

## INTERNATIONAL LEGAL PROBLEMS OF THE ECOLOGY OF OUTER SPACE

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The problem of the ecology of outer space was recognized on the international stage after the report of the UN Secretary-General in 1993, "The Impact of Space Activities on the Environment," where it was noted that the problem is international and global, with a negative impact on all countries. The problem of clogging space orbits is the most urgent and its unifying the interests of all countries of the world, without exception, and, in the future, may lead to a limitation of the possibility of space activities.

Near-Earth space is polluted as a result of space activity by removing artificial faulty objects and their fragments into space. Large or containing hazardous (nuclear, toxic, etc.) materials, space debris objects can pose a direct danger to the Earth and spacecraft.

Prevention of harmful pollution of outer space is closely related to the global task of environmental protection. These principles of international environmental law are enshrined in Art. IX of the Space Treaty of 1967, Art. 3 of the Agreement on the Activities of States on the Moon and Other Celestial Bodies 1979, Art. 1 of the 1986 Convention on Operational Alert of a Nuclear Accident, the Convention on Assistance in the Case of a Nuclear Accident or Radiation Emergency of 1986. In accordance with these treaties, the participating states undertake to monitor the activities of nuclear facilities at space objects and publish data on the assessment of nuclear energy sources on aboard space objects prior to their launch, carry out the study and exploration of outer space, including the moon and other celestial bodies in such a way as to avoid their harmful pollution, as well as to adverse changes in the Earth's environment through the introduction of extraterrestrial matter.

A special place in the international legal regulation of space ecology belongs to the 1972 Convention on the Liability for Damage Caused by Space Objects [5]. Art. 2 of the Convention imposes on the launching state absolute liability for damage caused by space objects on the Earth's surface and to an aircraft in flight.

But existing space conventions today are not fully implemented. For example, when a Soviet satellite with a nuclear installation fell over Canada in 1978, the USSR was liable for damage caused by its fragments only in the amount of 50% of the costs of liquidation of consequences [4]. When the Russian spacecraft Express AM11 was put out of action in March 2006, none of the countries party to the Convention claimed responsibility for the damage caused to the Russian space program. The satellite had to be transferred to the burial

of 1976  
due to the lack of  
a clear definition of space delimitation [2].

The problems presented show that modern international space law is lagging behind the requirements of the practice of modern space activities, and there is an urgent need to adopt additions to existing treaties and agreements. In addition, the solution to the problems of ensuring security and sustainable development of space activities in the long term should be formed through the creation of international organizational and technical structures, which include a system for monitoring and diagnosing the space situation; a system of rules and criteria of behavior in space activities, allowing to measure "the level of safety of the space environment and identify violations"; a system for monitoring and implementing

responsibility and other subsystems, which together will have the ability to solve the tasks of managing “safe traffic in ОКР” to the required extent.

Currently, there are no economically acceptable methods for cleaning outer space from the effects of its technological clogging. This problem can only be solved by the efforts of the entire world community through the cooperation of space powers with the involvement of the business community. Outer space is a unique resource, and its operation should be carried out in the interests of all countries. Not a single space power can solve the problem of technogenic pollution of outer space on its own due to the enormous financial costs.

The established principles for the prevention of space debris should be supplemented by sanctions. I also think that it is necessary to create an international fund that accumulates information and other means for the development and creation of space cleaning systems from the effects of industrial clogging. And these systems should start working no later than 2030, while there is still a chance to save space for future generations.

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