

THE LEGAL FRAMEWORK FOR SOUTH AFRICAN SPACE ACTIVITIES: AN ANALYSIS OF THE LEGAL RULES GOVERNING LAUNCHING, OPERATION OF A SATELLITE AND APPLICATIONS BY PRIVATE ACTORS.

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South Africa as an emerging space faring nation has been participating actively in the exploration of space since the dawn of the Space Age in the 1950's and there has been a continuous history of scientific endeavours moving from a satellite tracking, support for lunar and interplanetary missions from a CSIR tracking station at Hartebeesthoek, launch of ---kilogram micro-satellite, SunSat in 1999 and the launch of eighty kilogram micro-satellite, in 2009. In addition, space applications have become an indispensable part of the modern information society and growing recognition of the benefits derived from the use of space applications is encouraging the country to conduct space activities. All these activities show a commitment by the government of South Africa to advance its scientific and technology activities in order to deliver on a wide range of national priorities relating to our socio-economic development. All these activities were undertaken without any specific relevant legal framework as the first national legislation was only enacted in 1993, amended in 1995. However, for the country to effectively participate in international markets, a supportive legal and regulatory environment which is in accordance with international standards and practices should be strengthened. Even though a number of basic components of the legal framework covering activities directly contributing to the launching of spacecraft and the operation of such craft in outer space and communications are in place, but some gaps remain in other areas including remote sensing as there are only policies than laws. As a result, existing regimes are currently not very supportive of commercial space activities as they are focusing on National interests.

This paper will examine the legal and regulatory environment governing space activities in South African taking into account the history and the current space activities. This will also look at the international legal framework governing space activities in particular those frameworks that South Africa is a party to or intends to ratify and how those regulation are incorporated in our laws and suggest a way forward.

INTRODUCTION

South Africa's involvement in the exploration of space dates back during the dawn of the Space Age in the 1950's. Since then, there has been a continuous history of space activities and accomplishments ranging from a satellite tracking, support for lunar and interplanetary missions, and launch of 64 kilogram micro-satellite, SunSat in 1999 and the launch of eighty kilogram micro-satellite,

SumbandilaSat in 2009.

BACKGROUND AND RATIONALE FOR ENACTMENT OF THE SOUTH AFRICAN SPACE LEGISLATION

Some of these activities were performed in an unregulated environment as there were no rules governing space activities in the country. It is important to note that these capabilities were developed during the long period of economic isolation and was intended

to serve the nation's military functions. Due to the dualistic nature of the space technologies, it became necessary to impose measures to protect the interests of South Africa by controlling and restricting "dual-purpose capabilities. These include capabilities, which can contribute to the proliferation of weapons of mass destruction, but which can also be used for other purposes such as commercial and military.

In this regard in 1993, the primary legislation that governs space activities, the Space Affairs Act (Act No. 84 of 1993), was enacted. This Act was enacted in order to meet South Africa's international agreements and commitments in respect of the peaceful utilisation of Outer Space; and to control and restrict the development and transfer of dual-purpose technologies in terms of various international agreements.

One of the key International Agreements that serves as the foundation for the South African legislation is the Outer Space Treaty, also referred to as the *Magna Carta* of outer space¹. This Treaty sets out the core principles that all States must adhere to in the conduct of their space activities. The provisions of the Outer Space Treaty were incorporated in SA Act. South Africa is a Party to this Treaty.

In order to strengthen the provisions of the Space Affairs Act and to honour the international obligations, a complementary legislation, the Non Proliferation of Weapons of Mass Destruction Act No.87 of 1993 was also enacted to focus on control of the dual use technology. The provisions of the MTCR were incorporated in the NPWMD Act.

After both these legal instruments were enacted, the government's priorities were to focus on the socio-economic imperatives. This influenced the development and

manufacturing of the space technology in the country. This also impacted on the existing programmes such as the GreenSat programme, which was discontinued in 1994.² It also became imperative for South Africa to honour the international Treaties by focusing on the being "the responsible user of the space environment"

Following these two anchor legal instruments, a number of other legal instruments have been developed over the years which have an impact on the space activities. These include the Independent Communications Authority of South Africa Act 13 of 2000³, the Space Agency Act No 36 of 2008⁴ and the Spatial Data Infrastructure Act No. 54. of 2003⁵. All these various legal instruments cover different activities and for the purposes of this paper, a particular attention will be drawn to those rules governing the launching, operation of a satellite and applications by private actors and the relevance of those rules in the development of space activities in South Africa.

The responsible Authorities for licensing of space Activities

In terms of the OST "*States bear responsibility for all their space activities, whether those Activities are carried on by governmental agencies or non-governmental entities falling within their jurisdiction*".⁶ This entails that the government of South Africa is responsible for all its space activities including those of its private actors. Since the State has to carry this risk, it is important to put measures in place to minimise such risk.

¹ The Treaty on the 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").

² GreenSat Programme

³ www.internet.org.za/icasa-act.html

⁴ www.dst.gov.za/publications.../National%20Space%20Agency%20Act. This Act establishes an Agency which is responsible for the implementation and coordination of the South African space programme.

⁵ www.dwaf.gov.za/bi/.../Docs/Englishversion_SDIActDec20031.doc

⁶ Outer Space Treaty

The South Africa Council for Space Affairs

In order for the government to ensure that its international obligations are carried out, the South African Council for Space Affairs (SACSA) was established under the authority of the Minister of the Department of Trade and Industry “to manage and control certain space activities in the Republic”. This body is established in terms of the founding legislation, the Space Affairs Act, No. 84 of 1993. SACSA is responsible for the licensing and registration of space activities in South Africa and to take care of the interests, responsibilities and obligations of South Africa regarding its space and space-related activities in compliance with international conventions, treaties and agreements entered into or ratified by the Government of the Republic”.

In implementing its international obligations SACSA has recently established a National Space Registry for the current objects Launched into outer Space , which was launched by the Minister of Trade and Industry on 29 July 2011. This Registry currently has two entries , for SunSat and SumbandilaSat.

The South African Council for the Non Proliferation of Weapons of Mass Destruction Council

The Other responsible Authority is the South African Council for the Non Proliferation of Weapons of Mass Destruction Council, which is established in terms of the NPC Act above. The NPC is responsible for the regulation of controlled activities and goods of a chemical, nuclear dual-use, missile delivery or biological nature that could contribute to development and proliferation of weapons of mass destruction. This Authority also resides with the Department of Trade and industry.

The Independent Communications Authority of South Africa

The Other responsible Authority is the Independent Communications Authority of South Africa (ICASA), which is established in terms of the ICASA Act No 13 of 2000. This Authority regulates the communications activities in South Africa by issuing licenses regarding the frequency and spectrum allocation. The Authority also works closely with the International Telecommunications Union.

LAUNCHING AND OPERATION OF A SPACE CRAFT RULES

Legal rules elaborate rights and responsibilities in a variety of ways. The foundation for the legal rules governing space activities is the International treaties, principles and declarations. International space law includes, such new rules, whether of customary or treaty law, that have evolved since the beginning of the space age or that may be developed specifically to regulate the activities of states and their nationals in space or actions in relation to such activities.

South Africa has developed and launched two satellites, (ZA-001) SunSat launched in the US in 1999 and (ZAA-002), widely known as SumbandilaSat in 2009, in Russia. Both these Satellites had to get a license for launching and operation and the details will be outlined below.

National practices which require a license

Generally, launching a spacecraft, without a license issued by SACSA, is prohibited according to Section 11 of the Space Affairs Act. There are 4 categories of activities that are prohibited without a license issued by SACSA. The Minister is also empowered to prohibit more activities as he deems fit and proper to do so.

Firstly, the prohibition applies to all launching activities that take place from the South African territory regardless of whether the owner is a South African registered entity/company or not.⁷

According to this legislation, launching" means "the placing or attempted placing of any spacecraft into a sub- orbital trajectory or into outer space or the testing of a launch vehicle or spacecraft in which it is foreseen that the launch vehicle will lift from the earth's surface". The first part of the definition is not clear in terms of interpretation as it includes the placing and attempted placing of the spacecraft in to sub orbital or outer space. However the second part of the definition raises a lot of concerns as it is ambiguous. This means that the canSats, rockets and other experimental space related objects, would require the license of SACSA.

Secondly, the legislation further prohibits any launching outside the South African borders as long as the launching is on behalf of a juristic person registered or incorporated in South Africa. Even though the two South African Satellites were launched in the US and Russia respectively, they still needed to comply with the requirements of the Space Affairs Act regarding launching outside the republic. Operation of a spacecraft is also prohibited without a license according to the Space Affairs Act⁸. Even though the legislation does not clearly refer to the operation of a spacecraft, however, all space activities covered by the Act are defined as "the activities directly contributing to the launching of spacecraft and the operation of such craft in outer space".⁹.

For the purposes of this paper a particular focus on the SumbandilaSat will be made since the satellite was launched recently in 2009 and the license is still in force.

SumbandilaSat was licensed on 20 June 2009, by SACSA to procure services comprising the launch, deployment of the spacecraft into the designated orbit (LEO) and to operate the spacecraft.¹⁰ SACSA followed a rigorous procedure determined by the Council for this particular license¹¹. Even though the Council does not have regulations regarding the license process it had to follow the requirements of the Space Affairs Act.

The conditions set for this license included the provision by the licensee of the Technical, economic and financial qualifications. This includes compliance statement by the applicant with regard to the South African Laws and International laws. The licensee had to take into account the security regulations and procedures as well ITU laws, UN Space Treaties and other relevant Treaties. This also included proofs or Certificates of the facility and the equipment used. The other most important factor is the financial health of the applicant and the project including the insurance for possible damages to third parties according to the degree of risk where appropriate. Other specific requirements included the calculated payload fairing impact points; and the basic orbital parameters, including nodal period, inclination, apogee and perigee of the spacecraft.

Thirdly, the legislation prohibits the operation of a launch facility.¹²

Fourthly, the legislation prohibits participation by any entity in the space activities without a license and as long as these activities entail the obligations to the State in terms of international convention, which may affect national interests. The legislation is

⁷ (Space Affairs Act, No. 84 of 1993), Section 11 (1) (a)

⁸ Section 11, Space Affairs Act, 1993

⁹ (Space Affairs Act, No. 84 of 1993), definitions

¹⁰ SACSA Website publication

¹¹ "A license shall be issued subject to such conditions as the Council may determine for that particular license"...S11 (2) of the Space Affairs Act.

¹² Section 11(1)(c) of the Space Affairs Act , No 84 of 1993

ambiguous in this instance as it does not even provide the meaning of “national interests”

Lastly, the legislation further prohibits any other space or space-related activities as prescribed by the Minister.

CHALLENGES AND OPPORTUNITIES

The South African Legislation does not cover remote sensing activities and this part is left for policies and its unregulated. It is also not clear whether this will be incorporated in a formal legislation in the future. There is however an opportunity to add this area of the law in the current legislative context or create a new legislation.

The Space Affairs Act is in the process of being reviewed in order to assess the relevance and impact on the current activities. This is a good opportunity to clarify the areas that are ambiguous .

Since South Africa has ratified the two Conventions, it is important that provisions of these two Conventions be included in the legislation. Most importantly because South Africa has a dual system of law, in that it has to first incorporate the provisions of international law to its domestic law before they are enforceable.

CONCLUSION

South Africa consists of various legislations, which impact on the development of its space programme. The current legislation is not sufficient as it does not include the provisions of the Liability and the Registration Convention that South Africa has ratified. The legislation is also not extensive as all the conditions have to be outlined the secondary legislation and not in the primary legislation which delays the implementation of the legislation.