

HOW TO ADAPT THE PRESENT REGIME FOR REGISTRATION OF SPACE OBJECTS TO NEW DEVELOPMENTS IN SPACE APPLICATIONS?*

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ABSTRACT

The Convention on Registration of Objects Launched into Outer Space (REG) obliges the launching State to register a space object in an appropriate register. Where there are two or more launching States in respect to such an object, Art. II (2) REG provides that those States should jointly determine which one of them shall register that object. The paper reflects the concept of the REG against the background of State practices as well as problems due to the commercialization of space activities. The recent deficiencies in registration, subject to an Agenda Item of UNCOPUOS, can be overcome by a harmonized interpretation of the REG. According to Art. VI OST the starting point for all considerations must be to avoid any detached, uncontrolled private-sector space activities.

Both aspects of registration - extension of jurisdiction and control in a sovereign-free area and responsibility and liability as launching State - are related to State parties. The crucial point is to prevent negative conflicts of competence in registering private/commercial space objects. This harmonization can only be realized by a clear guidance for the different national registrars.

I. PRESENT REGISTRATION SYSTEM AND CONSTRAINTS

According to Art. II (1) of the Convention on Registration of Objects Launched into Outer Space (REG) the launching State (of an object launched into Earth orbit or beyond) shall register the space object by means of an entry in an appropriate registry which it shall maintain. The launching State is furthermore obliged to inform the Secretary General of the United Nations of the establishment of such a registry. The Secretary-General himself "shall maintain a Register in which the information furnished in accordance with

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article IV shall be recorded” (Art. III (1) REG).

This is the baseline for the twofold system governing the registration of space objects.

The contents of each registry and the conditions under which it is maintained shall be determined by the State of registry concerned (Art. II (3) REG). Only the necessary standard information to be furnished to the Secretary-General is defined in Art IV REG. The access to the different national registers is regulated under national law, whereas full and open access to the information in the UN-Register is stipulated in Art. III (2) REG.

Under those boundary conditions an homogeneous and efficient registration can only be realized by a common understanding on how to interpret the REG and a certain discipline in implementing the UN registration system and transforming it in national law.

At the beginning of the space age nearly 100% of the space objects launched into Outer Space have been registered¹.

Initially the UN-Registration of space objects was based on the General Assembly resolution, 1721 B (XVI) of 20 December 1961 calling upon States launching objects into orbit or beyond to furnish information promptly to the Committee on the Peaceful Uses of Outer Space through the Secretary-General, for the registration of launches and at the same time requesting the Secretary-General to maintain a public registry of the information furnished in accordance with that provision. This Registry is called the “Resolution Register” and still maintained today, mainly for information provided by States not yet having acceded to the REG. Today most of the registrations are based on the “Convention Register” established

according to the Registration Convention (Art. III REG), by the General Assembly-Resolution 3235 (XXIX) of 12 November 1976 and ratified by 45 States.²

Recently only 75% of the space objects were registered on a national and international (UN) level.³ The deficiencies have been analyzed by a UN background paper prepared by the Office of Outer Space.⁴

Today the practice of States and International Organizations in registering space objects is one of the current agenda items of the Legal Subcommittee of the UN Committee on the Peaceful Use of Outer Space (UNCOPUOS) and discussion item in different fora.⁵

The identified deficiencies can be summarized by saying that as part of extended commercial space activities negative conflicts of competence regarding the assignment of responsibilities for private legal entities are arising with an increasing frequency and that the International Satellite Organizations do not register to a large extent.⁶

Upon examination of the constraints and limitations of the existing registration system, the following becomes apparent

- the ratification status of the REG is insufficient; all States and Intergovernmental Organizations that operate space objects should be party to the REG or declare their acceptance of rights and obligations, as provided for in Art. VII REG
- the submitted information basically depend on the (incomplete) national registries.⁷ The submitted information could be expanded by several aspects (e.g. extended and harmonised basic orbital parameters, the mass of the

object) and with individual reference data (e.g. COSPAR international designator)

- the period according to Art. IV (1) REG in which the information must be forwarded to the Secretary General “as soon as practicable” is, in some case, interpreted somewhat generously
- the stipulation of Art. II (2) REG (joint determination of a State of Registry by two or more launching States) is often disregarded - especially for commercial payloads. In case of no agreement having been reached, there is no back-up solution that could bridge this gap
- all in all, the de-centralized, twofold registration system can only function if uniform rules of interpretation and implementation are applied. This has not been the case so far. On the contrary, there are today too many deviating interpretations with the aim of limiting the responsibility and liability of State parties for national private entities provided in the Space Treaties.⁸

II. PRESENT REQUIREMENTS ON A MEANINGFUL AND EFFICIENT REGISTRATION

1. Primary objectives and benefits according to the REG

The registries (on national and UN-level) according to Art. II (1) and III REG are not related to space assets or ownership on space objects. The primary function of those registries and the resulting benefits⁹ are related to the concept of the space treaties, which means in particular unconditional responsibility of State parties and launching States for their space

activities including those of their private entities. All private-sector space activities are derived from State responsibility and according to Art. VI OST subject to authorization and continuing supervision by those State parties. There is no room for any independent private-sector space activity. Either a State party / a launching State has deliberately and wilfully enabled a non-governmental activity in outer space or it has neglected the required authorization. We have to recall the early discussions on the draft of the 1963 Declaration¹⁰ about a ‘State monopoly’ of space activities versus ‘free enterprise’. The well-known compromise was formulated in Art. VI OST. The boundary conditions for non-governmental space activities can be summarized as follows: “The freedom is for companies, the responsibility is for the States”.¹¹

If one uses these accepted facts as a starting point, the implementation of the REG must result in every non-governmental space activity and the respective space object being clearly and unquestionably assignable to an “appropriate State Party to the Treaty”.

The second essential legal concept of registration is formulated in Art. VIII OST. “A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body.” Registration is the instrument to extent jurisdiction and control in a sphere which is governed by the non-appropriation principle of Art. II OST. The extension of jurisdiction and control in this sovereign-free area is linked (and limited) to registration of that very space object and part of the generally allowed exploration and use of outer space

(Art. I OST).¹² The relationship between space object and launching State guaranties full application of responsibility and liability under the Space Treaties as a consequence of the extended jurisdiction and control. The circle is completed with the definition of the launching State. The correct attribution of national activities (whether public or private/governmental or non-governmental) is part of the essential definition and interpretation of the term launching State.¹³

In this respect, it is also a matter of fully recording all national space activities, especially those of private entities. The responsibility according to Art. VI OST is linked to national activities and imposed on the appropriate State Party to the Treaty, while the registration is linked to space objects and imposed on a launching State. The registration focuses jurisdiction and control relating to a space object on a single State Party (which has to be a launching State) from the group of the, in many cases, several launching States. This occurs irrespectively of current or subsequent ownership as derived from the responsibility of launching States.

For a full recording of all non-governmental space activities the International Intergovernmental Organizations also play a special role, in particular after privatization of the International Satellite Organizations. In this respect, a broad acceptance of rights and obligations by those organizations ensures the intentions and aims of the REG and of Art. VI OST.

2. New requirements resulting from commercial practice

The UN Register of Objects Launched into Outer Space is the sole central source of

information provided by Governments and International Organizations on space objects launched into Earth orbit or beyond.¹⁴ Other registers like the COSPAR information system¹⁵, the ITU Space Master Register¹⁶ or the UNIDROIT Space Protocol Register to the Convention on International Interests¹⁷ in Mobile Equipment have different, limited functions. Especially in times of a growing commercial interest on different space applications the authority of the UN register is required as single instrument under international law for the globally uniform registration of space objects. It can support the other function-specific registers as a uniform point of reference.

Initially, it was pointed out that the registration system addresses States and does not question ownership. Nevertheless in a commercial environment, transfers of ownership are frequent, which also concerns space assets. This has an indirect implication on the relevant State, in case of cross-border business.¹⁸

A fact is that under the “Convention Registration System”, only registration by a launching States is possible. It is not possible to register after a transfer of ownership during the operational phase, if the new owner is not a launching State for that very space object. This does not exclude additional information to the existing registration, which might be helpful to document that a party is possibly (internally) liable for this claim.

A beneficial owner, who, according to the regress of the externally responsible launching State would have to pay anyway, may also be prepared to settle the claim directly.

The rule of “once a launching State, always a launching State” should not be

relinquished easily either. The reference to a launching State creates a clearer allocation of responsibilities than a possible reference to the respective State of the owner of the space object. Still the subject of a common practice for the change of ownership is not settled as yet.

A second set of issues - launch services by a foreign country as well as the subject of in-orbit-delivery - can be solved easily by an adequate interpretation of the term "procuring the launch". Different nationalities of launch service provider and customer (operator of the satellite) is a quite common reality in commercial space applications. With regard to "procuring the launch" the question has to be raised in whose interest the satellite was launched or whether the launch would have taken place without the order of this specific customer. Likewise in cases of in-orbit-delivery the relevant State of the customer (first owner of the satellite after in-orbit-delivery) is the launching State. To be consistent, the State of the customer who ordered the satellite should remain launching State, even if the transfer of ownership fails due to declined acceptance (refusal of ownership) by the client.

The above shows that the REG does offer solutions for new requirements of commercial practice subject to a sufficiently stringent interpretation.

III. IMPLEMENTATION OF A HARMONIZED REGISTRATION PRACTICE WITHIN THE SCOPE OF THE UN TREATIES

1. Harmonized registration practice

a) Background

A uniform registration practice based on existing regulations can only be achieved through the uniform interpretation of the regulations. First of all, a distinction has to be made between unambiguous terms and those subject to interpretation. The most important point for interpretation is to match the intent and purpose of the REG as closely as possible. From a practical point of view, it is, however, also important to agree to interpretations that can be implemented by a registrar based on simple criteria, without having to enter into detailed legal interpretations in individual cases. The primary question should always be whether a certain fact alone suffices to justify a registration obligation, irrespective of whether another State would also have to register or would have better reasons to register.

The solution of the conflict of several States having to register and the existing obligation to come to an agreement (Art. II (2) REG) can only be solved in a second step.

The registration obligation affects the launching State according to Art. I (a) REG (identical to Art. I (c) LIAB). The article contains three relatively clear criteria and one subject to interpretation.

The registrar of the State in question thus has the following scenarios in which registration is required:

- if the relevant State launches the space object
- if the relevant State procures the launching of the space object
- if the space object is launched from the territory of the relevant state
- if the space object is launched from the facility of the relevant state.

The term „procures the launching” is subject to an interpretation.

b) State responsibility for nationals

The abstract answer to that question is that each State party is responsible for (all) its nationals¹⁹ (legal and natural persons), without exculpation (no argument of due diligence).

The practical point is that jurisdiction and control exercised by the State of Registry, being as well the appropriate State, need to be effective, in order to secure actual supervision in terms of having influence on the private activities. The effective jurisdiction comprises the law-making capacity (prescriptive / legislative jurisdiction²⁰ or jurisdiction²¹) and the capacity to ensure compliance with the law.

National Space Legislation should provide an authorization and licensing procedure for the performance of space activities of their nationals. According to this procedure, natural persons may be prohibited from carrying out space activities without any prior authorization even if the space activities were performed abroad.

As far as legal persons are concerned the determination of the nationality is not so clear. There are three criteria / theories under discussion in municipal as well as in

international law. Those criteria are 1. place of incorporation, 2. place of seat or 3. controlling shareholders. The disadvantage of the control theory, which is applied mainly in Switzerland and in the USA is that those soft criteria of controlling interests are open to interpretation. This creates great legal insecurity. The place of incorporation is the most clear and unambiguous determination of the corporate status. On the other hand it allows the creation of pseudo-foreign corporations. In civil law countries and continental Europe the criterion place of seat (siège social) is the most applied, sometimes as a variation of and combination with the incorporation criterion. This double approach has advantages if for transnational corporations the localization of the seat is not clear.

The International Court of Justice (ICJ) ruled in the Barcelona Traction case²² that at least in cases of diplomatic protection, the nationality of a corporation depends on the place where it is incorporated and where it has its registered office. However, the ICJ made clear at the same time that there are no rules of international law on the incorporation of companies; consequently it was necessary to have recourse to the municipal law to ascertain whether the conditions for incorporation had been met.²³

In its Draft on Diplomatic Protection the International Law Commission (ILC) formulated the following definition (Art. 9): “For the purposes of diplomatic protection of corporations, the State of nationality means the State under whose law the corporation was formed and in whose territory it has its registered office or the seat of its management or some similar connection.”²⁴

The ILC clarifies further that there can be only one State of nationality.

Finally the determination of the criterion, or combination of criteria, according to which a corporation is considered as a national of that State is a matter of international jurisdiction of the respective state. As far as clarity with view to the registration system is concerned, the most suitable criterion is the country of the registered seat. This criterion is also transferable to International Organizations.

c) Procuring the launch

Besides the topic covering the identification of the relevant private entities which are appropriated to a State in accordance with Art. VI OST („appropriate State Party“), another important topic is to clearly define the „procuring the launch“ activities which are appropriated to a State.

Before entering into detailed interpretation, one has to be aware that there is a deliberate difference between „a State which launches“ and „a State which procures the launching of a space object“. Therefore the second criterion has to be interpreted in contrast to the first one and not in a way of narrow assimilation.

While the first criterion is related to a concrete activity the second one is addressed to a relationship between State and space object. Relevant factors are the purpose of the space object and the interest of the appropriate State, respectively its nationals. The essential question for a teleological interpretation is always if that space object would have been launched without the explicit authorization, contribution or omission (of a necessary authorisation or approval) of that relevant State.

2. Check-list for the registrar

Some countries have a twofold national space register.²⁵ In this context we only consider the registrations as defined by REG, i.e. the UN registration and the relevant part of national registers to transmit the information according to the REG.

So every registrar will have to check in a first step in which cases his country (State X) is in principle internationally obliged to register an object launched into earth orbit or beyond according to Artt. II, IV REG. In a second step he has to raise the question if another State is obliged as well, with whom State X might then have to conclude an agreement (Art. II 2 REG).

It is clear and should not be exemplified here, that the obligation to register is given in case that an object was launched by the State or from its territory or facility.

The following check-list is concentrated on the interpretable term “procuring the launch” and each point as such should by itself be sufficient to create an obligation to register.

The check-list reflects as well the different forms of interaction between governmental and non-governmental activities.

Check list

a) General cases with regard to the relationship between State X and objects launched into earth orbit or beyond

- (1) Space object being launched to fulfil a public service of State X (regardless of who starts the objects and from where).
- (2) Space object being launched to carry out activities of an institution which is

financed partly or totally by State X (e.g. research institute / university).

(3) Space object being launched to carry out activities of private entities in cooperation with the public sector of State X (irrespective of the formal ownership of the space object) under proportional rights of use, e.g. public private partnerships (PPP).

(4) Space object of a private entity / institution of any country which assigns this institution to carry out activities of private entities using their own property, but providing

- exclusively services to the public sector of State X,
- mainly services to the public sector of State X,
- some services to the public sector of State X.

(5) Space object of a private / non-governmental entity partly financed / subsidized by the public sector of State X (irrespective of the type of the activity, e.g. public technology support of a private company).

(6) Purely private activities of a private / non-governmental entity, having its registered seat / its headquarter on the territory of State X (not sufficient where the majority or where a minority of shares are held by nationals of State X).

b) Specific cases

Objects launched into earth orbit or beyond *with the intention* to carry out

(1) activities of a Public / Intergovernmental International Organization having its headquarters on the territory of State X,

(2) activities of a meanwhile privatized International Organization having its registered seat / headquarters on the territory of State X,

(3) activities of a Public / Intergovernmental Organization where State X is a member State (so long as the headquarters State is not willing to register),

(4) activities in cases of in-orbit-delivery ordered by a private entity of State X (from a foreign supplier outside State X) but not realized because of malfunctioning (non-acceptance / no transfer of ownership to a citizen / company of State X); [but *not* for space objects carrying out activities of private entities of State X, becoming the owner of the space object under a transfer (of ownership) agreement after the launch (but not being intended at the time of the launch)].

IV. REQUIREMENTS FOR IMPLEMENTING RULES DE LEGE FERENDA

In order to achieve a future increased efficiency in registration, priority would have to be given to the solution of two problems:

- the registration of satellites of international organizations and
- a back-up solution in case of a missing agreement according to Art. II (2) REG.

The operational private entity of a privatized International Satellite Organisation (e.g. Inmarsat) can be treated like any other private entity. The real problem is to find a practicable solution for the Public/Intergovernmental International Organization having not declared their

acceptance of rights and obligations according to Art. VII REG. In principle all member States are equally responsible. But this diversity of responsibility results in an enormous percentage of non-registration. The most practicable solution would be to oblige the host country, if there is no other agreement for the satellite (general back-up solution). This practical approach corresponds with the economic as well as idealistic value of hosting an international organization on its territory.

The second major problem is the non-registration due to a missing agreement or by ignoring Art. II (2) REG.

If an agreement according to Art. II (2) REG is not reached, i.e. which one of two or more launching States makes the registration, an auxiliary approach would have to be found to prevent that there are unregistered space objects. Basically the aim should be to make a separate registration of the upper stage (remaining in an earth orbit) and the payload (satellites / interstellar trajectories / space stations or modules thereof). In view of the remaining jurisdiction and control, the general, binding back-up solution should be the registration by the State of the first operator / economic user of the satellite.

V. CONCLUSIONS

The UN Registration Statistics have highlighted a number of serious deficiencies in the registration of space objects. In recent times there has in many cases been a trend in privatization to shake off the continuous responsibility of the State. Especially new developments in space applications and the interaction between public and private entities would require a clear, unambiguous registration of space objects. An essential advantage of

a complete and correct registration is the focussed allocation of rights and obligations in contrast to the multiple responsibility of different launching States involved. All in all, clear structures of responsibility will be of greater benefit to economic developments than attempts to resolve responsibility through differentiation. The final aim must be to achieve the registration of each single space object and to avoid positive or negative conflicts of competence. Two steps are essential: First of all a harmonized interpretation of the REG and the relevant articles of the OST is required. One critical point is the interpretation of the launching State in the meaning of "a State which procures the launching". At this crossroads the question of full incorporation of all private and commercial activities under the responsibility of the relevant State has to be decided.

The second point is the unequivocal guideline for the registrar under different national registration systems. For a harmonized registration a uniform questionnaire / check-list is required. Instead of a complex legal analysis the registrar needs a list of standard cases, according to which – if they are fulfilled – the relevant State is obliged to register the space object, irrespective of the fact that other States might be obliged as well. The need to conclude an agreement according to Art. II (2) REG is a separate item, which has to be dealt with afterwards. In conclusion it can thus be stated that the agenda item „Registration” of UNCOPUOS offers numerous challenges and opportunities relevant to current practices.

* All views expressed are the personal views of the authors.

¹ United Nations Registration Statistics 1957 – 2004 (as at 1 April 2005), A/AC.105/C.2/2005/ CRP.10.

² As of January 2005.

³ United Nations Registration Statistics 1957 – 2004 (as at 1 April 2005), A/AC.105/C.2/2005/ CRP.10.

⁴ Practice of States and international organizations in registering space objects, UN Doc. A/AC.105/C.2/L.255.

⁵ Stephan Hobe / Bernhard Schmidt-Tedd / Kai-Uwe Schrogl (ed.), Current Issues in the Registration of Space Objects, Proceedings of Project 2001 Plus Workshop, Cologne 2005.

⁶ UN Doc.A/AC.105/C.2/L.255 cif. V (non-registration of space objects and VI (enhancement of the function).

⁷ As at 1 January 2005 only 16 States parties have notified the Secretary-General of the establishment of national registries, see UN Doc. A/AC.105/C.2/L.255 cif. II, 12. and IV, B, 31.

⁸ See O. Ribbelink, The Registration Policy of the Netherlands, page 53 (56); in: Stephan Hobe / Bernhard Schmidt-Tedd / Kai-Uwe Schrogl, (ed.), Current Issues in the Registration of Space Objects, Proceedings of Project 2001 Plus Workshop, Cologne 2005 “Clearly, the Netherlands interprets in a narrow sense. Private activities in space are ‘just’ private activities ... And, the Netherlands is not responsible for

launch procurement activities by private companies. The Netherlands fears that by registering under the Registration Convention, it could be considered to be the ‘launching State’....”.

⁹ Bernhard Schmidt-Tedd / Michael Gerhard, Registration of Space Objects: Which are the Advantages for States Resulting from Registration?, in: Marietta Benkö / Kai-Uwe Schrogl (eds.), Space Law: Current Problems and Perspectives for Future Regulation, Eleven Int. Publish. NL 2005.

¹⁰ Resolution 1962 (XVIII), adopted on the 13th December 1963, entitled ‘Declaration of the Legal Principles Governing the Activities of States in the Exploration and use of Outer Space’.

¹¹ See Michel Bourély, Rules of international law governing the commercialization of Space Activities, in: IISL Proceedings of the 29th Colloquium on the Law of Outer Space 1986, page 157 (158).

¹² This aspects are analysed in detail by Gabriel Lafferranderie, Jurisdiction and Control of Space Objects and the Case of an International Intergovernmental Organization (ESA), in: German Journal of Air and Space Law (ZLW) 2005, pages 228 et seq.

¹³ For recent developments see M. Benkö/K.-U. Schrogl, The UN Committee on the Peaceful Uses of Outer Space, Adoption of a Resolution on Application of the Concept of the “Launching State” and Other Recent Developments, ZLW 2005, page 57.

¹⁴ UN Doc. A/AC.105/C.2/L.255, VI. cif. 105.

- ¹⁵ Published regularly in the COSPAR Information Bulletin.
- ¹⁶ Legal Basis is Chapter III of the ITU Radio Regulations (RR), espec. Art. 8.1, 11.15 and 11.36.
- ¹⁷ Paul B. Larsen, Future Protocol on Security Interests in Space Assets, in: *Journal of Air Law and Commerce* 2002, pages 1071 et seq.
- ¹⁸ Michael Gerhard, Transfer of operation and control with respect to space objects – Problems of Responsibility and Liability of States, in *German Journal of Air and Space Law (ZLW)* 2002, pages 571 et seq.
- ¹⁹ See Art VI OST, compare IX OST „...an activity or experiment planned by it (State Party) or is nationals...“.
- ²⁰ J. Brownlie, *Principles of Public International Law*, 6th Edition, Oxford 2003, page 297; M.N. Shaw, *International Law*, 4th Edition, Cambridge 1997, page 452.
- ²¹ B. Cheng, Article VI of the 1967 Space Treaty revisited: „International Responsibility“, „National Activities“ and the „Appropriate State“, *JSL* 1998, page 7.
- ²² The Case Concerning the Barcelona Traction, Light and Power Company Ltd. (Belgium vs. Spain) I.C.J. Reports 1970, page 3 (42)].
- ²³ I.C.J. Reports 1970, page 34, 37, 38, 50 et seq.
- ²⁴ Report of the International Law Commission, Fifty-sixth session (2004), page 17 et. seq., available in: www.un.org/law/ilc/reports_reported_2004_report.htm.
- ²⁵ See for the UK example R.J. Tremayne-Smith, UK Registration Policy & Practices, in: *Proceedings of Project 2001 Plus Workshop, Current Issues in the Registration of Space Objects*, *Proceedings of Project 2001 Plus Workshop, Cologne 2005*, page 59 et seq.