

Inquiry into Space Activities Amendment (Launches and Returns) Bill 2018 [Provisions]

Submission from Space Industry Association of Australia to Senate Economics Legislation Committee

13 July 2018

Introduction

The SIAA welcomes this opportunity to comment on the provisions of the Space Activities Amendment (Launches and Returns) Bill 2018 ('the Bill').

The Space Industry Association of Australia was established in 1992 to promote and assist the development of a viable and self-sustaining space sector in Australia and to encourage, advocate for and promote education, research and development in space science in Australia. Our members include Australian satellite operators, global aerospace prime contractors, Australian State and Territory Governments, the CSIRO, Australian owned companies, research institutes of Australian universities, scientists, engineers, consultants and young professionals. As the peak space industry body in Australia we have been at the forefront of space policy formulation and debate in this country for over 25 years.

This is the latest in a series of submissions from the SIAA on the topic of reforming the Australian space launch regulatory regime established in the Space Activities Act 1998. Links to our previous submissions are included in the [Appendix](#).

The SIAA has consistently argued that the regulatory framework for Australian space activities should:

- 1) Establish a constructive and supportive environment to attract and foster investment in Australian space activities

- 2) Ensure that any obligations imposed on business entities attempting space activities from Australia are clear, unambiguous, workable and free from arbitrary determinations; and
- 3) Be no more onerous for Australian participants than is the case in other space-faring nations.

Our primary concern is to ensure that the regulatory scheme is realistic in terms of the operational requirements of space launch for both the operator and the regulator. The Bill goes some way towards addressing this goal and should provide Australian launch proponents and satellite owners with a more workable set of rules that are comparable to those of Australia's competitors in the fields of satellite operations and space launch. However as noted below, the practical effect of the legislative reforms will depend in many areas on the detailed drafting and implementation of the subordinate legislation to be known as the 'Rules'.

We have previously urged the Government to establish an ongoing consultative mechanism with the SIAA and other stakeholders in relation to the operation of the legislation and subordinate instruments, to ensure that problems are identified and addressed. As the peak space industry representative organisation in Australia we encourage the Government to consult closely with the SIAA in the drafting of the Rules so that the operational and practical knowledge of space launch and operations held by SIAA members can be taken into account in the Rule making process at an early stage.

Summary of Submission's Key Points

- 1) **Statement of purpose** – Consideration should be given to a statement of purpose that Parliament supports the development of launch and satellite capability in Australia through this enabling legislation.
- 2) **Commencement and subordinate legislation** – The Rule-making process should be given high priority to minimise the delay in the commencement of the amendments set out in the Bill.
- 3) **High Power Rockets** – Regulation of high powered rockets not intended for space missions under this legislation should be light handed and not detract from Australia's attractiveness as a location for rocket development.
- 4) **Debris Mitigation Strategy** – The light-handed approach is welcomed but the language of proposed sections 34 and 46G could lead to an unintended obligation for launch and satellite applicants that would be difficult to satisfy.
- 5) **Insurance/financial obligations and fees** – A number of suggestions are made in relation to further regulatory steps needed to ensure the insurance/financial obligations on launch and satellite operators are manageable and not a deterrent to proceeding under the Australian regulatory regime.
- 6) **Administration of the Act** – The administration of the legislation should be explicitly stated to be the responsibility of the Australian Space agency as a step towards statutory status for that Agency.
- 7) **Reciprocity with other jurisdictions** – Consideration should be given to enabling reciprocal recognition of licences and permits granted in other jurisdictions in appropriate cases.

More Detailed Comments on Provisions in the Bill

Purpose and Effectiveness of Legislation

As stated in our submission to the Space Activities Act Review dated 30 April 2016 effective legislation that supports Australian space innovation should be consistent with the following aims:

- 1) Satisfying Australia's obligations as a state party to the space treaties;
- 2) Providing a light-handed regulatory regime for the authorisation of space launch and return activities for which the Australian Government is responsible;
- 3) Ensuring that Australia is in step with international efforts to address environmental problems on Earth and debris and traffic problems in space;
- 4) Ensuring that emerging space enterprises are not discouraged or driven to other jurisdictions by unnecessary regulation and disproportionate financial indemnity obligations;
- 5) Providing a regulatory environment that attracts overseas interest in a variety of space activities, including commercial launch services; and
- 6) Being sufficiently flexible to cater for the impacts of future technological development and commercial opportunities.

Our comments in this submission are therefore primarily focussed on the extent to which the Bill achieves these aims.

We have previously argued that the legislation should include a statement that one of the objects of the legislation is that Parliament wishes to create a supportive regulatory environment for the growth and encouragement of Australian space activities.

We note that the only amendment to the Act in this regard is the statement in paragraph 3(b) that the purpose of the revised Act is to ensure that a reasonable balance is achieved between 'the removal of barriers to participation in space activities and the encouragement of innovation and entrepreneurship in the space industry' (on the one hand) and 'the safety of space activities, and the risk of damage to persons or property as a result of space activities regulated by the Act' (on the other hand).

By way of comparison, the United States Commercial Space Launch Activities Act states the following purposes:

"The purposes of this chapter are—

- (1) *to promote economic growth and entrepreneurial activity through use of the space environment for peaceful purposes;*
- (2) *to encourage the United States private sector to provide launch vehicles, reentry vehicles, and associated services by—*
 - (A) *simplifying and expediting the issuance and transfer of commercial licenses;*
 - (B) *facilitating and encouraging the use of Government-developed space technology; and*

(C) promoting the continuous improvement of the safety of launch vehicles designed to carry humans, including through the issuance of regulations, to the extent permitted by this chapter;

(3) to provide that the Secretary of Transportation is to oversee and coordinate the conduct of commercial launch and reentry operations, issue permits and commercial licenses and transfer commercial licenses authorizing those operations, and protect the public health and safety, safety of property, and national security and foreign policy interests of the United States; and

(4) to facilitate the strengthening and expansion of the United States space transportation infrastructure, including the enhancement of United States launch sites and launch-site support facilities, and development of reentry sites, with Government, State, and private sector involvement, to support the full range of United States space-related activities.”

This strong statement of purpose demonstrates the importance the US Congress attaches to economic growth and entrepreneurial activity in space. The pro-space policies of the US also attract participants to conduct their activities in the United States. We would encourage the Australian Parliament to consider a stronger pro-industry statement of purpose in any space-related legislation.

Clause 2 – Commencement

We note that the date of the commencement of the revised Act can be delayed by up to 12 months. We understand that this is because it could take up to 12 months for the new subordinate legislation to be prepared and approved. During this 12 month period there may be a number of launch and satellite projects that may need to obtain permits or certificates under the existing legislation. Some of our members are concerned about duplicated regulatory processes or a possible 12 month delay in the licensing process if they elect to wait for the new Rules to come into effect. We suggest that your committee should consider recommending that the rule making process (which we assume will be responsibility of the new Australian Space Agency) should be given a high priority with the aim of bringing the new legislation into force as soon as reasonably practicable.

Clause 20 - High Power Rockets

Australia was the host for many British and European rocket tests during the early years of the space age and has long been considered a good location for testing and development of new rockets. Australia is still an attractive venue for this type of activity particularly with the development of designs to recover and re-use various rocket stages.

The Bill will require high power rockets to be licensed for the first time. (We note that under clause 20 of the Bill the definition of ‘high power rocket’ is to be delegated to the Rules). We understand the policy objective that high power rockets, particularly rockets designed for high altitude, should be regulated in the same way as is the case for rocket launches to an altitude of at least 100 kilometres or launches to orbit.

However, we argue that regulation of high powered rockets under this legislation should not detract from Australia's attractiveness as a location for rocket development. We would recommend a scaled or graduated approach in the Rules in relation to safety standards, perhaps based on intended altitude or total energy of the particular type of rocket. We also argue that the Rules should allow for experimentation and development of new rocket systems in Australia by a light handed regulatory approach, particularly in remote areas where the risk of damage to persons and valuable property is low.

Clause 63 - Proposed sections 34 and 46G - Debris Mitigation Strategy

It is well accepted within the international space community that space debris is a growing problem that has the potential to limit access to space if solutions are not found. A number of overseas space licensing regimes have included the submission of a space debris mitigation strategy as part of the application process for the launch of space objects. It is to be expected that Australia intends to include similar measures under the Australian space launch licensing regime.

It should also be recognised that the implementation of space debris mitigation measures is a field of science and engineering that is still being developed. It is a complex issue, particularly in the area of small satellite design and operations. International initiatives are typically in the form of guidelines or statements of best practice rather than specific obligations or requirements. Our position is that space debris obligations for the nascent Australian space industry should be no more onerous than those of our international competitors. For this reason we welcome the reasonably light-handed regulatory approach to space debris mitigation set out in the Act and recommend that the Rules should maintain this approach. The aim should be to get Australian launch vehicle providers and satellite operators to consider the debris problem and potential strategies rather than any proscribed approach.

However, we have a particular concern about one of the practical implications of the debris mitigation strategy requirements in the Bill. On one construction the language of the Bill, clauses 34 and 46G could be taken to require the Australian applicant for a launch permit or overseas payload permit to provide a debris mitigation strategy covering both launch vehicle and the payload. In most cases the Australian applicant would only have control over the launcher or the payload and not both components.

We do not believe that the legislation should impose conditions on Australian applicants that are outside their ability to control. It is unlikely that it was intended to impose an obligation on an Australian permit applicant in relation to a matter over which it has no influence or control. We are of the view that the rule making power in clauses 34(3) and 46G(3) grants power under the Rules to provide that the debris mitigation strategy is only required in relation to the part of the relevant space object that is the responsibility of the Australian applicant i.e. either the launch vehicle or the payload. We draw this drafting issue to the attention of the committee and submit that the Inquiry should recommend that particular care be given in the drafting of the Rules to avoid this unintended consequence.

Clause 71 - Reduction of Indemnity Cap to A\$100 million and the insurance/financial obligations

We welcome this change, which reflects the practical reality that in most jurisdictions the potential cost of damage caused by a launch failure is usually less than this amount. In the 50 year history of the space treaties, claims for loss or damage under international law that this type of indemnity protects the government against, have been very rare and the chance that the Australian government will ever need to invoke the indemnity is therefore very small.

For many satellite operators, insurance costs for this type of indemnity cover remain high relative to the overall cost of their satellite and launch and we have long argued that the licensing regime should include mechanisms to ensure that the actual level of insurance or other indemnity required should be limited to a fair and realistic amount, depending on the circumstances of the permit applicant and the nature of the mission. The current regulations under the Space Activities Act allow for maximum probable loss calculations to be used as a means of reducing the indemnity level based upon a mathematical calculation of the cost of potential damage claimable under international law. We favour the continuation of this approach, but argue that the methodology for calculating the maximum probable loss should be simplified and made less expensive for the applicant.

We also recommend that the government should explore additional avenues in the Rules to keep the insurance required for Australian satellite operators to a minimum. This is of particular concern in the case of Australian satellites launched overseas as set out in proposed section 46B. One such option favoured by some SIAA members is a simple sliding scale based on parameters such as satellite size, intended orbit parameters etc. Another consideration is that the insurance requirements could be adjusted downwards to reflect the fact that a small satellite is a secondary or tertiary payload on a launch contracted by a major satellite operator.

We have previously noted that most overseas jurisdictions require the launch operator to have a certain amount of third party liability insurance as a condition of launch. This can lead to a duplication of third party liability insurance for the same launch, which could be eliminated if the third party liability insurance provided by the overseas launch provider clearly covers the Australian Government's financial risk under international law. A mechanism for achieving this is for Australia to enter into arrangements with major launching states and their commercial operators to ensure that the Australian Government and Australian satellite operators are covered by third-party insurance policies or government indemnities when the launching organisation launches an Australian payload. We are aware that this outcome has been achieved in an ad-hoc way in the case of some recent Australian commercial satellite launches, mainly through the efforts of the Australian satellite operator. Industry would greatly benefit from a directed Government approach to achieve this. This could be the subject of and confirmed in government to government agreements in appropriate cases.

Another option to streamline the overseas launch permit process is to pre-qualify certain launch vehicles and companies. These organisations generally operate the same launch vehicle from the same location to a set number of orbits. Rather than require essentially

the same information for each launch the government could satisfy itself with the parameters of the first launch and only look for significant differences in terms of information requirements for subsequent launches by the same organisation and launch vehicle. This could help to streamline the overseas launch permit procedure and could potentially be a mechanism through which the insurance requirements could be addressed.

A related issue of importance, particularly to the university and research sector in Australia, is the intended operation of proposed section 46B(2)(ii) which provides that the Minister will not insist that the insurance/financial requirements of an overseas launch certificate be satisfied 'having regard to the nature and purpose of the space object or space objects concerned'. (This is very similar in effect to the section 35(2)(a)(ii) of the current Act). Our members involved in small satellite research are concerned that the Bill (and presumably the Rules under the Bill) will contain no guidance or criteria for the Minister in relation to what is relevant when assessing the nature and purpose of the space object or objects.

As previously submitted to the Review of the Space Activities Act in 2016, we suggest that the following considerations would be relevant:

- 1) What indemnities have been given by the launch provider and/or the government of the launching state?
- 2) Is the Australian government properly covered in relation to its treaty liabilities by these indemnities?
- 3) Is the space object part of a commercial venture or a not-for-profit exercise?
- 4) What is the size and what are the proposed orbital parameters of the space object?
- 5) Is the space object to be launched for scientific or educational purposes?
- 6) What will be the public benefit in terms of the knowledge gained or the techniques tested or demonstrated?
- 7) Is there an advantage to the Australian Government or the Australian people from the launch sufficient to justify the additional financial risk (if any) to which the Australian Government would be exposed?

Additional Issues Related to the Bill Provisions

Agency responsible for the administration of the regulatory regime

We note that the Bill is silent on which government agency will be responsible for the administration of the Act. We understand that it is intended that it will be one of the roles of the Australian Space Agency and that qualified staff are being recruited to ensure that the new Agency has the appropriate regulatory expertise. Recommendation 7 of the report of the Government's recent Space Capability Expert Reference Group was that the new Agency should facilitate 'regulatory approval processes for small satellite launch facilities in Australia and the launch of Australian satellites overseas', and should investigate 'opportunities to partner with appropriate international launch providers'.¹

The SIAA supports all of the recommendations of the Expert Reference Group and is keen to see that they are implemented, including statutory status for the new space agency. This process would be assisted by a reference in the report of the Inquiry into the important role of the Australian Space Agency in both the regulation and facilitation of the regulatory approval processes for launches from Australia and launches of Australian satellites overseas.

Reciprocal licensing arrangements with other jurisdictions

A practical approach to licensing of launches from Australia could involve reciprocal arrangements with other jurisdictions. (We understand that the New Zealand Government has accepted or taken into account a US Federal Aviation Administration licence for a Rocket Lab launch from New Zealand territory)². This is particularly relevant for some of the emerging launch site proposals in Australia which plan to offer managed range services for launch vehicles from overseas. In some cases those overseas built vehicles might require launch authorisation from their home jurisdiction before they can be exported to Australia. Reciprocal arrangements could circumvent or obviate some of the regulatory burden on a launch operator in Australia, where the licensing agency is satisfied that similar standards have already been applied by the licensing agency in another jurisdiction.

Licensing fee regime and cost recovery

Another topic of concern to some of our members is the level of fees payable to the Government required for the various licensing steps. In setting its fee structure, it is important to ensure that promising Australian businesses do not decide to relocate overseas due to heavy-handed fees and regulatory structures.

¹ Review of Australia's Space Industry Capability - Report from the Expert Reference Group for the Review March 2018 p. 13

² We understand that the FAA licence was required because the entity conducting the launch was incorporated in the United States but New Zealand has accepted FAA licensing approval as sufficient for the New Zealand Government as it avoids duplication of resources.

We understand that this will be one of the topics covered in the Rules. Many jurisdictions (including the United States) do not base the fees payable on any cost recovery principles. The level of fees, especially for university departments and not-for-profit research organisations, is an important financial consideration in determining the feasibility of experimental satellite projects.

The power under the Act to set lower fees for approved scientific and education organisations (currently under section 59 of the Space Activities Act) appears to have been removed, although we note that the Rules may prescribe the circumstances in which the Minister may 'wholly or partly waive a fee that would otherwise be payable' (proposed section 59(6)). We suggest that the Inquiry might consider recommending that the Rules should address the circumstances in which the Minister should consider waiving or reducing such fees.

Appendix

Previous SIAA Submissions on the reform of the Space Activities Act:

- 1) [SIAA SUBMISSION TO SPACE ACTIVITIES ACT REVIEW 30 APRIL 2016](#)
- 2) [SUPPLEMENTARY SUBMISSION TO SPACE ACTIVITIES ACT REVIEW 13 MAY 2016](#)
- 3) [COMMENTS ON LEGISLATIVE PROPOSALS PAPER FOR REFORM OF THE SPACE ACTIVITIES ACT 24 APRIL 2017](#)