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CREATING ENFORCEMENT MECHANISMS FOR THE 1976 REGISTRATION CONVENTION AS A CONFIDENCE BUILDING MEASURE FOR THE MILITARY USE OF OUTER SPACE

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Introduction

One of the more controversial issues in space activities of recent years past is the apparent trend towards the increased militarisation of outer space, especially in satellite applications. In particular, the military use of fixed and mobile satellite communications systems, global navigational and positioning systems, high-resolution remote sensing satellites and even space-based anti-satellite and anti-ballistic missile systems have been the focus of general and specific concern among legal commentators and policy-makers.

It is apparent that improved transparency in governmental space activities, particularly in relation to military applications, can only contribute to building greater confidence in the international community for the use of outer space by all States for the pursuit of peaceful purposes. If States are subject to an international duty of transparency within the present *corpus* of space law, armed with adequate enforcement mechanisms, the confidence of the international community in the level of compliance with the peaceful spirit of space law would increase and it is also likely that the incidences of military uses and applications of outer space would be correspondingly reduced as a consequence.

The establishment of a central international registry of space objects at the United Nations was seen as an essential step in providing identification data and establishing the relevant States bearing international responsibility and jurisdiction over objects launched into outer space. In particular, the mandatory registration obligations under the 1976 Convention on the Registration of Objects Launched into Outer Space (the "**Registration Convention**") have contributed much towards that objective, as well as increasing transparency and coordination in the governmental and private space activities of those States that have ratified the Registration Convention, as well as those that voluntarily submit registration data to the United Nations Register of Space Objects.

This article discusses the duty of transparency that may already exist in the terms and spirit of the 1968 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (the "**Outer Space Treaty**") and then explores the possibility of creating enforcement mechanisms within the framework of the Registration Convention to ensure compliance with its mandatory obligations. This may then serve as one of the means by which improved transparency and confidence can be obtained in the use of outer space by States for military purposes and may also serve to arrest the currently increasing pace of militarisation in the use of outer space.

Is There an Existing International Legal Duty of Transparency?

Article XI of the Outer Space Treaty

Article XI of the Outer Space Treaty provides an explicit duty of transparency that has an overpowering qualification that prevents it

from being regarded as an absolute obligation. Article XI states that:

> *In order to promote international cooperation in the peaceful exploration and use of outer space, States Parties to the Treaty conducting activities in outer space, including the Moon and other celestial bodies, agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities. On receiving the said information, the Secretary-General of the United Nations should be prepared to disseminate it immediately and effectively.*

Despite its explicit language, there are two observations that maybe made concerning the nature and effect of Article XI of the Outer Space Treaty:

(1) there is a qualification that the States are only required to disclose information about its activities to the extent that it is "feasible and practicable" and it may be suggested by States that it is not practical to disclose information as to their activities in the non-peaceful or military exploration or use of outer space;

(2) the inference that may be drawn by the international community that the duty of transparency applies only to scientific activities, give that the article specifically refers to disclosure to the international scientific community; and

(3) the inference that may also be drawn that, given that the provision relates to the *peaceful* exploration and use of outer space and there being no explicit requirement that the exploration and use of outer space must be exclusively for peaceful purposes, the requirement does not apply to *military* or *non-peaceful* exploration and use of outer space.

Accordingly, it is important to consider the effect of other provisions of the Outer Space Treaty, particularly Articles I and IX, to consider whether these provisions bolster the duty of transparency imposed under the Outer Space Treaty by implying such a duty.

Article I of the Outer Space Treaty

Article I of the Outer Space Treaty provides for three of the most fundamental principles of international space law, namely the freedoms of exploration, access and use by all States on a non-discriminatory basis and that space activities are to be carried out for the benefit and in the interest of all States. In order to determine whether Article I of the Outer Space Treaty implies a duty of transparency on the activities of States, it is prudent to first consider the content and effect of the provision.

Specifically, Article I states:

> *The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.*
>
> *Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.*
>
> *There shall be freedom of scientific investigation in outer space, including the Moon and other celestial bodies, and States shall facilitate and encourage international cooperation in such investigation.*

Stephen Gorove was of the view that the phrase "for the benefit and in the interest of all countries" was an "expression of desire that the activities should be beneficial in a general sense".[1] Further, he regarded most commercial

space activities, such as telecommunications, broadcasting, remote sensing and power generation, as being beneficial in a general sense and were thus sufficient to satisfy the requirement.[2] In so doing, Gorove pointed to several factors that persuaded him to that view, which is shared, to some extent surprisingly, by some commentators from developing States.[3]

Firstly, the criteria for determining what is of benefit to a State are almost entirely subjective. What may be considered beneficial to one State may well be detrimental to another. Further, what may be considered beneficial today may be considered detrimental tomorrow with the aid of new information and the benefit of hindsight.[4] As there are no means for settling disputes over the definition of such terms between States in the Outer Space Treaty or otherwise, it is likely and foreseeable that each State would insist on determining the beneficial aspects of an activity based on its own subjective criteria without reference to the legitimate rights, interests and expectations of other States. This is unlikely to have been the intended outcome of the drafters of Article I.

Secondly, the benefits and interests of all countries must include, by definition, the State conducting that particular exploration and use of outer space and/or the celestial bodies.[5] Accordingly, the interests of that State, presumably extending to commercial interests, would not be served if they were not taken into account in assessing the benefits derived from a particular activity in outer space, particularly with the need to provide some incentive or motivation for States to conduct space activities or at least to invest in them. In other words, even if the requirement imposed a specific duty to "share" the "benefits" among all States, such a requirement must be considered to some extent to be subject to the commercial interests, among other categories of interests, of the State conducting the space activity.

Thirdly, it is unclear from the provision whether it is the means of conducting the activity itself (*obligation de moyens*) or the results derived, or ends achieved, from such activity (*obligation de résultat*) that must be in the interest and for the benefit of all States.[6] If it is the results or ends derived from such activities, then it must be noted that the existing body of space law provides no mechanism for any sharing or distribution of such benefits in practice, even if the provisions of the Moon Agreement are taken into consideration in conjunction with those of the Outer Space Treaty. If it is the means of the activity itself, then the legal requirement would be no more than a negative prohibition on States conducting activities that are detrimental to the interests of other States. Monserrat Filho, in advocating the view that all space activities, public or private, must be subject to the "global public interest", suggested that this "does not admit any form of exploitation and use of the outer space [*sic*] capable of causing bad and damage [*sic*] to a country and to people, to the whole humankind or to part of it, as well as *hurting their legitimate interests*".[7]

The idea of Article I in practice as being no more than a moral obligation, instead of a legal one, is a view that is shared with Gorove by other commentators. Bin Cheng, for example, observed that:

> *Insofar as the preparatory work of the Treaty is concerned, the discussions which took place on several articles of the Treaty clearly showed that its draftsmen hardly intended this part of the Article I to be anything more than a declaration of principles from which no specific rights of a legal nature were to be derived, even though it may give rise to a moral obligation.*[8]

Although this formulation may be considered the most favourable, especially in the context of promoting private and commercial space activities, it must be noted that there are two *indicia* to suggest that the requirement actually imposes a positive duty. The first is that the requirement in Article I utilises the plural form "interests" instead of the singular, which may indicate that this involves more than "just the vague, general 'interest' of all countries" and, instead, represents specific and identifiable

interests.[9] This may be taken to mean that a particular set of interests of all States is to be taken into account in the conduct of space activities. The second is that while Article I may be considered to be "an aspiration couched in very general terms which could not be specifically implemented without further elaborations and guidelines", the provisions of the Moon Agreement may arguably constitute the further elaborations and guidelines to give effect to the "interests and benefits of all countries" requirement.[10] Accordingly, even though the Moon Agreement has not won widespread acceptance as the *means* of implementing the requirement, this may not of itself prejudice the view that the requirement may nevertheless require implementation at a practical level.

The foregoing analysis may be condensed to produce at least three possible outcomes and the corresponding applications on the exploration and extraction segments of a commercial space mining operation:

(1) *Generalised mission statement rather than positive and specific duty.* If the requirement of "benefits and interests of all countries" is to be regarded as a generalised mission statement for all space activities instead of the imposition of a positive and specific duty, then clearly commercial mineral exploration and extraction activities on celestial bodies may be considered a positive development for all States, notwithstanding the absence of any sharing of financial or tangible benefits to other States.

(2) *Obligation imposed on the activity rather than the results derived thereof.* If the requirement does impose a specific and positive duty but such a duty is imposed on the activity itself instead of on the results and outcomes derived thereof, then the duty may be interpreted as no more than a negative duty of ensuring that the activity does not cause a detriment to any State. In such a case, commercial mineral exploration and extraction activities would not have much difficulty fulfilling such an obligation, as these activities or the means involved are unlikely to cause detriments for other States.

(3) *Positive duty to share the benefits derived from space activities.* If the requirement under Article I is to be interpreted as an actual obligation to share the resulting benefits derived from space activities, whether financial, tangible or both, then the Moon Agreement is an example, though an unacceptable one, of the practical means of fulfilling this obligation. However, it follows then that the obligation does not arise until the State or its private entities have gained a benefit that is capable of being shared on an equitable basis.[11] In the context of a commercial space mining venture, such a benefit would be produced only in the exploitation segment and thus the obligation would have no application on the exploration and extraction segments of the venture. Further, there is no suggestion that all States would be entitled to an equal share of such benefits. This is supported, for example, by the stipulation in the Moon Agreement that there is to be an "equitable" sharing in the "benefits" derived from mineral resources extracted from celestial bodies, rather than an "equal" sharing in the "materials" or "profits" derived from such activities.[12]

It can be seen from above that some doubts remain concerning the legal content and effect of the requirement that space activities be carried out "for the benefit and in the interest of all countries" and, correspondingly, the legality conducting commercial mineralogical prospecting and exploitation activities on celestial bodies. The existing body of state practice would tend to suggest that the provision is at least a generalised mission statement at the very least and at most an

obligation on the nature of the activity rather than the benefits derived therefrom.

Given the above, it may be suggested that

(1) if all use of outer space are carried out "for the benefit and in the interest of all countries", then all States must have a right to know the activities carried out for their benefit and interest; and

(2) if the exploration and use of outer space are the "province of all mankind", then such activities must be carried out on behalf of all humankind and, as such, it is only logical that all humankind must have knowledge of such activities.

It is apparent that Article I of the Outer Space Treaty implies a duty of transparency on all States to inform the international community of their activities in the exploration and use of outer space. Consequently, it may be said that Article I of the Outer Space Treaty requires States to disclose to all States their use of outer space for military applications.

Article IX of the Outer Space Treaty

Article IX of the Outer Space Treaty requires States to conduct their activities in outer space and on celestial bodies with "due regard to the *corresponding* interests of all other States".[13] Specifically, Article IX of the Outer Space Treaty states that:

> *In the exploration and use of outer space, including the Moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of co-operation and mutual assistance and shall conduct all their activities in outer space, including the Moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty. ... If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State Party to the Treaty which has reason to believe that an activity or experiment planned by another State Party in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, may request consultation concerning the activity or experiment.*

It may be seen that the relevant requirements imposed on space activities of States under Article IX of the Outer Space Treaty include:

(1) such activities are to be conducted with due regard to the corresponding interests of all other State Parties;

(2) if such activities may cause harmful interference with the activities of other States, then the State carrying out the activity must undertake international consultations before undertaking such activities; and

(3) if another State considers a proposed space activity of another State may cause potentially harmful interference with its activities, then it may request for consultations with that other State.

If activities in the exploration and use of outer space must be conducted with "due regard" to the "corresponding interests" of *all* other States, then it is difficult to see how this can be achieved unless all States are aware of the activities of all other States. Clearly this can only be done on a mutual basis and, as such, it may be suggested that this requirement implies a duty of transparency on States to disclose information concerning that activities in the exploration and use of outer space.

Further, it is difficult if not impossible for one State to consider the space activity of another State to cause potentially harmful interference with its own space activities if the former State is unaware of the space activities of the latter State. This requirement is perhaps the strongest evidence in support of the proposition that a duty of transparency exists as implied under Article IX of the Outer Space Treaty for all States to disclose their activities in exploration and use of outer space.

Article IV of the Registration Convention

In addition to the duty of transparency as explicitly or impliedly imposed under the Outer Space Treaty, Article IV of the Registration Convention requires each State to:

> *Each State of registry shall furnish to the Secretary-General of the United Nations, as soon as practicable, the following information concerning each space object carried on its registry:*
>
> *(a) name of launching State or States;*
>
> *(b) an appropriate designator of the space object or its registration number;*
>
> *(c) date and territory or location of launch;*
>
> *(d) basic orbital parameters, ...;*
>
> *(e) general function of the space object.*

Article II of the Registration Convention requires the "launching State" of a space object to register it on its national register of space objects. If there is more than one launching State, then the launching States are to agree on which among its number was to register the space object on its national register and thus become the "State of registry".

Given the above, it is clear and cannot be disputed that Article IV of the Registration Convention requires each State to furnish to the international community information as to the "general function" of the space object. In the case of military applications in the use of outer space, it is thus apparent that the States are required to register all such space objects on their national registries as well as to furnish registration data, as required under Article IV of the Registration Convention, to the United Nations for inclusion in its register.

Potential Revision of the Registration Convention

Need for revision

Although there is generally high degree of compliance by States that are party to the Registration Convention for its compliance, the lack of enforcement mechanisms means that some State Parties to the Registration Convention nevertheless fail to register some of its space objects, particularly in relation to military uses and applications in other space. This has led to a lower degree of confidence among the international community in the intentions of States that the exploration and use of outer space have been limited to peaceful purposes only.

The increasingly technological capabilities of States in satellite applications, particularly in high-resolution remote sensing, mobile and radio communications, global positioning and even anti-satellite systems, provide much opportunity for military applications in such technology in the use of outer space. The degree of fear that exist in the international community of the potential weaponisation and militarisation of outer space will only grow in the absence of any mechanism to force compliance on States with their obligations to register such space objects under the Registration Convention and to be transparent in relation to such activities as required under the Outer Space Treaty.

Considering the large number of States that have ratified the Outer Space Treaty, it may not be practical for amendments to be proposed and adopted to the Outer Space Treaty to compel such compliance under its Article XV. This is particularly so with the corresponding risk that the opportunity may be taken

advantage of by some States to remove some of the restrictions rights and protections given to all States, particularly those under Articles I, II or IV of the Outer Space Treaty. Accordingly, given the lower number of States that have ratified the Registration Convention, it is easier and less risky to propose amendments to the Registration Convention to create enforcement mechanisms to promote compliance.

Mechanism for revision

Article IX of the Registration Convention provides that any of its State Parties may propose amendments and such amendments will be adopted when a majority of State Parties accept the amendments. The amendments will come into force for each State Party only when each such State Party accepts the amendments to the Registration Convention.

The mechanism for adopting amendments is supplemented by the procedure mandated under Article X of the Registration Convention that one-third of the State Parties may request a conference to review the Registration Convention. Such a conference may thus be convened to consider proposals for amendments to the Registration Convention.

Proposed enforcement mechanisms for the Registration Convention

There are a number of potential enforcement mechanisms that may be created under the Registration Convention. Some of these mechanisms include:

(1) requiring registration of the space object with the United Nations before reliance can be made on the provisions in the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (the "**Rescue Agreement**") for the recovery and return of space objects;

(2) provide that the definition of "fault" for the purposes of international space law includes non-compliance with the Registration Convention, so that the space object of a State that is not registered pursuant to the Registration Convention would be liable if damage is caused to a space object of another State, as fault liability is stipulated in such instances under Article III of the Convention on International Liability for Damage Caused by Space Objects (the "**Liability Convention**"); and

(3) in cases where a satellite occupies an orbital slot in the geostationary orbit or uses communications frequencies with coverage outside the territory of the operating State, to deny use of the orbital slot and/or coordination of the operating frequencies to that State either within or outside the auspices of the International Telecommunication Union.

Concluding Observations

The Outer Space Treaty, either explicitly or impliedly, imposes a duty of transparency on States that require them to disclose their exploration and use of outer space for military or non-peaceful purposes. This duty is only being selectively observed by States in the extensive military use of satellite applications in outer space. Accordingly, the addition of enforcement mechanisms for the Registration Convention would increase the degree of transparency in the international community and, further, would increase confidence in the international community in the continuing use of outer space for peaceful purposes.

Notes

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[1] Stephen Gorove, *Implications of International Space Law for Private Enterprise* (1982) 7 ANNALS AIR & SP. L. 319 at 321.

[2] Stephen Gorove, *Freedom of Exploration and Use in the Outer Space Treaty* (1971) 1 DENVER J. INT'L. L. & POLICY 93.

[3] See, for example, Silvia Maureen Williams, *Las empresas privadas en el espacio ultraterrestre* (1983) 8 REVISTA DEL CENTRO DE INVESTIGACIÓN Y DIFUSIÓN AERONÁUTICO-ESPACIAL at 39; and Luis F. Castillo Argañarás, *Benefits Arising From Space Activities and the Needs of Developing Countries* (2000) 43 PROC. COLL. L. OUTER SP. 50 at 57.

[4] *Ibid.*, at 104.

[5] Gorove, *supra* note 1, at 321.

[6] Such a distinction was made by Kerrest in the context of Article VI of the Outer Space Treaty. See Armel Kerrest, *Commercial Use of Space, including Launching* (2004), in China Institute of Space Law, 2004 SPACE LAW CONFERENCE: PAPER ASSEMBLE 199 at 200.

[7] José Monserrat Filho, *Why and How to Define "Global Public Interest"* (2000) 43 PROC. COLL. L. OUTER SP. 22 at 24. Italics added.

[8] Bin Cheng, STUDIES IN INTERNATIONAL SPACE LAW (1997) at pp. 234-235.

[9] *Ibid.*

[10] *Ibid.*, at 322.

[11] Moon Agreement, Article 11.

[12] *Ibid.*, Article 11(7)(d).

[13] Italics added.