka to secure recognition as a global power and a competitor to the United States.
- Putin is inclined to intensify nuclear brinkmanship as Russia's nuclear capabilities remain its primary area of near-parity with the West, while aeronautic, space, and information/artificial intelligence technologies remain increasingly foreign for its defense-industrial base.

Russia's Nuclear Posture in 2025 and Beyond

Russian President Vladimir Putin's offer on September 22 to extend the limitations on the strategic nuclear forces set by the Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START) between the United States and Russian Federation appeared reasonable and meaningful (U.S. State Department, April 8, 2010; President of Russia, April 8, 2010, September 22). New START is due to expire on February 5, 2026, and even experts in Moscow who are loath to join the ranks of "patriotic" drum-beaters found Putin's proposition timely and useful (Kommersant, October 7). The Kremlin, however, did not pursue follow-up actions. Deputy Russian Foreign Minister Sergei Ryabkov sourly confirmed the failure of opening a dialogue on that traditional high-priority track, despite Russian media celebrating Putin's offer and U.S. President Donald Trump saying that extending NEW START sounded like a good idea (TASS, October 5; Mezhdunarodnaya Zhizn, December 8).

Putin's offer has now all but disappeared. The only trace of it is in the leaked memo, known as the "28-point plan," which was published in all Russian mainstream media (Kommersant, November 21). Russian experts pointed out a mistake in point 17, which confused New START with START I, stating, "The United States and Russia will agree to extend the validity of treaties on the non-proliferation and control of nuclear weapons, including the START I Treaty." Russian media concluded that the document was an "odd hybrid" of various drafts prepared by incompetent mediators (Rossiiskaya gazeta, November 21). It is unclear whether this point—or the reference to the long-expired treaty—will survive the presumed reduction of the peace plan to 20 points or its division into four separate packages (RBC, December 8). The absence of any mention of strategic arms control in the new U.S. National Security Strategy is clear. Russian commentators appeared to find this omission flabbergasting (Vedomosti, December 5; Kommersant, December 7). Following the document's publication, the Russian Foreign Ministry expressed disappointment at the lack of a U.S. vision for maintaining the balance of strategic forces (Russian Ministry of Foreign Affairs, December 8).

Nuclear deterrence has traditionally been central to Russian security thinking. The Russian National Security Strategy approved by Putin in July 2021 places great emphasis on maintaining strategic stability. It prescribes maintaining nuclear capabilities at a level sufficient for neutralizing growing threats, which it claims are caused by the U.S. dismantlement of the system of arms control (Russian Security Council, July 2, 2021). The new Russian Nuclear Doctrine, approved in November 2024, elaborates on this priority and defines conditions for a decision on the first use of nuclear weapons (President of Russia, November 19, 2024). The Kremlin's preoccupation with nuclear matters came into focus when the Russian Security Council convened an emergency meeting on November 5 to deliberate an appropriate response to Trump's presumed order to resume nuclear testing (see EDM, November 3; President of Russia, November 5). Russian Defense Minister Andrei Belousov omitted Russian violations of various agreements when he claimed that the United States would breach the Comprehensive Nuclear Test Ban Treaty (1996) (Kommersant, November 5).

That misunderstanding about nuclear testing has been mostly cleared up. The problem of Russia seeking status as an equal nuclear power to the United States, however, remains. The Kremlin's desire for a leading role on the world stage is underpinned by sustained efforts at modernizing its nuclear arsenal (Rossiiskaya gazeta, December 8). Much of the new U.S. National Security Strategy denies Russia the

status of a major global power in the emerging multipolar world, not least due to its full-scale invasion of Ukraine (Nezavisimaya gazeta, December 7). From this perspective, Russia's role is reduced, and it is uncertain where a possible end to the hostilities will leave Russia (Vzglyad, December 9).

Putin has sought to counter this challenge by simultaneously narrowing and widening the agenda of the ongoing peace talks (see Jamestown, November 26). The former is achieved by focusing peace negotiations on the demand to award Russia the unconquered part of Ukraine's Donetsk oblast (Republic.ru, December 3). The latter is attempted by impressing upon Washington, D.C., the importance of discussions on strategic stability, primarily by announcing tests of new weapon systems, such as the Burevestnik cruise missile and the Poseidon unmanned underwater vehicle, both nuclear-powered and capable of carrying nuclear warheads (Profile, November 11). The Kremlin has proposed a range of presumably lucrative joint projects, including constructing a tunnel connecting Alaska and Chukotka, to persuade the United States to look beyond what the Kremlin perceives as pesky details of territorial exchanges (Izvestiya, October 20).

Putin's offer to stick to the limits set by New START was not as far-fetched as the Bering Sea tunnel, and it probably had a hidden agenda. Putin did not suggest an exchange of data or a resumption of verification procedures, which were affected by his February 2023 decree suspending Russia's participation in New START (President of Russia, February 21, 2023; Forbes.ru, September 25). Moscow has no reason to suspect that U.S. nuclear arms will exceed the agreed-upon ceilings, but it probably seeks to hide the shrinking of its arsenal to well below the limits. The only part of the hugely expensive modernization program that is on track, with only slight delays, is the construction of Borei-class submarines. Putin inaugurated the eighth one (Knyaz' Pozharsky, Князь Пожарский) in July, which joined the Northern Fleet without performing the mandatory launch of the Bulava missile (see EDM, May 30; President of Russia, July 24; Korabel.ru, August 3). Russia's Strategic Rocket Forces need to retire all of the old heavy intercontinental missiles (SS-18 and SS-19) and the lighter Topol (SS-25) as well, but the new Sarmat (SS-X-29) missile, which Putin announced as ready for deployment in March 2018, failed one test in September 2024 and exploded early in another one on November 28 (Meduza, September 25, 2024; Verstka.media, November 28). Russia's Long-Range Aviation, which has performed hard combat missions since the start of Russia's full-scale invasion of Ukraine, is currently in an even worse state. Poor maintenance has caused many incidents—including the crash of a Tu-22M3 bomber in the Irkutsk oblast last April—while a dozen planes were destroyed and many more seriously damaged in Ukraine's Operation Spiderweb on June 1 (Meduza, April 2; The Moscow Times, June 6). Current production levels of the Tu-160 bombers at the Kazan plant reach only a couple of planes a year, while the PAK-DA project for the stealth bomber has been postponed indefinitely (Radio Svoboda, June 28; 1.ru, September 20).

The scarcity of data due to wartime Russian censorship obscures the true scale of these setbacks. Putin is keen to deny the degradation of Russia's strategic arsenal by both engaging in nuclear posturing and demonstrating readiness to discuss issues pertaining to strategic stability. This performance is aimed not only at the United States and Europe, but also at the People's Republic of China (PRC). The PRC is building up its deterrence capabilities and presented many new weapon systems during its Victory Day parade on September 3, marking the end of World War II, which Putin attended (see China Brief, October 1; Top War, November 10).

The PRC has so far refused to engage in any talks on limiting its nuclear arsenal. Moscow cannot embrace the PRC as a party to a treaty prohibiting the first use of nuclear weapons, but instead hopes that Beijing would approve its intention to preserve the framework of New START (RIAC, July 14).

Putin's offer to extend New START reflects a deeper struggle to achieve recognition for Russia's status as a global power and a peer competitor to the United States. The Kremlin cannot, nevertheless, develop any innovative framework to address the rapid progress in aeronautics, space, and information/artificial intelligence technologies, which are increasingly foreign to its defense-industrial base. These constraints make performative gestures an important tool for projecting strength and relevance as "European allies enjoy a significant hard power advantage over Russia by almost every measure, save nuclear weapons" (The White House, December 4). This reality may compel Putin to resort to nuclear brinksmanship even more often.

To read the article on the Jamestown website, see here.

(Source: *President of Russia*)

Russia Transitions to Nuclear Intimidation

Arseny Sivitsky and Alexander Taranov
December 18, 2025

Executive Summary

- Since the launch of Moscow's large-scale war against Ukraine in 2022, Russia has consistently escalated its nuclear posture from a predominantly defensive deterrence model toward offensive nuclear deterrence and intimidation.
- Russian offensive nuclear deterrence goes beyond signaling and prescribes demonstrative, selective, or limited nuclear strikes against selected critical facilities to instill fear among Western countries of large-scale and potentially uncontrolled nuclear escalation.
- Predeployment of Russian tactical nuclear weapons and strategic offensive systems in Belarus, updates to the 2024 Basic Principles of State Policy on Nuclear Deterrence, and preparations to resume nuclear testing manifest and support a practical transition to this concept.
- The Kremlin's preparations to resume nuclear testing were intended to reinforce the credibility of Russian nuclear threats and technically prepare for the potential nuclear weapons use in combat conditions.

Russia's Nuclear Posture in 2025 and Beyond

On November 5, during a special session of the Russian Security Council, Defense Minister Andrei Belousov justified preparations for potential nuclear tests, citing Moscow's view that U.S. actions undermine strategic stability. The Kremlin emphasizes the need to maintain the ability to inflict "unacceptable damage" on adversaries under any conditions (President of Russia, November 5). Russian intelligence and military officials argue that uncertainty over U.S. intentions—reinforced by statements on potential U.S. nuclear tests—necessitates readiness for nuclear testing at Novaya Zemlyato preserve credible deterrence. The Kremlin blames the U.S. withdrawal from arms control agreements, the modernization of nuclear forces —Sentinel intercontinental ballistic missiles (ICBMs), Columbia-class SSBNs, B-21 Raider bombers, Trident II missiles—the expansion of missile defenses, and the development of intermediate-range systems, such as the hypersonic "Dark Eagle," planned for deployment in Europe. Regular U.S. strategic exercises reportedly include preemptive nuclear strike scenarios. Combined with forward deployment of tactical nuclear weapons and strategic offensive systems in Belarus and doctrinal revisions lowering the nuclear-use threshold, preparations for nuclear testing indicate Russia's transition to offensive nuclear deterrence or nuclear intimidation.

Following Russia's withdrawal from the Comprehensive Nuclear-Test-Ban Treaty (CTBT) in 2023, domestic debate on renewed nuclear testing intensified. Russian President Vladimir Putin instructed the Ministry of Defense and the state-owned nuclear corporation Rosatom to ensure technical readiness for potential tests, stressing that Russia would respond to a U.S. resumption of nuclear testing. Experts argued that potential test detonations at Novaya Zemlya could serve strategic signaling and represent the first demonstrative step (strike) up Russia's nuclear escalation ladder (see EDM, October 24, November 8, 2023).

Russian General Staff Retired Colonel Mikhail Khodarenok notes that modern nuclear tests require minimal preparation, as Soviet-era data already documented nuclear effects. They require only drilling a shaft, placing a kiloton-class device, and detonating it. Such tests could verify the reliability of existing warheads or support the development of new nuclear munitions, serving as technical preparation for combat employment (Gazeta.ru, November 6).

After the failure of Russia's initial full-scale invasion of Ukraine, Putin placed strategic deterrence forces, including the nuclear triad, on special combat duty on February 27, 2022. This was aimed at deterring direct Western intervention and signaling Moscow's willingness to escalate if external involvement threatened Russian objectives (RBC, February 27, 2022). Since then, Russia has attempted to influence Western military and technical support to Ukraine with nuclear signaling. It contributed to delays in weapons deliveries, hesitation over troop deployments, and indirect constraints on Ukrainian counteroffensive operational planning (Novaya Gazeta Evropa, November 19, 2024). Despite these efforts, Western support expanded to include tanks, combat aircraft, and long-range missile systems that Moscow had previously considered "red lines."

This situation prompted debate among Kremlin-aligned analysts, including Dmitry Trenin, Sergey Karaganov, Sergey Avakyants, Fyodor Lukyanov, Dmitry Suslov, and others (Russia in Global Affairs, September 26, 2022; Argumenty i Facty, October 5, 2023; Profile, May 29, 2024; Interfax, June 2, 2024; Interfax, October 30). They argue that Russia's traditional defensive nuclear posture is ineffective in its war against Ukraine, which they describe as a Western proxy war, because the West perceives Moscow's nuclear threats as non-credible bluffs.

To address this, Kremlin-aligned analysts advocate for offensive nuclear deterrence to instill fear in Western governments by demonstrating readiness for nuclear use, signaling resolve, and contemplating limited strikes against states supporting Ukraine. The objective is to coerce Western governments into negotiations and force acceptance of Russian terms.

Professional military voices reinforce this approach. Lieutenant General Igor Kolesnikov, head of the 12th Main Directorate of the Ministry of Defense (12th GUMO), and retired Major General Vyacheslav Kruglov emphasize monitoring alleged U.S. and North Atlantic Treaty Organization (NATO) preparations and maintaining maximum readiness of nuclear forces and their support infrastructure (Kolesnikov and Kruglov, *Voennaya Mysl*, July 2024). Admiral Aleksandr Moiseyev, commander-in-chief of the Russian Navy, suggests selective, limited use of sea-based non-strategic nuclear weapons—against aircraft carrier strike groups or critical maritime infrastructure—could compel de-escalation without triggering a full-scale nuclear strategic exchange (Moiseev, *Voennaya Mysl*, September 2024). State Duma deputy and retired Lieutenant General Andrey Gurulyov argues that nuclear use does not necessarily lead to "Armageddon," highlighting distinctions between strategic and tactical weapons and varying yields. He asserts that credible nuclear employment against Ukraine strengthens Russia's deterrence and international position (Telegram/@agurulev, October 31).

The Kremlin's most evident shift toward offensive deterrence is in Belarus, where Russia has deployed tactical nuclear infrastructure and advanced missile systems in close proximity to NATO and Ukraine. Since 2022, construction near Asipovichy of hardened shelters, ammunition storage, and barracks for launchers from the 465th Missile Brigade has supported the deployment of Iskander-M missile systems. Satellite imagery indicates readiness to support a new missile brigade with up to twelve nuclear-capable launchers. Nearby, the modernized 1405th Artillery Ammunition Base—a potential storage site for tactical nuclear warheads—has been upgraded into a 12th GUMO Repair and Maintenance Base (RTB). The 12-kilometer (7.5 miles) railway line between RTB and the missile brigade enables rapid nuclear operational combat employment (see EDM, March 13, April 17).

Joint Russian-Belarusian non-strategic nuclear exercises between May and August 2024 confirmed a wartime 30-minute decision-making-employment cycle. Belarusian units operating Iskander-M and modernized Su-25/Su-30 aircraft, alongside 12th GUMO personnel, rehearsed wartime procedures under high alert, with nuclear munitions pre-positioned near launch platforms and carriers for immediate operational use (see EDM, May 24, June 17, August 15, 2024). During the Zapad-2025 joint exercises, the Joint Command/Nuclear Planning Group of the Russia–Belarus Regional Troops Grouping (RTG) conducted command-staff exercises on missile and nuclear strike planning against pre-designated and reconnaissance-identified targets, including employment of the Oreshnik intermediate-range ballistic missile (IRBM) (see EDM, September 15).

In December 2024, the Kremlin announced plans to deploy Oreshnik to Belarus. Oreshnik is capable of conventional and nuclear warheads and has an estimated 5,500-kilometer (3,418 miles) range capable of threatening targets across Europe. Construction is underway at a site likely designed to host the Oreshnik system

approximately 60 kilometers (37 miles) south of Minsk, in the Slutsk district near the village of Pavlovka.

Minsk and Moscow frame the deployment as defensive Union State deterrence. The forward-based posture, mobile combat duty readiness, ongoing war against Ukraine, and preparations for a direct military conflict with NATO, however, signal Russia's offensive intentions and preparation for potential preemptive strikes against European targets (Valdai, July 24).

Targeting, authorization, and employment decisions rest with Russian military-political leadership. Minsk plays a secondary, enabling role within the RTG Joint Command. At most, Belarusian military leadership may participate in activating Permissive Action Links at the final stage of the command chain, but lacks effective veto power (see EDM, June 26). By not contesting Minsk's claims of unilateral target selection and joint decision-making, Moscow effectively distributes political responsibility for potential nuclear use to Belarusian leadership (see EDM, February 3). If Moscow genuinely anticipated a NATO attack, deploying such systems deeper inside Russian territory under layered air and missile defense coverage would be more rational than stationing them in Belarus.

The updated Basic Principles of State Policy on Nuclear Deterrence lowers the nuclear-use threshold and reflects Moscow's narrative of escalating Western involvement. On November 19, 2024, the Kremlin approved a revised nuclear doctrine following Western authorization for Ukraine to strike targets inside Russia and extended its provisions to Belarus, meaning attacks there could trigger a Russian response (see EDM, October 2, November 26, 2024, June 26). The doctrine, while framed as defensive, expands the range of potential adversaries to include states and coalitions with nuclear or significant conventional capabilities, as well as any country supporting actions against Russia. Aggression by a military bloc member or by non-nuclear states backed by nuclear powers is considered a joint attack, clearly targeting NATO and Ukraine. Russia also reserves the right to use nuclear weapons in response to reliable intelligence on major aerospace attacks, including missiles, unmanned aerial vehicles, or hypersonic systems crossing the Russian border.

These developments mark a clear escalation in Russia's nuclear posture. Forward combat-ready deployments, doctrinal revisions, and readiness for testing fit within Russia's escalation-for-de-escalation concept (Levshin, Nedinn, and Sosnovski, "On the Use of Nuclear Weapons to De-Escalate Hostilities," Voennaya Mysl, 1999). This effectively prescribes the selective and limited use of nuclear weapons to coerce adversaries, signal resolve, and influence the end of the conflict on Russia's terms without immediate transition to full-scale nuclear war.

To read the article on the Jamestown website, see here.

(Source: Paluba Media)

Russia Overextends on Arctic Nuclear Icebreaker Goals

Anna J. Davis
December 18, 2025

Executive Summary

- Atomflot, a subsidiary of Russia's state-owned nuclear corporation, Rosatom, is suing the Baltic Shipyard for 46.1 million rubles (about $507,100) over a 34-day delay in delivering the nuclear-powered icebreaker, Yakutia, due to international sanctions and industrial bottlenecks.
- Russian President Vladimir Putin frames nuclear-powered icebreakers as instruments of sovereignty and Arctic dominance, yet the Kremlin's Arctic goals are disconnected from logistical realities.
- The slow and uneven pace of Russian construction, compared with Kremlin ambitions, has important implications for Russia's forthcoming strategy for Arctic zone development and national security for the period until 2050.

On December 3, Russian media reported that the Moscow Court of Arbitration had issued a ruling ordering the Baltic Shipyard to pay penalties to Atomflot for the construction delays of Russia's nuclear-powered icebreaker, Yakutia. Atomflot, a subsidiary of the Russian state-owned nuclear corporation, Rosatom, maintains the nuclear-powered icebreaker fleet. It is suing the Baltic Shipyard 46.1 million rubles (about $507,100) for a 34-day delay in delivery of Yakutia, which is part of the nuclear-powered icebreakers Project 22220 (Vedomosti, December 3; Atomic Energy 2.0, December 5).

The Baltic Shipyard has blamed the Yakutia's delay on difficulties in finding new equipment suppliers due to international sanctions and the need to import substitute equipment (Vedomosti, December 3). The court ruled that the Baltic Shipyard should have anticipated these issues and agreed with Atomflot on a different deadline in advance (Vedomosti, December 3). This is the second time Atomflot has attempted to file a lawsuit against the Baltic Shipyard over Yakutia's delays (Vedomosti, December 3). This latest ruling order is awaiting a final decision.

Scaling of nuclear-powered icebreakers remains uneven and slow due to industrial bottlenecks, financial constraints, and sanctions. Russia is the only country with a nuclear-powered icebreaker fleet (eight in total), in addition to its 34 diesel-powered icebreakers. Three Project 22220 vessels are under construction, each requiring about five to six years from order to delivery. Rosatom predicts that it will require 15 to 17 new icebreakers (up from earlier projections of 10 to 11) in order to enable Northern Sea Route (NSR) cargo transport of 100–150 million tons despite sanctions pressure (Rosatom, March 28). The Kremlin has prioritized nuclear-powered icebreakers over nuclear-powered cargo ships, of which it has one ageing vessel awaiting decommission (Rosatom, accessed December 11). This prioritization is a cheaper and more efficient option than constructing multiple nuclear-powered cargo ships, as a single nuclear-powered icebreaker can escort multiple cargo ships, regardless of their propulsion source.

Russia's newest vessel under Project 22220 is the Stalingrad. On November 18, Rosatom staged a high-profile keel-laying ceremony at the Baltic Shipyard in St. Petersburg, which Russian President Vladimir Putin attended virtually (Rosatom, November 20). Keel-laying marks the start of construction, not operational readiness. The vessel is not expected to enter service until December 2030. State media, however, framed the event as a major milestone in Arctic development. In his speech at the event, Putin said that it is "essential to consistently strengthen Russia's position in the Arctic" (President of Russia, November 18). Another Project 22220 nuclear-powered icebreaker under construction is the Chukotka, ceremonially launched in November 2024. It is only 70 percent complete, however, and is not due to be delivered to Atomflot until December 2026 (Atomic Energy 2.0, November 19).

Nuclear-powered icebreakers are important to the Kremlin's narrative that the Arctic is an area of special historical influence, and to applying nuclear technology to its Arctic ambitions (President of Russia, November 18) [see Table 1]. The new strategy for Arctic zone development and national security for the period until 2050, for which Putin reportedly prepared a draft decree in September, will undoubtedly reflect this (see EDM, October 3). Putin said in March that he will "do everything to strengthen Russia's global leadership in the Arctic" (see EDM, March 21, April 15; President of Russia, March 27). These icebreakers maintain year-round shipping, escort resource shipments, conduct tow and rescue operations, and conduct research operations, thereby ensuring a

continuous Russian presence in the High North and along the NSR. The 3-meter icebreaking capabilities also make the Project 22220 vessels important resupply assets for Russia's military bases along the NSR (High North News, August 12, 2024; Rosatomflot, accessed December 15). A recent investigation found that Russian nuclear-powered icebreakers, despite ostensibly being "civilian" vessels, were used to launch drones into the airspace of the North Atlantic Treaty Organization (NATO) (Digital Digging, December 10).

Control of the NSR remains the primary function of Russian icebreakers, nuclear-powered or otherwise. Rosatom has been authorized as the NSR infrastructure operator since 2018 (RBC, June 26, 2018). In October, Rosatom General Director Alexey Likhachev said that the Trans-Arctic Transport Corridor (TTC)—which is intended to connect St. Petersburg to Vladivostok—will become a key section of the NSR due to growing Arctic mining, international transit, particularly from the People's Republic of China (PRC), and connection with Russia's domestic railway network (Rosatom, October 25).

The PRC, however, appears to be keeping Russia at arm's length in its own icebreaker projects. Rosatom is working with PRC company New New Shipping on a joint venture to design and construct five container ships capable of year-round Arctic transit, although it is not yet public whether these ships will be nuclear-powered (Atom Media, June 6, 2024; Interfax, June 18). The first ship is expected to be completed in 2027.

There is little chance that the PRC will exceed Russia's nuclear-powered icebreaker fleet numbers anytime soon. Still, it may outpace Atomflot and the Baltic Shipyard in efficiency and supply chain access. The PRC recently inaugurated its first nuclear-powered icebreaker, *Xuelong* 3 (or Snow Dragon 3), which it calls the world's first 35,000-ton nuclear-powered icebreaker and research vessel (SMEOcean, September 20). The PRC also recently promoted a new conceptual design by China State Shipbuilding Corp for a nuclear-powered icebreaker that would function as both a ferry and a cargo vessel (China Daily, December 6). There are no indications of Russian involvement in the PRC's nuclear-powered icebreaker construction, despite hints at this in a 2019 report (South China Morning Post, December 10, 2019).

While the Kremlin projects the narrative of its nuclear-powered icebreakers as symbolic of Arctic dominance and sovereignty, it is ultimately constrained by sanctions and supply chain choke points. International sanctions are making a meaningful dent in the construction pace and casting a spotlight on the disconnect between Kremlin policies and logistical realities. The Kremlin may be overextending its resources and expectations for nuclear-powered icebreakers in the Arctic, and its ability to maintain the narrative of dominance and sovereignty is unsustainable at the current rate.

See next page for Table 1.

To read the article on the Jamestown website, see here.

Table 1: Russian Nuclear Technology in the Arctic

Nuclear-powered icebreakers	• Four Project 22220: Arktika (2020), Sibir (2021), Ural (2022), and Yakutia (2025) • Two Arktika class: Yamal (1992) and 50 Years of Victory (launched as Ural in 2007 and used to take children on Arctic expeditions) • Two Taymyr class: the Taymyr (1989) and Vaygach (1990)
Conventional nuclear power plants (NPP)	• Kola NPP (four reactors) • Bilibino NPP (three reactors) (plant to be replaced by Akademik Lomonosov FNPP)
Floating NPPs	• Akademik Lomonosov FNPP (two SMRs), Chukotka region
Nuclear-powered submarines [1]	• Eight nuclear-powered ballistic missile submarines • Six nuclear submarines with cruise missiles • Twelve multipurpose nuclear submarines • Ten special-purpose nuclear submarines
Nuclear-powered cargo ships	• Sevmorput (in service 1988–2007 and 2016–2023; awaiting decommissioning) (One KLT-40 reactor) (Rosatom, accessed December 11).
Nuclear-powered weapons testing	• The Burevestnik (Skyfall) nuclear-powered cruise missile and Poseidon nuclear-powered underwater vehicle testing in the Arctic (TRT Russian; VG, October 27; RIA Novosti, October 29).
New Arctic nuclear projects proposed/in design phase/under construction	• Cape Nagloynyn floating NPP (Interfax, June 7, 2024; Rosatom, September 3). • Floating NPP proposed to power a lead-zinc mine on Novaya Zemlya (see EDM, October 24). • Small modular reactor (SMR) under construction in Ust-Kuyga, Yakutia, for operation starting in 2031 (Yakutia Daily, April 23; Rosatom, accessed December 11). • Four 600 Megawatt electric (Mwe)-capacity reactors under construction at Kola NPP-2 (Rosatom, September 25). • Nuclear-powered submarines are proposed to transport liquefied natural gas (LNG) beneath Arctic sea ice (Neftegaz, October 11, 2024; National Association of Oil and Gas Services; Port News, October 7). • Elena nuclear thermoelectric power station under development for Arctic exploration at the Kurchatov Institute (KS87, January 8; RG.ru, December 1). Similar to Soviet Radioisotope Thermoelectric Generators (RTGs) used in the Arctic (Bellona, November 12, 2015). • Continued construction of nuclear-powered submarines in the Yasen-M and Borei-A classes and the new Khabarovsk class (see EDM, May 30; Telegram/@mod_russia, November 2; The Barents Observer, November 3). • Continued planning of proposed 15–17 nuclear-powered icebreakers, with three currently under construction (Stalingrad, Chukotka, Leningrad) (see EDM, April 18).

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