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Senate Economics Committee of Australia
BY EMAIL ONLY

E-Mail: Economics.sen@aph.gov.au

Attention Committee

Submission on Space Activities (Launches and Returns) Bill 2018

Introduction

1. As a participant of the Australia New Zealand Space Law Interest Group (**ANZSLIG**), it is with pleasure that I am able to submit a response to the Economics Legislation Committee of the Senate Standing Committee on Economics (**Committee**) call for submissions in relation to the Space Activities Amendment (Launches and Returns) Bill 2018 (**Bill**).

Executive Summary

2. The Bill aims to implement important updates that reflect the current changes in space technology, increasing commercialisation of space from the Region, the increasing role of the Region in space-based activities, and ensure enhanced security.
3. There is much opportunity for Australia to take a lead role in the affairs of outer space given both its commitment to multilateralism and soft power in its foreign policy. The changes within the Bill are consistent with that ethos and will require further and careful regulatory development by the drafters to ensure that the licensing framework is flexible enough to encourage entrepreneurial innovation; whilst, balancing Australia's need for a governance and licensing framework that is compliant with its international legal obligations and maintenance of key international relations with other nation-states.
4. Equally, with the establishment of the Australian Space Agency (**Agency**), regulatory measures will need to clearly define the scope of the Agency's authority within the licensing framework whilst providing enough elasticity to allow the Agency to take on an innovative regional leadership role in space matters.

International Legal Obligations and Australia's Foreign Policy

5. Australia's international relations framework rests on principles of multilateralism and regionalism. With relations through a range of bilateral arrangements, it enjoys a close relationship with its Partners (UK, New Zealand, US, Canada) and much of its foreign policy adopts a soft power approach that is consistent with its partners. Much of the recent 2017 Foreign Policy White Paper further exemplifies the importance of these relationships especially in relation to space security and the importance of the formation of the Australian Space Agency.¹
6. The perceived growing threats and security concerns through the development of space activities has resulted in an increase security role for Australia. As a result of its leadership

¹ Foreign Policy White Paper, 2017, <https://www.fpwhitepaper.gov.au/> at <https://www.fpwhitepaper.gov.au/foreign-policy-white-paper/chapter-six-global-cooperation/security-space>

position within the region, there is also further opportunity for Australia to provide a framework for an innovative space policy and programme from the Region. Australia already engages in much scientific diplomacy leadership through space science such as the SKA programme, and already has a foundation of space infrastructure that has been developed during the cold-war period. Australia has further led the region in the form of digital engagement by emphasising open-data resources.

7. In its commitment to soft power as a linchpin of Australia's foreign policy in space security, cyber security, digital communication and open-data, the increasing utilisation of space-based assets, will further increase Australia's presence within the space-faring community.
8. As technologies continue to develop, it will be fundamental for Australia to maintain a strong Agency presence at the international level. Similarly, the proposed amendments to the Bill demonstrate that Australia is prepared to take a leading position within the Region and this is demonstrated by the clear demarcation line of 100 km as a definition as to where Australian air law ends, and international space law begins. Many nation-states have yet to take adopt a position on demarcation as a result of the historical cold-war perceptions that adopting demarcation will prove problematic. This is not the case, if anything, the international space law community has consistently called for nation-states to provide definitions of demarcation within their own domestic legislation in order to better assist with craft registration (i.e. space craft vs air craft) and when sovereignty principles of air law cease to apply.
9. In addition to the above, there are several key changes within the Bill that illustrates Australia's commitment to international law, for example: clause 28(3)(d) of the Bill (Division 3) prohibits the launch of nuclear weapons or weapons of mass destruction which is consistent with the Outer Space Treaty 1967 Article IV²; or, clause 30(e) (Division 3) which refers to the prohibition of the use of any use of nuclear power sources within a space object without the Minister's consent. These provisions are often negated within domestic legislation of other nation-states, and it is reassuring to note that at the time of drafting, the Bill's drafters were careful to implement (and reflect) Australia's international legal obligations within the Bill.

Recent New Zealand Trends

10. On 21 December 2017 New Zealand's Outer Space and High-altitude Activities Act (**OSHAA**) came into force and implemented a licensing regime over anticipated launch, and space-based, activities from New Zealand.
11. Whilst the licensing regime and policy framework is still very much in its infancy within New Zealand and will require further work in the very near future, it must be contemplated that the security aspects of OSHAA provisions need to be read alongside the Technology Safeguards Agreement (**TSA**) between New Zealand and the United States. The TSA sets out the strategic importance of the alliance between New Zealand and the U.S with regards to commercial space activities, and this may be an aspect that will need to be considered by the Agency.

Asia-Pacific Trends

12. The Asia-Pacific has an important role in the development of aviation and space. As foreign commercial interest grows in the Region, Asia-Pacific also has also seen an increase in space activities. For example China has engaged in fundamental satellite development programs, and Japan and India already have existing space programs which are constantly developing, among others.

² Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies available <http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html>

13. For Australia, space research necessarily presents an opportunity to further combine Australia's maritime security interests as well as Geo-economic competition within the Asia-Pacific. Bilateral relationships with nation-states within the Asia-Pacific, including Indo-Pacific nation-states, will be fundamental to Australia for a variety of reasons including outer space through commercial, economic, and security paradigms. Space provides a platform to build a framework of collaboration with these regions towards stronger partnerships towards greater stability, which in turn will see greater technological development through growth in space commercialisation services.

Australian Space Agency

Liability Regime

14. Whilst the Bill does not provide a framework as to the extent of the role of the Agency, it will be crucially important that the Agency is equipped to deal with issues of on-going liability. Under Article II of the Liability Convention 1972³, a launching state shall be liability for damage caused by its space object. The Committee will be necessarily aware that irrespective as to whom is launching or undertaking an activity in outer space, it is the launching state that remains liable for damage.
15. In this vein, it is again important that domestic legal frameworks are implemented in a manner that ensures safeguards attached to the longevity of a space object's operational life, in as far as possible, whilst balancing the opportunity for entrepreneurs and space-based service-providers to engage in space-based activities from Australia. In this respect, it is noted that the Space Activities Act 1998 implements an insurance regime and it is recommended that the framework is reviewed in light of the growing interest in space within the Region and commercial growth in space-based service providers, from the Region.

Further points of clarification

16. Below is a list of further provisions that may require closer examination by the drafters of the Bill and are suggestions that the drafters may wish to consider in their re-drafting stages. The below points are made to be read in conjunction with the ANZSLIG overall submission:
- 16.1 High Powered Rockets may need closer examination in accordance with the civil Aviation Safety Authority Part 101 – unmanned aircraft and rockets particularly over Part 101.420 and Part 101.430 which relate to the application and launching of rockets. Presently the Bill introduces a licensing regime for such activities which may cause conflict with the scope of compliance between the Australian Space Agency and the Civil Aviation Safety Authority.
- 16.2 The necessity of permits for *dummy payloads* which are usually used by launchers in the event that a customers payload is not ready on the day of launch. The complexity and cost surrounding fuel consumption concerning the launch of rockets is unlikely to result in a cancelled launch if one payload permit holder is unable to present their payload for launch in time. As a result of the calculation, usually dummy payloads are made to the same measurement and weight in order to facilitate launch. It may be necessary for the drafters to consider whether the payload permit application ought to include an application for a *dummy payload*.
- 16.3 The duration of licences may benefit from greater flexibility as to duration. The Australian Space Agency (and Australia) will continue to be liable for an asset despite the license lapsing. In this way, Part 4 of the Act and Part4A of the Bill, may require redrafting to better reflect this situation.

³ Convention on International Liability for Damage Caused by Space Objects available <http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introliability-convention.html>

- Generally, the payload licensing regime under the Bill may need further review as it leaves gaps and inconsistencies between applicants. For example the identification and clarification over owners of payloads. It may be beneficial if, and for the purposes of consistency, these requirements are brought into line with the requirements necessary for an applicant to ascertain a launch licence.

Profile

Dr Maria is an internationally recognised expert in space law, and the official legal adviser on space law to the Royal Astronomical Society in New Zealand. Her expertise has been called by national and international government agencies and large commercial bodies. Dr Maria's expertise extends to the law of Drones (unmanned aerial vehicles) and cybersecurity including cryptocurrencies and block chain - of which she is the course coordinator of INTP 201 and also lectures INTP 113 in international relations, at the University of Victoria, Wellington.

Dr Maria was announced as a Finalist for the 2017 Young Private Practitioner Award at the New Zealand Law Awards. AI Global Magazine has referred to her as the *New Zealand Woman in Law to Watch*. Dr Maria has been the recipient of a number of awards and accolades including: the Inter-Pacific Bar Association Scholarship; the Peace and Disarmament Education Trust Award; the New Zealand Political Studies Association Projects Grant, the Ministry of Foreign Affairs and Trade Historical Research Grant; a visiting Lauterpact Fellowship at the Lauterpact Centre for International Law, University of Cambridge, UK; and, an Appreciation Award by the University of Otago's Disability, Information and Support Unit, in recognition of her on-going work and support with tertiary level students.

Dr Maria has published work in various journals, books and other high level review material across disciplines especially in space and space law and is currently working on a space law book.

Dr Maria works as an Associate senior-level Lawyer in the Corporate Team at GQ Law between the Wellington and New Plymouth offices.