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LEGAL ISSUES RELATED TO THE NPS USE AND ACCIDENTS ON THE MOON

**Abstract**

In recent years, the use of Nuclear Power Sources (NPS) is planned by some spacefaring states in lunar missions; however, it is vague whether or not the existing legal instruments including the IAEA treaties are applicable to the NPS use or accidents on the Moon. In 2022, the STSC of UN COPUOS reconvened Working Group on the Use of NPS in Outer Space to promote the 2009 Safety Framework for NPS Applications in Outer Space and share states' experiences related to the 1992 Principles Relevant to the Use of NPS in Outer Space. Those two instruments are highly evaluated as effective and functional interactively in the current space missions; however, their limited applicability was not pointed out. For example, the 2009 Safety Framework explicitly excludes the protection of the Moon environment and the 1992 NPS Principles limits the scope of application to the NPS in earth orbit. Thus, legal efforts need to be made to ensure the safe use of NPS on the Moon.

In terms of the IAEA treaties in the context of NPS accidents on the Moon, it needs to be noted that the STSC have two agenda items related to NPS. While it reconvened the WG under agenda item 14 entitled "Use of nuclear power sources in outer space," the issue of NPS accidents falls into the scope of agenda item 7 entitled "Space Debris". Annually, the STSC calls for reports from states and international organizations in the name of the "Research on space debris, the safety of space objects with nuclear power sources on board and problems relating to the collision of such objects with space debris." In 2021, the IAEA introduced in its report the International Emergency Preparedness and Response Framework which consists of two IAEA treaties, namely, the 1986 Convention on Early Notification of a Nuclear Accident and the 1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency. Although those two have NPS-related provisions to respond to the NPS accidents on earth and in earth orbit, their applicability to them caused on the Moon is not well outlined in the Framework.

Considering those limited or vague applicability of the existing legal instruments and Framework, this article aims to clarify what legal elements the STSC and the IAEA need to consider in rule-making over the NPS use and accidents on the Moon.