



Australian Government

Australian Government response to the
Senate Standing Committee on Rural and
Regional Affairs and Transport report:

*Regulatory requirements that impact on the safe use of
Remotely Piloted Aircraft Systems, Unmanned Aerial Systems
and associated systems.*

NOVEMBER 2018

Executive Summary

Like elsewhere in the world, Australia has experienced rapid growth in commercial and recreational Remotely Piloted Aircraft Systems (RPAS) use in recent years. The potential of RPAS to change the way in which Australians approach everyday tasks is significant, as they can reduce the cost and risk associated with hazardous, difficult or time-consuming work. There has already been a significant uptake in industries such as the media, emergency services, agriculture, mining and scientific research.

The Government recognises the importance of regulating the RPAS industry to ensure the safety of the public, RPAS pilots and other airspace users. However, this regulatory approach must be proportionate to risk and encourage growth in the sector now and into the future. If regulated appropriately, the emerging RPAS sector will contribute significant productivity and efficiency gains to the Australian economy.

On 31 July 2018, the Senate Rural and Regional Affairs and Transport References Committee (the Committee) tabled the Report into the *Current and future regulatory requirements that impact on the safe commercial and recreational use of RPAS, Unmanned Aerial Systems and associated systems* (the Report).

The Government notes Recommendations 1, 3 and 5, and will review its position on these matters as RPAS technologies advance.

The Government agrees with Recommendations 2 and 10, and has identified measures by which the recommendations can be put into action.

The Government agrees in principle with Recommendations 4, 6, 8 and 9, and will progress work relating to these recommendations as identified.

The Government does not agree with Recommendation 7, specifically the need to develop import controls for Remotely Piloted Aircraft Systems.

The Civil Aviation Safety Authority (CASA) is responsible for implementing Recommendations 1, 2, 3, 5, 6 and 10.

Airservices Australia (Airservices) is responsible for working with CASA, the Australian Transport Safety Bureau (ATSB) and the Bureau of Infrastructure, Transport and Regional Economics (BITRE) to implement Recommendation 9.

The Department of Home Affairs is responsible for Recommendation 7.

The Australian Federal Police, in concert with CASA, is responsible for Recommendation 4.

The Department of Infrastructure, Regional Development and Cities is responsible for Recommendation 8 relating to the whole of government policy coordination mechanisms.

The Attorney-General's Department (AGD) and the Department of Infrastructure, Regional Development and Cities are responsible for the privacy related aspects of Recommendation 8.

Recommendation 1

The committee recommends that the Civil Aviation Safety Authority draw on the growing body of international empirical research and collision testing on remotely piloted aircraft systems below 2kg to immediately reform Part 101 of the Civil Aviation Safety Regulations 1998.

The Government **notes** this recommendation.

CASA continues to draw on international research to develop and refine the regulations relating to RPAS.

At this stage, the Government does not consider that the current international research supports the need for an immediate redraft of the Civil Aviation Safety Regulations Part 101 relating to RPAS below 2kg. The introduction of CASA's legislative instrument (*Direction – operation of certain unmanned aircraft*) in October 2017 has already provided stronger, clearer and tightened safety rules for recreational RPAS users. The new rules include a requirement that operators must not fly their RPAS over or near areas affecting public safety or where emergency operations are underway, and not within 5.5 kilometres of a controlled aerodrome.

All RPAS users, unless approved otherwise, must adhere to the prescribed standard operating conditions, including not flying above 400 feet, not flying within 30 metres of people and operating within line of sight to the RPAS. For those operating in the 'excluded category' (commercial operations under 2kgs), they must notify CASA five days before they fly and operate within the rules applicable to the excluded category.

The Government notes that despite the proliferation of RPAS, the ATSB have no confirmed reports of a collision between RPAS and conventionally piloted aircraft in Australia.

The Government supports CASA's continued monitoring of RPAS operations below 2kg, set to be bolstered by the Government's RPAS policy and data frameworks to be established in response to Recommendations 8 and 9 (refer). CASA will continue to follow international developments in RPAS regulatory frameworks and will amend Part 101 if appropriate.

Recommendation 2

The committee recommends that the Australian Government introduce a mandatory registration regime for all remotely piloted aircraft systems (RPAS) weighing more than 250 grams. As part of registration requirements, RPAS operators should be required to successfully complete a basic competence test regarding the safe use of RPAS, and demonstrate an understanding of the penalties for non-compliance with the rules.

The Government **agrees** with this recommendation.

This recommendation is consistent with the views reflected in the CASA's *Review of aviation safety regulation of remotely piloted aircraft systems* (CASA's Review), published May 2018.

The Government supports the implementation of an appropriate mandatory testing regime as part of the registration process, under which recreational and other drone users in the excluded category must successfully demonstrate an understanding of the safe and lawful use of RPAS.

CASA has begun to develop options for an effective and efficient registration scheme. The scope and form of that scheme will have regard to the Committee's concern that any such scheme should be both cost-effective and sustainable.

Recommendation 3

The committee recommends that the Australian Government develop a tiered education program whereby remotely piloted aircraft system (RPAS) users progressively unlock RPAS capabilities upon completion of each level of training. Three tiers are proposed as follows:

- purchase of the RPAS – mandatory registration requires user to demonstrate knowledge of the basic rules for flying RPAS, and the penalties for non-compliance (as described in Recommendation 2);
- recreational use of RPAS – second tier requires user to demonstrate an advanced understanding of aviation rules and safety before unlocking additional capabilities; and
- commercial use of RPAS – final tier requires user to demonstrate comprehensive aviation knowledge before obtaining commercial operator licence and unlocking full RPAS capability.

The Government **notes** this recommendation.

The Government supports a broader education scheme and mandatory registration and CASA, as the aviation safety education provider, will progress implementation.

CASA is developing an appropriate education package for the safe use of RPAS across the usage tiers. In developing an education program, the Government would involve appropriate law enforcement agencies, to ensure that knowledge of compliance requirements is not limited to safety issues alone, but also includes threats to national security.

CASA will work carefully to ensure that any changes to RPAS education do not impose unnecessary requirements that discourage participation from RPAS users and manufacturers, are cost effective and sustainable.

The full implementation of this recommendation would require technological capabilities to be implemented by all RPAS manufacturers. While the technology to limit or restrict operations is advancing, linking this to completion of training is currently not feasible given the breadth of sources from which RPAS can be acquired.

Recommendation 4

The committee recommends that the Civil Aviation Safety Authority, in cooperation with the Australian Federal Police and other relevant authorities, prohibit the use of remotely piloted aircraft systems in the airspace above significant public buildings, critical infrastructure and other vulnerable areas.

The Government **agrees in principle** with this recommendation.

CASA will continue to work with the Australian Federal Police (AFP), state and territory law enforcement authorities and other agencies of federal, state and territory governments to develop advanced processes to limit and restrict the operation of drones in certain locations. The Government expects security agencies to continue to assess the threat concerning significant public buildings, critical infrastructure and other vulnerable areas and advise on any necessary restrictions utilising CASA's existing regulatory powers.

Mechanisms are already in place for an appropriate security agency to request CASA's Office of Airspace Regulation to designate certain airspace as prohibited, restricted or danger areas. However, each category of designation requires CASA to be satisfied of particular criteria and would be difficult to limit to RPAS without inadvertently affecting other airspace users.

There are other options available to restrict the use of RPAS in certain areas that may be more feasible. These include increased enforcement of the RPAS regulations, or states and territories could use the capability in their own legislation to enact restrictions and further consideration of utilising geo-fencing once that technology has advanced.

Recommendation 5

The committee recommends that the Department of Infrastructure, Regional Development and Cities, in cooperation with the Civil Aviation Safety Authority, work with manufacturers of remotely piloted aircraft systems (RPAS) to develop future solutions to RPAS safety, including the implementation of technical restrictions on altitude and distance for 'off-the-shelf' RPAS.

The Government **notes** this recommendation.

CASA will continue to support manufacturer's efforts to utilise geo-fencing technology to prevent RPAS operations in areas where operations are not permitted, including at or near major airports and certain classes of restricted airspace.

CASA will continue to participate in relevant international forums to stay abreast of global trends and participate in trials of new technology, where feasible.

There are a multitude of RPAS manufacturers, predominantly based overseas, and hence achieving consistent technical restrictions would likely be unfeasible.

Recommendation 6

The committee recommends that the Department of Infrastructure, Regional Development and Cities, in cooperation with the Civil Aviation Safety Authority, develop appropriate airworthiness standards for remotely piloted aircraft of all sizes and operations. At a minimum, fail-safe functions such as 'return to home' and safe landing functionality, and forced flight termination, should be mandated.

The Government **agrees in principle** with this recommendation.

While CASA sets aviation airworthiness standards, including those applicable to RPAS in Australia, it does not establish airworthiness standards for foreign aircraft. Instead, Australia holds technical arrangements reciprocating airworthiness certifications with certain international civil aviation safety regulators, which could be explored as a future option for RPAS airworthiness.

CASA is currently developing a long term strategy for safe RPAS operations in Australia, including the examination of airspace integration, risk and safety management, unmanned traffic management, operations near and to/from aerodromes and initial and continuing airworthiness and certification standards. This work will also assist in informing the work of the future whole of government RPAS policy, as outlined in the response to Recommendation 8.

CASA is actively engaged with the International Civil Aviation Organization body, the Joint Authorities for Rulemaking on Unmanned Systems, to develop an appropriate international airworthiness standard framework for RPAS.

The Government notes that adopting appropriate airworthiness standards is a long-term matter to allow for appropriate consideration for integration into Australian airspace.

Recommendation 7

The committee recommends that the Australian Government develop import controls to enforce airworthiness standards for foreign manufactured remotely piloted aircraft systems.

The Government **does not agree** with this recommendation.

An import control to enforce airworthiness standards for foreign manufactured remotely piloted aircraft systems would be difficult to establish and impractical to enforce. The Australian Border Force does not have the technical capability or the capacity to test, assess or determine airworthiness standards of foreign manufactured remotely piloted aircraft systems at the border. This recommendation, if adopted, would have a significant impact on the ABF's resources and ability to enforce other border controls, including the detection and interception of illicit firearms, weapons and drugs.

The Government, instead, supports CASA's participation in the Joint Authorities for Rulemaking on Unmanned Systems, to develop appropriate international airworthiness standards for all RPAS.

Recommendation 8

The committee recommends that the Department of Infrastructure, Regional Development and Cities, in collaboration with the Civil Aviation Safety Authority, develop a whole of government policy for remotely piloted aircraft safety in Australia, and establish appropriate coordination and implementation mechanisms with relevant departments and agencies to implement the policy.

As part of a whole of government policy approach, the committee further recommends that the Australian Government explore cost-effective models to develop and administer new regulatory initiatives for remotely piloted aircraft systems, including a mandatory registration regime and tiered education program. The harmonisation of state and territory privacy laws should also be considered.

The Government **agrees in principle** with this recommendation.

In March 2018, the Department of Infrastructure, Regional Development and Cities (DIRDC) established the RPAS Network to coordinate policy work on RPAS. As at October 2018, the RPAS Network comprised of representatives from fifteen Portfolios with varied interests in RPAS. In some instances, these members also represent the many agencies within their own Portfolios who engage with RPAS technology either directly or from a policy perspective.

DIRDC will continue to work closely with CASA and other relevant departments and agencies on a coordinated whole of government approach to ensure the appropriate operation of RPAS in Australia.

The Civil Aviation Safety Authority is responsible for determining funding arrangements for the RPAS safety regulatory framework and is currently considering new initiatives. With regards to a mandatory registration system and a tiered education program, refer respectively to the Government response to Recommendations 2 and 3.

The Government notes the Committee's recommendation that the harmonisation of state and territory privacy laws should be considered. State and territory privacy laws are a matter for state and territory Governments. The Government, via the Attorney-General's Department and the Department of Infrastructure, Regional Development and Cities, will engage with state and territory governments to consider national harmonisation of privacy laws as they apply to RPAS operators.

Recommendation 9

The committee recommends that, as part of a whole of government approach to remotely piloted aircraft systems (RPAS) safety, the Civil Aviation Safety Authority work with Airservices Australia and other relevant agencies to implement a comprehensive research and data gathering regime. Information should be collated and centralised in a way that allows for the examination of RPAS registrations, operations, trends and incidents, to provide an evidence base on which to assess the efficacy of current regulations, and to inform the development of future policy and regulations.

The Government **agrees in principle** with this recommendation.

Airservices collaborates with industry to collect data of sightings of authorised and unauthorised RPAS. This information is shared with CASA and the ATSB enabling further analysis of the evolving operations of RPAS. Airservices also periodically examines this data to determine a risk picture for the organisation.

Airservices is in discussions with several providers who have RPAS detection solutions. These products may provide real-time statistical activity information in and around airports, supplementing Airservices current reporting capabilities. Airservices intends to conduct a trial with a provider during the 2018-19 financial year, with an aim to gather data and develop knowledge on how this technology might be integrated and to better understand the current limitations of the technology. The outcomes of the trial are expected to align with the intent of Recommendation 9 while providing Airservices with a better understanding of current capabilities.

It is also useful to note that for manned aviation undertaken in Australian registered aircraft, BITRE currently compiles statistics on the hours flown by aircraft and the associated number of landings, classified by the type of activity being undertaken, the type of aircraft being flown and the state or territory where the aircraft are based.

BITRE will now undertake a similar arrangement to compile statistics for RPAS, noting however that a complete list of all RPAS owners or operators would need to exist in order to identify participants in any future survey. For this reason, the implementation of Recommendation 2 (mandatory registration of RPAS) is an important prerequisite before BITRE can undertake this work.

Recommendation 10

The committee recommends that, following the development of a whole of government policy approach to RPAS safety, including the establishment of a national registration system, the Civil Aviation Safety Authority (CASA) work with state and territory enforcement bodies to implement a nationally consistent enforcement regime for remotely piloted aircraft systems. Under this regime, enforcement bodies would be delegated powers to provide on-the-spot fines and report infringements of the regulations directly to CASA.

The Government **agrees** with this recommendation.

CASA continues to engage regularly and constructively with federal, state and territory law enforcement authorities, with a view to enhancing the enforcement of rules governing the safe and lawful use of drones.

In the development of the whole of Government policy on drones, the Government will consider and address the most appropriate regulatory regime for RPAS noting the need for greater responsiveness to drone issues and the management of state and territory based issues, including privacy, environmental concerns and public safety.