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Safety Zones on Celestial Bodies and in Outer Space (5)

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TOWARDS A TAXONOMY OF SAFETY ZONES

Abstract

Safety zones on celestial bodies and in outer space remain an important yet frustratingly underexplored phenomenon that has the potential to constrain future space activities significantly. This contribution aims to investigate the range in substantial scope these safety zones may take by reference to established international regimes dealing with the concept of excluding access, such as UNCLOS as well as more localized but prevalent regimes such as safety zones pertaining to air traffic, hazardous materials or national security.

On the basis of the above, this contribution suggests a taxonomy of safety zones on celestial bodies and in outer space that may be classified along the dimensions of (1) geospatial scope of exclusion, (2) governance and enforcement, (3) duration, and (4) requirements of notification and consent. We present examples of space activities that may require or benefit from each such zones.

We also argue in favor of a principle of minimality derived from the principles of free use and free access to outer space and celestial bodies. Under this principle, the peculiarities of safety zones such as its volumetric occupancy, its unilateral nature or its duration ought to be minimized. We also argue for a dynamic system of evaluation of these characteristics, with subsequent safety zones in a spatial sector that is already subject to access and use exclusions having to meet higher standards or exhibit more restraint. We finally briefly address the implications of such a system to nations that become space-faring after the introduction of a critical mass of safety zones.