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Author: Mr. Ricky J. Lee
Schweizer Kobras, Australia

Dr. Catherine Doldirina
Joint Research Centre (JRC) of the European Commission, Italy

LEGAL AND POLICY ISSUES ARISING FROM THE USE OF NUCLEAR AND RADIOISOTOPIC POWER SOURCES AND PROPULSION SYSTEMS IN OUTER SPACE

Abstract

The use of nuclear and radioisotopic power sources in outer space has been a continuing source of controversy ever since the early days of space advancement. The 1992 Declaration of Principles Relevant to the Use of Nuclear Power Sources, adopted by the General Assembly of the United Nations, was intended address some of the concerns of the international community relating to the use of such power sources in outer space. Since the 1980s, however, the development of nuclear power and radioisotopic power has arguably gone beyond the scope of the General Assembly declaration. Further, the legal force and effect of General Assembly resolutions and declarations are uncertain and remain controversial among the international community.

This is particularly the case in the development and use of nuclear and radioisotopic propulsion systems onboard spacecraft, which are clearly outside the application of the General Assembly declaration. From a policy perspective, the existing legal principles as applicable to such propulsion systems in outer space may be inadequate in addressing and alleviating the concerns of the international community regarding possible negative effects from the use of such systems.

This paper contains an analysis of the legal principles currently applicable to nuclear and radioisotopic power sources and propulsion systems in outer space as well as their cumulative effect on the relevant activities of governmental agencies and private entities. These legal principles are then assessed in light of concerns raised by the international community. Practical suggestions are proposed where appropriate to address such concerns in the future.