



## **SUBMISSION**

### **SENATE STANDING COMMITTEES ON RURAL AND REGIONAL AFFAIRS AND TRANSPORT**

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

**by**

**VIPA**

**(VIRGIN INDEPENDENT PILOTS ASSOCIATION)**

#### **1.0 PREAMBLE**

VIPA (Virgin Independent Pilots Association) is a Registered Organization (RO) representing a significant number of professional airline pilots employed by the Virgin Australia Group which includes Virgin Australia, Tigerair, VARA (Virgin Australia Regional Airlines) and VANZ (Virgin Australia New Zealand).

VIPA was granted RO status by FWA (Fair Work Australia) in 2009.

VIPA members are drawn from all companies within the Virgin Australia Group.

#### **2.0 VIPA FLIGHT SAFETY COMMITTEE**

VIPA has within its structure a Flight Safety Committee which focuses on air safety and regulatory issues pertaining to the aviation industry within Australia and liaises closely with the relevant authorities i.e. CASA (Civil Aviation Safety Authority), AsA (Air Services Australia), Air Transport Safety Board (ATSB).

Accordingly, VIPA has a professional interest in the development and maintenance of safety regulations and standards through the Australian FIR's (Flight Information Regions) and international airspace.

#### **3.0 INDUSTRY CONCERN**

VIPA is concerned that the lack of regulation into the operation of RPAS devices exacerbates the risk to aircraft and property and it is therefore in the public interest to impose tighter regulation on the operation of RPAS devices.

#### 4.0 THE RPAS INDUSTRY

The RPAS industry has grown rapidly in recent years and the Regulator (CASA) has struggled to maintain regulatory and practical terms. Three years ago there were approximately 40 licensed RPAS operators all of whom met the requirements to achieve registration, including the provision of an approved Safety System. All licensed operators were required to attain and maintain Operators Certificates and the entities are subject to annual review and audit.

Since the advent of low-cost UAV's many purchasers have been operating them commercially. This has impacted the business of licensed operators significantly but arguably more importantly, has created a significantly greater risk to air safety.

#### 5.0 UAV's (DRONES)

UAV's range in size and weight. They come on the form of rotary wing devices or fixed wing. The popular, low cost varieties which are readily available, often weigh less than 2 kg but can attain considerable altitude and range.

It is the sub two-kilogram variety which VIPA believes poses the greatest risk to aircraft.

Recent years have heralded the arrival of a plethora of low cost 'drones' capable of attaining significant range and altitude. Some, but not all of these are capable of first person viewing (FPV) in which the operator can see what an on-board video camera is viewing. Others are operated without video on board and are flown by visual reference.

UAV's (drones) are not subject to airworthiness compliance and are prone to 'fly away' out of control range and subsequently crash. This can occur if radio contact is lost or interrupted or there is, for example, an on-board failure such as a faulty IMU (inertial motion unit).

There have been a number of incidents where these UAV's have been observed close to the approach flight path of aircraft. Recent reports from the UK have revealed an alarming number of close proximity and near miss events endangering aircraft.

#### 6.0 INSURANCE AND RISK

The majority of licensed operators carry accident and public indemnity insurance to cover their equipment and public liability.

UAV's are normally powered by lithium polymer batteries which can be unstable as a result of impact or overheating. This can result in explosion and fire.

Operating a drone has several attendant risks which could result in loss of life and/or damage to building or infrastructure e.g. a crash in grass or woodland could cause fire. Flight into high tension power wires could for example result in widespread loss of power and resultant losses.

Licensed operators are required to complete a risk analysis and JSA (job safety analysis) prior to flight.

Unlicensed operators are not required to comply with this requirement and therefore potentially unaware and unprepared for such an event.

## 7.0 AIRSPACE

Australian airspace is divided into various categories some of which is controlled and requires pilots to obtain ATC (Air Traffic Control) clearance and requires strict compliance with respect to tracking and altitude. Controlled airspace includes all capital city airports and other airports including, Gold Coast, Sunshine Coast, Williamtown, Coffs Harbour, Rockhampton, Cairns, Townsville, Mackay, Hamilton Island, Tamworth, Port Hedland, Karratha, Albury and others.

Controlled airspace, where radar services are available provide additional levels of protection for aircraft.

Operations outside controlled airspace require pilots to maintain a high degree of vigilance to maintain their own separation.

## 8.0 RISK TO AIR SAFETY

VIPA accepts that licensed RPAS operators understand and generally comply with the requirements and limitations of their respective licenses.

VIPA is concerned at the potential risk imposed by unregulated UAV's. These are often flown by people often without an understanding of airspace requirements with little regard to public safety and the risks that an out of control UAV can pose. There are many report of illegal flights over populated areas and at night, both of which are contrary to current regulation.

Launching a drone close to an airport, particularly in proximity to an uncontrolled aerodrome exposes aircraft (which are often jet powered) to the risk of collision which could result in substantial damage, loss of control and potentially, loss of life. Collision with an UAV could be considerably more dangerous than striking a bird.

A drone in the same airspace as an aircraft presents a potential risk of either deliberate or inadvertent collision. Similarly, a drone, if visually detected, could divert the attention of the crew of an aircraft which may lead to deviation from its intended flight path and create conflict with other traffic.

Unlike conventional aircraft drones are not equipped with any form of transponder therefore cannot be identified on secondary radar nor are they equipped with TCAS (terminal collision avoidance system) equipment which notifies an aircraft of potential conflict and avoidance advice.

## 9.0 REGULATION

VIPA is opposed to deregulation or non-regulation of light-weight RPAS devices. The role of CASA is to ensure safe skies. We believe the abrogation of that responsibility is unacceptable especially given the rigour that CASA applies to regulatory enforcement in other sectors of the aviation industry.

It is acknowledged that enforcement poses an enormous burden on CASA requiring considerable resources.

VIPA acknowledges that licensed operators have invested considerable funds to establish compliance and equip their operations. They therefore have a vested interest in protecting that investment and their business.

Virgin Australia, like other airlines, focuses considerable resources and places enormous emphasis on safety. Failure to create and enforce legislation and regulation that compliments that commitment is therefore counter-productive and not in the public interest.

## 10.0 RECOMMENDATIONS

VIPA therefore makes the following recommendations:

1. All RPAS owners be required to register their drones
2. All RPAS operators be required to complete a basic air law examination
3. Licensed RPAS operators be delegated by CASA as compliance Inspectors with the power to impose statutory on the spot penalties for breaches.
4. An exclusion zone of 10 kms be established around all controlled airports with the requirement to obtain clearance from ATC or the aerodrome controlling authority to operate within that exclusion zone.
5. All RPAS operators be required to obtain public liability insurance.
6. Penalties equivalent to those imposed for endangering an aircraft be legislated for breaches of regulations by unlicensed UAV owners.
7. CASA increase its resources to protect licensed RPAS operators.
8. CASA, Air Services Australia, the RPAS representative associations, the airlines, airport operators and the pilot unions and other relevant bodies work collaboratively to address the issues raised in this submission.

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