International Aerospace Law & Policy Group
Australia's Air & Space Lawyers

20 July 2018

Chair
Senator Jan Hume
Senate Economics Legislation Committee
PO Box 6100
Parliament House
Canberra ACT 2600

BY EMAIL: economics.sen@aph.gov.au

Dear Hon Sen Jane Hume

SUBMISSION ON *SPACE ACTIVITIES AMENDMENT (LAUNCHES AND RETURNS) BILL 2018*

About IALPG

International Aerospace Law & Policy Group (IALPG) is a specialist aviation and space legal practice based in Queensland, comprising Australian Founding Principal Joseph Wheeler, and other legal experts who consult to the practice, including Duncan Blake, one of the foremost experts in space law in Australia and globally.

Joseph Wheeler MRAeS, LLB, BA(Psy) (UWA), GDLP (Qld), GCert Air & Space Law (McGill), is one of the few post graduate alumni of the McGill University Institute of Air and Space Law in Montreal, Canada, who practices in the field of law predominantly for industry, pilots, remote pilots and passengers. He is an elected Member of the Royal Aeronautical Society, and:

> Consults as Aviation Legal Counsel to the Australian Federation of Air Pilots providing individual, association and government affairs advice (AFAP is Australia's largest pilot professional association by member numbers);

Consults to other law firms, providing advice and representation on air disaster and injury cases to Australian and overseas clients;

Is Aviation Spokesperson of the Australian Lawyers Alliance, the leading social justice legal professional association in Australia;

A member of the Legal Committee and the Professional & Government Affairs Committee of the International Federation of Airline Pilots' Associations (IFALPA) in Montreal, representing AusALPA (Australia's member association to IFALPA, made up of AFAP and the Australian and International Pilots Association, AIPA). Joseph represents IFALPA at certain ICAO forums;

Appointed to the Management Committees of organisations which advocate for aviation safety through specialist technical, professional, or pilot health and wellbeing programs through member representation and other initiatives, including Australian Certified UAV Operators Inc (ACUO) and HIMS Australia Advisory Group Inc (which is a recipient of CASA sponsorship); and

A regular commentator on aero legal and aero political affairs for a variety of media channels.

Joseph has worked as a regulator for the Australian Government and was responsible for airport economic regulation policy oversight, and planning and development, as an Assistant Director in the Airports Branch, Canberra, from 2011 – 2013.

He has published more than100 articles in total in peer reviewed journals, newspapers, magazines, legal websites, and on topics as broad as air safety policy, international law, aviation conventions, RPAS regulation, and topical policy development in Australia and at the International Civil Aviation Organisation (ICAO).

He also speaks regularly at international conferences on aviation legal and policy topics, most recently on the most notable mass air disasters this decade (MH17 and MH370), RPAS regulation and policy, and the legal approach in Australia to pilot fatigue risk management regulation.

Duncan Blake BEc LLB LLM (Melb) LLM (McGill) ACSC, Consultant (Space Law & Strategy) served in the Royal Australian Air Force as a permanent force legal officer for 22 years in postings at the tactical, operational and strategic level in Australia and deployed abroad. Duncan recently transferred to the Reserves and joined IALPG as a Consultant. He is

recognised as a leading expert globally on the law of outer space in a military and strategic context. His experience spans legal support to military operations in all domains (land, sea, cyber, electronic and particularly air, as well as space).

Duncan has been the principal legal advisor on space activities in the Australian Department of Defence for almost a decade and continues to provide space law services to Air Force Headquarters, especially in respect of its relationship with UNSW Canberra and the launch of several satellites.

His wealth of practical experience includes direct support to fighter pilots before and after operational sorties, support to deliberate and dynamic aspects of the targeting cycle in an Air Operations Centre, and support to and across the highest levels of government on the application of international and domestic law to military operations. He has chaired interdepartmental and international working groups on space law in a strategic context and written and contributed to many publications professionally and academically, including an award-winning article on legal reviews of emerging weapons.

In addition to his role as Consultant at IALPG, Duncan is a Managing Editor of the *Woomera Manual* (manual on the international law of military space operations) Project, a PhD candidate at the University of Adelaide, and continues to contribute to the Australian Defence Force as a Reserve legal officer.

Duncan became closely engaged with Australian space industry as a whole in his last posting, where he managed the development of a concept for future military use of space, which included the essential relationship between the Defence space industry and the civil space industry.

Duncan and IALPG are keen to facilitate a stronger Australian space industry, as well as find ways for all sectors of the global space industry to collaborate in the development of global space governance for a more stable and better-connected world.

To that end, Duncan also established and chairs the Australia New Zealand Space Law Interest Group (ANZSLIG) – a body of diverse people from all sectors of the space community (commercial, academic/research, civil, governmental and military) with an interest in space law. It is the only body of its kind in the region actively participating in innovative approaches to law and legal support for the space community.

Submission

General

We understand the purpose of the *Space Activities Amendment (Launches and Returns) Bill* (the Bill) is ostensibly to amend the *Space Activities Act 1998* (the Act) to ensure safe industry participation and encourage investment and innovation in the space industry.

As you would be aware, the extant Act itself established a regulatory framework for licensing and safety requirements for space activities in Australia or involving Australian interests.

The existing framework has remained for nearly two decades, but the operating environment is changing very quickly, with a more commercial focus. This includes both the types of activities being undertaken, as well as the participants involved, including smaller startup businesses and additional involvement by universities. Thus, the Bill is intended to amend the Act to address the changing complexion of the space industry.

Until now, the Act has predominantly supported the space industry to launch satellites from overseas where an Australian national is a responsible party.

The Bill intends to:

- broadens the regulatory framework to include arrangements for launches from aircraft in flight and launches of high power rockets; and

- reduces barriers to participation in the space industry, by streamlining approval processes and insurance requirements for launches and returns (of space objects to Earth).

Impact of the Bill on Aviation

There are a number of reasons why those in the aviation industry and community have an interest in the subject matter of the scheme as set out in the Bill.

Outlined below are some aviation considerations that we believe the Senate Committee should note:

1. The Act will now include a framework of launches of rockets and other space objects or vehicles from aircraft in Australian airspace. This is not expressly covered, nor

regulated separately under the existing Act as most Australian operators have used overseas launch facilities. Clearly, where aviation activities are regulated directly, the aviation community will have an interest. Launches and returns also indirectly impact the aviation community because rockets and de-orbiting space objects will traverse airspace that may be in active use by air traffic, or that would normally be available for use of the aviation community, in accordance with relevant airspace rules.

2. Additionally, rockets are primarily regulated by the Civil Aviation Safety Authority (CASA) under Part 101 of *the Civil Aviation Safety Regulations 1998* (CASR). The express reference to "high power rockets" now effectively moves some responsibility for a class of rockets from the Department of Infrastructure, Regional Development and Cities to the Department of Industry, Innovation and Science (presumably, more specifically, to the new Australian Space Agency, although it is not explicated in the Bill) in accordance with the *Administrative Arrangements Orders*. It is not clear what aspects of the regulation of high power rockets will be within the scope of the amended Act, and what will remain under CASR Part 101 (noting that there are no apparent plans to amend Part 101). This immediately introduces a level of disconnect as between aviation and space agencies that might exacerbate existing safety issues with the launch of high power rockets in Australian airspace – an activity that is likely to grow in frequency and number from commercial operators.

3. There are elements of the Bill and aspects of permitted activities and their framework that may become of more relevance to aviation interests, as space activities encouraged by this legislative amendment increase. For example, there are provisions about accident investigation that might also involve parallel aircraft accident investigation and, generally, there will be more space activity in Australia that affects Australian airspace and its users.

4. As the space environment becomes more sophisticated, its activities and the scope of its regulatory environment are likely to intersect with aviation, and for safety and a range of other reasons, it is imperative that both communities are managed cohesively. This Bill will amend the Act to include terms and other references that, in the aviation community and regulatory environment, have attained certain meanings and clarity. While the definition section in the Bill refers to the *Convention on International Civil Aviation done at Chicago on 7 December 1944* ("*Chicago Convention*") and to the *Air Navigation Act 1920*, we believe that the Bill should refer to the regulation of civil aviation more broadly. Furthermore, we note that the Bill only refers to the *Chicago Convention* again in section 108 in respect of severability.

We believe that a specific reference to include civil aviation legislation in section 105 (on the operation of other laws) is more likely to lead to the cohesive development of the regulatory environments for space and aviation.

5. The scope of subordinate Rules under section 110 of an amended Act, which could have an increasing impact on aviation stakeholder far as we understand it from the limited information available, would be something akin to a CASA Manual of Standards (MOS). Drawing on experience from the aviation community, especially those involved in the regulation of it, would add to cohesion between the two interrelated communities.

Recommendations

1. *Lack of detail*

Our primary concern is about the process for the creation of space Rules in respect of high power rockets under the amended Act, noting that there is little practical information available publicly about a consultation process. This includes the process for ensuring CASA/aviation legal and aviation safety requirements are met in future by space industry participants (both commercial and recreational) for both launches and returns.

We recommend the Senate Committee note the lack of detail on the Rule-making process in the Bill and its explanatory material, with a view to expanding on it and making the consultation process more transparent, to ensure cohesion between the space and aviation communities, especially in respect of safety.

2. *Ministerial considerations in exercising certain discretions*

We are concerned that in the number of factors the Minister may take into account in deciding whether to grant a license, permit or authorisation under all parts of the amended Act, there is no reference to aviation safety.

For example, in respect of launches from aircraft, aviation safety is surely a matter of relevance to grants by the Minister. Likewise, the location of a launch facility, its environmental approval/plans and the financial viability of the launch facility are all matters of legitimate interest to those that regulate aviation and airspace: CASA and Airservices Australia. As an analogy to launch facilities that require significant infrastructure, major developments at federally leased airports do require broad consultation under the *Airports*

Act 1996 (Cth). Such broad consultation is surely no less appropriate in respect of the space industry.

An exemplar situation exists for the ministerial consideration process for granting a "return authorisation". Under the Bill there is no express requirement for the Minister to address aviation aspects, nor safety. This seems at odds with an activity that will specifically, with considerable margin for error, result in transit of a potentially uncontrollable space object through Australian airspace to the ground.

We recommend that the Bill be amended to include additional Ministerial considerations of safety and specifically aviation safety because, to do so, would encourage proponents of space operations to consider this vital aspect but would do so with a light regulatory approach that would not reduce the Australian industry's desire to launch locally.

3. *Launch safety officers*

While we welcome the inclusion of launches safety officers (LSO) to provide a level of responsibility in ensuring that, for both launches and returns, no person or her or his property is endangered, the LSO is required only to ensure compliance with the relevant permits, including conditions and authorisations in the Act.

In our view, it would be a useful and light-handed addition to specify, in respect of the LSO's functions (see section 51 of the amended Act) that not only should the relevant level of safety be secured pursuant to the Act or forthcoming Rules, but to all legislation, which would capture civil aviation legislation.

We recommend the Bill should be amended to include a specific mention of "civil aviation legislation", because of the particular sensitivity of aviation to such activities.

4. *Investigation of accidents and incidents*

The existing/previous regime made provision for Ministerial appointment of an investigator where a space object crashed and either caused loss of life or damage to the object or other property.

The amendments, now that they include high power rockets and launches from Australian aircraft in flight, indicate that there may well be some crossover with the responsibilities and paradigm of air accident investigations presently conducted by the ATSB.

The question that is unanswered by the Bill is whether an accident caused to, or by an aircraft carrying a rocket for launch will be considered an investigation under space law (ie, the amended Act), or a *Transport Safety Investigation Act 2003* (Cth) (ie, ATSB) investigation as it involves aviation, or both.

Naturally, accidents involving aircraft will be within the broad remit of the ATSB, but it may well be useful to include some element of required appropriate collaboration between the Ministerial-appointed investigator of a "space accident" or, as we recommend, preferably mandate that the investigator, in all circumstances, be the ATSB.

A consequence of this decision is that there would be appropriate safeguards/protection of CVR data and information from the aircraft/space vehicle or object, which are protected in an ATSB investigation, but potentially not protected in any parallel space investigation or might not be treated in the same way if the ATSB decides, in its discretion, not to investigate.

Conclusion

Naturally, as a definitive milestone in the progress of the space industry in Australia, this legislation carries some social as well as economic and safety significance for the industry and those affected by it.

One recommended way of signifying the industry's aims would be to include a more purposive section 4 (Simplified outline of this Act) which summarises the broader objects the legislative scheme is intended to cater for, and be reflective of, including the reduction of barriers to entry and stimulus of innovation and investment in the industry.

We hope our submission has been of assistance and would welcome the opportunity to discuss further with you should you require.

Yours faithfully

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JOSEPH WHEELER
Principal, IALPG
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