

# NUCLEAR FACTOR IN THE UKRAINIAN CONFLICT

## *IMEMO Analytical Report*

Speculation about the likelihood of Russia using tactical nuclear weapons (TNWs) in Ukraine has been going on since the start of a special military operation (SMO) in February 2022. As of late October 2022, the intensity of such speculation has been steadily increasing in both the Western and Russian media. There is a possibility that American, European and Ukrainian officials, politicians and experts accuse the Russian Federation of preparing to use TNWs not only for anti-Russian propaganda purposes, but also as part of information and psychological preparation for provocations, including the use of fissile materials<sup>1</sup>.

Public judgments about even the hypothetical possibility of the use of TNWs in Ukraine are periodically heard even in Russian mass media and social media. The nature and content of such statements indicate, at a minimum, the irresponsibility and unprofessionalism of those who make them, or may indicate deliberate attempts to discredit the Russian armed forces, state authorities, and the principles of strategic planning in the field of national security of the Russian Federation.

The IMEMO specialists believe it is necessary to present a realistic assessment of such a scenario in the face of the Ukrainian conflict, based on an analysis of Russian military doctrine regarding the conditions and principles of nuclear weapons use.

### **1. On the Public Declaration of Nuclear Intentions**

Open strategic planning documents and statements by top officials are not the only, but an important part of nuclear deterrence policy, designed to influence the behavior of potential adversaries by communicating to them the state's views on nuclear weapons (NWs). In recent years the Russian leadership has promulgated fairly detailed definitions of the possible circumstances in which NWs might be used.

Western politicians, experts, and the media constantly accuse Russian officials of "playing the nuclear card," including in connection with the Ukrainian crisis. However, the actual statements by the President of Russia, the head of the Ministry of Foreign Affairs, the Minister of Defense, and other representatives of state authorities over the past few years have demonstrated a desire to clearly define the conditions for the use of nuclear weapons and to make the Russian position on this issue crystal clear. In their comments on the issue, the Russian leadership has repeatedly made it clear that Russia's use of nuclear weapons implies primarily not a first, but a reciprocal action on its part. At the same time, the rhetoric of Western countries constantly shifts accents and distorts meanings when interpreting the speeches of Russian

---

<sup>1</sup>Foreign Minister Sergey Lavrov's answers to media questions following his meeting with members of the Valdai International Discussion Club, Moscow, October 24, 2022 // Foreign Ministry of Russian Federation. URL: [https://mid.ru/en/foreign\\_policy/news/1834886/](https://mid.ru/en/foreign_policy/news/1834886/).

officials. The basic doctrinal principles of nuclear deterrence, formulated in relation to unfriendly nuclear powers and possible threats from their side, primarily nuclear, are transferred to the conflict in Ukraine, where these countries are not directly militarily involved, providing only military assistance to the Ukrainian armed forces.

Russian President Vladimir V. Putin's October 18, 2018 speech at the Valdai Discussion Club made a strong impression on a broad Western and Russian audience: "We as martyrs would go to paradise while they will simply perish". But much more significant for professionals was the President's explanation made at the same time concerning the basic approach to the use of nuclear weapons: "There is no provision for a pre-emptive strike in our nuclear weapons doctrine. Our concept is based on a reciprocal counter strike... this means that we are prepared and will use nuclear weapons only when we know for certain that some potential aggressor is attacking Russia, our territory... Of course, this amounts to a global catastrophe but I would like to repeat that we cannot be the initiators of such a catastrophe because we have no provision for a pre-emptive strike"<sup>2</sup>.

The statements of Russian President V.V. Putin after the start of the SMO do not go beyond this repeatedly confirmed logic. Speaking on September 21, 2022 in connection with the announcement of partial mobilization, the President, referring to the threat of the use of conventional and nuclear weapons against Russia, said: "In the event of a threat to the territorial integrity of our country and to defend Russia and our people, we will certainly make use of all weapon systems available to us"<sup>3</sup>. In his speech on September 30, he once again stressed that "We will defend our land with all the forces and resources we have"<sup>4</sup>.

Defense Minister S.K. Shoigu noted on August 16, 2022: "From a military point of view, there is no need to use nuclear weapons in Ukraine to achieve the stated objectives. The main purpose of Russian nuclear weapons is to deter a nuclear attack"<sup>5</sup>. Earlier S.K. Shoigu had suggested that in the future high-precision weapons would be able to replace nuclear weapons as a deterrent, which would reduce international tensions and strengthen trust between countries<sup>6</sup>.

Russian Foreign Minister Sergey Lavrov also made unequivocal statements on this matter: "Russia is not considering the possibility of using nuclear weapons in Ukraine, only conventional weapons are involved"<sup>7</sup>. This position is a constant in the speeches of all

---

<sup>2</sup> Meeting of the Valdai International Discussion Club // Kremlin.ru, 18.10.2018. URL: <http://en.kremlin.ru/events/president/news/58848>

<sup>3</sup> Address by the President of the Russian Federation // Kremlin.ru, 21.09.2022. URL: <http://en.kremlin.ru/events/president/news/69390>.

<sup>4</sup> Signing of treaties on accession of Donetsk and Lugansk people's republics and Zaporozhye and Kherson regions to Russia // Kremlin.ru, 30.09.2022. URL: <http://en.kremlin.ru/events/president/news/69465>.

<sup>5</sup> Shoigu: No need to use nuclear weapons in Ukraine (in Rus) // Interfax, 16.08.2022. URL: <https://www.interfax.ru/world/856813>.

<sup>6</sup> Shoigu told he would replace nuclear weapons as a deterrent (in Rus) // RIA, 12.01.2017. URL: <https://ria.ru/20170112/1485559254.html>.

<sup>7</sup> Lavrov: Russia is not considering the possibility of using nuclear weapons in Ukraine (in Rus) // Vedomosti, 19.04.2022. URL: <https://www.vedomosti.ru/politics/news/2022/04/19/918766-lavrov-rossiya-ne-rassmatrivaet-primeneniya-yadernogo-oruzhiya>.

representatives of the Russian Foreign Ministry. Russian Deputy Foreign Minister Sergey Ryabkov characterized the Russian position on the use of nuclear weapons in a regional theater of war as follows: "We have always been and continue to be strongly opposed to the idea of a limited nuclear war. We are firmly committed to the postulate that there can be no winners in a nuclear war and it must never be unleashed. At last year's meeting in Geneva, Russian President Vladimir V. Putin made such a statement jointly with the President of the United States. On January 3, 2022, already in the format of the "nuclear five" the leaders confirmed this postulate. It is sad and alarming that despite all these steps, the US continues its games in this sphere and at the same time continues to attribute non-existent concepts and intentions to Russia..."<sup>8</sup>. Russian diplomats consistently repeat this position on all international platforms. For example, K.V. Vorontsov, deputy head of the Russian delegation to the UN, during the thematic discussion of the "Nuclear Arms" section in the First Committee of the 77th session of the UNGA on October 18, 2022, emphasized: "Under the [Budapest] Memorandum, Russia confirmed with respect to Ukraine its commitment not to use nuclear weapons and not to threaten to use them against non-nuclear states. This commitment has always been fulfilled in full. Russia has not and does not threaten Ukraine with nuclear weapons"<sup>9</sup>.

At the same time, it must be recognized that Western interpretations of the Russian official rhetoric give rise to intense discussion of nuclear strikes in political and expert circles abroad and also receive some response in Russia. Most of these interpretations are built around one of the provisions of President V.V. Putin's speech on February 24, 2022: "I would now like to say something very important for those who may be tempted to interfere in these developments from the outside. No matter who tries to stand in our way or all the more so create threats for our country and our people, they must know that Russia will respond immediately, and the consequences will be such as you have never seen in your entire history. No matter how the events unfold, we are ready. All the necessary decisions in this regard have been taken. I hope that my words will be heard"<sup>10</sup>. These words were perceived abroad as a threat of using nuclear weapons although neither then nor later were nuclear weapons mentioned explicitly, as well as the types of interference of foreign states in the conflict that could cause the use of Russian nuclear weapons. One can assume that the warning of the Russian president was addressed primarily to NATO countries and referred to their possible direct military involvement in the conflict in Ukraine.

---

<sup>8</sup> Russian Deputy Foreign Minister Sergey Ryabkov Interview to "International Affairs" Magazine (in Rus) // Foreign Ministry of Russian Federation. 15.09.2022. URL: <https://www.mid.ru/ru/detail-material-page/1829905/>

<sup>9</sup> K.V. Vorontsov's, deputy head of the Russian delegation to the UN, answer during the thematic discussion of the "Nuclear Arms" section in the First Committee of the 77th session of the UNGA. October 18, 2022 (in Rus) // Permanent Mission of the Russian Federation to the United Nations, 18.10.2022. URL: <https://russiaun.ru/ru/news/181022v>.

<sup>10</sup> Address by the President of the Russian Federation // Kremlin.ru, 24.02.2022. URL: <http://en.kremlin.ru/events/president/news/67843>.

## 2. Nuclear Doctrine of the Russian Federation

The key public document of the legal and regulatory framework in the field of nuclear deterrence in the Russian Federation is the "Basic Principles of the State Policy of the Russian Federation in the Field of Nuclear Deterrence"<sup>11</sup> (hereinafter, "the Basic Principles"). The Fundamentals is a strategic planning document issued in accordance with clause 3 "c" of Article 11 of the Federal Law "On Strategic Planning in the Russian Federation" of 28.06.2014 No. 172-FZ (clause 1), which forms the basis for the activities of all bodies and organizations involved in the field of nuclear deterrence.

According to the Basic Principles (paragraph 19), the use of nuclear weapons can be considered a response option under one of four possible conditions. They include: first, *aggression with the use of weapons of mass destruction against Russia itself or its allies* (p. 19 (b)), second, *aggression with the help of conventional armed forces, which threatens the very existence of the state* (p. 19 (d)). Besides, the use of NWs is possible in case of *receiving reliable information about a massive launch of ballistic missiles towards Russia* (p. 19 (a)), without mentioning their payload type, which may be due to the threat of the appearance of the U.S. non-nuclear intermediate-range precision-guided missiles in Europe and the Pacific Asia. The fourth condition is the possibility of *affecting the systems that ensure the use of nuclear weapons* (p. 19 (c)). Obviously, this refers to attempts to disrupt the functioning of the communication and command and control systems of the nuclear forces, the strikes on the decision-making centers, the corresponding satellite constellations and ground infrastructure, which can "undermine nuclear forces response actions" (*ibid.*).

The decision to use nuclear weapons is made by the President of the Russian Federation (p. 18). In addition, he may inform other states and international organizations of the readiness to use such weapons, of the decision to use them, or of the fact of their use (p. 20).

Additionally, it should be noted that the Basic Principles do not divide nuclear weapons into "tactical" ("non-strategic") and "strategic". This emphasizes the unity of the deterrence function performed by all types of NWs.

The Basic Principles list in detail the "military risks" that may evolve into "military threats" that nuclear deterrence is designed to counter. Of particular importance are references to the possible deployment of certain weapons systems of a potential adversary on the territory of neighboring states and in the adjacent sea areas (paragraph 12 (a) and (f)), as well as their deployment "by states that consider the Russian Federation to be a potential adversary" (p. 2 (b) and (d)).

---

<sup>11</sup> On Fundamentals of the State Policy of the Russian Federation in the Field of Nuclear Deterrence. Russian President's Decree № 355. (in Rus) // Kremlin.ru, 02.06.2020. URL: <http://static.kremlin.ru/media/events/files/ru/IluTKhAiabLzOBjIfBSvu4q3bcl7AXd7.pdf>.

### **3. On the Effectiveness of Non-Strategic Nuclear Weapons**

In the context given above, not only the question about the political and doctrinal conditions of Russia's use of NWs, but also the problem of military effectiveness and appropriateness of the hypothetical use of TNWs in Ukraine deserves special attention. The analysis of possible scenarios for the use of nuclear weapons in major local conflicts with the participation of nuclear powers (the U.S. Vietnam campaign in 1964-73, the Persian Gulf War in 1991 and in a number of others) leads to the following conclusions.

1. In no case was the ratio of the military effect to the potential costs of using nuclear weapons in a local conflict satisfactory, so that no such use was ordered, even though such a step was discussed in the military and political leadership of a number of states.
2. There are reasonable doubts about the military effectiveness of the small-scale use of nuclear weapons as a means of local battle space. The large-scale use of nuclear weapons does not meet the target framework of a local conflict, especially against a non-nuclear state, and is fraught with potential non-combat losses for the using side even more than the single use of TNWs.
3. In the case of the Vietnam War, the political consequences of the use of nuclear weapons were deemed disproportionate to the hypothetical achievable military outcome of such a step. At the same time, the key factor in the consequences of the use of nuclear weapons was their unpredictability, fraught with much greater damage than that which could have been prevented by the use of nuclear weapons.
4. During the conflict in the Persian Gulf, warnings of a possible "overwhelming and destructive response" by the United States were made solely to deter the possible use of chemical weapons by Saddam Hussein's regime<sup>12</sup>.
5. Even a single use of TNWs is associated with subsequent substantial government expenditures and numerous difficulties for civilians and the restoration of economic activity not only in the affected area, but also in adjacent territories, as well as with environmental, political and economic risks of a systemic nature. Even the experience of Hiroshima and Nagasaki, which were rebuilt a few years after the American nuclear bombings with bombs that were close in power to today's TNWs, is not exemplary. The negative impact of radiation on the health of citizens at that time was underestimated, and the level of radiophobia was several times lower than now - the psychological consequences for the economy were not taken into account at all.

U.S. research during the 1967 Vietnam War showed that the use of TNWs against dispersed targets on the battlefield and for theater of war isolation did not offer advantages over

---

<sup>12</sup> Pike J. Nuclear Threats During the Gulf War // Federation of American Scientists, 19.02.1998. URL: <https://irp.fas.org/eprint/ds-threats.htm>.

the intensive use of conventional weapons<sup>13</sup>. A key negative consequence was considered to be the removal of the "nuclear threshold," which would lead to the inevitable spread of nuclear weapons throughout the world<sup>14</sup> and the sharply increasing risk of their usage against American forces both in Vietnam and in other regions. The high vulnerability of large U.S. bases to such attacks and the practical impossibility of reliable protection against them were noted. The inevitability of escalation in U.S. relations with the USSR and the PRC and the unpredictability of their response, even if there is no immediate nuclear response, were also emphasized.

It is indicative that the Pentagon's planning to use nuclear weapons, begun in 1968 in the midst of heavy defensive battles against the Viet Cong ("Tet Offensive"), was stopped by U.S. President L. Johnson even before practical preparations began. Leaks also played their part, making this issue a factor in the internal political struggle in the run-up to the presidential election, as well as the likely fierce international reaction. This episode highlighted the fundamental differences between nuclear weapons and conventional weapons and the importance of maintaining political control over the possible use of nuclear weapons<sup>15</sup>.

Similarly, the situation with the possible use of TNWs unfolded around the Falklands crisis of 1982. The British ships involved there had nuclear depth charges on board - conventional weapons against Soviet submarines that had not been unloaded before entering the South Atlantic. They could have been used against the Argentine submarines<sup>16</sup>. But Britain was deterred by the international political and military consequences of the use of nuclear weapons by a nuclear-weapon state against a non-nuclear state and the reaction of other nuclear-weapon states. British military commanders subsequently denied that nuclear weapons could have been used against Argentina in that war<sup>17</sup>.

During the Operation Desert Storm (1991), the US administration's discussion of the use of nuclear weapons on the battlefield as a means of destroying Iraq's military potential, according to the testimony of C. Powell (in 1991 the head of the Joint Staff), was intended to demonstrate its military and strategic senselessness and political harmfulness to the political leadership<sup>18</sup>.

The issue of unilateral use of TNWs was also studied in the context of the Indo-Pakistani confrontation, where the "cold start" scenario - a large-scale invasion of Pakistan by Indian

---

<sup>13</sup> Dyson F., Gomer R., Weinberg S., Wright S. Tactical Nuclear Weapons in Southeast Asia // Institute for Defense Analyses, Jason Division, March 1967.

<sup>14</sup> An earlier CIA memorandum of 1966 on the possible consequences of the use of nuclear weapons in Vietnam emphasized that even the most limited use of nuclear weapons would have profound political consequences, one of which would be their accelerated spread throughout the world. At the time, the Nuclear Non-Proliferation Treaty had not yet been concluded. Use of Nuclear Weapons in the Vietnam War. CIA Memo, 18.03.1966. // URL: [http://memory.loc.gov/pow/pdf/Vietnam/MEMO\\_18-MAR-66.pdf](http://memory.loc.gov/pow/pdf/Vietnam/MEMO_18-MAR-66.pdf)

<sup>15</sup> Milonopoulos T. How Close Did the United States Actually Get to Using Nuclear Weapons in Vietnam in 1968? // War on the Rocks, 24.10.2018. URL: <https://warontherocks.com/2018/10/how-close-did-the-united-states-actually-get-to-using-nuclear-weapons-in-vietnam-in-1968/>.

<sup>16</sup> Norton-Taylor R. UK Deployed 31 Nuclear Weapons During Falklands War // Declassified UK, 03.01.2022. URL: <https://declassifieduk.org/uk-deployed-31-nuclear-weapons-during-falklands-war/>.

<sup>17</sup> Freedman L. The South Atlantic Crisis of 1982: Implications for Nuclear Crisis Management. Santa-Monica, CA: RAND/UCLA Center for the Study of Soviet International Behavior, 1989.

<sup>18</sup> Powell C. My American Journey. New York: Random House, 1995, p. 486.

general-purpose forces without the use of nuclear weapons - was considered the most probable. Pakistan's existing research on the issue has shown that using TNWs to defeat India's mechanized forces in a hypothetical invasion scenario would have military effect only if substantial (up to several hundred) quantities of warheads were used<sup>19</sup>. Therefore, Pakistan's use of TNWs on the battlefield is viewed by experts not as a way of gaining operational advantage, but only as a means of politico-military deterrence against further escalation to an exchange of strikes against Indian and Pakistani cities using long-range and high-yield nuclear systems.

The evolution of the vision of the role of nuclear weapons in warfare also took place in Russia. For example, the Military History textbook for students of the Russian Federation Armed Forces Combined Arms Academy<sup>20</sup>, published in 2007, states that from the late 1970s there was a transition in practice of training troops for combat operations conducted primarily without the use of nuclear weapons. According to Colonel General A.A. Danilevich, a leading Soviet military strategist and theorist, by 1981 the Soviet Union had already adopted the doctrine of waging even a major war against NATO without using nuclear weapons<sup>21</sup>. One of the reasons, as noted by another prominent Soviet and Russian military theorist and historian, Army General M.A. Gareev, were the results of in-depth studies of the use of TNWs as a battlefield tool in Europe conducted in the 1970s. The results concluded that such a conflict was unmanageable and had no militarily significant effect<sup>22</sup>.

The military way out of the "nuclear stalemate" arising from the insufficient effectiveness of TNWs on the battlefield was largely found through the development and spread of long-range precision-guided non-nuclear weapons, reconnaissance strike systems and the corresponding information and communication infrastructure, including space-based ones. Consequently, it became possible to solve effectively a number of "tactical" tasks for nuclear weapons by non-nuclear means. According to estimates by Western experts, by the early 2000s it had become possible to attack up to one-third of the targets using non-nuclear high-precision weapons, which in the 1980s were expected to be hit on the battlefield solely with nuclear weapons.

The cost and consequences of using nuclear weapons on the battlefield in a local conflict can be assessed on the basis of three components.

1. To what extent can its use ensure military victory or prevent defeat?
2. How much more effective is the use of nuclear weapons under specific conditions against a particular target than conventional weapons?

---

<sup>19</sup> Tellis A. *India's Emerging Nuclear Posture: Between Recessed Deterrent and Ready Arsenal*. Santa Monica, CA: RAND Corporation, 2001, p. 133; Nayyar A., Mian Z. *The Limited Military Utility of Pakistan's Battlefield Use of Nuclear Weapons in Response to Large-scale Indian Conventional Attack*, Brief no. 61, Pakistan Security Research Unit, Peace Studies Department, Bradford University, November 2010, pp. 6–10.

<sup>20</sup> *Military History (in Rus) / Ed. A. Yu. Potapov. – Moscow*. Russian Federation Armed Forces Combined Arms Academy of the Russian Federation, 2007.

<sup>21</sup> Hines J. *Soviet Strategic Intentions 1965–1985. An Analytical Comparison of the U.S. Cold-War Interpretations With Soviet Post-Cold-War Testimonial Evidence*. Edinburgh: The University of Edinburgh, 1995, p. 141.

<sup>22</sup> *Ibid*, pp. 208, 293.

3. What are the immediate and long-term consequences of the possible use of nuclear weapons?

It can be concluded that in the overwhelming majority of cases of local conflicts between a nuclear power and a non-nuclear weapon state there are no targets in the theater of war or on the battlefield, the destruction of which by a single or a limited group strike can produce a significant military result. At the same time, the massive use of nuclear weapons or their use against strategic targets with inevitably heavy civilian casualties and radioactive contamination of terrain is unacceptable, since it leads to political, environmental, socio-economic, and moral and psychological consequences that are difficult to predict.

Thus, the most realistic form of the use of nuclear weapons in a local conflict is their possible retaliatory use in two cases. First, if the adversary is the first to use nuclear or other weapons of mass destruction. Second, if they launch an attack that calls into question the other side's nuclear deterrent capability. In a conflict between a nuclear power and a non-nuclear power, both scenarios are virtually impossible. In the case of third-party intervention - by another nuclear power - the risks of escalation to full-scale nuclear war are uncontrollable. In this case, the proportionality of the consequences will be crucial. In all other cases the negative political consequences of the use of nuclear weapons will obviously outweigh the positive military effect - which with proper consistency and competence of leadership can be achieved even without the use of nuclear weapons.

**4. Military developments on the territory of Ukraine and the global context**

As for the conditions of the SMO of the Russian Armed Forces in Ukraine, it can be noted that in the theater of military operations there are no targets that would be impossible to hit with conventional weapons. Nor are there any tasks that would be unattainable without the use of nuclear weapons. At the moment there is no threat of a nuclear attack from the territory of Ukraine, which could entail preemptive use of nuclear weapons by Russia. The use of long-range precision-guided non-nuclear weapons against Ukrainian infrastructure demonstrates that the Russian armed forces have sufficient options at their disposal without crossing the "nuclear threshold".

Therefore, it can be assumed with a high degree of certainty that nuclear weapons will not be used provided that the conflict remains within the current borders and without direct involvement of other participating states on the side of Ukraine. Recently, the geographical framework has been blurred as the Armed Forces of Ukraine have attempted to attack territories that became part of the Russian Federation in 2014 and 2022 and to strike at these areas and even at entities in the Russian Federation adjacent to the former borders. As Foreign Minister S. V. Lavrov noted on September 24, 2022, "the entire territory of the Russian Federation, which is fixed and can be further fixed in the Constitution of the Russian Federation, is certainly under the



full protection of the state, it is absolutely natural. All laws, doctrines, concepts, strategies of the Russian Federation apply to its entire territory" <sup>23</sup>.

It should be remembered that the Russian Military Doctrine states that nuclear weapons can be used not just in case of "aggression with the use of conventional weapons" against the Russian Federation, but only in the case when this aggression would threaten "the very existence of the state". Such threats to the Russian Federation in connection with the conflict in Ukraine are currently not visible, in case NATO countries continue to adhere to their position - to provide military assistance to Kiev, but without their direct military involvement in the conflict.

Escalation dynamics depend on many unpredictable factors. Further expansion of the range and scale of arms and military equipment supplies from the United States and other Alliance countries to Kiev, as well as an increase in the number of foreign advisers and mercenaries in the Ukrainian forces, potentially create the danger of an uncontrolled escalation of the conflict. Kiev's revanchist sentiments and the Ukrainian leadership's refusal to negotiate with the Russian side, motivated by domestic political reasons, combined with the desire of the United States and its allies to use the Ukrainian crisis for military and economic exhaustion of Russia, could lead to the gravest consequences. Should hostilities in Ukraine continue and increase in intensity, and even more so should NATO countries become directly involved in the conflict, the use of nuclear weapons cannot be completely ruled out. This danger can only be eliminated by seeking a political and diplomatic end to the conflict in Ukraine, the need for which has been repeatedly stated by the Russian leadership.

---

<sup>23</sup> Lavrov stated that Russian doctrines, including nuclear doctrines, will be extended to possible new territories. (in Rus) // Interfax, 24.09.2022. URL: <https://www.interfax.ru/russia/864788>.