POLITICAL ASPECTS OF LEGAL REGULATION OF NUCLEAR ENERGY

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Abstract: *In this article, the concept of atomic energy, the historical processes of its creation, how conflicts between nuclear states regarding the use of nuclear energy arose and the policies of states to resolve them, legal aspects of the regulation of the use of nuclear energy, and the use of nuclear power by nuclear states at present are discussed in this article. energy policy is analyzed. Also, this article focuses on the cooperation between the countries on the correct and rational use of atomic energy, ensuring the safety of this type of energy.*

Keywords: *atom, nuclear power plant, nuclear energy, nuclear reactor, Magate, Fukushima NPP, Chernobyl, plutonium, uranium, nuclear war, atomic bomb, nuclear energy safety, nature conservation, environmental protection, Elvin Vaynberg, DIW.*

INTRODUCTION

Atomic energy is a force with unlimited possibilities and unprecedented power. Despite the fact that it was created a long time ago, many countries of the world use it for their own purposes. Many countries meet their energy needs through this energy source. Since the 60s of the last century, cooperation relations between many leading countries of the world have started for the purpose of legal regulation of nuclear energy. This situation became one of the decisive roles in the peaceful use of atomic energy. As a result, many conventions and agreements on atomic energy and nuclear energy in general were concluded. This situation was one of the decisive stages that ensured the present day and future of humanity. Because there are always users of atomic energy for right and wrong purposes.

DISCUSSION AND RESULTS.

First of all, let's talk about when the use of this type of energy came about, why it was necessary to use this type of energy. At first, scientists did not have clear ideas about how powerful this type of energy is and for what purposes it can be used. British scientist E. Rutherford, Danish Bohr, French Curie conducted many experiments in this field and proved the splitting of the atom. They also managed to create a number of radioactive elements, uranium, polonium, and plutonium. A few decades after these discoveries, scientists of many countries began to learn about the power of atomic energy through experiments. The first bold steps in this field began in Nazi Germany.

At that time, Albert Einstein also conducted research in this field. German scientists have set themselves the goal of creating a radioactive bomb with unprecedented power using atomic energy. But they failed. Unlike the Germans, American scientists found ways to use atomic energy. As a result, US physicist Enrico Fermi created the first nuclear reactor in 1942. Later, in 1945, American scientists created the first atomic bomb in human history. We all know how the US used this weapon in World War II. The interesting part is that even after the end of the war, no country or organization has been found that blames this act of the USA and complains

about the use of terrible weapons on humanity. Below we will divide the historical stage of atomic energy development into several periods.

The period after the Second World War.

The development of atomic energy during this period is closely related to the consequences of the Second World War. The use of atomic bombs on Hiroshima and Nagasaki sparked international concern about the potentially destructive power of nuclear technology. But the leading countries of the world began to create this weapon, to create its types with unprecedented power. As a result, after the war, many countries, such as the USSR, Great Britain, and France, also acquired this weapon. So, this period went down in history with the arms race, when humanity tried to create weapons capable of destroying its civilization.

Atomic energy for peace. (1950s-1960s)

If you have noticed, nuclear energy was used primarily for peace, not just as a simple source of energy. Maybe it was used to make a weapon. After the war, a number of leading countries of the world began to show interest in atomic energy and they also started to create nuclear weapons after the USA. However, at that time, there were no separate organizations and conventions defining the procedure for atomic energy and its use. Therefore, in order to regulate relations in this field and prevent the spread of nuclear weapons, the world's leading countries have begun to establish diplomatic relations. In the 1950s, US President Dwight Eisenhower proposed the ``Atoms for Peace'' program, which advocated the peaceful use of nuclear energy. This initiative aims to promote international cooperation in the field of nuclear technology for civilian purposes. In order to regulate the use of atomic energy for peaceful purposes, the countries create an intergovernmental organization on the use of atomic energy, the International Atomic Energy Agency (IAEA).

This organization was established according to the decision of the New York Conference of the United Nations. Its Charter was adopted in September 1956 and entered into force on July 29, 1957. The headquarters is located in Vienna. The main goal of the agency is to develop international cooperation in the field of peaceful use of atomic energy. [1] The IAEA's main areas of activity include: strict control of weapons-producing nuclear technology; assistance in the field of nuclear energy; proper and safe burial of radioactive waste; preparation of Norms and Rules related to this field with the help of expert lawyers; support of scientific research programs; development of emergency programs; increasing productivity and soil fertility in agriculture using nuclear methods and radioactive substances; help control insects and diseases in agriculture and livestock. [2]

At the same time as the establishment of the IAEA, different political forces began to form between the countries, aiming to use nuclear energy for peaceful purposes.

Expansion of atomic energy. (1960s-1970s)

In the 1960s and 1970s, many countries invested heavily in nuclear power to generate electricity. This period saw a significant expansion of nuclear power plants around the world. As a result, in the countries where such NPPs were built, electricity was widely used. And this production, in turn, fully satisfied the population's demand for this energy. At the same time, during this period, a lot of work was carried out between the countries on the improvement of nuclear weapons. Even in 1962, the world came to the brink of nuclear war. That's why countries with such weapons reached a mutual agreement to prevent the spread of the atomic bomb and reduce its production. As a result, "Nuclear Non-Proliferation Treaty (NPT) was concluded in 1970". [3] Along with this agreement, the 1960 Paris Convention on Third-Party

Liability in the Atomic Energy Sector and the 1963 Vienna Convention on Civil Liability for Nuclear Damage was built. It is in these conventions and agreements that states with nuclear weapons and states that use nuclear energy must comply with security measures, bans and disputes regarding the restriction of nuclear weapons testing.

Conflicts and Disasters

The accident at the Three Mile Island nuclear power plant in the United States in 1979 and the Chernobyl disaster in 1986 caused serious concern worldwide and changed public opinion about the dangers of nuclear power. If we talk about these two disasters, as a result of the large amount of radiation spread into the environment after the accidents, not only people, but also many animals and plants suffered a lot of damage. In these areas, the effects of radiation remained for many years. The explosion at the Chernobyl nuclear power plant had an impact not only on Ukraine, but also on several neighboring countries. About 4,000 people died as a result of the incident. A large amount of agricultural land was damaged in Ukraine and several neighboring countries, for example, Belarus. Even after the explosion, the harmful waste reached the Black Sea. [4]

So, after this disaster, the whole world paid more attention to safety measures in the use of atomic energy. Because, as we mentioned above, humanity has learned well from the Chernobyl tragedy what the consequences will be if there is an accident at these nuclear power plants. A huge amount of damage is done to the ecology. The radiation from the explosion can destroy the flora and fauna. It was after these disasters that two different views appeared not only among the population, but also among the research scientists on atomic energy. In particular, Germany's leading institute for economic research, DIW Berlin, recently published an important report on the prospects of nuclear energy. He opposes the expansion of nuclear energy in the world, saying, "Too expensive and dangerous: nuclear energy is not a climate-friendly energy supply." Alvin Weinberg, a German specialist in atomic physics, calls nuclear energy a source of "pure energy" as a result of his research. He also believes that it is necessary to develop atomic energy. He even raised this issue among the public in Germany.

Atomic energy in the 21st century.

At the beginning of the new century, the countries of the world continued to expand the use of nuclear energy. A number of countries such as India, Pakistan, Israel, and Iran have developed their own modules for the use of nuclear energy. The volume of electricity production from nuclear energy has increased, as a result, the demand for fuels such as oil and natural gas has decreased. Because nuclear energy is a type of energy that does not harm the environment. But there are cases when even a small mistake in the use of nuclear energy can cause great destruction. As a result of this, it is impossible to imagine the amount of damage to the environment. One such disaster is the 2011 explosion at Japan's Fukushima nuclear power plant.

The tragedy at the Fukushima-1 nuclear power plant is the most powerful earthquake and tsunami in the history of Japan, the maximum level 7 radiation disaster on the International Nuclear Incident Scale (INES). [5] The earthquake flooded basements housing switchgear, backup generators, and batteries, causing a complete shutdown of the plant and failure of emergency cooling systems. As a result, melting of nuclear fuel in reactors of power units No. 1-3, accumulation of hydrogen as a result of steam-zirconium reaction, and explosion of dangerous explosives occurred in power units No. 1, 3 and No. 4. Volatile radioactive elements, such as isotopes of iodine and cesium, were released into the environment, and their

volume was 20% of the emissions at the time of the accident at the Chernobyl nuclear power plant. Although no cases of acute radiation exposure have been reported, long-term radiation exposure increases the risk of oncological disease among emergency workers. The Japanese government has confirmed several cases of the disease, including one that killed one person in 2018. About 164,000 people were evacuated from the affected areas. During evacuation from hospitals, 50 critically ill patients died due to lack of timely medical assistance. [6]

After this tragic event, the complications of the accident persisted for a long time and continue to this day. The Japanese government is taking necessary measures to reduce its impact. But in any case, this explosion had a very negative impact on the environment. A large amount of radioactive waste was released into the water. The ocean and many rivers were damaged.

This tragedy in Fukushima once again showed the countries of the world that it is necessary to strictly observe safety measures in the use of nuclear energy.

Political aspects of legal regulation of nuclear energy

Since the 60s of the last century, countries have concluded several agreements for the legal regulation of the use of nuclear energy. The most important is, of course, the International Atomic Energy Agency (IAEA). The IAEA was created by the world's leading nuclear powers, and this organization helps countries that use nuclear energy to use this energy effectively, to comply with safety measures, as well as to keep the nuclear weapons of nuclear-weapon states safe, and to reduce nuclear weapons testing. gives practical recommendations. Also during this period, the Paris Convention "On Liability to Third Parties in the Atomic Energy Sector" was adopted in 1960 and the Vienna Convention "On Civil Liability for Nuclear Damage" was adopted in 1963. cooperation in the field of atomic energy has expanded. In 1970, the USA, Great Britain, USSR, France and China signed a mutual agreement on the non-proliferation of nuclear weapons. But this did not stop the conflicts between countries with nuclear weapons. For example, the USA and the USSR could go to nuclear war with each other. But the agreement between US President John Kennedy and USSR leader Nikita Khrushchev saved the world from nuclear war.

From this conflict, we can see that despite the existence of a number of agreements between states with nuclear weapons, such as the IAEA, a separate agency that legally regulates the storage of nuclear weapons, mutual conflicts continued. Nevertheless, the SQCH1 and SQCH2 (strategic arms limitation) agreements were concluded between the USA and the USSR. These agreements also had a positive effect on the arms race between these two countries. Even at the beginning of the new century, conflicts continued between countries with atomic energy and nuclear weapons. In many ways, this is characterized by the expansion of the number of countries with nuclear weapons. In spite of mutual negotiations and agreements on atomic and nuclear energy, many countries did not stop and even started to act contrary to the norms of international law. In particular, the number of nuclear tests by the Democratic People's Republic of Korea has greatly increased. We know that a nuclear weapon destroys all flora and fauna in the area where it is detonated. It causes a huge amount of damage to the environment. However, despite the sanctions of many countries and international organizations, the DPRK does not go back and continues to develop and test nuclear weapons. As a result, environmental damage is also caused.

Another conflict started between Japan and China after Japan spilled water from the Fukushima nuclear power plant into the Pacific Ocean. Japan's Tokyo Electric Power Co. has

started pouring radioactive water from the Fukushima-1 nuclear power plant into the Pacific Ocean. As part of the first batch, it is planned to pour 7800 tons of water into the ocean in 17 days. Spilled water passes through a filtration system. This filtration system can remove all radioactive materials except for the tritium isotope in it. It is further diluted with fresh seawater to reduce the tritium content of the discharged water to one-fortieth of the safety standard set by the Japanese government. The process is expected to take 30 years. [7, 8] Rafael Grossi, head of the International Atomic Energy Agency - IAEA, supported Japan's plans. He assessed this as a common practice "certified and approved by the IAEA and used in many parts of the world." But despite Magate's agreement, China opposed it and announced that it would stop importing Japanese seafood.

Similar disputes and conflicts continue in other regions of the world. From this we can see that the international cooperation on atomic energy has not yet been fully legally regulated. Despite warnings from international organizations, including the UN, countries continue to use nuclear energy for their own purposes, not just for energy, but for the purpose of creating weapons. We can say Iran as a country that is currently doing this. Iran's own nuclear program has led to strained relations with leading countries, including the United States.

In conclusion, we can see that nuclear energy is less harmful to the environment than other types of energy. If it is used for the right purposes and in compliance with safety measures, we can consider that the harm is minimal. We can also learn from the tragedies in Chernobyl and Fukushima what the consequences will be if this is not done. Therefore, in order to legally regulate the actions of countries using nuclear energy, a number of norms and concepts have been developed by the International Atomic Energy Agency. We can see from the continuation of conflicts between the countries that have nuclear energy that there is a lot of work to be done in this area, and we can see that these problems need to be regulated legally.

Taking into account its energy needs, the Republic of Uzbekistan has also developed a project for the construction of a nuclear power plant. For this purpose, the Decree of the President of the Republic of Uzbekistan dated July 19, 2018 No. PF-5484 "On Measures for the Development of Atomic Energy in the Republic of Uzbekistan" was adopted. Based on the decree, the Agency for the Development of Atomic Energy under the Ministry of Energy of the Republic of Uzbekistan (hereinafter - "Ozatom" Agency) was established. After that, in 2019, based on the relevant decision of the President, the "Roadmap" for the implementation of the concept of nuclear energy development in the Republic of Uzbekistan in 2019-2029 was approved. According to the plan, the NPP should be completed during this period. Also, during this period, there were a number of Uzbek nuclear physics research scientists: B. Ahmadkhojayev, R. Bekjonov, and others, who conducted research on nuclear physics, and they also promoted the use of nuclear energy in our country. believes that it will provide its energy needs.

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