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SOME ISSUES OF MISSILES AND ROCKET WEAPONS RESEARCH IN MODERN CONDITIONS

Since 2014, units of the armed forces and other formations of the aggressor country have launched and continued an aggressive war against Ukraine and a full-scale invasion to change the boundaries of the territory and state border of Ukraine in violation of the procedure established by the Constitution of Ukraine. At the same time, the aggressor state systematically violates universally recognised norms of international law, human rights, including the right to life of civilians who have become hostages of terrorists in the occupied territory of Ukraine. The cynicism of the Kremlin's aggression, which includes active state support for terrorists, makes the killing of innocent civilians a commonplace everyday occurrence. Translated with DeepL.com (free version). Drawing the attention of the international community to Russia's ongoing military build-up on the border with Ukraine, in the temporarily occupied parts of the territory of Ukraine, in the Black and Azov Seas and in the territory of the Republic of Belarus, stressing that Russia has grossly violated and continues to violate the UN Charter and the basic principles of international law, as well as its obligations under the Memorandum on Security Assurances in connection with Ukraine's accession to the Treaty on the Non-Proliferation of Nuclear Weapons of 5 December 1994 (Budapest Memorandum), by which it guaranteed to respect the independence, sovereignty and existing borders of Ukraine and reaffirmed the non-use of weapons against Ukraine having annexed Crimea and occupied a part of Donetsk and Luhansk regions of Ukraine, the Verkhovna Rada of Ukraine appealed to the United Nations, the European Parliament, the Parliamentary Assembly of the Council of Europe, the OSCE Parliamentary Assembly, the NATO Parliamentary Assembly, the BSEC Parliamentary Assembly, governments and parliaments of foreign countries and called for continued support for the territorial integrity and sovereignty of Ukraine within its internationally recognised borders and the need for a peaceful resolution of the armed conflict provoked by Russia on the basis of universally recognised principles and norms of international law. However, on 24 February 2022, Russia announced a 'special military operation' on the territory of Ukraine and launched a full-scale armed aggression [1].

According to the statistics of the Office of the Prosecutor General of Ukraine, 60,387 cases of violation of the laws and customs of war were recorded under Article 438 of the Criminal Code of Ukraine 'Violation of the laws and customs of war' in 2022, and 60,944 cases in 2023. The total number of cases of violations of the laws and customs of war since the beginning of the full-scale invasion of Ukraine by the Russian Federation until 31 August 2024 is 139,744 criminal offences [2]. At the same time, Russia regularly uses missiles of various types against civilian infrastructure (educational institutions, private houses, high-rise buildings, bus stations, shopping and entertainment centres, etc.

In order to document the illegal actions, the Prosecutor's Office of Ukraine, the Security Service of Ukraine, and the National Police of Ukraine open criminal proceedings and conduct pre-trial investigations into the facts of rocket attacks by the occupiers of Ukrainian cities on a daily basis. Among other procedural sources of evidence, a special place belongs to the conclusions of explosive technical expertise. The objects of study of rocket and missile weapons are: anti-tank missile systems; multiple launch rocket systems; anti-aircraft missile systems, etc. The main tasks of researching missile and rocket weapons are: establishing whether they belong to missile or rocket weapons; determining their type, type, model or sample (for industrial products); determining the method of manufacture and their suitability for their intended use. An indicative list of issues to be addressed:

- Is the object provided a weapon?
- What type of weapon does it belong to?
- Is the provided object a missile (rocket) weapon?
- What type of sample or model does it belong to?
- How was the provided object manufactured?
- Is the provided man-portable air defence system (MANPADS, MANPADS launcher or MANPADS) fit for fire?
- Does the provided object show signs of damage?
- Does this damage preclude the possibility of firing? [4].

But, in each specific situation, the question must be addressed individually. For example, after massive attacks by the Russian Federation, fragments of missiles and UAVs are usually recovered from the scene. Thus, at approximately 05 hrs. 00 min. On 24 February 2022, units of the armed forces and other formations of the Russian Federation carried out intense shelling on the territory of Ukraine, as well as missile and bomb attacks on airfields in Boryspil, Ozerne, Kulbakyne, Chuhuiv, Kramatorsk, Chornobaivka, Dnipro and other military facilities of the Armed Forces of Ukraine, in particular, military units of the Dnipro region, namely: the village of Cherkaske, the village of Cherkaske, Hvardiyske in Novomoskovsk district, Kryvyi Rih and Nikopol. The pre-trial investigation established that on 16.04.2022, the police received a report that a building had been destroyed as a result of shelling near a poultry farm in the village of Krasnopillia, Solonyansky district, Dnipro region. During the inspection of the scene, metal fragments of cruise missiles of various shapes were found, as well as circuit boards, which were packed in a special package and subsequently sent for examination.

The following questions were put to the forensic expert: 'What are the metal fragments of various shapes and boards, which were provided for examination and packed in a special package No. AB 20119661, how were they made and do they belong to ammunition or explosive devices? If so, which ones? Are they suitable for detonation?'.

In summary, we note that this topic requires further research and development, which will significantly expand the expert capabilities in the field of missile identification and the formation of an evidence base to prove in international courts the crimes of the Russian Federation committed on the territory of Ukraine.

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