

INTERNATIONAL GUARANTEES FOR THE DEVELOPMENT OF “PEACEFUL ATOM” AS DERIVATIVE OF THE NUCLEAR NON-PROLIFERATION REGIME

S.R. Khachikyan

Russian-Armenian University

ABSTRACT

The article considers the international guarantees for the development of nuclear energy in the international security system. The main mechanisms of the operation of international nuclear law are presented in the system of the nuclear non-proliferation regime.

Key words: nuclear energy, nuclear weapon, Nuclear Non-Proliferation Regime, «peaceful atom», nuclear law, IAEA

The use of the nuclear energy for peaceful purposes promotes scientific research in the field of nuclear energy and leads to the search for more efficient ways of atomic energy usage. The security issues concerning the military and peaceful uses of atomic energy are interrelated, since the operation of nuclear weapon and the energy production in Nuclear Power Plants (NPPs) are based on the same processes occurring in the core of substances. The international nuclear non-proliferation regime is called to observe international security and promote the development of «peaceful atom».

Today the international nuclear non-proliferation regime faces a number of challenges. Former IAEA Director General Mohammed Al-Baradei highlighted three key features in the field of modern nuclear safety: the emergence of an extensive black market for nuclear materials and equipment; proliferation of nuclear weapons and sensitive nuclear technologies; stagnation in the process of nuclear disarmament¹. In this framework, the issue of observing and strengthening the nuclear non-proliferation and export control regime over nuclear materials, equipment, technologies, and scientific materials is becoming more important.

It is known, that except the military purposes, the nuclear energy is considered to be one of the most effective and guaranteed sources of energy supply. The scientific achievements in the nuclear field allow using nuclear energy in agriculture, medicine,

¹ Mohamed ElBaradei – Nobel Lecture. The Nobel Prize. URL: <https://www.nobelprize.org/prizes/peace/2005/elbaradei/26138-mohamed-elbaradei-nobel-lecture-2005-2/>

cancer treatment, desalination, water treatment and in other fields. Nuclear Non-Proliferation Regime doesn't affect the development of «peaceful atom», but gives certain guarantees and controls the usage of atomic energy for peaceful purposes.

Historical background of the formation of the “Non-proliferation regime”

The idea of the usage of energy from fission of atomic nucleus first appeared at the beginning of the 20th century, when the first discoveries were made in the field of nuclear physics. It is known that in Nazi Germany, military research in the nuclear area had priority status, since the creation of nuclear weapon would ensure Germany's incomparable superiority over its opponents. However, the nuclear era began only at the end of World War II, when the United States created nuclear weapons as part of the Manhattan project and exercised nuclear weapon tests in 1945, first in New Mexico (Trinity), then in Hiroshima and Nagasaki. In fact, the detonation of nuclear weapon in Japanese cities remains the only example of the usage of nuclear weapon for military purposes so far. The USSR tested its first nuclear explosive device in 1949².

In the 1950s and 1960s, a number of states launched their own nuclear programs. Thus, the United Kingdom carried out its first nuclear test in 1952, France in 1960, and China in 1964. Nuclear weapons were developed in Australia, Egypt, Switzerland, Sweden, Brazil, Argentina, and South Africa³. In such conditions, the question of preventing the proliferation of nuclear weapons was raised with the aim of maintaining global security.

Along with the development of the “military atom”, the energy of the «peaceful atom» was discovered in the middle of the 20th century. Nuclear energy seemed to be a promising field for the energy supply of industrially developing countries and an alternative to hydrocarbon energy with its high financial and economic costs and a significant degree of environmental pollution. So, the world's first NPP was launched in the USSR - in Obninsk in 1954⁴.

Thus, the joint development of a “peaceful” and “military atom”, with its positive and negative consequences, led the leading nuclear and non-nuclear states to the

² Soviets explode atomic bomb. URL: <https://www.history.com/this-day-in-history/soviets-explode-atomic-bomb>

³ Nuclear Weapons by Max Roser and Mohamed Nagdy. *Our World in Data*. URL: <https://ourworldindata.org/nuclear-weapons>

⁴ Obninsk – First Nuclear Plant to Produce Commercial Electricity in 1954. Energy Global News. URL: <http://www.energyglobalnews.com/1954-obninsk-nuclear-plant-produces-worlds-first-commercial-electricity/>

establishment of an international non-proliferation regime of nuclear weapons, which at the same time encouraged and provided ample opportunities for the development of “peaceful atom”.

The nuclear non-proliferation regime is directed against increasing the number of nuclear states and at maintaining the existing balance of forces. It is a combination of international organizations, bilateral or multilateral agreements, legally informal agreements, as well as domestic legislation of the states. The nuclear non-proliferation regime concerns not only nuclear weapons and export controls, but also nuclear energy, as well as the peaceful uses of nuclear energy (agriculture, medicine, desalination and water treatment, etc.).

Consensus on nuclear non-proliferation and the development of nuclear energy was not immediately reached. One of the first attempts to reach consensus was the Baruch Plan, developed by the American side and presented to the UN Atomic Energy Commission in 1946. The plan involved the creation of an international Atomic Development Agency that would monitor nuclear production and exchange research in the nuclear industry. The control had to be carried out through on-site inspections, which certainly did not suit the USSR, which ultimately vetoed the Baruch plan⁵.

The next project for creating the regime was the plan “Atoms for Peace” offered by US President D. Eisenhower at a meeting of the UN General Assembly on December 8, 1953. Eisenhower expressed concern about the destructive power of nuclear weapons and at the same time emphasized the benefits of the civilian use of nuclear energy in agriculture, medicine and energy. He proposed the creation of an “international atomic energy agency” under the aegis of the UN that would promote the peaceful use of nuclear energy for serving the peaceful pursuits of mankind⁶. In October 1957, after four years of negotiations and by the initiative of the USSR, USA, and a number of other countries, the International Atomic Energy Agency (IAEA) was created. An important part of the nuclear Non-Proliferation regime are also a number of less formalized associations, such as the NSG (Nuclear Suppliers Group) and Zangger Committee.

International Guarantees for the Development of “Peaceful Atom” in the

⁵ *The United States presents the Baruch Plan.* URL: <https://www.history.com/this-day-in-history/the-united-states-presents-the-baruch-plan>

⁶ *Atoms for Peace Speech.* IAEA. URL: <https://www.iaea.org/about/history/atoms-for-peace-speech>

framework of Nuclear Non-Proliferation Regime

In 1968, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) was signed, laying the legal foundation for the regime of non-proliferation of nuclear weapons. According to the Treaty, only those states that have produced and tested a nuclear weapon or other nuclear explosive device before January 1, 1967 are recognized as nuclear, thereby preventing the acquisition of a nuclear arsenal by other states, the transfer of nuclear explosive devices (JAM), materials, equipment and technologies, intended for their creation and production. According to Article III.3 of the NPT, safeguards are implemented in such a way as to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes⁷. Thus, the Treaty does not affect the inalienable right of member states to develop, produce, and use nuclear energy for peaceful purposes.

Thus, the NTP laid the foundation of international nuclear law as an independent direction of international law. International nuclear law is based on certain principles insuring the international security: peaceful and environmentally friendly use of nuclear energy; provision of nuclear security, radiation safety and physical protection; ensuring the safe development of nuclear energy; compliance of nuclear non-proliferation regime; civil liability for nuclear damage.

In this aspect, the role of the IAEA as an intergovernmental organization is major, which not only promotes the peaceful use of atomic energy, but also provides guarantees for its safe development. The Agency promotes scientific research in the field of atomic energy and its practical application for peaceful purposes, provides services, materials, equipment and technical means, controls the waste management, establishes control over the use of special fissile materials received by the Agency in order to ensure the use of these materials exclusively in peaceful purposes and exercise the powers that contribute to the development of a «peaceful atom» and prevent the spread of nuclear weapons. According to Article II of the Statute of the IAEA, the Agency seeks to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It ensures that assistance provided by it or at its request or under

⁷ *Treaty on the Non-Proliferation of Nuclear Weapons*. URL: <https://www.iaea.org/sites/default/files/publications/documents/infcircs/1970/infcirc140.pdf>

its supervision or control is not used in such a way as to further any military purpose⁸.

The IAEA facilitates the transfer of nuclear technology among the member states to promote scientific development in medicine, agriculture, industry, water management and other fields. The IAEA also has the authority to conduct inspections in member states to ensure that their nuclear activities are not diverted from peaceful to military.

Owing to the international guarantees of development of «peaceful atom», today the nuclear energy is one of the most promising and fast growing fields in energy production. It has a number of advantages to other energy sources and is considered a long-term, predictable, environmentally friendly and guaranteed source of energy supply. Energy production in NPPs is cheaper compared with renewable energy sources and is more effective. The presence of nuclear energy in a country ensures energy sovereignty and helps to solve electrification supply issues. Despite the anti-nuclear rhetoric, as a result of accidents in Chernobyl and Fukushima, 441 nuclear power reactors are currently in operation in more than 30 states, and another 54 reactors are under construction⁹.

Conclusion

Thus, the nuclear non-proliferation regime as a complex set of complementary mechanisms is designed to ensure the security of the world from nuclear threats, as well as guarantee the unhindered development of the “peaceful atom” as a strategically important component of energy system. The Nuclear Non-Proliferation Regime led inevitably to the establishment of international nuclear law which provides guarantees for the safe development of the «peaceful atom». It can be argued that, while military nuclear energy has changed the system of international relations and the geopolitical alignment of forces, the peaceful nuclear energy has become a strategic direction for ensuring the energy sovereignty of states in the context of rapidly growing energy consumption. International guarantees for the development of “peaceful atom” origin from a number of international treaties and intergovernmental agreements. The provision of the guarantees is implemented by a number of international organizations, although the IAEA, working under the aegis of UN, has a primary role in promoting the peaceful use of atomic energy and its safe development.

⁸ *The Statute of the IAEA*. URL: <https://www.iaea.org/about/statute#a1-2>

⁹ *Power Reactor Information System*. IAEA. URL: <https://pris.iaea.org/pris/>

REFERENCES

1. Atoms for Peace Speech. IAEA. URL: <https://www.iaea.org/about/history/atoms-for-peace-speech>
2. Mohamed ElBaradei – Nobel Lecture. The Nobel Prize. URL: <https://www.nobelprize.org/prizes/peace/2005/elbaradei/26138-mohamed-elbaradei-nobel-lecture-2005-2/>
3. Nuclear Weapons by Max Roser and Mohamed Nagdy. Our World in Data. URL: <https://ourworldindata.org/nuclear-weapons>
4. Obninsk – First Nuclear Plant to Produce Commercial Electricity in 1954. Energy Global News. URL: <http://www.energyglobalnews.com/1954-obninsk-nuclear-plant-produces-worlds-first-commercial-electricity/>
5. Power Reactor Information System. IAEA. URL: <https://pris.iaea.org/pris/>
6. Soviets explode atomic bomb. URL: <https://www.history.com/this-day-in-history/soviets-explode-atomic-bomb>
7. The Statute of the IAEA. URL: <https://www.iaea.org/about/statute#a1-2>
8. The United States presents the Baruch Plan. URL: <https://www.history.com/this-day-in-history/the-united-states-presents-the-baruch-plan>
9. Treaty on the Non-Proliferation of Nuclear Weapons. URL: <https://www.iaea.org/sites/default/files/publications/documents/infcircs/1970/infcirc140.pdf>

МЕЖДУНАРОДНЫЕ ГАРАНТИИ РАЗВИТИЯ «МИРНОГО АТОМА» КАК УСЛОВИЕ РЕЖИМА ЯДЕРНОГО НЕРАСПРОСТРАНЕНИЯ *С.Р. Хачикян*

АННОТАЦИЯ

В статье рассматриваются международные гарантии развития ядерной энергетики в системе международной безопасности. Представлены основные механизмы функционирования международного ядерного права в системе режима ядерного нераспространения.

***Ключевые слова:** ядерная энергия, ядерное оружие, режим ядерного нераспространения, «мирный атом», ядерное право, МАГАТЭ.*