



Submission to the

**SENATE INQUIRY INTO THE REGULATORY
REQUIREMENTS THAT IMPACT ON THE SAFE USE OF
REMOTELY PILOTED AIRCRAFT SYSTEMS**

29th December 2016

Submission by Regional Express Airlines into the Senate Inquiry into the Regulatory requirements that impact on the safe use of Remotely Piloted Aircraft Systems (RPAS), Unmanned Aerial Systems and associated systems.

1. Introduction

The Rex Group comprises Regional Express, air freight and charter operator Pel-Air Aviation and Dubbo-based regional airline Air Link, as well as the Australian Airline Pilot Academy. Regional Express is Australia's largest independent regional airline operating a fleet of more than 50 Saab 340 aircraft on some 1,500 weekly flights to 58 destinations throughout all states in Australia.

2. Response to the Committee of Inquiry

Rex is supportive of this Inquiry as it considers that there are hazards associated with RPAS operations and that with the rapid increase in the number of operators, many of which with little or no aviation experience or exposure, and that these hazards if not addressed could pose unacceptable risks to commercial air transport services, including those provided by Rex, especially in the vicinity of registered airports.

Rex recognises that there are significant community benefits that can be achieved through RPAS operations but this can only be achieved if the regulation of drones, through both government and industry co-operation, can ensure that the risks associated with their operations can be reduced and maintained at acceptable levels. Rex welcomes further opportunities to work with the Government and other RPAS stakeholders towards realising these benefits and the existence of a safe and professional RPAS sector in Australia.

3. Current and Future Regulatory Requirements

Current and future regulatory requirements that provide for the safe commercial and recreational use of RPAS, without imposing adverse impact upon the community is paramount. Rex considers that the current regulations, in terms of their content and style of the regulations, appear to be adequate. It appears that they have been developed in accordance with sound risk-based methodology. Rex is supportive of the risk-based approach adopted by CASA. This approach is consistent with world best practice and the approach adopted in the US and Europe.

In terms of civil RPAS regulatory requirements, Australia has been a world leader with the introduction of the first regulatory standards in 2002. As a pioneer in UAS regulation, the CASA promulgated, in 2002, Part 101 of the *Civil Aviation Safety Regulations 1998* (Cth) (CASR) and *Advisory Circular AC-101-1 (0) Unmanned Aircraft and Rockets*. Under the Australian framework, CASA only permits commercial UAS (including unmanned aircraft of more than 150 kg) to fly in Australian airspace if the operator first obtains an Operator Certificate (OC).

The area in which Rex views as the greatest threat to commercial airline operations is in the area of small unmanned aircraft operating in the vicinity of airports. Rex has had reports from its pilots, and persons on the ground, of illegal operations in the vicinity of airports, and on flight approach and departure areas.

Aviation is a dynamic environment and with increasing RPAS operations there are challenges for both CASA and the RPAS sector. While the needs and objectives of the stakeholders may vary, they both need to ensure that safety related considerations are at the forefront. Perhaps the most alarming aspect of all is that the rate of advancement of RPAS technology is showing absolutely no signs of abating and indeed is continuing to increase at an increasing rate. This is one of the key challenges with the rapid growth of the RPAS sector and in particular the increased commercial and recreational usage of drones.

Rex believes that while the current regulations may be sufficient if they were followed, the problem lies more in terms of:

1. Requirement for better and more comprehensive monitoring and oversight of RPAS operations.
2. No effective system of reporting drone violations (and other safety-related activities) so that this information can be acted upon.
3. Insufficient feedback to airline operators of adverse trends and areas that may pose a hazard to airline operations as a consequence of illegal/unsafe RPAS activities.

As civilian usage of RPAS becomes more common and their commercial and operational superiority more demonstrable, the pressure imposed upon governments and regulators for access to unsegregated and ultimately unrestricted civilian airspace will intensify. Therefore, a solid regulatory framework laying down all technical, safety and operational requirements will need to be implemented. It is hoped that CASR Part 102 will achieve this goal.

4. Safety issues associated with RPAS operations

The enormity of the task of integrating RPAS into unsegregated civil airspace cannot be overstated, the legal issues associated with RPAS activities are not restricted to safety and technical regulation. While the advantages to society in general of increased usage of RPAS is undeniable, because of the uniqueness of this new type of aircraft technology, its increased civilian usage also creates adverse impact upon society in terms of privacy and security issues.

In respect to the safety aspects of RPAS activities – Rex considers that the Government should adopt more effective ways in which to address the three issues raised above. Rex considers that the nature of the operators of drones that pose the greatest risk to commercial air transport operations are the following:

1. Operators that deliberately and knowingly violate CASA regulations.
2. Operators that are unaware of the risk that their operations pose because they do not know or understand the operational restrictions that apply.
3. Operators that are not sufficiently competent to ensure their operations are operated safely and in accordance with the regulations.

It is quite obvious that with the almost exponential increase in RPAS activities, that CASA alone cannot sufficiently oversee all RPAS activities and to deploy CASA resources from other areas of oversight may have an overall adverse impact upon the safety of civil aviation in Australia.

Rex suggests that CASA should consider utilising RPAS safety standards that have been developed within the RPAS industry to assist the regulator in the oversight of RPAS activities. For instance, Rex is subject to numerous third party audits, all of which are of a very high standard. If CASA were to adopt such an approach, not only for RPAS operations but for all aviation activities subject to independent audits, then this could result in a much higher level of regulatory compliance within the aviation sector. This is also consistent with the recommendation in the May 2014 *Aviation Safety Regulation Review Report* chaired by Mr. David Forsyth. In particular recommendation number 27, which has been subsequently accepted by CASA, states:

Recommendation 27: The Civil Aviation Safety Authority implements a system of using third-party commercial audits as a supplementary tool to its surveillance system.

Rex considers that RPAS Operators that are audited (and continue to be audited) and certified under a reputable and independent system would pose minimal and acceptable levels of risk to commercial air transport. Rex considers that it is those RPAS operators that are unknowingly, uncaringly or incompetently operating that pose the greatest risk to commercial air transport operations and therefore the greatest risk to the fare paying public – which is CASA’s number one safety priority.

Rex believes if there was more accurate and up to date information available to commercial air transport operators in terms of where there may be areas of observed RPAS violation of airspace in the areas surrounding airports then this information would be most valuable to aircrew and network planners. Rex would be prepared, and we would expect other airlines would also be supportive, to report sightings of illegal or dangerous RPAS activities. Rex has had instances where it has received reports of such activities but under the current (CASA and ATSB) reporting regime, they are non-reportable events.

Rex’s operations are somewhat unique in that we are the largest independent regional airline operator in Australia, operating in every State in Australia, but on the overwhelming majority of our routes we are the only Regular Public Transport (RPT) operator. This means that Rex will not necessarily gain from the reported sightings from other commercial air operators and so additional availability of illegal or unsafe drone activities would be a positive safety benefit.

Summary and Recommendations

Due to the range and diversity of the Rex Group of aviation activities, the presence of RPAS/UAS in controlled and uncontrolled airspace could pose a risk to the safety of our operations and therefore Rex has a keen and vested interest to ensuring that the hazard of unmanned aircraft activities is managed to acceptable levels of safety.

Rex would like to recommend the following points:

1. Requirement for a comprehensive monitoring and oversight of RPAS operations for any operations that operate beyond CASA’s standard restrictions. Rex consider that it is incumbent upon CASA to ensure the safety of air navigation and therefore must ensure effective oversight and control of RPAS operations. Rex considers that RPAS Operators that are certified and subjected to an independent audit oversight regime may pose an acceptable risk to commercial air transport.

2. That consideration be given to the establishment of an effective drone violation reporting system encompassing recreational RPAS operators and commercial airspace users. This information is currently not available and could assist airline operators to identify airspace that may pose hazards to aircraft in respect to reported unlawful RPAS activities.
3. With the expected continued advancement of RPAS technology and increased activity levels, a risk-based approach to regulatory framework including technical, safety and operational requirements will need to be implemented. This includes the individual registration of ownership of RPAS, as we believe this would act as a deterrent to illegal or dangerous RPAS activities, allowing a path for traceability.
4. Airborne collision avoidance systems (such as TCAS) have a proven risk control in the prevention of mid-air collision. Therefore if RPAS operations occupy the same airspace as commercial air transport operators then the fitment of transponder type equipment should be mandated. ADS-S transceivers that weigh less than 5000 gms are available to RPAS operators.