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National space legislation : future perspectives for Malaysian Space Law

Saari, C.Z.B.

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Author: Saari, Che Zuhaida Binti

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4 THE PROPOSED LEGAL FRAMEWORK FOR MALAYSIAN SPACE LAW

4.1. INTRODUCTION

Enacting a domestic space law is one of the essential steps taken by many countries, especially those that participate in space-related activities. Apart from the United Kingdom, the United States of America, and Australia (as discussed in Chapter 3), a number of other countries have taken similar action, including Norway, Sweden, South Africa, Russian Federation, Ukraine, Korea, France, Austria and Kazakhstan.¹

Undoubtedly, the development and enacting of national space laws occupies an important place on the agenda of the United Nations. This was evidenced when the UNCOPUOS began to organize various workshops on space law on an annual basis twelve years ago.² These programmes were held, among others, to encourage and emphasize the significance of national space legislation to the world community. Moreover, the UNCOPUOS Legal Subcommittee also stressed in its annual report a section on capacity-building in space law, in which the Subcommittee noted with appreciation the efforts made to assist in the development of national space legislation.³

¹ Different names are given by various states to their domestic space laws. For instance, Norway: Act on Launching of Space Objects from Norwegian Territory into Outer Space 1969, Act No. 38 (13 June 1969); Sweden: Act on Space Activities of 1982, Act No. 1982:963 (18 November 1982); South Africa: Space Affairs Act of 1993, Statutes of the Republic of South Africa – Trade and Industry No. 84 (24 June 1993), Space Affairs Amendment Act of 1995, No. 64 of 1995 (6 October 1995); Russian Federation: Law of Russian Federation on Space Activities 1993, Federal Law Decree No. 5663-1 (20 August 1993), Statute on Licensing Space Operations 1996, Federal Government Resolution No. 104 (2 February 1996); Ukraine: Law of the Supreme Soviet of Ukraine on Space Activities 1996, No. 503/96-VR 1996 (15 November 1996); Korea: Space Development Promotion Act 2005, Law No. 7538 (31 May 2005), Space Liability Act 2007, Law No. 8852 (21 December 2007); France: Space Operations Act 2008, Law No. 2008-518 (3 June 2008); Austria: Austrian Federal Law on the Authorization of Space Activities and the Establishment of a National Space Registry (Austrian Outer Space Act) 2011, Federal Law Gazette I No. 132/2011 (6 December 2011); Kazakhstan: Law of the Republic of Kazakhstan on Space Activities 2012, Law No. 528-IV ZRK (6 January 2012).

² These space law workshops have been held since 2002. They include workshops on ‘Contribution of Space Law to Economic and Social Development’ (2012, Buenos Aires); ‘Activities of States in Outer Space in Light of New Developments: Meeting International Responsibilities and Establishing National Legal and Policy Frameworks’ (2010, Bangkok); ‘Status, Application and Progressive Development of International and National Space Law’ (2006, Ukraine); ‘Meeting International Responsibilities and Addressing Domestic Needs’ (2005, Abuja); ‘United Nations Treaties on Outer Space: Actions at the National Level’ (2003, Daejeon).

³ UNGA, Committee on the Peaceful Uses of Outer Space “Report of the Legal Subcommittee on its Forty-Ninth Session” (Vienna, 9-18 June 2010), A/AC.105/942, at 18.

Malaysia, as a space participant, is urged to seriously consider promulgating its national space legislation and putting the law into practice as soon as possible.⁴ Thus, to help realise a feasible national space law for Malaysia, this chapter will focus on three matters, which will be discussed in three separate sections. Firstly, the discussion concentrates on reasons for the necessity of enacting Malaysian space legislation. Secondly, the discussion highlights some major aspects that Malaysia should consider while drafting the contents of the Malaysian space legislation. Thirdly, the section will propose a feasible legal framework for Malaysian space legislation.

4.2. REASONS FOR NECESSITY

National space legislation is a necessity for any state that has participated, participates, or intends to participate in outer space activities. In fact, this is the situation for Malaysia, particularly as the country has clearly been a participant and contributor to outer space-related activities (as evidenced in Chapters 1 and 2 of the thesis). Thus, this section will highlight numerous reasons for the importance of enacting domestic space legislation to Malaysia. It is hoped that, by presenting the reasons, this thesis will persuade Malaysia and other states lacking domestic space legislation to seriously consider the enactment of such legislation as soon as possible. Those reasons include the following:

The first concerns the application of the doctrine of transformation in Malaysia. Malaysia applies the doctrine of transformation in respect of the application of international law domestically. In Malaysia, the rule applied is that an international law is not *ipso facto* part of the municipal law of Malaysia; i.e. it is not automatically incorporated in the municipal law of Malaysia.⁵ Therefore, when Malaysia becomes a party to an international treaty, such treaty actually has no domestic legal effect. Hence, for an international treaty to have a domestic legal effect, a municipal law on the matter should be enacted, or the treaty must be

⁴ As of 14 May 2014.

⁵ However, one case showed that a treaty can be implemented locally without any need for enactment of a statute. But it is a very rare case and it is done only if it does not affect the private person's rights or involve changes in Malaysian municipal law. See the case of *Heliliah bt Haji Yusof, Internal Application of International Law in Malaysia and Singapore (1969) 1 Singapore Law Review, 62-71 at 65*. This case involves the Treaty of Friendship between the Federation of Malaya and the Republic of Indonesia whereby the Treaty was implemented without the introduction of legislation. See Abdul Ghafur Hamid @ Khin Maung Sein, "Judicial Application of International Law in Malaysia: An Analysis", *The Malaysian Bar*, 31 March 2006, http://www.malaysianbar.org.my/international_law/judicial_application_of_international_law_in_malaysia_an_analysis.html, accessed: 14 May 2014.

domesticated. In other words, the rules of the treaties must first be transformed into Malaysian law before they can be legally applied municipally. This can be executed by means of statute made by the Malaysian Federal Parliament, by virtue of Article 74(1) and Item 1(a) and (b) of the Federal List of the Malaysian Federal Constitution.⁶ Certain examples of statutes made by the Malaysian Parliament will demonstrate this situation. They include the following: the Malaysian Geneva Conventions Act 1962, to give legal effect to the Four Geneva Conventions for the Protection of the Victims of War of 1949; the Malaysian Exclusive Economic Zone Act 1984, to give legal effect to certain provisions of the United Nations Convention on the Law of the Sea 1982; the Malaysian Diplomatic Privileges (Vienna Convention) Act 1966, to give legal effect to the Vienna Convention on Diplomatic Relations 1961.⁷ This is also believed to be the situation with regard to the international space treaties. Since Malaysia applies the doctrine of transformation for the application of international law, it is necessary for the country to transform the space treaties' rules by enacting the Malaysian municipal law (Malaysian Outer Space Act) in order to give valid domestic legal effect to the international space treaties it has ratified.

The second concerns the rules of international responsibility and liability. Any state that is a party to the Outer Space Treaty 1967⁸ or Liability Convention 1972⁹ is exposed to the rules of international responsibility and liability introduced by the treaties. Article VI of the Outer Space Treaty 1967¹⁰ emphasizes that states shall bear international responsibility for their national activities in outer space. Thus, this signifies the recognition of the international space law in respect of the involvement of a state's nationals in space activities that might

⁶ Article 74(1) of the Federal Constitution reads: '*... Parliament may make laws with respect to any matters enumerated in the Federal List or the Concurrent List ...*'. Item 1 of the Federal List of the Federal Constitution mentions: '*External affairs, including: (a) Treaties, agreements, and conventions with other countries ...; (b) Implementation of Treaties, agreements and conventions with other countries*'. Further discussion on the power of Parliament to make law on matters related to Malaysian external affairs (inclusive of international treaties, agreements, and conventions) is also available in Chapter 1 of the thesis (1.2.2. The Malaysian Federal Constitution).

⁷ See Abdul Ghafur Hamid @ Khin Maung Sein, "Judicial Application of International Law in Malaysia: An Analysis", *supra* note 5.

⁸ Treaty on Principles Governing the Activities of States in the Exploration and Use of the Outer Space, Including the Moon and Other Celestial Bodies (1967) (Resolution 2222 (XXI)), adopted on 19 December 1966, opened to signature on 27 January 1967, entered into force on 10 October 1967. (1967) 610 UNTS 205, 18 UST 2410, TIAS 6347; (1967) 6 ILM 386; (1967) 61 AJIL 644.

⁹ Convention on International Liability for Damage Caused by Space Objects (1972) (Resolution 2777 (XXVI)), adopted on 29 November 1971, opened to signature on 29 March 1972, entered into force on 1 September 1972. 24 UST 2389, 961 UNTS 187, TIAS 7762.

¹⁰ Article VI, Outer Space Treaty 1967 states: '*States Parties to the Treaty shall bear international responsibility for national activities in outer space... whether such activities are carried on by governmental agencies or by non-governmental entities The activities of non-governmental entities in outer space ... shall require authorization and continuing supervision by the appropriate State Party to the Treaty*'.

incorporate either governmental or non-governmental entities. In such circumstances, in the event of Malaysia becoming a party to the treaties, the Malaysian Government shall be responsible internationally for all the space activities of its nationals. This means that the Malaysian Government will then be accountable for any space activities conducted by its staff members and the Malaysian private sector. At this juncture, it should be noted that the state party is not only accountable for such activities but may also be internationally liable for damage done to another state party during the course of its activities. This is verified in Article VII of the Outer Space Treaty 1967¹¹, which prescribed that each state party is internationally liable for damage to another state party. When Malaysia (as a state party) or its nationals carry out space activities and subsequently cause damage to another state party, the Malaysian Government shall be internationally responsible and liable for the damage resulting from the space activities. Space activities shall include launches or the procuring of launches of space objects into space; even when the states' or Malaysian territory or facilities are used to launch the object into space, the Malaysian Government will be internationally responsible and liable.¹² In fact, it is quite hard to monitor and control the space activities of private entities. This means that the Malaysian Government is highly exposed to the rules of international responsibility and liability, particularly with respect to private sector activities. For this reason, it is recommended that Malaysia enact the Malaysian space legislation. With this legislation in place, it can change, modify or transfer the rules of international responsibility and liability, which are likely to burden the Government of Malaysia, to the respective parties at the national level.¹³ This action is crucial in order to safeguard the interest of the Malaysian Government, especially when dealing with the involvement of private entities in space activities.

The third concerns the application of customary international law. It is agreed that a space treaty's rules will only internationally bind a state when the state is a party to the space treaty. However, it should be remembered that, in certain circumstances, a state may also be bound by the treaty's rules, even though it is a non-party state. This can occur from the viewpoint of customary international law. Thus, it is observed that, since Malaysia is only a signatory state

¹¹ Article VII, Outer Space Treaty 1967 prescribes: '*Each State Party to the Treaty that launches or procures the launching of an object into outer space ..., and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party*'. See, *id.*

¹² *Id.*

¹³ For more discussion, read Chapter 4 of the thesis (4.4.5. Liability and Indemnification Clauses).

and a non-party state to the space treaties,¹⁴ the country is not in fact bound by any rules of the space treaties until it ratifies or becomes a party to the treaties. However, one should bear in mind that Malaysia, to some extent, may also be bound by the treaty's rules on the grounds of customary international law. At this juncture, when a treaty is declaratory of customary law in nature, a signatory state (even without ratification) and also a non-party state of the treaty may be bound by the treaty's rules and provisions. This is affirmed in Article 38 of the Vienna Convention on the Law of Treaty, which prescribes an exception to the general rule of a treaty (stated in Article 34 of the Vienna Convention)¹⁵ that it does not create rights and obligations without the consent of a state unless the treaty becomes part of international custom. In such cases, the treaty then becomes binding upon them. On this point, it is argued that certain rules of space treaties have passed into international custom and hence become binding upon all states. Those rules include the following: rule of international responsibility (Article VI, Outer Space Treaty 1967); authorization and continuing supervision (Article VI, Outer Space treaty 1967); rule of international liability (Article VII, Outer Space Treaty 1967); freedom of exploration and use of outer space (Article I, Outer Space Treaty 1967); application of international law in outer space (Article III, Outer Space Treaty 1967), and many others.¹⁶ Based on these facts, it is observed that those rules that passed into the customary international law have a higher prospect of become binding upon Malaysia, although the state is not a party to the treaties. Furthermore, this point is supported by the evidence that the application of customary international law has sometimes been accepted in the Malaysian courts when ruling on disputed cases.¹⁷ This has again strengthened the possibility of accepting the application of the customary international law in Malaysia. Thus,

¹⁴ The fact is as of 15 April 2013. For more information, read Chapter 2 of the thesis (2.3.3. Malaysia and the Five Outer Space Conventions).

¹⁵ The Vienna Convention on the Law of Treaty establishes a general rule of the treaty in its Article 34: '*A treaty does not create either obligations or rights for a third state without its consent*'. However, it also prescribes an exception to the general rule in its Article 38: '*Nothing in Articles 34 to 37 precludes a rule set forth in a treaty from becoming binding upon a third State as a customary rule of international law, recognised as such*.' Lyall, Francis and Paul B. Larsen, *Space Law: A Treatise*, (Surrey: Asgate, 2009), at 173-174.

¹⁶ More information on customary international law is available in Chapter 2 of the thesis (2.3.2(b) The Customary International Law). See Gál, Gyula, *Space Law*, Trans. Móra, (Leiden: A.W. Sijthoff, 1969), at 44; Matte, Nicolas Mateesco, ed. *Space Activities and Emerging International Law*, (Canada: Centre for Research of Air & Space Law, 1984), at 13; Vereshchetin, V.S. and Danilenko, Gennady M., "Custom as a Source of International Law of Outer Space", (1985) 13 *Journal of Space Law* 22, at 25; Lyall, Francis and Paul B. Larsen, *id.*, at 54 and 71.

¹⁷ There are some Malaysian cases that proved the acceptance of application of customary international law by the Malaysian courts' judges in deciding disputed cases, although the courts apply the customary international law as part and parcel of common law or through the medium of English common law. Those cases include: *Olofsen v Government of Malaysia* [1966] 2 MLJ 300; *PP v Oie Hee Koi* [1968] 1 MLJ 148 (Privy Council Appeal from Malaysian Federal Court); *Village Holdings Sdn Bhd v Her Majesty the Queen in Right of Canada* [1988] 2 MLJ 656 (High Court, Kuala Lumpur). More information is available in Abdul Ghafur Hamid @ Khin Maung Sein, "Judicial Application of International Law in Malaysia: An Analysis", *supra* note 5.

relying on the above facts, it is submitted that Malaysia should enact the Malaysian space legislation because some space treaties' rules including the rules of responsibility and liability could be binding upon Malaysia on the grounds of international custom, although the state is not a party to any space treaties.

The fourth concerns the efficient implementation of space treaties' rules. Apart from implementation of the United Nations space treaties' legal rules at the international level, the treaties' rules may also be implemented at the state level. It is observed that merely implementing the space treaties at the international level is not a guaranteed means of successfully regulating space activities. However, the space treaties' rules are indeed becoming more effective when they are also observed at the state level. In other words, the international space treaties alone cannot become a successful mechanism for controlling and guiding space activities. In fact, the enactment of space legislation is also necessary to ensure the efficient implementation of the space treaties' rules, which should be done at the state level. This claim is made on the basis that, when a state becomes a party to the international space treaties, there is an obligation on the state's government to abide by the space rules stipulated therein only at the international level. There is no obligation on the state's nationals and private entities to legally observe the treaties' rules at the state level. This might lead to inefficient implementation of the space treaties' rules for regulating space activities at both international and state levels. Such a situation is likely to occur especially in states that apply the doctrine of transformation¹⁸, such as Malaysia. In such a case, the Malaysian Government would have to transform the international treaties' rules into Malaysian municipal law through enactment of Malaysian space legislation to ensure that Malaysian nationals and private entities comply with the rules of space treaties. Consequently, the international space treaties' rules can be legally enforced at the state level, which then leads to the efficient implementation of the rules at the international level. For instance, the obligation imposed by the treaties' rules¹⁹ requiring a state party to register or provide information to the United Nations regarding its space activities will not meet the purpose if the Malaysian Government

¹⁸ For more information on the doctrine of transformation, read the first reason for the necessity of enacting the Malaysian space legislation, provided in Chapter 4 of the thesis (4.2. Reasons for Necessity).

¹⁹ For instance, Article XI, Outer Space Treaty 1967 mentions: '... *State Parties agree to inform the Secretary-General ... of the nature, conduct, locations and results of such activities ...*'; Article II (1), Registration Convention 1975 states: '*When a space object is launched into Earth orbit ... the launching state shall register the space object ...*'; Article IV(1), Registration Convention 1975 prescribes: '*Each states of registry shall furnish to the Secretary-General of the United Nations ... the following information ...: (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 ...*'.

is unable or fails to impose legal rules on its nationals or private entities requiring them to provide information to the Government on the object launched into space. This information obtained at the state level will then be transferred by the Malaysian Government to the United Nations in fulfilment of the state's international obligations. To conclude, it is necessary for Malaysia to enact space legislation municipally to ensure the effective implementation of the space treaties' rules internationally.

The fifth concerns the ability to control and monitor space activities. With the enactment of national space legislation, a state government can control and monitor the space activities of the country and its nationals. Since outer space is a new area with great potential for exploration by the state and private entities either for commercial purposes or on a non-commercial basis, it is vital for all states, including Malaysia, to control the activities of their nationals to ensure that they are in conformity with the international law provisions. Furthermore, the international space law²⁰ has indeed prescribed a rule that any space activities by private entities (non-governmental sector) must obtain authorization from the appropriate state. It further prescribes the obligation of the state to continue supervising such activities. In this circumstance, it is observed that Malaysia can control the activities of its nationals by including in its national space legislation the rules of authorization, as well as continuing to supervise the space activities.²¹ The application of these rules of authorization and continuing supervision, which should be executed via the Malaysian space legislation, will certainly result in the Malaysian Government having the power and ability to control and monitor the space activities of the country as well as its nationals. This at last establishes the reasons for the necessity of enacting the Malaysian space legislation.

The sixth concerns the legal certainty and transparency of space legal rules. Malaysian space participants or any participants who conduct space activities in Malaysia shall be provided with legal certainty and transparency²² of space legal rules. The law can offer definite guidelines on human activities, as well as defining illegal actions and possible penalties.²³

²⁰ See Article VI, Outer Space Treaty 1967 states: '*... The activities of non-governmental entities in outer space ... shall require authorization and continuing supervision by the appropriate State Party to the Treaty ...*'.

²¹ Zhao, Yun, "National Space Legislation, with Reference to China Practice", *Proceedings of the Space Law Conference 2006, Asian Cooperation in Space Activities: A Common Approach to Legal Matter, at Bangkok, Thailand, 2-3 August 2006*, (Montreal: Centre for Research of Air and Space Law, McGill University, 2007).

²² UNGA, Committee on the Peaceful Uses of Outer Space, "Report on the United Nations/Ukraine Workshop on Space Law on the Theme "Status, Application, and Progressive Development of International and National Space Law," (Kyiv, 6-9 November 2006), A/AC.105/880, at 6.

²³ Zhao, Yun, "National Space Legislation, with Reference to China Practice", *supra* note 21.

With the enactment of Malaysian space legislation, Malaysian space actors or anyone else carrying out related activities in Malaysia or from Malaysian territory can confidently indulge in space activities. Any disputable and unclear matters including issues of ambiguous terms in the international space treaties can be resolved and defined at the municipal level via the space legislation. Indeed, such space legislation will provide a clear parameter of the dos and don'ts of space activities.

The seventh involves supporting the growth of space activities and space law. The enactment of Malaysian space legislation will indeed boost the development of Malaysian national space activities. Such enactment will also support the growth of national space legislation around the world by increasing the number of states that have domestic space legislation. Establishing space legislation to regulate the space activities of a state and its nationals will lead to a tremendous evolution of space activities in countries such as Malaysia. This claim is made on the basis that, with the existence of a comprehensive law to regulate activities, people will definitely become involved in such activities as they will naturally feel secure and protected under the law. As a result, many foreign investors will confidently invest their money in this sector, which may spontaneously boost the economy of Malaysia. Moreover, when Malaysia enacts space legislation, this automatically contributes to the development of national space legislation among the world space community.

The eighth is concerned with strengthening the rules of outer space. Space legislation can strengthen the rules of outer space. The space treaties are in fact only a basis and guideline on which space actors rely for their space activities. The treaties provide only the general legal rules, which require further interpretation and explanation. At this point, the role of space legislation comes to prominence as it can clarify and interpret the unclear or general matters mentioned by the treaties. For instance, Malaysia can clarify the unclear terms about outer space in the space treaties by defining its meaning in the Malaysian space legislation.²⁴ It can also resolve any issues on which the treaties offer no ruling. This can be done as long as it does not go against the spirit of international law. Such a situation is indeed important as the space legislation can rectify any inadequacies in the space treaties' rules and can thus be enforced at the state level. In short, these functions of national space legislation offer a

²⁴ For more information on suggestions regarding the meaning of outer space, refer to Chapter 4 of the thesis (4.4.1. The Scope of Law).

definite direction to space actors as well as strengthening the rules of outer space law as a whole.

The ninth concerns the contribution to the orderly use of outer space. The space legislation can contribute to the orderly use of outer space. It is well known that space is a very fragile place that needs constant preservation. It is an area of great potential in terms of exploration for commercial and non-commercial purposes. If such an area is used in a disorderly manner, such as being subject to contamination, it will be exposed to the danger of destruction. To resolve such a matter would surely involve great cost. To avoid such circumstances, space legislation is an effective option to support the international law in order to ensure the orderly use of outer space. The space legislation can be viewed as an efficient mechanism for states that have such legislation to monitor and control their nationals in respect of their space activities. From the perspective of Malaysia, the enactment of Malaysian space legislation will ensure that Malaysian nationals and private entities who conduct space activities from the state's territory comply with the rules and regulations; this will certainly contribute to the orderly conducting of space activities.

The tenth concerns the promotion of space commercialization activities. The space legislation can promote the space commercialization activities of states, particularly those involving private entities. Space commercialization is a new dimension of profit-making business that has great potential to burgeon in the future. Even at present, it has shown a positive development in the related area, especially the space tourism sector.²⁵ With the rapid evolution of space technology, it is expected that the cost of travelling to outer space will fall in the future. This phenomenon may boost the involvement of many private space enthusiasts, which will inevitably increase the commercialization of space activities. At this juncture, it is observed that the space legislation will play its role in regulating the commercialization of space activities conducted by states' nationals by ensuring that they are in conformity with the spirit and values of international law. This will be done particularly in relation to matters not covered by the United Nations space treaties, such as defining the meaning of 'space tourist'. In Malaysia, it is highly recommended that the Malaysian space legislation be enacted since there is evidence that Malaysian nationals and the private sector

²⁵ For information on space tourism, see http://en.wikipedia.org/wiki/Space_tourism, accessed: 14 May 2014; read also Phillips, Scott C., *Current and Future Legal Implications of Space Tourism and Beyond*, Master Thesis LL.M Air and Space Law, (Leiden: University of Leiden Faculty of Law, Institute of Air and Space Law, 2007).

have a great interest in venturing into the space tourism sector.²⁶ These circumstances will indeed encourage the commercialization of space activities in Malaysia.

The eleventh is the matter of a reliable supervisory space legal framework. It is necessary for a country such as Malaysia (with no specific space legislation) to have national space legislation in order to have a reliable supervisory space legal framework. In the process of developing Malaysian space legislation, there is a need for a certain process of discussion. This should be a thorough discussion involving all space actors and contributors inclusive of the governmental and private sector, as well as legal draftsmen. This national space legislation must be enacted in such a way that it is incorporated with legal rules that will strike a balance between safeguarding the interests of the Malaysian Government and encouraging the growth of space activities in the private sector. Simultaneously, it should be remembered that such rules must also be designed to uphold the international space law as prescribed by the international space treaties of the United Nations. This situation is crucial in order to ensure the best outcome or product for a state. A successful, reliable supervisory space legal framework will indeed be viewed as a successful guideline for ensuring the continuous growth of the country's national space activities. Hence, dependable Malaysian space legislation will be relied on by, for instance, Malaysian space actors or any others who conduct space activities within Malaysian jurisdiction. Furthermore, it will be considered a great achievement for a small country such as Malaysia, given that its neighbour states have yet to enact such a law.²⁷

4.3. SOME MAJOR ASPECTS OF DRAFTING MALAYSIAN SPACE LEGISLATION

In the process of developing and drafting national space legislation, various major aspects need to be considered by a state in order to produce the best outcome for the legislation. An excellent outcome of space legislation may affect the involvement and participation of the state and its nationals in outer space activities. Furthermore, a comprehensible and transparent legal framework may also persuade foreign investors to invest in the country's related industries, consequently boosting the national economy.

²⁶ The Malaysian space activities of the private sector in Malaysia are discussed in Chapter 1 of the thesis (1.3.2. Non-Governmental Sector).

²⁷ For the development of space law, bodies, and activities of Malaysia's neighbouring countries, read Chapter 3 of the thesis (3.6. The Neighbouring Countries).

In view of the above, this section outlines at least seven points that Malaysia should take into account during the drafting process of its national space legislation. They are: the state national policy compliance, the state national interest, the national legal system compliance, the existing domestic law coordination, the international space law coordination, harmonization of certain legal aspects, and the sustainability of space activities.

4.3.1. The National Policy Compliance

The national policy compliance is one of the most important aspects that Malaysia needs to consider in drafting its space legislation. The national space legislation should be drafted in parallel with the country's national policy in order to achieve its future goals efficiently. In such matters, since there is no official formulation of a specific national space policy²⁸ available to Malaysia, this section will look into other available Malaysian national policies and programmes. These include the following: Malaysia's Vision 2020, Malaysia's Economic Transformation Programme, Tenth Malaysia Plan, Malaysia's New Economic Model, and other related policies, visions and missions of various relevant Malaysian Ministries.

Vision 2020 or *Wawasan 2020*²⁹ is a Malaysian ideal that calls upon the Malaysian nation to achieve its ultimate target: to become a fully developed country by the year 2020, not only in an economic sense but also in the political, social, spiritual, psychological, and cultural spheres.³⁰ Apart from the aim of becoming a developed country, Malaysia also aims to become a high-income nation by the same year through its Economic Transformation Programme.³¹ In such circumstances, the Malaysian national space legislation should be

²⁸ The Malaysian national space policy's first draft is expected to be finalized in the final quarter of 2013. See Malaysia Permanent Mission to the United Nations, "Statement by Colonel Nazari Abd Hadi, Representative of Malaysia, on Agenda Item 51: International Cooperation in the Peaceful Uses of Outer Space, at the Fourth Committee of the 67th Session of the United Nations General Assembly, New York, 18 October 2012," <http://www.un.int/malaysia/GA/67/2012-10-18%20Outer%20Space.pdf>, accessed: 22 April 2013. For more information, read Chapter 1 of the thesis (1.2.1. The Malaysian Space Policy and the Malaysian Outer Space Bill).

²⁹ Vision 2020 was introduced by the former Malaysian Prime Minister, Tun Dr. Mahathir bin Mohamad, the fourth Prime Minister, during the tabling of the Sixth Malaysia Plan in 1991. See http://en.wikipedia.org/wiki/Wawasan_2020, accessed: 20 April 2013.

³⁰ For more information on Vision 2020, see <http://www.wawasan2020.com/vision/p2.html>, accessed: 22 April 2013.

³¹ Malaysia's Economic Transformation Programme is an initiative by the current (sixth) Malaysian Prime Minister, Datuk Seri Najib Tun Razak. It consists of a comprehensive effort that will transform Malaysia into a high-income nation by 2020. It comprises four foundations: (1) 1Malaysia, People First, Performance Now; (2) Government Transformation Programme; (3) New Economic Model; and (4) Tenth Malaysia Plan. For more

drafted in a way that helps to achieve the vision by encouraging and supporting the establishment of a scientific and progressive society whose members will be both technology consumers and significant contributors to the future scientific and technological civilization.³² Moreover, it should also be drafted in such a way that it will secure the establishment of Malaysia's competitive economy. This will be an economy that is technologically proficient, and fully able to adapt, innovate and invent, as well as move in the direction of advanced technology.

Aside from that, the development of the Malaysian national space law should also correspond to Malaysia's Vision 2020 in respect of the function of the private sector. Since the private sector is treated as a primary engine of the country's economic growth,³³ the national space law should be drafted in a way that will encourage the participation of the private sector in space activities. The significance of the private sector's involvement in increasing the Malaysian economy has been mentioned not only in the Vision 2020 but also in the Tenth Malaysia Plan³⁴ and Malaysia's New Economic Model.³⁵ At this juncture, Malaysia is recommended to encourage the involvement of its private sectors in outer space-related sectors, as well as other sectors. This can be implemented by providing them with the space legal framework that supports their engagement. By doing so, Malaysia would have a great opportunity to enlarge its economy, as space-related activities are regarded as potentially very lucrative profit-making activities.

The Tenth Malaysia Plan supports economic growth based on innovation and productivity;³⁶ thus, the enactment of the Malaysian space legislation can enhance the country's policy provided that it is drafted in a way that encourages innovation and productivity in the related

details, see http://etp.pemandu.gov.my/About_ETP-@-Part_Of_A_Comprehensive_Government_Agenda.aspx, accessed: 17 October 2011; http://etp.pemandu.gov.my/download_centre.aspx, accessed: 14 May 2014.

³² See *supra* note 30.

³³ See *id.*

³⁴ Tenth Malaysia Plan is the Malaysian Government's development plan outlined for the five-year period 2011-2015. See Chapter 3, Tenth Malaysia Plan 2011-2015 (Putrajaya: The Economic Planning Unit, Prime Minister's Department, 2010), http://www.pmo.gov.my/dokumenattached/RMK/RMK10_Eds.pdf. See also Garis Panduan Pertama Penyediaan Rancangan Malaysia Kesepuluh, 2011-2015: Prospek Ekonomi dan Hala Tuju Strategik, at 4, http://www.epu.gov.my/html/themes/epu/html/RMKE10/rmke10_english.html, all accessed: 22 April 2013.

³⁵ Malaysia's New Economic Model comprises the Malaysian Government plan or strategic reform initiatives that will speed Malaysia's transition to a high-income country. Refer Ringkasan Eksekutif, Model Ekonomi Baru Untuk Malaysia, Bahagian I: Hala Tuju Dasar Strategik, (Kuala Lumpur: Majlis Penasihat Ekonomi Negara, 2011), at 24, http://www.kppk.gov.my/pdf/artikel/model_ekonomi_baru.pdf, accessed: 22 April 2013.

³⁶ See Chapter 3, Tenth Malaysia Plan 2011-2015 and Garis Panduan Pertama Penyediaan Rancangan Malaysia Kesepuluh, *supra* note 34.

technology. This claim is made on the basis that the space sector could potentially be saturated with innovation and productivity. Meanwhile, the Malaysian New Economic Model highlights that the existence of fair and trusted legal rules will provide investors with the confidence to invest in the country.³⁷ At this point, in order to encourage investors to invest their money, particularly in Malaysian outer space activities, it is vital to develop excellent space legislation that not only supports the development of the related activities but also gives assurance that the rights of those involved will be protected.

Apart from the above, other policies, visions and missions of various related Malaysian Ministries, including Ministry of Science, Technology and Innovation (MOSTI) and Ministry of Higher Education, should also be considered. For instance, the National Science and Technology Policy 2,³⁸ formulated by the MOSTI, mentions that the national science and technology vision is to produce a nation that is competent, confident and innovative in harnessing, utilizing and advancing science and technology towards achieving the Vision 2020 goal. Its goal is to accelerate the development of science and technology capabilities with the aim of positioning Malaysia as a technology provider in certain industries including the aerospace industry. Indeed, the MOSTI has a mission to drive and manage science, technology and innovation for socioeconomic growth by sourcing and diffusing new technology, intensifying creativity and innovation, strengthening market-driven research and development, and strengthening collaborations and partnerships.³⁹ Again, the national space legislation should be developed to correspond to all these visions and missions.

It is also suggested that, apart from supporting the expansion of space technology, the Malaysian space law should be drafted in a way that supports and encourages the growth of space education in Malaysia. At this point, the Malaysian space legislation should consider the policy, visions and missions of Malaysian education as well. For instance, it should be drafted in parallel with the Ministry of Higher Education's vision to turn Malaysia into a centre of excellence for higher education by the year 2020.⁴⁰ In other words, the legal

³⁷ Garis Panduan Pertama Penyediaan Rancangan Malaysia Kesepuluh, *supra* note 34, at 18.

³⁸ See Dasar Sains Teknologi Negara 2, MOSTI, http://www.mosti.gov.my/index.php?option=com_content&view=article&id=2032&Itemid=611&lang=en, accessed: 22 April 2013.

³⁹ See http://www.mosti.gov.my/index.php?option=com_content&view=article&id=1764&Itemid=57&lang=en, accessed: 22 April 2013.

⁴⁰ See <http://www.mohe.gov.my/portal/info-kementerian-pengajian-tinggi/misi-dan-visi.html>, accessed: 22 April 2013.

framework should be drafted in a way that assists the Malaysian Government to achieve its goal in becoming a higher education centre of excellence, including for space legal and non-legal education.

4.3.2. The National Interest

National interest is another aspect that Malaysia needs to consider in drafting its national space legislation. The national legislation of a country should be developed in accordance with its national interest. Such legislation should, in fact, support its national interest as long as such interest is not against the law and policy of the government. With respect to the Malaysian outer space sector, as indicated in Chapter 1,⁴¹ Malaysian nationals have shown great interest in participating in outer space-related activities. This includes certain groups in the Malaysian non-governmental sector. For instance, the Space Tourism Malaysia Chapter (STS-MC) is a Malaysian non-governmental organization actively involved in outer space-related activities nationally and internationally. MEASAT Satellite System Sdn Bhd is another example of a Malaysian non-governmental company involved in the industry.⁴²

Even though the involvement of the Malaysian private sector in the related activities is not as large as that of the public sector, such participation can be viewed as a great contribution to the development of the Malaysian outer space industry. In fact, the Malaysian Government should offer more opportunities to the private sector to indulge further in the related activities. This can be achieved by providing the private sector with various relevant facilities and support, such as financial support. In such circumstances, the space-related industry would grow in a balanced way between the public and private sectors, in parallel with the policy and aim of the Malaysian Government to achieve its target of becoming a high-income and fully developed nation by the year 2020. Furthermore, the space sector could be a source of income for the Malaysian nation since the related technology would offer many opportunities for profit-making businesses.

There are many promising opportunities for Malaysian nationals to engage further in the space sector. These include various activities in which the public and private sectors are

⁴¹ See Chapter 1 of the thesis (1.3.1. Governmental Sector; and, 1.3.2. Non-Governmental Sector).

⁴² See Chapter 1 of the thesis (1.3.2(a) MEASAT Satellite System Sdn Bhd); and (1.3.2(b) Malaysian Institute of Aero and Space Studies (IKAM) and Space Tourism Society Malaysia Chapter (STS-MC).

already involved. But many other opportunities should also be considered as future ventures for the sake of the further development of Malaysian space activities. The activities engaged in by Malaysia include satellite manufacturing, satellite launching (*via* foreign launchers), sending men into space, conducting scientific research in space, telecommunications and broadcasting, meteorology, remote sensing, and navigation.

Apart from those activities, space tourism is another area of interest that is gaining the attention of the Malaysian private sector.⁴³ This is a new and promising commercial space activity that has the potential to develop in Malaysia in the future. At this juncture, Malaysia may progress further, for instance, by developing a commercial spaceport to launch space tourists into space. This possibility is based on the fact that Malaysia is located in a strategic area near the equator. This special circumstance should be particularly utilized by the space sector as launches are more efficient,⁴⁴ and the cost of travelling or sending people into space can be reduced. Moreover, it is also in the private sector's interest to develop a Malaysian-owned reusable launch vehicle with the aeroplane concept.⁴⁵ Besides the building of a reusable launch vehicle and a spaceport for launching tourists, there have also been suggestions on building a Malaysian spaceport that can accommodate the launch of Malaysian satellites.⁴⁶

In view of the above, it is established that Malaysian nationals, in both the public and private sectors, have shown great interest in participating in space-related activities. Thus, it is submitted that the process of developing and drafting the Malaysian national space legislation should take into account the Malaysian national interest to become involved in the related matters by also considering the varying nature of such activities. By doing so, the Malaysian space legislation would not only assist the development of Malaysian space activities, in the sense that it would provide legal guidelines and protect the interests of Malaysian space actors, but would also support the growth of the related industry, which would contribute to the expansion of the Malaysian economy.

⁴³ See Chapter 1 of the thesis (1.4. Applications and Activities).

⁴⁴ Mazlan Othman, "Next Steps along Malaysia's Trajectory to Space", *TiungSAT-1, From Inception to Inauguration*, Eds., Mazlan Othman and Ahmad Sabirin Arshad, (Kuala Lumpur: Astronautic Technology (M) Sdn Bhd, 2001), at 225.

⁴⁵ For more information, read Chapter 1 of the thesis (1.3.2. Non-Governmental Sector and 1.4. Applications and Activities).

⁴⁶ See Chapter 1 of the thesis (1.4. Applications and Activities).

4.3.3. The National Legal System Compliance

Apart from considering the state's policies and the interest of nationals, compliance with the national legal system is another considerable aspect of developing national space legislation. In other words, a national space law should also comply with the domestic requirements of the state's legal system⁴⁷ in order to ensure the law is valid and authoritative. Malaysia is mainly governed by a written constitution: the Malaysian Federal Constitution.⁴⁸ Since it is considered the supreme law of the land, all laws and regulations inclusive of the Malaysian space law should comply with the Federal Constitution. Should the Malaysian space law contravene the Constitution, it will be declared null and void. A good example concerns the legislative competencies with regard to the country's outer space law. As discussed in Chapter 1,⁴⁹ the Malaysian Federal Constitution provides three lists (Federal List, State List, and Concurrent List) under its Ninth Schedule in relation to the distribution of legislative power. Such power was allocated to the two main legislative actors, namely the Federal Legislature (the Malaysian Parliament) and the State Legislatures (the Legislative Assembly).⁵⁰ As discussed earlier,⁵¹ it is highly likely that the legislative jurisdiction and power in relation to space law matters will be a competence of the Federal Government. Thus, in the event of the enactment of the Malaysian space law being conducted beyond the competencies of the allocated legislature, such a law would be declared invalid.

The enactment of space legislation should also comply with the Malaysian national legal system in terms of its legislative process. The enactment of the Malaysian space legislation must follow certain procedures. In short, the legislative process involves two main stages. The first stage is called the pre-parliamentary stage. This stage involves proposal, consultation, and drafting stages. The proposal of space legislation may indeed come from

⁴⁷ UNGA, Committee on the Peaceful Uses of Outer Space "Report on the United Nations/Ukraine Workshop on Space Law on the theme "Status, Application, and Progressive Development of International and National Space Law" *supra* note 22.

⁴⁸ Discussion on the Malaysian Federal Constitution is available in Chapter 1 of the thesis (1.2.2. The Malaysian Federal Constitution).

⁴⁹ See *id.*

⁵⁰ Read Ninth Schedule, Article 44 - Article 68 (Federal Legislature), and Article 70 - Article 72 (The States) of the Malaysian Federal Constitution (Law stated is as at 20 June 2011), (Kuala Lumpur: Penerbitan Akta (M) Sdn Bhd, 2011).

⁵¹ Read Chapter 1 of the thesis (1.2.2. The Malaysian Federal Constitution).

various sources.⁵² Such a proposal will be subject to discussion and consultation with the relevant bodies and authorities. The outcome of the discussion, which takes the form of an outline proposal, will be sent to the Parliamentary Draftsperson in the Malaysian Attorney-General's Chambers. It will then be transformed into legal language and become a 'Bill'. This Bill must be approved by the Malaysian Cabinet before it enters the second stage, the Parliamentary stage. At the Parliamentary stage, the legislative procedure involves various phases, namely first reading, second reading, committee stage, third reading, Houses stage, Royal Assent, and publication.⁵³ It should be noted that the Bill has to successfully pass through all these stages before it comes into force as a Malaysian Act of Parliament.

4.3.4. Existing Domestic Law Coordination

Domestic space law coordination is another aspect that a state needs to consider in developing its national space legislation. At this point, the Malaysian national space legislation must be drafted and enacted in accordance with the country's existing domestic laws. Aside from the Malaysian Federal Constitution, which was discussed earlier,⁵⁴ certain other operational domestic laws that are relevant to the subject matter should also be taken into consideration. This is vital in order to ensure that the Malaysian national space legislation is coordinated with other relevant Malaysian laws. This will avoid any unnecessary overlapping between the newly enacted laws and the existing laws.

Apart from the Malaysian Federal Constitution, Malaysia already has, for instance, a number of legislative instruments relating to outer space activities. These include the Malaysian

⁵² The proposal may come from a government department, policy decision of a ministry, recommendation of a Royal Commission and others. See Wan Arfah Hamzah and Ramy Bulan, *An Introduction to the Malaysian Legal System*, (Shah Alam: Penerbit Fajar Bakti Sdn Bhd, 2004), at 45.

⁵³ At the first reading stage, the Bill will be formally introduced and its short Title read by a Minister. The Bill text is then printed and distributed. At the second reading, the printed version will be debated, followed by a vote. At the committee stage, the Bill will then be considered in detail, and some amendments may take place. At the third reading, the Bill will be reviewed and opened to further debate. Any amendment may be put to a vote. Substantial amendment at this stage is not allowed unless permission is granted. The Bill will then be sent to a House: at this stage it involves two Houses (Senate or *Dewan Negara*, and House of Representative or *Dewan Rakyat*). When the Bill has passed one House, it will then be sent to the other House. If the second House amends the Bill, it must be returned to the first House for its approval. Royal Assent: when the Bill has passed both Houses, it is sent to the King (*Yang di-Pertuan Agong*) for the Royal Assent. The Public Seal will be affixed within 30 days of presentation. Publication: the bill will become a law and comes into force upon publication. See Chapter 5, Part IV of the Malaysian Federal Constitution. See Wan Arfah Hamzah and Ramy Bulan, *supra* note 52, at 47. Read also Wu Min Aun, *The Malaysian Legal System*, 3rd ed., (Petaling Jaya: Pearson Malaysia Sdn Bhd, 2005).

⁵⁴ See Chapter 1 of the thesis (1.2.2. The Malaysian Federal Constitution).

Communications and Multimedia Act 1998,⁵⁵ the Malaysian Communications and Multimedia Commission Act 1998,⁵⁶ the Communications and Multimedia (Licensing) Regulations 2000⁵⁷ and others, as mentioned in Chapter 1.⁵⁸ Hence, the development of the Malaysian space legislation should be done in compliance with all those existing laws. This means that, when the laws and regulations are already available, such as with respect to matters relating to communications, multimedia and the licensing procedure in Malaysia, the Malaysian space legislation should not deal with such matters. However, it should be drafted in a way that covers and provides the legal certainty and transparency in matters dealing with outer space activities that are not yet covered and regulated by any Malaysian laws and legislation. This would include, for instance, laws in relation to the launching of space objects and their operation, the licence application and its procedure, the registration obligation, the liability and indemnification rules, and so forth.

4.3.5. International Space Law Coordination

The rules of the domestic space law of a state should correspond to the international law of outer space.⁵⁹ Hence, to develop Malaysian space legislation, it must be compatible with the rules of the international law of outer space. This claim is made on the premise that, since the nature of outer space activities of a state predominantly involves relations with other states (in other words, international relations), it is important for states to ensure that their domestic space laws are, as far as possible, in agreement with the rules of the international law of outer space. Such circumstances are, in fact, vital to avoid the dilemma of inconsistency between domestic space laws and the international space legal rules. Furthermore, it is enshrined in the United Nations principles and outer space conventions that states must carry out their space explorations and activities in accordance with the international law.⁶⁰

⁵⁵ For more information read Chapter 1 of the thesis (1.2.3. The Malaysian Communications and Multimedia Act 1998) (Act 588).

⁵⁶ For more information read Chapter 1 of the thesis (1.2.4. The Malaysian Communications and Multimedia Commission Act 1998) (Act 589).

⁵⁷ For more information read Chapter 1 of the thesis (1.2.5. The Communications and Multimedia (Licensing) Regulations 2000).

⁵⁸ For more information read Chapter 1 of the thesis (1.2.6. Other Applicable Laws).

⁵⁹ Bordunov, V.D., "Problem of Interaction between International Outer Space and Domestic Law", (1985) 27 *IISL Colloquium on Law of Outer Space* 23.

⁶⁰ See Principle 2, Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, 1963, (hereinafter 'Declaration of Legal Principles 1963'), and Article III, Outer Space Treaty 1967.

It is agreed that, since the United Nations space conventions serve as a foundation of the international space law, it was strongly recommended that the state legislation be developed in compliance with the international obligations.⁶¹ Such international obligations are stipulated in outer space conventions, especially the Outer Space Treaty 1967.⁶² The implementation of outer space international obligations should indeed serve as the legal basis of developing national space legislation,⁶³ including Malaysian space legislation. There are various obligations and rules prescribed by the space conventions that Malaysia needs to consider in the enactment of its space legislation. These include the authorization and continuing supervision, the responsibility and liability rules, the registration obligation, freedom of exploration and use, international peace and security, international cooperation and understanding, and non-appropriation rules.

The authorization and continuing supervision obligation⁶⁴ is the first international obligation that must be implemented⁶⁵ in the Malaysian space legislation. This is important in order to ensure that the Malaysian Government is able to control the space activities of its nationals. In agreement with the international space law, which imposes a rule that a state should be held responsible and liable for its space activities and those of its nationals,⁶⁶ it is significant for Malaysia to implement the authorization and continuing supervision rules in its national space legislation. This is important to ensure that Malaysian nationals' space activities are carried out in conformity not only with the national space rules but also with the international space law. At this juncture, the Malaysian Government can control and monitor its nationals' space activities via the authorization and supervision rules enacted in its space legislation.

⁶¹ UNGA, Committee on the Peaceful Uses of Outer Space "Report on the United Nations/Ukraine Workshop on Space Law on the theme "Status, application, and progressive development of international and national space law", *supra* note 22.

⁶² Kerrest, Armel, "The Need to Implement the Outer Space Treaty through National Law in the Light of the Current and Foreseeable Space Activity", *IISL/ECSL Symposium on "National Space Legislation –Crafting Legal Engines for the Growth of Space Activities"*, 22 March 2010, *Legal Subcommittee Forty-Ninth Session 2010*, <http://www.unoosa.org/oosa/en/COPUOS/Legal/2010/symposium.html>, accessed: 22 April 2013.

⁶³ Gerhard, Michael and Kai-Uwe Schrogl, "Report of the Working Group on National Space Legislation", *Project 2001, Legal Framework for the Commercial Use of Outer Space, International Colloquium, at Cologne, 29-31 May 2001*. Ed. Institute of Air and Space Law, Cologne University and Deutsches Zentrum für Luft-und Raumfahrt (DLR), (2001), at 7.

⁶⁴ Article VI, Outer Space Treaty 1967 and Principle 5, Declaration of Legal Principles 1963.

⁶⁵ Gerhard, Michael and Kai-Uwe Schrogl, *supra* note 63.

⁶⁶ Article VI and VII, Outer Space Treaty 1967. Read also Principle 5 and 8, Declaration of Legal Principles 1963, and the Liability Convention 1972.

The rules on the state's responsibility and liability⁶⁷, particularly for its national space activities at the international level, will, in fact, expose the Malaysian Government to unlimited financial risk. In this situation, such international rules can be modified, as appropriate, at the municipal level to safeguard the interest of the Government of Malaysia. Thus, the protection of the Government of Malaysia from financial risk should be treated as one of the top-priority considerations. It should therefore be considered along with the legal basis⁶⁸ in developing the Malaysian space legislation. This can be done as long as it does not contravene the international obligations and laws, for instance, by introducing the appropriate indemnification rules including the compulsory insurance requirement.

Another important obligation for consideration is the registration obligation. The international space law introduces a mandatory system of registering objects launched into space. It further requires the state to establish a national registry for registration of its space objects.⁶⁹ This is done to assist the identification of space objects,⁷⁰ especially in the event of any accident or damage caused by the space object. Furthermore, it is vital since the international space law prescribes that the registry state shall retain jurisdiction and control over the space object.⁷¹ Thus, such obligation should be taken into account when developing the Malaysian space legislation in order to legalize and then implement it at the national level. By doing so, it will coordinate the rules and obligations of registration of space objects at both national and international levels.

The situation is similar in respect of other rules such as the freedom of exploration and use, international peace and security, international cooperation and understanding, and non-appropriation rules. On this point, the Malaysian Space Act must be drafted and enacted in a way that recognizes the rule of freedom of exploration and use of outer space,⁷² strengthens the international peace and security of space activities,⁷³ promotes and supports international cooperation and understanding among space actors,⁷⁴ and emphasizes the non-appropriation

⁶⁷ *Id*

⁶⁸ Gerhard, Michael and Kai-Uwe Schrogl, *supra* note 63.

⁶⁹ See Article II, Convention on Registration of Objects Launched into Outer Space (1974) (Resolution 3235 (XXIX)), adopted on 12 November 1974, opened to signature on 14 January 1975, entered into force on 15 September 1976. 28 UST 695, 1023 UNTS 15, TIAS 8480 (hereinafter, 'the Registration Convention 1975').

⁷⁰ See Paragraph 8, Preamble of the Registration Convention 1975.

⁷¹ Article VIII, Outer Space Treaty 1967; see also Principle 7, Declaration of Legal Principles 1963.

⁷² Article I, Outer Space Treaty 1967; Principle 2, Declaration of Legal Principles 1963.

⁷³ Article IV, Outer Space Treaty 1967; Preamble, Declaration of Legal Principles 1963.

⁷⁴ Article III, Outer Space Treaty 1967; Principle 6, Declaration of Legal Principles 1963.

principle with respect to outer space, including the moon and other celestial bodies.⁷⁵ By incorporating all those rules and obligations in the Malaysian Space Act, such legislation will certainly be coordinated with the international space law. Thus, it will provide a significant contribution to the growth of the national space legislation with the enhancement of the implementation of the international obligations and rules at the domestic level.

4.3.6. Harmonization of Certain Legal Aspects

States should consider harmonizing certain legal aspects of their national space legislations.⁷⁶ Such harmonization is worthwhile in the sense that the nature of space activities principally involves relations among various states. Since the conducting of a space activity might involve more than one state, the harmonization of certain aspects of the space legal rules of those different states will bridge the gap and disparity between the rules and procedures involved among the world's space countries. Such a situation will, in fact, avoid the confusion caused by an over-abundant variety of national space laws and procedures among the countries involved. Indeed, such harmonization might enable space actors to feel comfortable and natural even though they are in a foreign state and dealing with foreign laws. This occurs because space actors are familiar with the laws that are similarly functional in their own countries. In fact, such a situation might save time in certain cases. For instance, a space actor can skip certain procedures if satisfied that such procedures have already been executed and fulfilled by the space actor in another appropriate state, as accepted. Such circumstances will certainly encourage foreign states to further enhance their international cooperation and relations with other states that have harmonized their laws. This is also vital to promote the growth of states' national space industries.

At this point, it should be remembered that harmonization can only be executed if it does not jeopardize the interest of the Government of Malaysia, and does not contravene the policies

⁷⁵ Article II, Outer Space Treaty 1967; Principle 3, Declaration of Legal Principles 1963.

⁷⁶ Gerhard, Michael and Kristina Moll, "Perspectives for More National Space Legislation: Introduction by Rapporteurs", *'Project 2001 Plus' – Global and European Challenges for Air and Space Law at the Edge of the 21st Century*, Proceedings of an International Symposium Cologne, 8-10 June 2005, to conclude 'Project 2001 Plus', Schriften zum Luft- und Weltraumrecht/Studies in Air and Space Law, Band 20 / Volume 20, Eds. Hobe, Stephan, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl, (Koln: Heymanns, 2006), at 22; Gerhard, Michael and Kai-Uwe Schrogl, "A Common Shape for National Space Legislation in Europe Summary of Findings and Conclusions of the Project 2001 Plus Workshop", (2005) 47 *IISL Colloquium on Law of Outer Space*, at 82; Gerhard, Michael and Kai-Uwe Schrogl, "Report of the Working Group on National Space Legislation", *supra* note 63, at 21.

and laws of Malaysia. There are certain aspects that Malaysia can consider for harmonization⁷⁷, such as the duration of the administrative procedure for granting authorization to conduct space activities, acceptance of foreign authorization, and implementation of the right of recourse and its limitation.

In short, regarding the duration of administrative procedures in granting authorization to conduct space activities, the suggestion for harmonization is that it should not exceed an upper limit of six months after the receipt of an application.⁷⁸ For foreign authorization, it is worthwhile for Malaysia to consider harmonizing this aspect for simplification of the authorization procedures. This means that a foreign authorization to conduct space activities might also be accepted in Malaysia, rather than Malaysia having to give its own authorization, provided that it complies with the state's legislation. The situation is similar with the implementation of the right of recourse and its limitation, as it is worth harmonizing such a rule to encourage and support the engagement of the space private sector. The right of recourse and its limitation is important in the event of the state being held liable for damage caused by its private actor. The state can have recourse against the private actor, although such recourse is subject to certain limitations, for instance to the insured sum only. This situation will in fact encourage the participation of the private sector. This facility, however, should not apply in cases of damage resulting from the wilful misconduct or negligence of the space actor. All these aspects will be discussed further in Chapter 4 of the thesis.⁷⁹

4.3.7. Sustainability of Space Activities

Another significant aspect that needs to be taken into account in developing Malaysian space legislation is the sustainability of the Malaysian space activities. At this juncture, the sustainability of space activities is important in the sense that the Malaysian Government needs to ensure that its space activities are maintained and that they will grow or expand in

⁷⁷ Gerhard, Michael, "National Space Legislation-Perspectives for Regulating Private Space Activities", *Space Law: Currents Problems and Perspective for Future Regulation*, Eds., Benkő, Marietta and Kai-Uwe Schrogl, (Utrecht: Eleven International Publishing, 2005), at 84-87; Gerhard, Michael and Kai-Uwe Schrogl, "A Common Shape for National Space Legislation in Europe Summary of Findings and Conclusions of the Project 2001 Plus Workshop", *id.*; Gerhard, Michael and Kristina Moll, "Perspectives for More National Space Legislation: Introduction by Rapporteurs", *id.*, at 28-41.

⁷⁸ Gerhard, Michael and Kai-Uwe Schrogl, "A Common Shape for National Space Legislation in Europe Summary of Findings and Conclusions of the Project 2001 Plus Workshop", *supra* note 76, at 86; Gerhard, Michael and Kristina Moll, "Perspectives for More National Space Legislation: Introduction by Rapporteurs", *supra* note 76, at 28-29.

⁷⁹ Read Chapter 4 of the thesis (4.4. Shaping the Malaysian Space Law).

the future through the implementation of the Malaysian Space Act. In other words, to ensure the sustainability of the Malaysian space activities, the Malaysian Space Act should be drafted to support and encourage the continuous growth of the national space activities. This view is based on the fact that continuous development of national space activities is, in fact, dependent on the policies and legal rules of a country. Should a rule be drafted in a way that hinders the progress of the national space activities, this would certainly defeat the development of such activities. Thus, Malaysia, as a space actor, must ensure that its national space legislation is drafted to allow the constant development of its present and future outer space activities.

There are various aspects that Malaysia can consider in developing its space legal rules in order to ensure the sustainability of the country's space activities. These include the involvement of the Malaysian private sector. Apart from the public sector, the Malaysian private sector also has the potential to offer significant contributions to the sustainable development of Malaysian space activities. Therefore, the Malaysian Space Act should incorporate rules that encourage the participation and involvement of the private sector, as well as the public sector. Moreover, to ensure the sustainability of such activities, the space legislation should be enacted to provide facilities for space actors to become further involved in the activities, such as the enactment of the rules of limitation in the right to recourse.⁸⁰ This rule is likely to encourage the private sector to participate further in the activities. It is important that, should the state be held liable for damage done by its private sector, it has the right to recourse from its private sector, albeit to a limited amount, such as up to the insured sum only. If the compensation amount claimed is more than the insured sum, the state must then bear the balance of the cost. Such circumstances can indeed be regarded as a significant contribution by the state to the development of space activities involving private space actors. This situation will then certainly lead to the sustainability of the Malaysian space activities.

Other ways of ensuring the sustainability of Malaysian space activities include enacting rules to simplify the long and complicated procedures for granting authorization space activities to the space actors. A long and complicated process of applying authorization may affect the progress of national space activities and the enthusiasm of private space actors. The

⁸⁰ Gerhard, Michael and Kristina Moll, "Perspectives for More National Space Legislation: Introduction by Rapporteurs", *supra* note 76, at 37-39; Gerhard, Michael and Kai-Uwe Schrogl, "A Common Shape for National Space Legislation in Europe Summary of Findings and Conclusions of the Project 2001 Plus Workshop", *supra* note 76, at 84-85.

simplification of the authorization may, in fact, attract many private-sector actors to become involved in Malaysian space activities, including foreign participants. However, along with the simplification of the long process of application for authorization, the recognition of foreign authorization⁸¹ would also contribute greatly to the sustainability of the Malaysian space activities.

Apart from the above, Malaysia should also consider enacting rules on providing consultancy services for Malaysian space activities. Such consultancy services would aim to offer advice and guidance on the Malaysian space activities, especially for the private sector newly involved in such activities. It is hoped that such a service would promote the sustainability of the Malaysian space activities.

4.4. SHAPING THE MALAYSIAN SPACE LAW

States are required to observe the United Nations space obligations when conducting their space activities. As is the case in Malaysia, a requirement to observe the space obligations imposed by the United Nations in its space conventions arises when the state performs its outer space activities and also particularly when the state becomes a party to the treaties. For an effective performance of its obligations, Malaysia should abide by such obligations not only at the international level but also at the national level. Implementation of the obligations at the national level is possible only by way of domestication or incorporating such obligations into Malaysian national law. Furthermore, it is critical for Malaysia to be aware of its possible liabilities at the international level, and also for it to be categorized as a launching state. Therefore, in such circumstances, Malaysia must be prepared to adequately protect itself against any possible liability arising from its private space activities. In view of this, the state must be able to control and regulate its private space activities by providing clear guidelines. This could be realized by the establishment of a Malaysian space legal regime. Such a legal regime would incorporate matters such as licensing, registration of space

⁸¹ Gerhard, Michael and Kristina Moll, "Perspectives for More National Space Legislation: Introduction by Rapporteurs", *supra* note 76, at 30-31; Gerhard, Michael and Kai-Uwe Schrogl, "A Common Shape for National Space Legislation in Europe Summary of Findings and Conclusions of the Project 2001 Plus Workshop", *supra* note 76, at 83-84.

objects, liability, safety, and a system for financial responsibility including the indemnification and insurance requirements.⁸²

In view of the above, this section deals with the construction of the Malaysian space law. However, at this juncture it should be noted that, apart from the Malaysian space legislation, there is a possibility that other Acts or regulations on details will appear later. Thus, this part will focus only on the shaping of Malaysian outer space legislation in respect of six principal legal matters: (1) the scope of law; (2) authorization clause; (3) supervision clause; (4) registration clause; (5) indemnification clause; and, lastly, (6) other relevant clauses. However, prior to the discussion, it is important to note that the following discussion will be presented again in the form of a simulation of a draft specimen of the Malaysian Outer Space Act in Chapter 5.⁸³

4.4.1. The Scope of Law

In the process of drafting legislation, it is important firstly to deal with the scope of law that will be enacted. At this juncture, it is necessary to specify the extent to which the Malaysian space law will apply municipally. Dealing with the scope of the Malaysian space law, this section will principally focus on four subjects: (1) preamble of the Act and its short title; (2) the objectives of enacting the Act; (3) the applications of the Act; and (4) the interpretation section.

In general, the enactment of the Malaysian space legislation (hereinafter the ‘Malaysian Outer Space Act’) is proposed to protect the Government of Malaysia against any potential liability that might be attached to the country as a consequence of the space activities of its private sector. Moreover, it is suggested that such enactment be designed to ensure that the Government of Malaysia and its nationals are in compliance with the obligations of the United Nations space conventions on the use of outer space. Based on the above circumstances, it is then submitted that the scope of the Malaysian Outer Space Act should be set up in light of Article VI of the Outer Space Treaty 1967. Article VI prescribes, among

⁸² UNGA, Committee on the Peaceful Uses of Outer Space “Report on the United Nations/Ukraine Workshop on Space Law on the theme “Status, application, and progressive development of international and national space law”, *supra* note 22.

⁸³ The proposed Malaysian Outer Space Act consists of six parts and fifty sections. For details, refer to the proposed draft of Malaysian Outer Space Act [Year] (Act [No.]), available in Chapter 5 of the thesis (5.2.1. A Feasible Draft of a Malaysian Outer Space Act).

other things, the international responsibility of a state for its national space activities, the state's responsibility to ensure its national space activities are in conformity with the United Nations treaties, the requirement to grant authorization for conducting space activities, and the obligation for continuous supervision of the said activities.⁸⁴

On the point of the scope of the Malaysian Outer Space Act, we first consider the preamble of the Act and its short title. It is suggested that the wording of the preamble of the Malaysian Outer Space Act read as follows: 'An Act to provide for and to regulate the Malaysian space activities'.⁸⁵ This suggestion is made on the grounds that the Act is enacted purposely to provide an appropriate system that is competent to regulate and govern Malaysian space activities. However, in relation to the types of activities to be governed by the Act, further clarification will be provided during a discussion of the scope of application of the Act.⁸⁶ Thus, in view of the above, it is proposed that the Malaysian space legislation's short title be the "Malaysian Outer Space Act [Year] (Act [No.])".⁸⁷

On the point of the objectives of enactment of the Malaysian Outer Space Act, five major objectives can be highlighted and emphasized.⁸⁸ The first objective is to regulate Malaysian space activities to ensure compliance with the international space obligations. This is based on the fact that a state shall be held accountable for its national space activities.⁸⁹ It is therefore vital that Malaysia controls and regulates the state's space activities, including the activities of its nationals, to ensure they are in compliance with the space obligations imposed by the international law. Such circumstances could be realized by the enactment of the Malaysian Outer Space Act.

The second objective is to establish a licensing regime for the Malaysian space activities, and also to confer the licensing power and other relevant powers on the appropriate Minister. This objective is significant as the national space activities will require authorization from the

⁸⁴ See Article VI of the Outer Space Treaty 1967, *supra* notes 10 and 20.

⁸⁵ See Preamble of the proposed draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

⁸⁶ Refer Section 4 (Application of Act), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; refer also *infra* notes 94, 95, and 96.

⁸⁷ Section 1 (Short Title), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

⁸⁸ Section 3 (Objects), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

⁸⁹ Article VI of the Outer Space Treaty 1967, *supra* notes 10 and 20.

state.⁹⁰ Thus, among the effective modes of authorization for Malaysian space activities is the establishing of the licensing regime in the Malaysian Outer Space Act. This is also an efficient way of controlling and monitoring the Malaysian national space activities. Aside from that, the Act will also allocate power to grant licences and other relevant powers to the Minister in charge.

The third objective is to create a liability regime and indemnification rules for the Malaysian space activities. Apart from the previous objectives, the establishment of a liability regime and indemnification rules is imperative to regulate the Malaysian space activities. This is based on the strong possibility of Malaysia being held liable and responsible under the category of launching state, as well as for damage or loss caused by its nationals' space activities as prescribed by the international space law.⁹¹ It is hoped that such regime and indemnification rules will be able to provide Malaysia with sufficient protection against any possible liability arising from space activities. It may also offer better and clearer rulings in dealing with such matters.

The fourth objective is to lay down rules of registration of Malaysian space objects. In such circumstances, the enactment of the Malaysian Outer Space Act is designed to specify rules obliging Malaysian space participants to register any objects they launch into space. It also applies to any space object of other space participants launched from Malaysia according to its geographical limits and territorial waters. Such rules are essential to ensure that space objects are registered in accordance with the international space legal requirements. This will, in fact, support and verify the importance of the registration of the space objects to the space participants at both international and municipal levels.⁹²

The fifth objective is to ensure the safety of operational space activities performed under Malaysian jurisdiction. Assurance of safety for operational space activities conducted in the country is another primary purpose of enacting a Malaysian Outer Space Act. At this point,

⁹⁰ *Id.*

⁹¹ *Id.* See also Article VII, Outer Space Treaty 1967, *supra* note 11; and the Liability Convention 1972.

⁹² See also Article V, Outer Space Treaty 1967 states: '... *When astronauts make such a landing, they shall be safely and promptly returned to the State of registry of their space vehicle ...*'. However, Article VIII mentions: '... *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 ... Such objects or component parts found beyond the limits of the State Party to the Treaty on whose registry they are carried shall be returned to that State Party ...*'; and also, Registration Convention 1975.

the Act will lay down some relevant clauses for assurance of safety in respect of the space activities conducted under this Act. This is initiated after taking into consideration the spirit of safety introduced by the international space law.⁹³ The assurance of safety of operation is, in fact, critical as the activities may involve human lives and affect surrounding areas of Earth and outer space. Furthermore, it is well established that the outer space environment is a fragile place that requires constant preservation from any possible destruction.

Returning to the earlier point concerning four subjects that should be emphasized under the scope of the law, next point is in respect of the application of the Malaysian Outer Space Act. In general, it is proposed that the application of the Act be subjected to three criteria: (1) locality; (2) nationality; and (3) type of activities. Based on locality, the Malaysian Outer Space Act will only apply to space activities conducted from or within Malaysia and her territorial waters.⁹⁴ This means that any foreign company conducting activities within Malaysia and her territorial waters shall be regulated and governed by the Malaysian Outer Space Act. In terms of nationality, the Malaysian Outer Space Act will also apply to space activities performed by Malaysian nationals, firms and bodies incorporated by or under Malaysian laws, even if the activities are conducted outside Malaysia.⁹⁵

The same situation applies to space activities conducted in or from Malaysian ships or aircraft, even if they are abroad. In such situations, they will be governed by the Malaysian Outer Space Act provided that the activities fall under the categories stipulated by the Act. At this juncture, four categories of activities are proposed.⁹⁶ First, ‘space activity’ refers to any activity carried out in outer space.⁹⁷ This means that any kind of activities conducted in outer space, if performed by a Malaysian national, will then be governed by the Malaysian Outer

⁹³ See Article IX, Outer Space Treaty 1967 cites: ‘... *State Parties ... shall pursue studies of outer space ... and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth ... shall adopt appropriate measures for this purpose*’.

⁹⁴ See Section 4(1) (Application of Act), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83. Read also Article 1 (Scope of Application) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

⁹⁵ See Section 4(2) (Application of Act), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83. Read also *id.*

⁹⁶ See Section 4(3) (Application of Act), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83. Read also Article 2 (Definitions-Use of terms: ‘Space Activity’) in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

⁹⁷ Modified from Section 1(c), United Kingdom Outer Space Act 1986, 1986 Chapter 38. The full text is available at <http://www.bis.gov.uk/assets/ukspaceagency/docs/osa/outer-space-act-1986.pdf>, accessed: 6 January 2013. Read also Chapter 3 of the thesis (3.2.3. National Space Legislation: The Outer Space Act 1986).

Space Act following the nationality criterion. Second, the activity refers to launching or procuring the launch of a space object or human being.⁹⁸ At this point, any launch or procurement of the launch of a space object (the definition of ‘space object’ will be provided later) or any human being, if satisfying the locality or nationality criterion, will be governed by the Malaysian Outer Space Act. Third, the activity refers to operating a space object.⁹⁹ Any kind of operation relating to the space object will be governed by the Act. Fourth, the activity refers to all other measures to manoeuvre or in any way affects the objects or human beings launched into space.¹⁰⁰ At this point, all other measures to manoeuvre or in any way affect the object or people launched into space, such as operations relating to navigation of the space objects, may fall under the category. It should also be noted that all prescribed activities, whether conducted or attempted in Malaysia or elsewhere, are liable to be governed by the Malaysian Outer Space Act.

The last crucial point concerns the interpretation section. Under this section, the study will suggest some important words that demand interpretation. This is significant in order to afford comprehensible and transparent legal rules for space actors. Thus, there are a number of words requiring definitions for the smooth application of the Malaysian Outer Space Act. They include outer space, launch, space object, payload, launch facility, launch vehicle, re-entry vehicle, suborbital rocket, suborbital trajectory, space damage, and Minister.

Among the words that Malaysia should consider defining is the term ‘outer space’. Since the issue of delimitation of outer space is still unresolved at the international level, there is no exact demarcation line agreed for determining where air space ends and outer space begins. Despite various suggested scientific boundaries,¹⁰¹ for the application of the Malaysian Space

⁹⁸ Modified from Section 1(a), United Kingdom Outer Space Act 1986.

⁹⁹ See Section 1(b), United Kingdom Outer Space Act 1986.

¹⁰⁰ Modified from Section 1, Sweden Act on Space Activities (1982:963).

¹⁰¹ For instance, the theoretical line of 100 km above the Earth’s sea level known as the *Karman* line, or the suggestion of 80 km above sea level based on the fact that the USA awarded astronaut’s wings to those who travel above such altitude, and 118 km above Earth as determined by the scientists at the University of Calgary in 2009. More information is available in Dunk, Frans G. von der, “The Sky is the Limit – But Where Does it End”, (2006) 48 *IISL Colloquium on Law of Outer Space* 92. See also Perek, Lubos, “Is Customary Law a Source of Space Law?”, *IISL and ECSL Space Law Symposium 2011 on A New Look on the Delimitation of Airspace and Outer Space*, 20 March 2011, 50th Session of the Legal Subcommittee of the UNCOPUOS, <http://www.oosa.unvienna.org/pdf/pres/lsc2011/symp02.pdf>, accessed: 19 April 2013. See also Thompson, Andrea, “Edge of Space Found”, *Space.com*, 9 April 2009, available at <http://www.space.com/6564-edge-space.html>, and also, http://en.wikipedia.org/wiki/Outer_space#Boundary, accessed: 20 April 2013; read also comment in Article 2 (Definitions-Use of terms: ‘Space Activity’), The Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

Act this study proposes that ‘outer space’ shall mean ‘an area, inclusive of the Moon and other celestial bodies, which is outside the Earth’s atmosphere in which the operation of an object in an orbit around the Earth is possible’.¹⁰² This signifies that, as long as the area involved is outside the Earth’s atmosphere and is capable of accommodating an object in an orbit around the Earth, it is considered as outer space under the Malaysian Outer Space Act regardless its altitude from the Earth. This approach is preferred since the exact measurement of the demarcation line may not be accurate due to the fragile nature of the environment through which it may be exposed to changes; moreover, the rapid evolution of technology may revolutionize an earlier demarcation line. Thus, the suggested definition seems more flexible to accommodate the situation.¹⁰³

Another word that should be given an interpretation is ‘launch’.¹⁰⁴ For the application of the Malaysian Outer Space Act, it is proposed that ‘launch’ be defined as placing or attempting to place a space object or human being from Earth in a suborbital trajectory, or in an Earth orbit, or in outer space.¹⁰⁵ Thus, any action or efforts to place a space object or human being from Earth into any of the three areas - (1) outer space, or (2) suborbital trajectory, or (3) Earth orbit - is to be regarded as a launch. With respect to the three areas mentioned in the Act, it should be noted that it is not the aim of the Act to differentiate the areas according to their geographical characteristics since the issue of where outer space begins remains unresolved. Furthermore, these three areas may overlap. However, the classification is made purposely to emphasize the intended location (target location) for each launch mission. For instance, there is a strong possibility that Malaysia will one day launch a suborbital space flight into a suborbital trajectory, or an orbital space flight to orbit the Earth, or any other kind of launch into other areas of outer space. Therefore, it is proposed that such areas be precisely mentioned in the Act. Indeed, the adoption of the general terms ‘outer space’ along with

¹⁰² See Section 6 (Interpretation: ‘Outer Space’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83. This definition is adapted from Article 1, South Africa Republic Space Affairs Act No. 84 of 1993. In respect of the use of the words ‘outside the Earth’s atmosphere’ it was acquired from Section 20103(1)(A), National Aeronautics and Space Act, Pub.L.No. 111-314, 124 Stat. 3328 (Dec. 18, 2010). See also Pedrazzi, Marco, “Are there Indications for Upper and Lower Limits for Air Space and Outer Space in Air Law, Space Law, and National Legislation?”, IISL/ECSL Space Law Symposium 2011 on A New Look on the Delimitation of Airspace and Outer Space, *id.*

¹⁰³ Pedrazzi, Marco, *id.*

¹⁰⁴ See Section 6 (Interpretation: ‘Launch’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁰⁵ See Section 6 (Interpretation: ‘Launch’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; modified from Section 50902(4) (Definitions: Launch), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70102(4) (Definitions: Launch), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis).

‘suborbital trajectory’ and ‘Earth orbit’ will encompass all locations that may not be classified under both suborbital trajectory and Earth orbit. With regard to the term ‘human being’ in the launch definition, this has been included for the preparation of Malaysian space activities that might involve sending human beings into outer space, especially in relation to the potential space tourism sector.

The word ‘space object’¹⁰⁶ is defined as any object or thing launched or intended to be launched into outer space, or into a suborbital trajectory, or into an Earth orbit, including a launch or re-entry vehicle, orbital or suborbital rocket, and a payload, even if such object travels only part of the way towards or back from outer space.¹⁰⁷ Regarding this point, it appears that any objects or things launched or intended to be launched into any of the three areas - (1) outer space, or (2) suborbital trajectory, or (3) Earth orbit - are considered space objects even if the object travels only part of the way into outer space. Following the definition of ‘launch’, the definition of ‘space object’ also includes the three prescribed areas. It also provides some examples of objects categorized as space objects under the Act. They include a launch or re-entry vehicle, an orbital or suborbital rocket and a payload. For the purpose of the Act, ‘payload’ means any object that a person undertakes to place in outer space by means of a launch or re-entry vehicle, including the components of the vehicles.¹⁰⁸ Thus, any objects, such as a sample of scientific research, may constitute a payload under this Act.

Next, ‘launch facility’ means a fixed or mobile facility or place from which a space object can be launched, and it includes any other facilities at the facility or place that are necessary to conduct a launch.¹⁰⁹ At this point, ‘mobile facility’ may refer to any kind of moving object, such as a ship sailing on the sea, or an aeroplane in the air, that is used to launch the object.

¹⁰⁶ See Section 6 (Interpretation: ‘Space Object’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁰⁷ See Section 6 (Interpretation: ‘Space Object’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; modified from Section 13(1), United Kingdom Outer Space Act 1986, *supra* note 97; Section 8, Australian Space Activities Act 1998. This Act refers to ‘Act No. 123 of 1998 as amended, taking into account amendments up to Act No. 8 of 2010’. It was prepared by the Office of Legislative Drafting, Attorney-General Department, Canberra. The full text is available at <http://www.comlaw.gov.au/Details/C2010C00193>, accessed: 17 January 2013.

¹⁰⁸ See Section 6 (Interpretation: ‘Payload’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; modified from Section 50902(10) (Definitions: Payload), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70102(10) (Definitions: Payload), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis).

¹⁰⁹ See Section 6 (Interpretation: ‘Launch Facility’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; modified from Section 8, Australian Space Activities Act 1998, *supra* note 107.

However, ‘launch vehicle’ means any vehicle manufactured or adapted to carry payloads or human beings into outer space, or in a suborbital trajectory, or in an Earth orbit, including suborbital and orbital rockets.¹¹⁰ Other words whose meanings should be defined include the following: ‘re-entry vehicle’, which means a vehicle or reusable vehicle designed to return from outer space to Earth;¹¹¹ ‘Suborbital rocket’, which means a vehicle that is rocket-propelled in whole or in part, intended for flight on a suborbital trajectory;¹¹² ‘Suborbital trajectory’, which means the flight path of a launch or re-entry vehicle whose vacuum instantaneous impact point does not leave the surface of the Earth.¹¹³ Meanwhile, ‘space damage’ means any physical damage including death, bodily injury or other impairment of health and loss of property as a result of the launch, re-entry, or operation of the space object.¹¹⁴ Lastly, the word ‘Minister’ shall mean the Minister currently charged with responsibility for Malaysian space activities.

4.4.2. Authorization Clauses

In general, international space law states that space activities shall require authorization when the activities involve non-governmental entities.¹¹⁵ Thus, in observing such an obligation, it is crucial for the Government of Malaysia to provide authorization for its private space activities. Furthermore, the authorization is the principal way of controlling private space activities and ensuring that they are in compliance with both international and domestic laws. In view of the above, this section attempts to propose some clauses dealing with authorization

¹¹⁰ See Section 6 (Interpretation: ‘Launch Vehicle’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; Section 50902(8) (Definitions: Launch Vehicle), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70102(8) (Definitions: Launch Vehicle), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis).

¹¹¹ See Section 6 (Interpretation: ‘Re-entry Vehicle’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; modified from Section 50902(16) (Definitions: Re-entry Vehicle), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70102(16) (Definitions: Re-entry Vehicle), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis).

¹¹² See Section 6 (Interpretation: ‘Suborbital Rocket’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; modified from Section 50902(19) (Definitions: Suborbital Rocket), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70102(19) (Definitions: Suborbital Rocket), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis).

¹¹³ See Section 6 (Interpretation: Suborbital Trajectory), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83. Modified from Section 50902(20) (Definitions: Suborbital Trajectory), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70102(20) (Definitions: Suborbital Trajectory), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis).

¹¹⁴ See Section 6 (Interpretation: ‘Space Damage’), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; modified from Article 2, Korean Space Liability Act 2007.

¹¹⁵ See Article VI, Outer Space Treaty 1967 prescribes: ‘... *The activities of non-governmental entities in outer space ... shall require authorization ... by the appropriate State Party to the Treaty ...*’.

in the Malaysian Outer Space Act. There are proposals on three major areas:¹¹⁶ (1) the requirement of authorization for space activities; (2) modes of authorization; and (3) powers of the Minister.

The first is in regard to the requirement of authorization for space activities.¹¹⁷ It is significant to stipulate in the Malaysian Outer Space Act that space activities shall not be carried out without an authorized licence or other authorized means.¹¹⁸ This means that any person wishing to conduct space activities as prescribed by the Act must have a licence or other means of authorization granted by the Government of Malaysia. This clause needs to be clear and exact in the sense that it shall signify that, if no authorization is granted, no space activities are allowed.

The second relates to the modes of authorization. At this juncture, it is apparent that there should be authorization before space activities can be conducted. Hence, there are four modes of authorization proposed for the Malaysian Outer Space Act to cater for space activities:¹¹⁹ (1) licences; (2) overseas launch or return certificate; (3) experimental permit; (4) exemption certificate.

The first mode is licences.¹²⁰ Two types of licence are proposed: (a) space site or facility licence; and (b) space launch or re-entry licence. These two categories are both essential as they are two separate matters. Hence, since they are treated as two different things, it is necessary to create different technical safety assessments for both matters. Such assessment is important to ensure the fulfilment of the conditions imposed by the Act before licences are granted to the applicant. This matter will be discussed again under the topic of safety, peace and security clauses.¹²¹ The first type of licence is known as a space site or facility licence.

¹¹⁶ See Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹¹⁷ See Section 7 (Requirement of authorization for space activities), Chapter 1 (Requirement and Mode of Authorization), and Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83. Read also Article 3 (Authorization) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

¹¹⁸ Modified from, Section 3(1), United Kingdom Outer Space Act 1986, *supra* note 97.

¹¹⁹ See Section 8 (Modes of authorization), Chapter 1 (Requirement and Mode of Authorization), and Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹²⁰ See Section 8(a), Chapter 1 (Requirement and Mode of Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83. Modified from, Section 15, Division 2, and Division 3, Australian Space Activities Act 1998, *supra* note 107.

¹²¹ For more information, read Chapter 4 of the thesis (4.4.6. Safety, Peace and Security Clauses).

These licences are available for the operation of a space site or facility located in Malaysia.¹²² A space participant is required to apply for such a licence under the Malaysian Outer Space Act for the operation of a space site or facility to conduct space activities. Thus, any person who wishes to operate a space site or facility within Malaysia or her territorial waters must apply for a space site or facility licence. The second type of licence is a space launch or re-entry licence. These licences relate to the operation of the launch or re-entry of the space object itself.¹²³ It is necessary to apply to the Government of Malaysia for this type of licence for the purpose of operating the launch or re-entry of a space object either from or to Malaysia. Thus, any person wishing to conduct the launch or re-entry of a space object must apply for a space launch or re-entry licence. In such circumstances, it should be noted that, should a person wish to operate a space site as well as conduct the launch and re-entry of an object, he/she must apply for both licences. However, should he/she only wish to launch or recover a space object, he/she would then need just a space launch or re-entry licence.

The second mode of authorization is an overseas launches or return certificate.¹²⁴ Although a space licence is required for space activities conducted in Malaysia, the overseas launch or return certificate is necessary for operations conducted outside Malaysia. Such a certificate is required for the launch or re-entry of space objects carried out by Malaysian nationals, firms or bodies incorporated by or under the Malaysian laws outside Malaysia.¹²⁵ In such circumstances, any Malaysian national or bodies falling under the mentioned categories who wish to launch or recover space objects abroad must have an overseas launch or return certificate from Malaysia. This certificate is critical in order to control the space activities of Malaysians abroad since the Government of Malaysia could be held responsible and liable for their nationals' activities.¹²⁶

¹²² See Section 8(a)(i), Chapter 1 (Requirement and Mode of Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹²³ See Section 8(a)(ii), Chapter 1 (Requirement and Mode of Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹²⁴ Modified from Section 12, 14, 35(1), Division 4, and Division 5, Australian Space Activities Act 1998, *supra* note 107.

¹²⁵ See Section 8(b), Chapter 1 (Requirement and Mode of Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹²⁶ See Article VI, Outer Space Treaty 1967, *supra* note 10.

The third mode of authorization is an experimental permit.¹²⁷ This type of authorization is required for the operation of space activities solely connected to research, the testing of a new design, concept or equipment, and other related purposes.¹²⁸ It is essential to note that this study specifically proposes the experimental permit apart from the other modes of authorization since the purpose of the space activities covered by the permit is different from those involved in other modes of authorization. In other words, the experimental permit activities are solely meant for research or experimental purposes, but not for other authorizations. Thus, in such circumstances, the procedure for granting the experimental permit, inclusive of the duration of time involved in the process of application for the permit as well as the fees involved, should be treated differently from the other modes of authorization.

The fourth and final mode is an exemption certificate.¹²⁹ The exemption certificate is required for operations involving an acceptance of foreign authorization or where the appropriate arrangement has been made between Malaysia and other states.¹³⁰ At this point, in circumstances where the operation of the space activities has been specifically authorized by a foreign state, and in the event of such authorization being accepted by the Government of Malaysia, such activities are allowed under the Malaysian Space Act provided that they are conducted with an exemption certificate. In other words, when the foreign authorization of space activities is accepted, an application for a licence under the Malaysian Outer Space Act is no longer necessary, and it is sufficient to apply for an exemption certificate only. This should also apply in situations where there is proof of an appropriate arrangement having been made between the Malaysian Government and other states.

¹²⁷ Modified from Section 50906 (Experimental Permits), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70105a (Experimental Permits), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis); 14 CFR 413.3(f), and 437, Chapter III, Electronic Code of Federal Regulations. The author refers to the United States Commercial Space Transportation Regulation, 14 CFR Chapter III, Electronic Code of Federal Regulations (Data is updated as of January 30, 2013), updated editorial compilation of the electronic Code of Federal Regulations (e-CFR) material and Federal Register amendments produced by the National Archives and Record Administration's Office of the Federal Registrar (OFR) and the Government Printing Office, http://www.ecfr.gov/cgi-bin/text-idx?SID=2e27f4eb2925c60b03799278aec854be&tpl=/ecfrbrowse/Title14/14tab_02.tpl; and, http://www.faa.gov/about/office_org/headquarters_offices/ast/licenses_permits/media/Part_400_Compilation.pdf, both accessed: 28 January 2013.

¹²⁸ See Section 8(c), Chapter 1 (Requirement and Mode of Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹²⁹ Modified from Division 6, Australian Space Activities Act 1998, *supra* note 107; and Section 3(2)(b), United Kingdom Outer Space Act 1986, *supra* note 97.

¹³⁰ See Section 8(d), Chapter 1 (Requirement and Mode of Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

We now return to the three major aspects proposed under the authorization clauses.¹³¹ Besides the requirement for authorization of space activities,¹³² and the various modes of authorization proposed,¹³³ the next is in regard to the powers of the Minister.¹³⁴ There are five main legal rules proposed under the powers of the Minister: (1) power to establish an Authorization Committee; (2) granting of licences and other modes of authorization; (3) authorization fees; (4) duration of authorization procedures; and (5) power to make regulations.

The first power is the power to establish an Authorization Committee. Under this clause, the Minister is given the authority to establish a Committee to assist him/her in the implementation of his/her power to give authorization for conducting space activities as specified under Part II of the Malaysian Outer Space Act.¹³⁵ This Committee shall be known as the Authorization Committee. It is proposed that the Authorization Committee consists of members who are expert and eligible to deal with matters relating to the granting of an authorization to an applicant and its appropriateness. Indeed, some of the members should represent the government sector and others must represent the private sector. This is recommended in order to avoid the possible manipulation of powers by the Minister that might occur were he/she to be acting alone.

The second power is the power to grant licences and other modes of authorization. In the Malaysian Outer Space Act, it is proposed that the Minister may, acting on a recommendation by the Authorization Committee, grant a licence or any other authorized means to the applicant for the operation of space activities.¹³⁶ Thus, it is essential to remember that this Act proposes that the Minister exercises his/her power only on the recommendation of the

¹³¹ See Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹³² Section 7, Chapter 1 (Requirement and Mode of Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹³³ Section 8, Chapter 1 (Requirement and Mode of Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹³⁴ See Chapter 3 (Powers of Minister), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹³⁵ See Section 10, Chapter 3 (Powers of Minister), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹³⁶ See Section 11, Chapter 3 (Powers of Minister), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; read also Article 3 (Authorization) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013).

Authorization Committee. The Minister is not recommended to grant licences or other modes of authorization without first referring to the Committee. It is the task of the Committee to assist and provide relevant advice to the Minister in respect of matters concerning the granting of authorization under the Malaysian Outer Space Act. Thus, in short, the power to grant licences and other modes of authorization prescribed by the Act shall be exercised only on the recommendation of the Committee.

The third power concerns the authorization fees. The Minister may, acting on a recommendation by the Authorization Committee, prescribe the amount of fees, but this shall not exceed an agreed limit, calculated on the basis of the complexity of the operation.¹³⁷ With regard to the power of Minister in prescribing the amount of the fees for authorization purposes, it is proposed that the Minister prescribes the fees on the recommendation of the Committee. It is worth mentioning that the amount of the fees prescribed shall vary depending on the types of the authorization modes applied. Thus, it is suggested that the calculation be made according to the degree of complexity of the operation of the space activities. The more complex the operation involved, the higher the fee can be imposed. The term 'complexity of operation' is proposed to mean the level or degree of complexity involved in the operation of space activities in relation to safety and security evaluation, environmental assessment, human lives involved, and other appropriate matters.¹³⁸ This means that when the operation has undergone, for instance, a comprehensive safety assessment and security evaluation process, it can be classified as a complex operation as it involves a higher degree of complexity according to this clause. Thus, the size of the fee imposed is likely to be greater.

In contrast, if an operation has already obtained a foreign authorization (meaning that the operation has already passed the assessment and evaluation process in a foreign country before receiving the foreign authorization), and such operation is approved by the Government of Malaysia, there is no need for further assessment. Thus, the operation can

¹³⁷ See Section 12, Chapter 3 (Powers of Minister), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83. See also Gerhard, Michael and Kristina Moll, "Perspectives for More National Space Legislation: Introduction by Rapporteurs", *'Project 2001 Plus' – Global and European Challenges for Air and Space Law at the Edge of the 21st Century*, Proceedings of an International Symposium Cologne, 8-10 June 2005, to conclude 'Project 2001 Plus', Schriften zum Luft- und Weltraumrecht/Studies in Air and Space Law, Band 20 / Volume 20, Eds. Hobe, Stephan, Bernhard Schmidt-Tedd and Kai-Uwe Schrogl, (Koln: Heymanns, 2006), at 30.

¹³⁸ See Section 6 (Interpretation), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

indeed be performed via the application of an exemption certificate only. The fees prescribed in this case shall be lower than usual since the operation will not require any further comprehensive assessment process. However, such a situation is allowed only if the Malaysian Government is satisfied with and accepts the foreign authorization. In addition to the above, in terms of fees for experimental permits, the study proposes that such fees be applied at a special rate. This is based on the fact that such operations involve research or the testing of new technology rather than being conducted for commercial purposes. The allocation of a special rate may encourage new inventions and motivate the research spirit in respect of space-related technology in Malaysia. Furthermore, such operations have a strong tendency to be conducted repeatedly, which might involve a large amount of money for the researcher.

Moreover, although the Act allocates power to the Minister to prescribe the fees, it is significant to stress that the amount of the fees shall not exceed a certain limit. At this juncture, it is essential for the Malaysian Government to stipulate an agreed limit for the amount imposed in order to ensure that the fees are not prescribed beyond such a limit. This situation is proposed in view of the fact that it is vital not to burden the space enthusiasts conducting space activities with fees that are too high for them, as this would certainly discourage and curtail the growth and development of Malaysian space activities.

The fourth power of the Minister prescribed by the Malaysian Outer Space Act is in relation to the duration of the authorization procedure. It is proposed that the Minister shall, acting on the recommendation of the Authorization Committee, decide whether or not to grant the application for the authorization to conduct the space activities. This should be exercised not later than six months after receiving the application.¹³⁹ It is undisputed that the length of time taken to afford a decision in relation to granting the application for authorization is important as it might affect the development of the national space activities. In the event of the duration involved being too long for a normal application, such a situation will disrupt the progress of the Malaysian space activities. Therefore, this study proposes that the duration of the authorization process should not exceed six months.¹⁴⁰ This means that the Minister, on the recommendation of the Authorization Committee, shall decide whether to grant the

¹³⁹ See Section 13, Chapter 3 (Powers of Minister), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁴⁰ Gerhard, Michael and Kristina Moll, "Perspectives for More National Space Legislation: Introduction by Rapporteurs", *supra* note 137, at 28.

application for authorization within a six-month period. This figure is chosen based on the experiences of some states that reported that the technical safety evaluation involved might last from three to six months.¹⁴¹ However, in certain cases where the activities do not involve much evaluation, it is proposed that the duration of authorization be about two months only.

Apart from those four powers allocated to the Minister, it is important to note that, for the purpose of the enactment of the Malaysian Outer Space Act, the study also proposes the allocation of a general power to the Minister that empowers him to issue any relevant regulations or others as necessary for the application of the Act.¹⁴²

4.4.3. Monitoring and Continuing Supervision Clauses

Once a space activity has been authorized by a state, it then needs to be monitored and supervised accordingly to ensure it complies with the laws. The international law obliges all private authorized space activities to continue supervision from the relevant state in order to ensure that they remain in conformity with the international rules.¹⁴³ Thus, in observing such obligation, Malaysia is recommended to formulate some legal rules that are able to monitor and supervise those activities to ensure they are in accordance with the national as well international laws. In view of the above, this section aims at providing rules in relation to monitoring and continuing supervision obligations.¹⁴⁴ The discussion will be divided into three main areas: (1) powers of the Minister; (2) establishment, powers and functions of Supervision and the Monitoring Committee; and (3) duties of licensees.

The first area concerns the powers of the Minister.¹⁴⁵ It is essential to remark that the powers of the Minister, at this juncture, refer to the powers within the scope of the monitoring and continuing supervision obligation. Thus, it should be noted that they are different from the

¹⁴¹ Gerhard, Michael and Kristina Moll, "Perspectives for More National Space Legislation: Introduction by Rapporteurs", *supra* note 137, at 29.

¹⁴² See Section 5 (Ministerial Power), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁴³ See Article VI, Outer Space Convention 1967, *supra* note 20.

¹⁴⁴ See Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; read also Article 5 (Supervision) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013).

¹⁴⁵ See Chapter 1 (Powers of Minister), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

powers of the Minister discussed earlier under the topic of authorization clauses.¹⁴⁶ There are three types of powers of the Minister proposed in relation to the monitoring and continuous supervision obligations: (1) power to monitor and supervise; (2) power to give direction; (3) power to revoke, vary, or suspend a licence and other modes.

The first power is the power to monitor and supervise.¹⁴⁷ Under this clause, it is proposed that the Minister be granted the power to monitor and continuously supervise the Malaysian space activities registered under the Malaysian Outer Space Act.¹⁴⁸ Such power authorizes the Minister to monitor and constantly control the operations. Indeed, the Minister has the right to supervise the operation accordingly so that it remains in conformity with the national and international laws. By having such a clause in the Malaysian Outer Space Act, Malaysia is able to observe the international obligation of continuing supervision imposed by the international space treaty.¹⁴⁹

The second power is the power to give direction.¹⁵⁰ In this clause, it is proposed that the Minister may give direction to the licensee in the event of the licensee contravening the licence requirements and conditions under the Malaysian Outer Space Act, or indeed to secure compliance with Malaysia's international space obligation.¹⁵¹ At first, it is necessary to note that, under the Malaysian Outer Space Act, the word licensee shall mean a person who holds a licence or any other mode of authorization granted under this Act.¹⁵² Hence, 'licensee' shall refer to a holder of licence, overseas launch or return certificate, experimental permit, or exemption certificate. For the purpose of monitoring and controlling the operation, the Minister is given the power under the Malaysian Outer Space Act to give direction to the holder of a licence, certificate, and permit who has been proved to have contravened the

¹⁴⁶ Refer to Chapter 3 (Powers of Minister), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁴⁷ Modified from Section 50907 (Monitoring Activities), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70106 (Monitoring Activities), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis), and Section 5(2)(a), United Kingdom Outer Space Act 1986, *supra* note 97; read also Article 5 (Supervision) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013).

¹⁴⁸ See Section 14, Chapter 1 (Powers of Minister), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁴⁹ See Article VI, Outer Space Convention 1967, *supra* note 20.

¹⁵⁰ Modified from Section 8(1)(a) and (b), United Kingdom Outer Space Act 1986, *supra* note 97.

¹⁵¹ See Section 15, Chapter 1 (Powers of Minister), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁵² See Section 6 (Interpretation), Part I (Preliminary), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

conditions of the licence, certificate or permit. The Minister may also give direction to the licensee if it is established that it is necessary to do so in order to secure compliance with the country's international obligations.

The third power is the power to revoke, vary, or suspend a licence or other modes.¹⁵³ To control and monitor the Malaysian space activities, it is also proposed that the Minister be conferred with a power to revoke, vary, or suspend the licence or other modes of authorization of the licensee. Such power is recommended to apply in two situations: (a) when the conditions of the licence and the other modes of authorization have not been complied with by the licensee; or (b) when the revocation, variation, or suspension of the licence or other modes is required in the interest of public health, national security, or to comply with the international obligations of Malaysia.¹⁵⁴ In such circumstances, when the Minister has discovered that the licensee has not observed the licence conditions in his/her operation, the Minister may exercise the power of revocation, suspension, or variation to the licence as he/she may think reasonable. The Minister may exercise the power under this clause when it is needed to protect public health and Malaysian national security, and to ensure compliance with the international obligations.

Returning to the original area of matters proposed under the supervision and monitoring clauses, rather than the powers of the Minister, the second concerns the establishment, powers and functions of the Supervision and Monitoring Committee.¹⁵⁵ In this regard, six legal rules are suggested: (1) establishment of Supervision and Monitoring Committee; (2) assistance by a Committee; (3) composition of a Committee; (4) issuance and submission of identity cards; (5) powers and functions of a Committee; and lastly, (6) compliance with Minister's instructions.

The first is the establishment of Supervision and Monitoring Committee. For the purpose of constant monitoring and supervising of space activities, it is significant to create a special

¹⁵³ Modified from Section 6(2), United Kingdom Outer Space Act 1986, *supra* note 97; read also Article 6 (Withdrawal, Suspension or Amendment of Authorization) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

¹⁵⁴ See Section 16, Chapter 1 (Powers of Minister), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁵⁵ See Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

mechanism to assist the Minister in exercising his power. By having such mechanism, it is expected that the task of monitoring, controlling and supervising the activities will be executed more effectively and efficiently. In view of this, the study proposes a clause on the establishment of a Committee.¹⁵⁶ In parallel with its tasks, the Committee shall be known as the Supervision and Monitoring Committee. Hence, in the Malaysian Outer Space Act, a rule is proposed stipulating that the Minister shall establish a Committee to assist him in performing his power of supervision and monitoring of space activities.

The second is assistance from a Committee. After prescribing a clause in respect of the establishment of a Committee, the next clause proposed is in regard to the purpose of establishing the Supervision and Monitoring Committee. At this point, the legal rule recommended is that the Committee shall assist the Minister to perform his power of supervision and monitoring of space activities.¹⁵⁷ In this sense, the main task of the Committee is to assist the Minister in exercising his duty of monitoring and supervising the activities. The implementation of the task should thus be more efficient and well-organized.

The third is the composition of a Committee.¹⁵⁸ At this juncture, it is essential to prescribe the type of Committee that is required. Thus, the study proposes that the Supervision and Monitoring Committee consists of a group of Malaysian technical and legal experts, assisted if necessary by foreign experts as well.¹⁵⁹ They are, in fact, designated on the basis of their technical and legal expertise and their knowledge of the space activities involved. Thus, the Committee to assist the Minister in monitoring and supervising the activities should comprise Malaysian technical and legal experts in regard to the operations involved. The appointment of foreign experts will be permitted only when proved necessary.

¹⁵⁶ See Section 17, Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁵⁷ See Section 18, Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁵⁸ Modified from Section 2 of Chapter II, Belgium Law on the Activities of Launching, Flight Operations or Guidance of Space Object (Text of the Royal Implementing Decree of 19 March 2008), http://www.belspo.be/belspo/space/doc/beLaw/AR_spatial_en.pdf, accessed: 25 April 2013.

¹⁵⁹ See Section 19, Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

The fourth is the issuance and submission of identity cards.¹⁶⁰ For the purpose of identification of the Committee member, it is submitted that each of them be assigned a special identity card. The purpose of this card is to identify the person as a member of the monitoring and supervision Committee, so that they will be afforded cooperation and easy access to the space site and facility by the licensee. This is, in fact, can also avoid the possibility of power being abused by the other unauthorized officer. Hence, the study proposes a clause in the Malaysian Outer Space Act to specify that the Supervision and Monitoring Committee shall be issued with identity cards that include a recent photograph of the holder.¹⁶¹ It is also suggested that there be a clause mentioning that the identity card must be returned to the Minister as soon as is practicable after the holder has ceased to be a member of the Committee.¹⁶² This is significant in order to avoid misuse of the card.

The fifth area is the powers and functions of the Committee.¹⁶³ It is proposed that the Malaysian Outer Space Act prescribes the specific powers and functions of the Supervision and Monitoring Committee in performing its task of assisting the Minister in monitoring and supervising the space activities. Seven functions are suggested in total. The first main function is to constantly monitor the licensee and ensure his/her compliance with the terms and conditions of the licence and other modes of authorization.¹⁶⁴ The main task of the Committee is to monitor the space operations continuously and to ensure that the licensee always complies with and observes all the terms and conditions stipulated in the licence and other modes. The second function is to constantly supervise the licensee.¹⁶⁵ The Committee has an obligation to continue supervising the licensee in respect of the operation of the space activities. This is essential in order, for instance, to avoid any possible misunderstandings by

¹⁶⁰ Modified from Section 58, Australian Space Activities Act 1998, *supra* note 107.

¹⁶¹ See Section 20(1), Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁶² See Section 20(2), Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁶³ Modified from Section 51 and 52, Australian Space Activities Act 1998, *supra* note 107; Section 5(2)(c), United Kingdom Outer Space Act 1986, *supra* note 97; Section 50907 (Monitoring Activities), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70106 (Monitoring Activities), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis).

¹⁶⁴ See Section 21(a), Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁶⁵ See Section 21(b), Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

the licensee particularly in relation to the national and international obligations that need to be observed during the activities. This task should, for instance, be applicable to the Committee of legal experts.

The third function of the Committee is to ensure that no person or property is endangered by space operations.¹⁶⁶ Space activities, by their nature, may involve persons and property. Thus, it is crucial for the Committee, especially those members with technical expertise, to ensure such space operations do not expose the public and their property to any kind of danger. If it is proved that the operation will endanger lives and destroy property, the operation must then be stopped. The fourth function is to enter and inspect the site, facility, space object or other related equipment.¹⁶⁷ In order to monitor activities, it is important to give authorization to the Committee to enter and inspect the site, facilities, and other related equipment. The Committee will thus be able to assess whether the licensee is in conformity with the rules.

The fifth function is to require the licensee to provide necessary information or assistance regarding the space operations.¹⁶⁸ In such circumstances, while monitoring the activities, the Committee has the right to ask the licensee to supply or provide any information in relation to the space operation, if necessary. The Committee also has the right to seek any kind of assistance during the performance of the task. The sixth function is to take copies of the documents of the space operation when necessary.¹⁶⁹ To effectively perform this task, the Committee is authorized to take copies of any documents related to the operation. This can be performed only if the Committee feels it is relevant and necessary to assist them in the inspection of the operation. The seventh function is the broad scope of the Committee to do anything that is reasonable and necessary to perform its duty.¹⁷⁰ This clause is broad and open in terms of the powers and functions of the Committee. It is proposed that this clause covers

¹⁶⁶ See Section 21(c), Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁶⁷ See Section 21(d), Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁶⁸ See Section 21(e), Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁶⁹ See Section 21(f), Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁷⁰ See Section 21(g), Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

all other reasonable necessary actions that need to be executed by the Committee while performing its tasks.

To conclude the points regarding powers and functions of the Committee, the sixth and final legal rule proposed under the establishment, powers and functions of the Committee is the clause on compliance with the Minister's instructions.¹⁷¹ It should be noted that, in performing its tasks, the Supervision and Monitoring Committee must comply with any instruction given by the Minister.¹⁷²

The third major area proposed under the supervision and monitoring of space activities clauses, as distinct from the powers of the Minister and the establishment of Supervision and Monitoring Committee, is in respect of the duties of the licensee.¹⁷³ It should be remarked that it is essential to prescribe duties for the licensee to observe. When the licensee is required under the law to observe his/her duties, it is hoped that the task of the Minister and the Committee in monitoring and supervising the activities will be more effective and successful. Thus, the study proposes four legal rules in relation to duties of the licensee: (1) duty of the licensee to cooperate; (2) duty to permit access to the site and for observation of the operation; (3) duty to obtain advance approval for deviation of space object; and (4) duty to notify the disposal of a payload.

The first is the duty of the licensee to cooperate.¹⁷⁴ In general, it is the duty of the licensee to cooperate with the Committee. In order to successfully implement the tasks of monitoring and controlling the space activities, the Committee needs the cooperation of the licensee. Therefore, it is proposed that there be a clause stipulating that a licensee must cooperate with the Committee for the fulfilment of the functions prescribed under the Malaysian Outer Space Act.¹⁷⁵ The second is the duty to permit access to the site or facility for observation of the

¹⁷¹ Modified from Section 55, Australian Space Activities Act 1998, *supra* note 107.

¹⁷² See Section 22, Chapter 2 (Establishment, Powers, and Functions of Supervision and Monitoring Committee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁷³ See Chapter 3 (Duties of Licensee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁷⁴ Section 50907 (Monitoring Activities), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70106 (Monitoring Activities), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis).

¹⁷⁵ See Section 23, Chapter 3 (Duties of Licensee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

operation.¹⁷⁶ It is the duty of the licensee to provide access to the Committee for the inspection of sites, facilities and equipment, as well as to allow the Committee to observe the operation of the space activities. Therefore, the study suggests a clause specifying a rule that the licensee must allow the Committee to access the site or facilities, and to perform all other functions prescribed by the Act, as well to observe the operation.¹⁷⁷ This clause again supports the Committee in performing its monitoring tasks.

The third is the duty to obtain advance approval for a deviation of a space object.¹⁷⁸ The licensee must obtain approval in advance from the Minister for any intended deviation of a space object from its orbital parameter and must inform the Minister of any unintended deviation.¹⁷⁹ Such a clause would indeed assist the Minister in controlling the space activities in that all deviations of the space object from its orbital parameter, and any unintended deviation must obtain the Minister's approval. This signifies that the Minister is aware of the latest progress of the space activities registered under the Act and is thus able to constantly monitor the activities. The fourth and final duty is to notify the disposal of a payload.¹⁸⁰ It is also suggested that the licensee be required to notify the Minister of any disposal of payloads in outer space on the termination of the operation.¹⁸¹ The same earlier reason shall also apply to this clause.

4.4.4. Registration Clauses

The registration of objects launched into outer space by a state is essential since the international law prescribes numerous rules in relation to states' registry. These rules include the recognition of the international space law that ownership of a space object belongs to the state of registry, which will thus retain jurisdiction and control over it.¹⁸² In the event of a

¹⁷⁶ Modified from Section 50907 (Monitoring Activities), 51 USC Chapter 509, *supra* note 320 (Chapter 3 of the thesis); Section 70106 (Monitoring Activities), 49 USC Chapter 701, *supra* note 321 (Chapter 3 of the thesis).

¹⁷⁷ See Section 24, Chapter 3 (Duties of Licensee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁷⁸ Modified from Section 5(2)(d), United Kingdom Outer Space Act 1986, *supra* note 97.

¹⁷⁹ See Section 25, Chapter 3 (Duties of Licensee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁸⁰ Modified from Section 5(2)(e) and (g), United Kingdom Outer Space Act 1986, *supra* note 97.

¹⁸¹ See Section 26, Chapter 3 (Duties of Licensee), Part III (Supervision and Monitoring of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁸² Article VIII, Outer Space Treaty 1967 states: '*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 ... Such objects or component parts found beyond the limits of the State Party to the Treaty on*

space object or its components being found outside the territory of the state of registry, such object shall be returned to the state that maintains the registration of the object at the state's request.¹⁸³ The same applies where astronauts make an emergency landing outside the intended jurisdiction; they shall be returned safely and promptly to the state of registry of their space vehicle.¹⁸⁴ Based on the aforementioned situations, it is noted that it is important to clearly identify the state of registry of the space object when dealing with the object launched into space. To be evidently identified as a state of registry of a specific space object, such state needs to have an efficient registration system to deal with the related matters. Thus, in view of the above, this section proposes a number of legal clauses in relation to registration of space objects whose launch operations have been authorized by the Malaysian Outer Space Act. As such, the discussion is divided into two main points: (1) a national registry; and (2) a supplementary registry.

Under the national registry, ten legal clauses are proposed:¹⁸⁵ (1) Minister to establish and maintain a national registry; (2) notification of establishment of a registry to the United Nations; (3) registration of space objects; (4) allocation of registration numbers; (5) entry of information on the space objects; (6) time limit to enter information; (7) updating information in the register; (8) power to vary an entry on register; (9) inspection of register; and (10) notification of information to the United Nations.

The first clause is in regard to the Minister establishing and maintaining a national registry.¹⁸⁶ It has been established that the international law imposes an obligation on a state to register any object it launches into outer space by means of entry in an appropriate registry.¹⁸⁷ To implement the obligation to register objects in the appropriate registry, it is proposed that

whose registry they are carried shall be returned to that State Party, which shall, upon request, furnish identifying data prior to their return'. See also Registration Convention 1975

¹⁸³ *Id.*

¹⁸⁴ Article V, Outer Space Treaty 1967 stipulates: '*State Parties to the Treaty shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing ... they shall be safely and promptly returned to the State of registry of their space vehicle*'. See also Rescue Agreement 1968.

¹⁸⁵ See Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁸⁶ Modified from Section 7(1), United Kingdom Outer Space Act 1986, *supra* note 97; Section 76(1), Australian Space Activities Act 1998, *supra* note 107; read also Article 10 (Registration) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

¹⁸⁷ Article II(1), Registration Convention 1975 mentions: '*When a space object is launched into Earth orbit or beyond, the launching state shall register the space object by means of an entry in an appropriate registry ... State shall inform the Secretary-General of the United Nations of the establishment of such a registry*'.

states form national registries to register space objects. Thus, this study proposes a legal rule stipulating that the Minister shall establish and maintain a national registry of space objects.¹⁸⁸ Such a clause will ensure that Malaysia has an official national registry for space objects that is regulated under the Malaysian Outer Space Act.

The second clause is notification of the establishment of a registry to the United Nations. Once a state has established its national registry of space objects, it is further obligated to inform the Secretary-General of the United Nations of such registry.¹⁸⁹ In other words, it is the duty of the state to inform the United Nations about the national registry after its establishment. In this way, the United Nations will have records of such matters. In parallel with the international obligation to notify the establishment of national registries, it is proposed that the Malaysian Outer Space Act contains a clause stipulating that the Minister shall notify the Secretary-General of the United Nations of the establishment of a national registry of a space object.¹⁹⁰ This is important to ensure that the Minister legally fulfils his/her obligation to notify the United Nations about the establishment of the state registry. This practice will in fact assist the United Nations in recognizing the existence of the state registry and will also support them in monitoring the space activities.

The third clause is the registration of space objects. As there is an obligation for a launching state to register objects launched into space,¹⁹¹ there should be a clause obliging the licensee to register those space objects. By registering the objects, the state will become the state of registry for those objects, and can therefore claim jurisdiction and control over the objects. Such registration is indeed evidence of ownership of a space object. Thus, the state of registry has the right to claim jurisdiction and control over it, especially in the event of it crashing or landing outside the intended territory.¹⁹² Furthermore, the international space law has affirmed that the ownerships of space objects launched into outer space will not be affected by matters such as their presence in outer space or on a celestial body, or by their return to the Earth.¹⁹³ This means that, regardless of the object's location, the ownership will remain with

¹⁸⁸ See Section 27, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁸⁹ Article II (1), Registration Convention 1974, *supra* note 187.

¹⁹⁰ See Section 28, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁹¹ Article II (1), Registration Convention 1974, *supra* note 187.

¹⁹² Article VIII, Outer Space Treaty 1967, *supra* note 182.

¹⁹³ *Id.*

the state of registry. Hence, in such circumstances it is suggested that a clause be included in the Malaysian Outer Space Act requiring the licensee to register the space object in the national registry before launching it. Under this clause, the licensee would then be legally required to register, in the Malaysian national registry, the space object to be launched into outer space.¹⁹⁴ Such registration must be executed prior to the launch taking place.

The fourth concerns the allocation of a registration number.¹⁹⁵ For the purpose of registration of the space object, in order to ensure the effective performance of the registration, it is suggested that a registration number be allocated to each object launched into space.¹⁹⁶ These numbers will make it easier to identify and trace the objects in outer space, or when they crash into the Earth, for instance. Indeed, the number should reflect the identity of the state of registry of those objects. Thus, it is proposed that the Malaysian Outer Space Act include a legal rule requiring the Minister to allocate a registration number to each space object by which the object shall be identified.¹⁹⁷ With a system for the allocation of specific registration numbers, it is hoped that the procedure for national registration will be more efficient.

The fifth deals with the entry of information on the space object.¹⁹⁸ Although the international law prescribes that the contents of the register and the conditions by which it is maintained shall be determined by the state of registry,¹⁹⁹ it would be more effective to determine from the outset that the content of the register is similar to that maintained by the Secretary-General of the United Nations.²⁰⁰ Such a situation is considered more effective since the similar contents can be furnished as soon as is practicable to the United Nations after the entry has been executed at the national level.²⁰¹ However, the Minister may also

¹⁹⁴ See Section 29, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁹⁵ Modified from Section 77(1), Australian Space Activities Act 1998, *supra* note 107.

¹⁹⁶ There is a requirement under Article IV(1), Registration Convention 1975 stipulating the obligation of the state of registry to furnish information of the space object, such as its registration number, to the Secretary General of the United Nations.

¹⁹⁷ See Section 30, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

¹⁹⁸ Modified from Article IV(1), Registration Convention 1975, *supra* note 19; Section 7(2), United Kingdom Outer Space Act 1986, *supra* note 97; Section 76(2), Australian Space Activities Act 1998, *supra* note 107; read also Article 10(4) (Registration) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

¹⁹⁹ Article II (3), Registration Convention 1975 states: '*The contents of each registry and the conditions under which it is maintained shall be determined by the State of registry concerned*'.

²⁰⁰ See Article IV(1) and Article XI, Registration Convention 1975, *supra* note 19; Gerhard, Michael and Kai-Uwe Schrogl, "Report of the Working Group on National Space Legislation", *supra* note 63, at 26.

²⁰¹ Article IV (1) and Article XI, Registration Convention 1975 *supra* note 19.

include any other entries in the register as necessary.²⁰² Thus, to make this point legally effective at the Malaysian national level, it is proposed that the Malaysian Outer Space Act include a clause stipulating that the licensee shall enter the following particulars of the space object:²⁰³ (a) registration number of a space object; (b) location of launch; (c) date and time of launch; (d) space object's general function; (e) the space object's main orbital parameters, including the nodal period, its inclination, apogee and perigee; (f) name of manufacturer; (g) name of operator; (h) name of other launching state (if applicable); (i) main constituent elements on board the space object; (j) current status (functional/non-functional/no longer in orbit); and, (k) any other necessary information. Under this clause, all this listed information shall be provided by the licensee to the national registry at the national level, after which the Malaysian Minister is then obliged to register the space object with the United Nations at the international level.

The sixth clause concerns the time limit for entering information.²⁰⁴ Fixing a time limit for entering information in the register is a crucial matter as it will assist the Minister in charge to perform his/her duty to further notify the information to the Secretary-General of the United Nations within a reasonable time limit.²⁰⁵ In other words, by fixing a limit for the period for entering information in the national registry, the licensee is obliged to do so within the stipulated period. This situation will then allow the relevant Minister to perform the task of passing such information to the United Nations as prescribed. For the time limit clause, the study suggests the licensee enters in the registry the information relating to the space object not later than 30 days following its launch.²⁰⁶ Hence, the entry of the information must be done within 30 days of the launch date. The study believes that 30 days is an appropriate period of time for a licensee to make a reasonable effort to enter the information in the register in accordance with the Malaysian Outer Space Act.

The seventh clause deals with updating information in the register. All information provided by the licensee in relation to the space object launched must be updated by the licensee when

²⁰² Article II (3), Registration Convention 1975, *supra* note 199.

²⁰³ See Section 31, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁰⁴ Modified from Section 5(2) (b), United Kingdom Outer Space Act 1986, *supra* note 97.

²⁰⁵ Article IV (1), Registration Convention 1974 prescribes that the relevant information shall be furnished by the state of registry to the United Nations as soon as practicable. See *infra* note 215.

²⁰⁶ See Section 32, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

any changes occur. This clause is important for maintaining the current and latest information about the status of the space object. It will assist the Minister to comply with his/her responsibility to forward the latest information on the object registered under the Malaysian Outer Space Act to the United Nations in accordance with the international law.²⁰⁷ Such national legal obligation on the licensee to update the information on the current status of the space object will only apply when there is a change to the previous recorded information. If no changes take place, there will be no obligation to update the information previously recorded. This practice will greatly strengthen the provision of up-to-date information to the United Nations, which will surely benefit the space community. In view of this, the study proposes a legal rule requiring the licensee to update the information when any modification occurs.²⁰⁸

The eighth clause concerns the power to vary an entry in the register.²⁰⁹ It is important to allocate power to the Minister to vary an entry in the register, since entries in the register may be varied and modified from time to time in order to ensure its effectiveness. Thus, if the Minister is given such power by the Malaysian Outer Space Act, he/she will have the authority to vary and modify the entries at any time, as it is necessary, for the efficiency and efficacy of the registering system under the Malaysia Outer Space Act. On this basis, the study proposes a clause empowering the Minister to vary an entry in the register when necessary.²¹⁰ It is hoped that such a clause will accommodate the future changes and challenges in outer space technology.

The ninth clause is about inspection of the register.²¹¹ This point is considered after taking into consideration the international rule of outer space which provides to the public full and open access to information in respect of space objects registered with the United Nations.²¹²

²⁰⁷ Article IV (2), Registration Convention 1975 mentions: '*Each State of registry may, from time to time, provide the Secretary General ... with additional information concerning a space object carried on its registry*'; Article IV (3), says: '*Each State of registry shall notify the Secretary General ..., to the greatest extent feasible and soon as practicable, of space object ... has previously transmitted information ... but no longer are in Earth orbit*'.

²⁰⁸ See Section 33, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁰⁹ Modified from Section 76(4), Australian Space Activities Act 1998, *supra* note 107.

²¹⁰ See Section 34, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²¹¹ Modified from Section 7(3), United Kingdom Outer Space Act 1986, *supra* note 97; Section 79, Australian Space Activities Act 1998, *supra* note 107.

²¹² Article III (2), Registration Convention 1975 specifies: '*There shall be full and open access to the information in the Register*'.

Thus, it is proposed that the Malaysian Outer Space Act give the public the right to inspect the data provided by the licensee to the Malaysian national registry in regard to space objects launched into space. The public is entitled to know about the activities conducted in outer space since these activities may affect the quality of their future lives and surrounding environment. In addition, according to the international rule,²¹³ such activities should be carried out only for the betterment and interest of all mankind. On this matter, it is also suggested that the inspection be carried out only upon payment of a certain fee. Such payment would be made to cover the cost of the administrative procedure involved; this would be a small fee to be prescribed by the Minister in charge. Hence, it is proposed that this clause of the Malaysian Outer Space Act be split into two: (a) The register shall be open to any member of the public for inspection; and (b) the inspection can only be made after payment of fees as prescribed by the Minister.²¹⁴

The tenth and final clause is to do with the notification of information to the United Nations. Once the licensee has entered the information on the space object whose launch has been authorized under the Malaysian Outer Space Act, such information must then be furnished to the Secretary-General of the United Nations. With the implementation of this clause, Malaysia under its national law can legally observe the international obligation of the United Nations space convention which requests the state of registry to furnish the information to the United Nations as soon as practicable.²¹⁵ In addition, Malaysia will comply with the requirement to provide additional and updated information to the United Nations from time to time.²¹⁶ Thus, this study proposes a clause in the Malaysian Outer Space Act specifying that the Minister shall notify the Secretary-General of the United Nations about the information obtained regarding the space object and the updated information relating to it as soon as is practicable.²¹⁷

²¹³ The Preamble, Outer Space Treaty 1967, and Principle 1, Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space 1967.

²¹⁴ See Section 35, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²¹⁵ Article IV(1), Registration Convention 1975, prescribes: '*Each states of registry shall furnish to the Secretary-General ... , as soon as practicable, the following information: (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; ...*'.

²¹⁶ Article IV (2) and (3), Registration Convention 1975, *supra* note 207.

²¹⁷ See Section 36, Chapter 1 (National Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

Apart from the above-mentioned Malaysian national registry clauses proposed, the second division suggested is in relation to the supplementary registry.²¹⁸ The aim of incorporating the supplementary registry clauses into the Malaysian Outer Space Act is to effectively cater for matters in respect of the registration of objects launched into space. On this point, besides having a main national registry, a supplementary registry is also necessary to cover circumstances where the space object launched into space falls under a specific category, which will be discussed in the coming paragraphs. Thus, under the supplementary registry, there are two clauses proposed in the Malaysian Outer Space Act: (1) Minister to establish and maintain a supplementary registry; and (2) circumstances where registration is categorized under the supplementary registry.

The first clause is about the power of the Minister to establish and maintain the supplementary registry. As well as providing the Minister with the power to establish the national registry, it is also necessary to provide him/her with the power to establish a supplementary registry of objects launched into space. This power is prescribed not only to establish but also to maintain such registry, as proposed for the main national registry. Thus, the clause suggested in relation to this matter shall state that the Minister shall establish and maintain a supplementary registry of space objects.²¹⁹

The second clause concerns the circumstances in which registration is categorized under the supplementary registry. The supplementary registry is treated as a supplement to the main national registry. It is proposed that information on certain types of space objects be entered in the supplementary registry instead of the main national registry. These are space objects whose launch has been procured by Malaysia but which appear in the registries of another states, and space objects whose title and control has been transferred to Malaysian operators after their launch, the authorization for which has been granted under the Malaysian Outer Space Act.²²⁰

²¹⁸ See Chapter II (Supplementary Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²¹⁹ See Section 37, Chapter II (Supplementary Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²²⁰ See Section 38, Chapter II (Supplementary Registry), Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; read also Article 9 (Transfer of Space Activity) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

The first situation involves space objects whose launch has been procured by Malaysia, but which are registered in the national registries of other states. For this case, although the registration of the object has been made in the national registry of another country, for the purposes of a complete and efficient record system the relevant information of such objects shall then also be entered in the Malaysian supplementary registry. This is to ensure that the Malaysian Government does not overlook an object whose launch it has procured but which is registered in another country's national registry. It is remarked that, by entering the information in the supplementary registry, it is well understood that such an object already appears in the registry of another state. The second situation involves a space object whose title and control has been transferred to a Malaysian operator. At this point, it should be noted that such transfer of title and control only occurs after the launch has taken place and the operation has been authorized by the Malaysian authority. In other words, it is a case of transferring ownership. Thus, for this kind of operation, the information shall be recorded in the Malaysian supplementary registry.

Besides suggesting the rules of registration of space activities whose details are accessible to the public, it is important to note that the study also proposes that such rules of registration not be applicable to Malaysian military outer space activities.²²¹ This matter will be discussed further in the forthcoming section.²²²

4.4.5. Liability and Indemnification Clauses

It is remarked that the international space law imposes rules that a state shall be internationally responsible for the activities of its nationals in outer space,²²³ as well as internationally liable for any damage or loss caused by a space object launched by the state or whose launch has been procured by the state.²²⁴ Such rules have, in fact, exposed states to the financial risk of having to compensate for any liability or loss resulting from their national

²²¹ See Section 49, Part VI (Other Relevant Clauses), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²²² Discussion is available in Chapter 4 of the thesis (4.4.7. Other Relevant Clauses).

²²³ Article VI, Outer Space Treaty 1967 stipulates: '*States Parties to the Treaty shall bear international responsibility for national activities in outer space ... whether such activities are carried on by governmental agencies or by non-governmental entities ...*'. See also Liability Convention 1972.

²²⁴ Article VII, Outer Space Treaty 1967 specifies: '*Each State Party to the Treaty that launches or procures the launching of an object into outer space ... , and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party ...*'. See also Liability Convention 1972.

space activities.²²⁵ As a space participant, Malaysia must be aware of the possibility of such liability at the international level, as well its capacity to be regarded as a launching state.²²⁶ In such circumstances, Malaysia is strongly advised to adequately protect itself from any possible liability arising from space activities performed by its private entities.

In view of the above, this section proposes a number of legal rules in respect of indemnification of space liability by the licensee to the Government of Malaysia. It will also stress some requirements for any licensee conducting space activities under the Malaysian Outer Space Act to obtain liability insurance.²²⁷ The discussion is divided into two main points: (1) full indemnification and its exemptions; and (2) the liability insurance and its requirements.

The first point relates to full indemnification and its exemptions.²²⁸ In this matter, six legal clauses are proposed. They are: (1) obligation to indemnify the Government in full against any claims; (2) entitlement for exemption to the obligation to indemnify the Government in full; (3) conditions for entitlement for exemption to the obligation to indemnify in full; (4) safeguarding the interest of the Government of Malaysia against possible financial risk; (5) power of the Government of Malaysia to claim the balance of the indemnification amount; (6) situations where entitlement for exemption of indemnification in full is not applied.

The first clause concerns the obligation to indemnify the Government in full against any claims.²²⁹ It is crucial to note that observing the liability obligation under the international space conventions might expose Malaysia to financial risk.²³⁰ The Government of Malaysia

²²⁵ Article II, Liability Convention 1972 mentions: '*A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft in flight*'. See also Article VII, Outer Space Treaty 1967, *id.*; Article VI, Outer Space Treaty 1967, *supra* note 223.

²²⁶ Article II, Liability Convention 1972, *id.*; Article I, Liability Convention 1972 prescribes: '*(b) The term "launching" includes attempted launching; (c) The term "Launching State" means: (i) A State which launches or procures the launching of a space object; (ii) A State from whose territory or facility a space object is launched ...*'.

²²⁷ See Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²²⁸ See Chapter I (Full Indemnification and Its Exception), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²²⁹ Modified from Section 10(1), United Kingdom Outer Space Act 1986, *supra* note 97; read also Article 11(1) (Liability and Recourse) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013).

²³⁰ Article II, Liability Convention 1972, *supra* note 225; Article I, Liability Convention 1972, *supra* note 226; Article VI, Outer Space Treaty 1967, *supra* note 223; Article VII, Outer Space Treaty 1967, *supra* note 224.

can be held liable for damage or loss caused by its nationals' space activities.²³¹ In such circumstances, the Government of Malaysia is obliged under the international space law to compensate any liability occurred and to be responsible for any losses caused by the space activities conducted by its nationals. Thus, there is a need to propose some municipal rules that are able to safeguard the interests of the Government of Malaysia when observing such liability obligation at the international level. In view of this, the study proposes a rule that, in the event of the Government being held liable at the international level for a certain amount of compensation to be paid to the claimant, the actual responsible party whose space object caused the damage or loss shall indemnify the Government of Malaysia in the full amount at the national level. Hence, the Malaysian Outer Space Act should prescribe that the licensee shall indemnify the Government of Malaysia in full against any claims brought against the Government of Malaysia, internationally or nationally, in respect of damage or loss arising from activities carried out by the licensee under the Malaysian Outer Space Act.²³² With the imposition of the rule of full indemnification, it is believed that the interests of the Malaysian Government with respect to its financial risk would be adequately protected.

The second clause is concerned with the entitlement to exemption from the obligation to indemnify the Government in full.²³³ Despite the obligation of licensees to indemnify the Government of Malaysia in the full amount against any claims brought against it, this study also attempts to encourage space operators or licensees to register their space activities under the Malaysian Outer Space Act. To this end, the study proposes a rule that the licensee is entitled to indemnify the Government of Malaysia not in the full amount but only to the licensee's utmost financial capacity, provided that such amount is not less than the insured amount.²³⁴ This means that the licensee is given a chance to exempt him/herself from making a full payment of indemnification to the Government. However, the amount payable should

²³¹ Article VI, Outer Space Treaty 1967, *supra* note 223; Liability Convention 1972.

²³² See Section 39, Chapter I (Full Indemnification and Its Exception), Part V (Indemnification and Insurance Requirement), draft of Malaysian Space Act [Year] (Act [No.]), *supra* note 83.

²³³ In Australia, the Australian Government applies a concept of monetary limit on liability. This concept implies that a responsible party is liable to pay compensation up to the certain insured amount only (as required under the Australian legislation). However, if the amount is in excess of the insured amount, he/she is not liable to pay the balance of the compensation. This balance of compensation amount (which is in excess of the insured amount) is, indeed, a matter of the Australian Government's responsibility to provide the payment. See Section 48(3), and 69(3), Australian Space Activities Act 1998. More information is available in Chapter 3 of the thesis (3.3.3(e) Australia: Liability and Indemnification); read also Article 11(2) (Liability and Recourse) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013).

²³⁴ See Section 40, Chapter I (Full Indemnification and Its Exception), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

be according to the licensee's utmost capable financial capacity and not lower than the insured amount. In other words, it must refer to whichever is the higher amount.²³⁵ This entitlement is actually available to the licensee only when the conditions prescribed by the Act are fulfilled. This will be further elaborated in the next paragraph.

The third clause deals with the conditions for entitlement to exemption from indemnification in full. As the study proposes the entitlement to exemption from indemnification in full, it also suggests a number of conditions to be fulfilled before the licensee is entitled to exemption from full payment. All these conditions must be proved successfully. They are as follows:²³⁶ (a) the licensee must sufficiently prove to the Government of Malaysia that he/she is genuinely incapable of indemnifying the Government in full; (b) the Government of Malaysia has to be satisfied itself to the fullest extent that the licensee is financially incapable of indemnifying in full; and, (c) the entitlement will not jeopardize the interest of the Government of Malaysia in particular, and Malaysia as a whole, especially in relation to its financial capacity. Thus, for the first condition the onus is on the licensee to provide evidence that he/she is incapable of paying full indemnification to the Government. Then, such evidence will be used to fulfil the second condition, which is for the Malaysian Government to be satisfied to the fullest extent that the licensee is incapable of making full settlement of the amount. Finally, when the Government is satisfied with the first two conditions, it should assess whether, by granting such entitlement to exemption to the licensee, it may or may not jeopardize any interest of the Government of Malaysia in particular, and Malaysia in general. If the licensee satisfies all these conditions, he/she will then be granted the entitlement to exemption from indemnification in full. These rules are proposed on the ground that they will encourage the development and progress of private space activities in Malaysia, apart from the Government's space activities. It is hoped that such rules will support and balance the

²³⁵ For instance: the full amount of compensation that the Malaysian Government should bear is RM (Ringgit Malaysia) 120 000. However, the licensee's insured sum is RM100 000 only. Based on evidence, the highest payment he is capable of paying according to his financial capacity is RM110 000. The licensee shall then indemnify the Government of Malaysia in the amount of RM110 000 (amount of his financial capability), instead of RM100 000 (the insured amount). The reason is that RM110 000 (amount of his financial capability) is even higher than the RM100 000 (the insured amount). So, for the balance of another RM10 000, it is up to the Malaysian Government to bear the cost. On the other hand, if the licensee can only pay RM 90 000 based on his financial capacity, he shall then indemnify the Government of Malaysia in the amount of RM100 000 (the insured amount), and not RM90 000 (the amount of his financial capacity). The reason is that RM100 000 (the insured amount) is even higher than RM90 000 (amount of his financial capability). Therefore, for the balance of RM20 000, it is up to the Government of Malaysia to bear the cost.

²³⁶ See Section 41, Chapter I (Full Indemnification and Its Exception), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

growth of public and private space activities in the country, thereby contributing to the expansion of the Malaysian economy into space technology and activities.

The fourth clause is about further safeguarding the interests of the Government of Malaysia against the possible financial risk. It should be noted that, although the study proposes the entitlement of the licensee to be exempted from paying the full indemnification amount, it believes that it is also necessary to further safeguard the interests of the Malaysian Government against any possible financial risks after providing such exemption facility to the licensee. As such, in order to further safeguard the interest of the Government of Malaysia against any possible financial risk, it is proposed that the entitlement to exemption from full indemnification shall apply only once for the whole period of operation under the licence or other modes authorized by the Malaysian Outer Space Act to the licensee.²³⁷ This means that the licensee is not allowed to request exemption from full payment more than once for the whole period of operation of space activities under the licence or other modes granted by the Malaysian Outer Space Act. It is believed that such a rule would protect the Malaysian Government from the possibility of facing financial risks resulting from possible multiple requests made by the same licensee to be exempted from making full indemnification payments as required under the Malaysian Outer Space Act.

The fifth clause concerns the power of the Government of Malaysia to claim the balance of the indemnification amount. Apart from providing the licensee with the facility for exemption from payment of the indemnification amount in full, the study must also consider other future potential financial risks that may be faced by the Government of Malaysia. This is highlighted on the ground that Malaysia is not a large developed country with a firm economic capacity that will guarantee its enduring stability. Thus, the study suggests a clause prescribing a right of the Government of Malaysia to claim or recover the balance of the indemnification amount that the licensee was previously exempted from paying under this Act. It should be remarked that this right should only apply in the event of the Malaysian Government strongly believing that it is necessary to do so in the interests of the Government and the country as a whole. The Government of Malaysia should also be entitled to recover the amount if the Government identifies that the respected licensee has the financial capacity

²³⁷ See Section 42, Chapter I (Full Indemnification and Its Exception), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

to pay the balance of the indemnification amount to the Government.²³⁸ By proving one of the conditions, the Government of Malaysia would be entitled to recover the balance of the amount of indemnification. This clause is, indeed, suggested on the basis that the Government of Malaysia and the private sector should adopt a spirit of serving each other for the sake of the further development of the country's space activities. This can be achieved through the study's initial proposal that the Government shall assist the private sector in relation to payment of indemnification. In other words, the Malaysian Government should assist the private sector to pay the remaining indemnification amount if the prescribed conditions are fulfilled. On the other hand, the private sector must be willing to pay back this amount to the Government when it has the financial capacity to do so. To achieve a balance between safeguarding the interests of the private sector and those of the Government of Malaysia, the study proposes that the Government have the right to fully recover such amount when it believes it is necessary to do so in the interests of country, such as during an economic crisis.

The sixth and final clause deals with situations where the entitlement to exemption from indemnification in full is not applied. It is proposed that, in certain situations, the entitlement to exemption from paying the indemnification amount in full shall not be granted to the licensee. Such circumstances include those in which the damage or loss results from the wilful misconduct or negligence of the licensee. The same applies if it is proved that the damage or loss occurs because of non-compliance with the requirements of the authorization, or any other relevant laws, by the licensee.²³⁹ This means that, if it is proved that those factors have contributed to the cause of the damage or loss, the licensee is not then entitled to request exemption from the full indemnification payment offered under the Malaysian Outer Space Act.

Let us return to the points proposed under the liability and indemnification clauses. While the first is in respect of the full indemnification and its exemptions, the second relates to liability insurance and its requirements.²⁴⁰ Under this point, the study proposes three rules: (1)

²³⁸ See Section 43, Chapter I (Full Indemnification and Its Exception), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²³⁹ See Section 44, Chapter I (Full Indemnification and Its Exception), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁴⁰ See Chapter 2 (Liability Insurance and Its Requirements), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; read also Article 12 (Insurance) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines

requirement to obtain liability insurance; (2) circumstances in which liability insurance is required; and (3) requirement to obtain the maximum insurance coverage.

The first point is the requirement to obtain liability insurance. To protect the interests of the Malaysian Government against any possible financial risks arising from the liability of space operations conducted by the licensee, it is highly recommended that the Malaysian Outer Space Act imposes a requirement for the licensee to insure him/herself against any possible liability. Thus, the Malaysian Outer Space Act should require the licensee to insure him/herself against any liability incurred after obtaining authorization under the Malaysian Outer Space Act.²⁴¹ This clause would legally bind the licensee to obtain insurance in order to insure him/herself against any possible liability that might be incurred during the operations. Such requirement would, indeed, guarantee the capacity of the licensee to indemnify the Government of Malaysia in the event of any damage or loss occurring on the international stage.

The second point is in respect of the circumstances in which liability insurance is required.²⁴² The study proposes some specific circumstances in which the licensee is required to obtain the insurance. The licensee must insure him/herself against any liability incurred with respect to four situations: (a) damage or loss of property or death or bodily injury suffered by a third party; (b) damage or loss of property or death or bodily injury suffered by the Government of Malaysia and its agents; (c) liability of the Government of Malaysia that might be incurred under the international law; (d) any other circumstances that the Government of Malaysia deems necessary.²⁴³ The first situation deals with circumstances in which the licensee's space operation causes damage or loss to a third party. The second situation concerns damage or loss to the Government of Malaysia or its agents. These two liabilities may indeed take place domestically. The third situation refers to any liability of the Government of Malaysia that might be incurred internationally. This point refers to circumstances in which the Government of Malaysia shall be internationally responsible and liable on behalf of the

for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

²⁴¹ See Section 45, Chapter 2 (Liability Insurance and Its Requirements), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁴² Modified from Section 5(2)(f), United Kingdom Outer Space Act 1986, *supra* note 97; Section 48(1), Australian Space Activities Act 1998, *supra* note 107.

²⁴³ See Section 46, Chapter 2 (Liability Insurance and Its Requirements), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

licensee's space activities in accordance with the international space law. The last rule refers to any situation in which the Government believes it necessary for the licensee to insure him/herself against any liability that might be incurred. Thus, with those legal rules, all possible damage or loss that might be caused to a third party, or the Malaysian Government and its agents, both nationally and internationally, will be fully covered and protected.

The third and final point is the requirement to obtain maximum insurance coverage.²⁴⁴ It is the aim of the study to adequately protect the interest of the Government of Malaysia against any possible international liability arising from private space activities. Thus, in order to ensure that the Government is able to recover the amount it has to compensate with regard to international liability of private space activities, this study proposes a rule requiring the licensee to insure him/herself for the greatest amount of loss or damage that might reasonably be expected to result from such activities. It is also proposed that the Malaysian Outer Space Act include a legal rule obliging the licensee to ensure that the insured amount is the maximum liability insurance coverage available at the time of application.²⁴⁵ This clause makes the licensee legally responsible for insuring him/herself with the maximum insurance coverage. The licensee would then have the capacity to compensate the victim in case of loss, thus indemnifying the Government of Malaysia in situations where the Government has to take responsibility for the licensee's action and liability under the international space law. Thus, the interests of the victims, as well as the Malaysian Government and its agents, would be fully protected.

4.4.6. Safety, Peace and Security Clauses

Safety, peace and security clauses are among the clauses requiring special attention. It is important to incorporate these clauses into the national law as they will ensure the safe operation of space activities, not only locally but also internationally. Indeed, such clauses will prevent the possibility of a national space actor using outer space for unhealthy activities, such as testing a nuclear weapon, which is against the international law. Moreover, the clauses will ensure the preservation of the state's national security when its private entities conduct activities outside the country. Although, at the international level, the international

²⁴⁴ Modified from Section 48(3), Australian Space Activities Act 1998, *supra* note 107.

²⁴⁵ See Section 47, Chapter 2 (Liability Insurance and Its Requirements), Part V (Indemnification and Insurance Requirement), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

law authorizes everyone to freely explore and use outer space without discrimination, these clauses will inject the spirit of safety and peace into the international rules.²⁴⁶ This is essential in order to ensure the permanent preservation of the fragile environment of outer space. Indeed, it will preserve both, outer space and the Earth.

In view of the above, the study proposes a number of clauses that incorporate the spirit of safety, peace and security as the basis of the conditions for granting authorization to applicants.²⁴⁷ When the Government of Malaysia is satisfied that the applicant has fulfilled the conditions, the licence will be granted. There are ten clauses of conditions proposed in the Malaysian Outer Space Act, the majority of which deal with the spirit of safety, peace and security.

The first condition proposed concerns the granting of authorization, as the Minister and the authorization Committee must be satisfied that the applicant is a competent person to operate the site, facility and/or space object.²⁴⁸ In this point, to ensure that the operation is safe and will be conducted according to the legal rules, the Government of Malaysia and the authorization Committee must be fully satisfied, before granting him/her a licence, that the applicant is a competent person to conduct the space activities. If the applicant is proved to be a competent person legally and financially, such as being sufficiently sound and knowledgeable about space operations and activities, and having the financial capacity to conduct such activities, such proof will contribute significantly to the safe operation of the space activity. A sound and competent person will make appropriate efforts to ensure that the

²⁴⁶ Article III, Outer Space Treaty 1967 stipulates: '*States Parties ... shall carry on activities in the exploration and use of outer space ... in the interest of maintaining international peace and security ...*'. Article IV, Outer Space Treaty 1967 prescribes: '*... The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes ...*'; Article I, Outer Space Treaty 1967 states: '*... Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind ...*'. However, Article IX, Outer Space Treaty 1967 prescribes: '*... States Parties ... conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment ...*'; Preamble, Outer Space Treaty 1967 states: '*... Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes ...*'; Preamble, Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space 1962, among others, mentions: '*... Desiring to contribute to broad international cooperation in the scientific as well as in the legal aspects of exploration and use of outer space for peaceful purposes ...*'.

²⁴⁷ See Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; read also Article 4 (Conditions for Authorization) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

²⁴⁸ Modified from Section 18(a), Australian Space Activities Act 1998, *supra* note 107. See Section 9(a), Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

operation is conducted in a safe environment and in accordance with the legal rules. Thus, the licence will be granted on this condition.

The second condition is that, in order to grant authorization, the Minister and the appointed Committee must be satisfied that the necessary environmental approval under the Malaysian law (if necessary) has been obtained. Moreover, an adequate environmental plan should also have been made for the construction and operation of the site, facility or space object.²⁴⁹ Thus, before the licence or other authorization modes can be granted to the applicant, the Malaysian Outer Space Act requires the applicant to obtain the necessary environmental approval from the relevant authority should he/she be requested to do so. In addition, he/she must provide an adequate environmental plan for the construction of the space site.²⁵⁰ All those things are essential to prove that the operation being conducted will not affect the environmental quality of the surrounding areas or endanger the life of the community. This clause will contribute to the safe operation of the space activities and maintain the quality of the environment.

The third condition is that the applicant must conduct his/her operations in such a way as to prevent the contamination of outer space or adverse changes in the environment of the Earth.²⁵¹ This clause again reflects the spirit of safety, as the Act obliges the applicant to prove to the authority that he/she will conduct his/her operation in a manner that will prevent any contamination of outer space or cause adverse changes to the Earth's environment. If the applicant can successfully prove to the Minister and the Committee that he/she will abide by the condition, the licence is then granted to the applicant. However, should they be unable to provide such proof, no licence will be granted. This clause is essential for the preservation and maintenance of the Earth's environment, as well as for the protection of outer space from

²⁴⁹ Modified from Section 18(b), Australian Space Activities Act 1998, *supra* note 107; read also Article 7 (Protection of the Environment) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

²⁵⁰ See Section 9(c), Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁵¹ Modified from Section 5(2) (e), United Kingdom Outer Space Act 1986, *supra* note 97. See Section 9(d), Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; read also Article 7 (Protection of the Environment) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

contamination. Thus, these two areas can be used safely and their benefits utilized continuously.

The fourth condition is intended to ensure that the activities conducted will not jeopardize public health, and the safety of persons or property.²⁵² This clause clearly deals with the spirit of safety. The study proposes the rule in order to ensure the activities that will be carried out by the applicant will not affect the health of the public or cause damage to property. In the event of the activities being conducted having the tendency to endanger the health, life or property of the public, the Minister shall not authorize the applicant to conduct the activities. The clause should be clear and precise since it involves issues of public health and the safety of life and property. It should be remembered that, when it comes to public safety and property, the law must not tolerate any infringement and it must be firm in dealing with the matter.

The fifth condition is that the applicant will conduct his/her operation in such a way as to avoid interference with the activities of others in the peaceful exploration and use of outer space.²⁵³ For this clause, the applicant must ensure that his/her activities are conducted and performed in a peaceful manner. That is to say, he/she must ensure that the activities do not interfere with the space activities of others. The exploration and use of outer space shall be performed in a peaceful and tolerant manner as prescribed by the international law.²⁵⁴ Indeed, such a clause supports the international obligation to perform activities in peace. However, should the Minister and Committee be notified that such activities have been conducted in a non-peaceful way; the Minister will have the right to terminate the licence under this Act.

The sixth condition is that the space object or the object concerned does not contain a nuclear weapon or a weapon of mass destruction of any kind.²⁵⁵ This proposed clause also reflects the spirit of safety and peace. To receive a licence, the applicant has to prove to the Minister and

²⁵² Modified from Section 4(2) (a), United Kingdom Outer Space Act 1986, *supra* note 97. See Section 9(e), Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁵³ Modified from Section 5(2)(e), United Kingdom Outer Space Act 1986, *supra* note 97. See Section 9(f), Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁵⁴ See *supra* note 246.

²⁵⁵ Modified from Section 26, Australian Space Activities Act 1998, *supra* note 107. See Section 9(g), Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

the Committee that the space object in question does not contain any nuclear weapon or any other weapon of mass destruction. This is crucial in order that the Minister can be satisfied that the space operation will be conducted in accordance with the international obligations.²⁵⁶ By having a clause prohibiting the carrying of dangerous weapons, Malaysia can ensure that the licensee authorized under this Act will utilize outer space exclusively for peaceful purposes and in accordance with the international law.

The seventh condition is that the activities conducted will not impair the national security of Malaysia.²⁵⁷ This clause reflects the spirit of security. For this point, it is important that the Minister and the Committee, prior to granting the licence to the applicant, ensure that the space operation performed by the applicant will not impair the national security of the country. This means that, while conducting the activities, the applicant must preserve the national security, as they may jeopardize the safety of the country. With this clause as a condition of granting a licence, Malaysia's national security will be guaranteed and well protected.

The eighth condition is that the activities conducted must be consistent with the international obligations of the country.²⁵⁸ This clause is proposed in order to ensure that the applicant conducts his/her operation in compliance with the international obligation of the country. This is essential since the operation will be performed at the international level as well as the national level. When the activities take place internationally, they should observe the international obligation prescribed by the international law. In the event of the licensee failing to observe the law, the Malaysian authority has the legal right to terminate the authorization of the activities. This clause, in fact, refers to the international obligation of Malaysia in general. However, it may also include the obligation to use outer space in a safe and peaceful manner.

²⁵⁶ Article IV, Outer Space Treaty 1967 prescribes: '*State Parties ... undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner...*'.

²⁵⁷ Modified from Section 18 and 26, Australian Space Activities Act 1998, *supra* note 107; Section 4(2)(a), United Kingdom Outer Space Act 1986, *supra* note 97; see also Section 9(i), Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁵⁸ Modified from Section 4(2) (a), United Kingdom Outer Space Act 1986, *supra* note 97; see also Section 9(h), Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

Another condition is that the insurance requirement under this Act must be satisfied.²⁵⁹ This clause deals with security against financial risks that might possibly accrue to the Malaysian Government as a result of the applicant's space activities. If the applicant intends to apply the authorization under the Malaysian Outer Space Act, he/she needs to insure his/her operation as provided by the Malaysian Outer Space Act. The insurance coverage will secure the Malaysian Government's position in the event of damage or loss resulting from the activities of the licensee. Therefore, if no liability insurance is obtained, the application for authorization should be rejected.

4.4.7. Other Relevant Clauses

Apart from the five major clauses discussed previously, the other relevant clause proposed under this section is in respect of offences and penalties.²⁶⁰ This study believes that it is necessary to impose rules prescribing the offences under the Malaysian Outer Space Act, as well as their penalties, either specifically or in general. Imposing the clauses on offences and their penalties will remind the licensee to fully observe the conditions imposed under the licence or other modes, as well as to comply with the rules prescribed by the Malaysian Outer Space Act and other related laws and legal instruments. Hence, this study proposes two major clauses in relation to offences and penalties.

For the first clause, it is proposed to stipulate that every omission or failure to comply with, and any act committed or attempted contrary to this Act or its subsidiary legislation or any written instrument made under this Act, or in breach of the conditions subject to which any licence or other modes of authorization have been granted, shall be an offence against this Act or its subsidiary legislation.²⁶¹ Based on the proposed clause, three main points can be highlighted in terms of proving the commission of an offence under this Act. It is remarked that certain elements must be proved before the licensee is legally liable for committing an offence under the Malaysian Outer Space Act. Those elements are omission, or neglect to

²⁵⁹ See Section 9(b), Chapter 2 (Conditions for Granting Authorization), Part II (Authorization of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁶⁰ See Part VI (Other Relevant Clauses), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83; read also Article 14 (Sanctions) and its comment in the Proposed Model Law on National Space Legislation (The Sofia Guidelines for a Model Law on National Space Legislation of the International Law Association (ILA), UN Doc. A/AC.105/C.2/2013/CRP.6, 26 March 2013.

²⁶¹ See Section 48(1), Part VI (Other Relevant Clauses), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

comply with, or any action done or attempted that is contrary to the law. However, it is sufficient to prove just one of these elements to establish an offence under the Malaysian Outer Space Act, provided that it is done contrary to or against the law. Thus, the first point is in relation to the omission. When the licensee omits to take an action that he/she is supposed to take as prescribed by the Act, such as omitting to obtain third-party liability insurance coverage for his/her operation, he/she will then be considered an offender under this Act. The situation is similar when he/she neglects to comply with something that should have been done in accordance with the law. Apart from establishing the omission or failure to comply with the law, the authorities can also establish that an offence has been committed when actions are taken or attempted by the licensee that are verifiably in contravention of the law, such as carrying a nuclear weapon on the space flight. This action can be categorized as an offence under this Act.

The second point to note concerns the words ‘contrary to this Act or its subsidiary legislation or any written instrument made under this Act’.²⁶² This implies that, as well as being contrary to the Malaysian Outer Space Act, it is also an offence when the licensee performs an omission or action that contradicts the subsidiary legislation, as well as any written instrument made under the Malaysian Outer Space Act. Thus, by performing an action or an omission that is against the rules provided in the subsidiary legislation or any legal instrument made under the Act, the licensee can then be classified as an offender under the Malaysian Outer Space Act. The third point is that, apart from stipulating the contravention of the legal rules prescribed by the Act, the clause also specifically stresses that, should the licensee be in breach of any conditions by which he/she was granted a licence or other modes of authorization, he/she can be regarded as having committed an offence under the Malaysian Outer Space Act.

The second suggested clause concerns the penalty rules in general. It is proposed that the Malaysian Outer Space Act mention that, ‘for such offence where the penalty is not otherwise specifically provided for, the offender shall be liable to a fine not exceeding [...] or to imprisonment for a term not exceeding [...] or both’.²⁶³ Thus, this clause is quite general as it proposes dealing with an offence committed by the licensee when the penalty is not

²⁶² See *id.*

²⁶³ See Section 48(2), Part VI (Other Relevant Clauses), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

specifically prescribed under the Act. If no specific penalty is prescribed by the Act or by any other relevant legal instrument, this clause shall be applied to the offender under this Act. However, if the Malaysian Outer Space Act or any other related law has specified a specific penalty for the offence, this clause shall be ignored. With respect to this point, the study proposes three types of penalty that can be imposed on the offender when he/she is proven liable under this Act. The first penalty is a fine. On this point, the Malaysian Government shall prescribe the amount of the fine to be imposed on the offender under this Act. It is suggested that such amount be a reasonable amount based on the nature of the space activities. The second penalty is imprisonment for a term not exceeding a specific period. Again, the Government must specify the longest reasonable period for which the offender can be imprisoned if he/she commits an offence under this Act. Lastly, it is proposed that the court be given the power to impose both penalties at the same time if the court thinks it reasonable and necessary to do so. This means that, besides being required to pay a certain amount of money for his/her conviction, the offender will also be sentenced to imprisonment for a certain period. However, it is up to the judge to use his/her discretionary power to decide which penalty to impose on the offender depending on the seriousness of the offence committed, as long as it is in accordance with the law.

The next relevant clause proposed is in respect of Malaysian military activities. The study believes that the Malaysian Outer Space Act should be designed to safeguard the Malaysian military outer space activities that involve national security. Thus, it is proposed that the Malaysian Outer Space Act include a clause whereby the Minister may give an exemption for Malaysian military outer space activities with regard to the registration obligations prescribed by the Malaysian Outer Space Act.²⁶⁴ However, it should be noted that this exemption applies only to military outer space activities that involve Malaysia's national security.²⁶⁵ To illustrate further, when Malaysia launches a military satellite into outer space, for instance, the military shall be exempted under the Malaysian Outer Space Act from disclosing information about the object to the public, as supposedly happens with other space objects. This will only be allowed when it is believed that such disclosure would interfere with the country's national security. However, should it be proved that this is not the case; such

²⁶⁴ The registration obligation is prescribed under Part IV (Registration of Space Activities), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

²⁶⁵ See Section 49, Part VI (Other Relevant Clauses), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

exemption shall not be applicable. Therefore, the normal registration procedures for space activities should be observed.

Apart from the above, another significant clause proposed under this section concerns the rule applicable when there is inconsistency or conflict of laws. It is proposed that the Malaysian Outer Space Act incorporate a rule to clarify situations of inconsistency and conflict between laws. The rule prescribes that, in the event of any inconsistency or conflict between the Malaysian Outer Space Act and any other law, the provision of the Malaysian Outer Space Act shall prevail, to the extent of the inconsistency or conflict, over any other laws.²⁶⁶

4.5. CONCLUDING REMARKS

To sum up, there are several points to be noted in this chapter in relation to the proposed legal framework for Malaysian space law. Firstly, the study has justified the construction of a Malaysian space law as an indispensable action that should be performed for numerous reasons. In short, the reasons for the necessity of establishing a Malaysian space law include the following: Malaysian space participants will be afforded legal certainty and transparency; the country will have a reliable supervisory legal framework; it will be possible to modify, change, and transfer the concept of international responsibility as well as the liability obligation under the international law; the Government of Malaysia will be able to control and monitor the activities; the international legal rules can be implemented more efficiently and effectively; it will promote the growth of the space commercialization of the country; and many other reasons that were discussed earlier.

Secondly, the study has explored various aspects that the Malaysian Government should take into consideration while constructing the Malaysian space law. It is hoped that, by giving special attention to those aspects during the drafting process of the Malaysian space law, the study can contribute significantly to producing an excellent outcome for Malaysian national space legislation. In this matter, the study has proposed at least seven aspects that are worthy of consideration. In brief, they are as follows: the Malaysian national policy compliance; the Malaysian national interest; the Malaysian national legal system compliance; the existing

²⁶⁶ See Section 50, Part VI (Other Relevant Clauses), draft of Malaysian Outer Space Act [Year] (Act [No.]), *supra* note 83.

domestic law coordination; the international space law coordination; harmonization of certain legal aspects; and sustainability of the Malaysian space activities.

Having recognized the importance of constructing the Malaysian space law and the aspects that should be taken into consideration while drafting the law, the third point deals with the efforts to shape and draft the Malaysian space law. Such law is then proposed, carrying the title of the Malaysian Outer Space Act. In this matter, the study has proposed seven significant points to discuss in relation to the major clauses that must be incorporated into the Malaysian Outer Space Act. These clauses are as follows: clauses in relation to the scope of the law; authorization; monitoring and supervision; and registration. Others clauses are in respect of liability and indemnification, safety, peace and security, and other clauses that the study believed necessary.

Although this study provides a draft law in respect of seven major clauses, it should be noted that, apart from this general outer space Act, it may be necessary to introduce further laws from time to time to equip the rules to deal with matters arising from the Malaysian outer space activities. Thus, continuous effort in the improvement and refinement of the law is necessary in order to adapt to the changes in outer space technology and the growth of such activities. It is hoped that the outcome of this study, especially the seven major clauses, will assist and open the way for the Malaysian Government to proceed with the realization of the Malaysian space legislation.