



Air Law

Certificate III in Aviation (Remote Pilot)

AVIY0031

Apply the principles of air law to RPAS operations



Learning Objectives

At the end of this lesson, you should be able to correctly:

- Identify and use the applicable Civil Aviation Safety Regulations for operating an RPAS.
- Recall the Standard RPA Operating Conditions.
- Recall when you need either a RePL or Accreditation to operate your RPA.
- State the process for reporting aviation accidents.



Common Acronyms

Tell
Me
About
Acronyms

| Acronym | Meaning |
|---------|---|
| CASA | Civil Aviation Safety Authority |
| MoS | Manual of Standards |
| CASR | Civil Aviation Safety Regulations |
| CAA | Civil Aviation Act |
| CAOs | Civil Aviation Orders |
| ICAO | International Civil Aviation Organization |
| RPAS | Remotely Piloted Aircraft System |
| NOTAM | Notice to Airman |
| DAMEs | Designated Aviation Medical Examiners |



NATIONALLY RECOGNISED
TRAINING

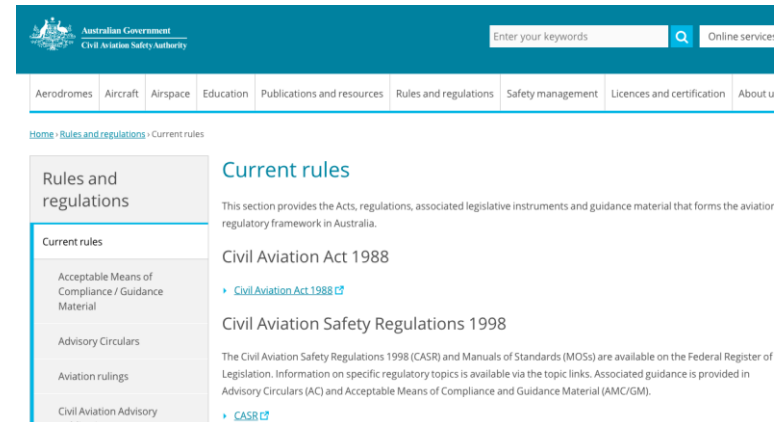


Australian Law – what types are there?



1. Statute Law

- Highest Law
- Made by Parliament/Governor-General in the form of an Act
- -> **Primary Legislation**
- E.g. **Civil Aviation Act 1988**
 - Strict Liability
 - each Penalty Unit = \$313*
 - *as at 1 Jul 2023
 - *indexed every 3 years



2. Common Law – Judge-made Law (e.g. High Court of Australia)

3. Equity Law – Remedies injustices brought about by Common Law



Priority of Ruling

- Governor-General acts on the advice of the Parliament creating:
 - Civil Aviation Act 1988 (CAA)
 - Civil Aviation Regulations 1988 (CAR)
 - Civil Aviation Safety Regulations 1998 (CASR)
 - CAR are gradually being replaced by CASR

- Civil Aviation Safety Authority (CASA) has been delegated to prescribe effective details of Regulations via:
 - Manual of Standards (MOS)
 - Civil Aviation Orders
 - CAOs are gradually being replaced by MOS to align with ICAO

Legislation — the Act

Under subsection 98 (1) of the *Civil Aviation Act 1988* (the *Act*), the Governor-General may, among other things, make regulations prescribing matters required, permitted, necessary or convenient for the Act and in the interests of the safety of air navigation. Part 101 of the *Civil Aviation Safety Regulations 1998* (*CASR*) deals with the operation of unmanned aircraft, rockets and fireworks.

Legislation — Part 101 of CASR

Under regulation 101.028, CASA may issue a MOS prescribing matters required or permitted by the Regulations to be prescribed, or necessary or convenient to be prescribed for carrying out or giving effect to Part 101. This power is complemented by other provisions in Part 101 which empower CASA to prescribe specific matters in the MOS. These complementary provisions are described in Appendix 2 in the context of the explanations of the particular provisions that rely on them.

Background

Part 101 of CASR was initially made in 2001 to make rules in relation to the operation of unmanned aircraft and rockets. There was no empowerment for the making of a MOS. With continuing technological and commercial developments in unmanned aircraft, by 2016 it was considered that such an empowerment would better facilitate the effective regulatory oversight of RPA. Under that new empowerment, the MOS provides necessary standards for the regulatory scheme set out in Part 101 of CASR.



Part 1 - The applicable Civil Aviation Safety Regulations (CASR) for operating an RPAS.



How do you find these documents?

Go to the CASA website

The screenshot shows the CASA website interface. At the top, there is a navigation bar with the Australian Government and Civil Aviation Safety Authority logos, a search bar, and a link to 'Online services'. Below this is a menu with categories: Aerodromes, Aircraft, Airspace, Education, Publications and resources, Rules and regulations, Safety management, Licences and certification, and About us. The main content area is titled 'Current rules' and includes a brief description: 'This section provides the Acts, regulations, associated legislative instruments and guidance material that forms the aviation regulatory framework in Australia.' It lists 'Civil Aviation Act 1988' and 'Civil Aviation Safety Regulations 1998' with links to their respective pages. A sidebar on the left contains a 'Rules and regulations' menu with sub-items: Current rules, Acceptable Means of Compliance / Guidance Material, Advisory Circulars, Aviation rulings, Civil Aviation Advisory Publications, and Foreign legislation.



CASRs & MOS for RPAS Operations



CASR

- Part 47 Registration of Aircraft
- Part 64 Authorisation for non-licensed personnel (AROC)
- Part 67 Medical
 - Subpart 67D - Modified Austroads Medical Standards
- Part 92 Consignment and carriage of Dangerous Goods by Air
- Part 99 Drug and Alcohol Management Plans and Testing
- Part 101
- Part 175 Aeronautical information management - AIS providers (Notam)

MOS

- Part 101



Australian Government

Civil Aviation Safety Authority

Part 101 (Unmanned Aircraft and Rockets) Manual of Standards 2019 (as amended)

made under regulation 101.028 of the *Civil Aviation Safety Regulations 1998*.

This compilation was prepared on 30 September 2020 taking into account amendments up to *Part 101 Manual of Standards (Miscellaneous Amendments) Instrument 2020 (No. 1)* as amended and in force on 30 September 2020.

Prepared by the Advisory and Drafting Branch, Legal, International & Regulatory Affairs Division, Civil Aviation Safety Authority, Canberra.

Compilation No. 3.



CASR 67

CASR 67.D Modified Austroads Medical Standards

- Unconditional
- Conditional:
 - Uncorrected visual acuity < std
 - Corrected to 6/12 in one eye & 6/18 in other
- See Austroads Medical Standards website
 - Assessing fitness to drive

CASR 92



CASR 92 Carriage of Dangerous Goods

- Batteries are Dangerous Goods
- Lithium, Lithium-ion cells or batteries can create fire and harmful accidents if carried in flight, certain limitations apply when for personal use
- E.g. 2 Lithium-ion batteries (8>25g) Carry-on only
- Need to confirm with the airline before flying

(CAA 23 Dangerous Goods carriage or consignment

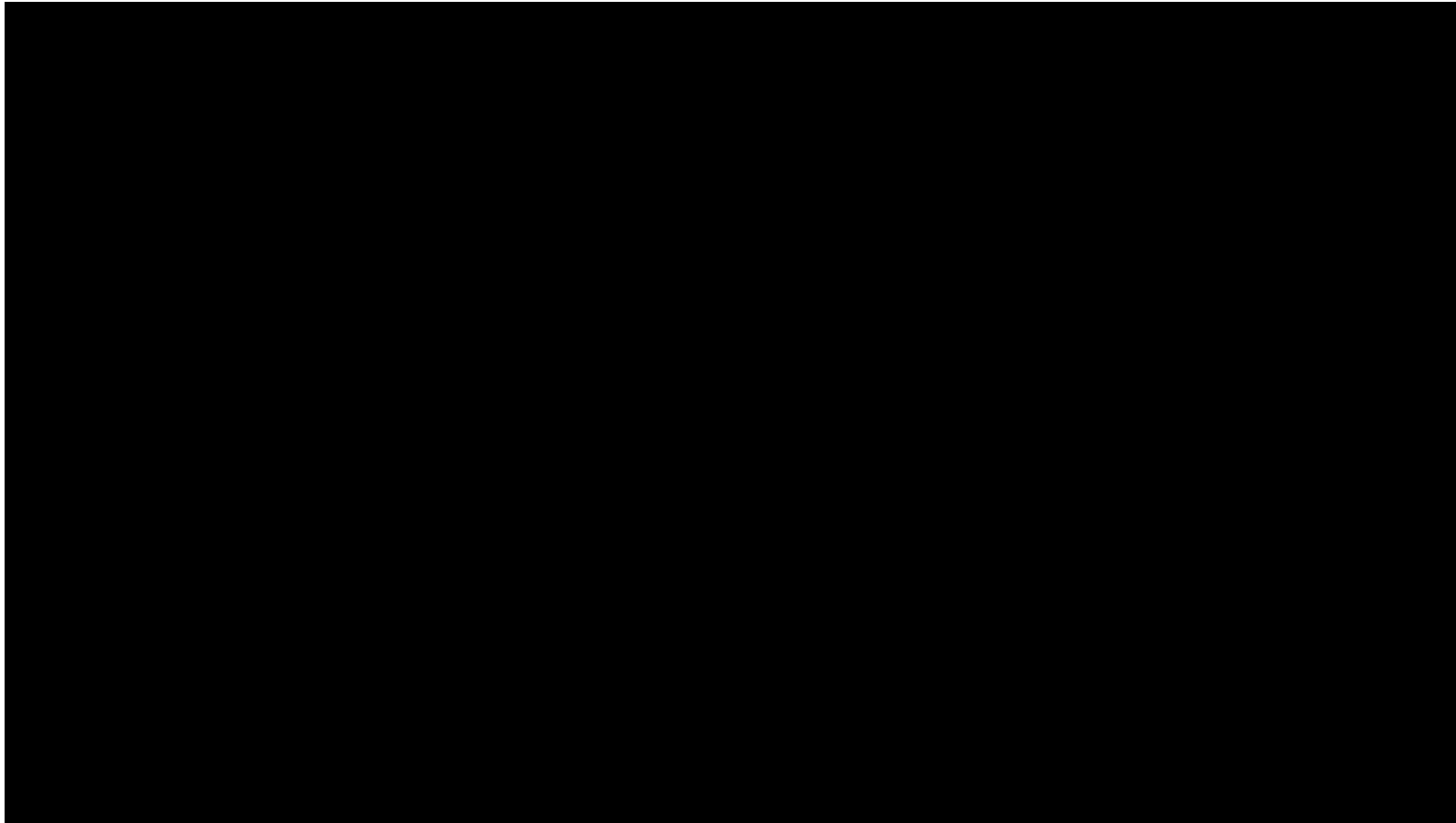
- Penalty 2-7years imprisonment)



CASR 99

CASR 99 Drug & Alcohol Management Plans and Testing

- SSAA - **Safety Sensitive Aviation Activity**





CASR 175

CASR 175 Aeronautical Information Management

- Documentation within Aviation is controlled
- ie charts, manuals, etc are regularly amended and the organisations that do this have to follow rules to standardize
- When we raise a NOTAM (Notice to Airman) this is also controlled under CASR 175



CASR 101 Unmanned aircraft and rockets



Types of RPA:

- Micro 250g or less
- Very Small >250g to 2kg
- Small >2kg to 25kg
- Medium >25kg to 150kg
- Large >150kg

You may operate an RPA in **Controlled Airspace** only if you:

- hold an **AROC** or a Flight Crew or an ATC Licence;
- maintain a listening watch on specified frequency; and
- make broadcasts on the correct frequency at specified intervals, giving specified information.



The Standard RPA Operating Conditions

*There are **five** things you **must** do*

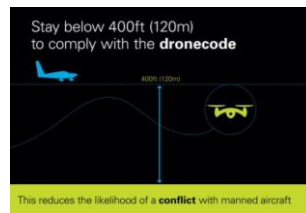
*..... and there are **seven** things you **must not** do.*



Standard RPA Operating Conditions

You **must** operate your RPA as follows:

1. Only one RPA at a time.
2. Within Visual Line of Sight.
 - *Day Visual Meteorological Conditions (Day VMC)*
 - *Clear of cloud, fog or heavy rain.*
 - *You must **not** fly behind trees, buildings or anything else that stops you seeing your drone at any time.*
 - *You must be able to see clearly for **3,000 metres**.*
3. At or Below **400ft AGL (120m AGL)**.
4. By Day only (from 10 mins after first light, to 10 mins before last light).
5. You must be able to see your drone with your own eyes at all times — not by using binoculars or watching a video screen.





Standard RPA Operating Conditions



“At or below **400ft** AGL (**120m** AGL)”.

Why 400 feet?

ANS: Because this reduces the likelihood of a **conflict** with manned aircraft.

Normally, manned aircraft must not operate below **500 feet AMSL** (manned aircraft always refer to AMSL rather than AGL):

- unless they are arriving at or departing from any airport,
- because of weather,
- because they are conducting low-level training, or
- because they are involved in search and rescue.
- Water bombing operations

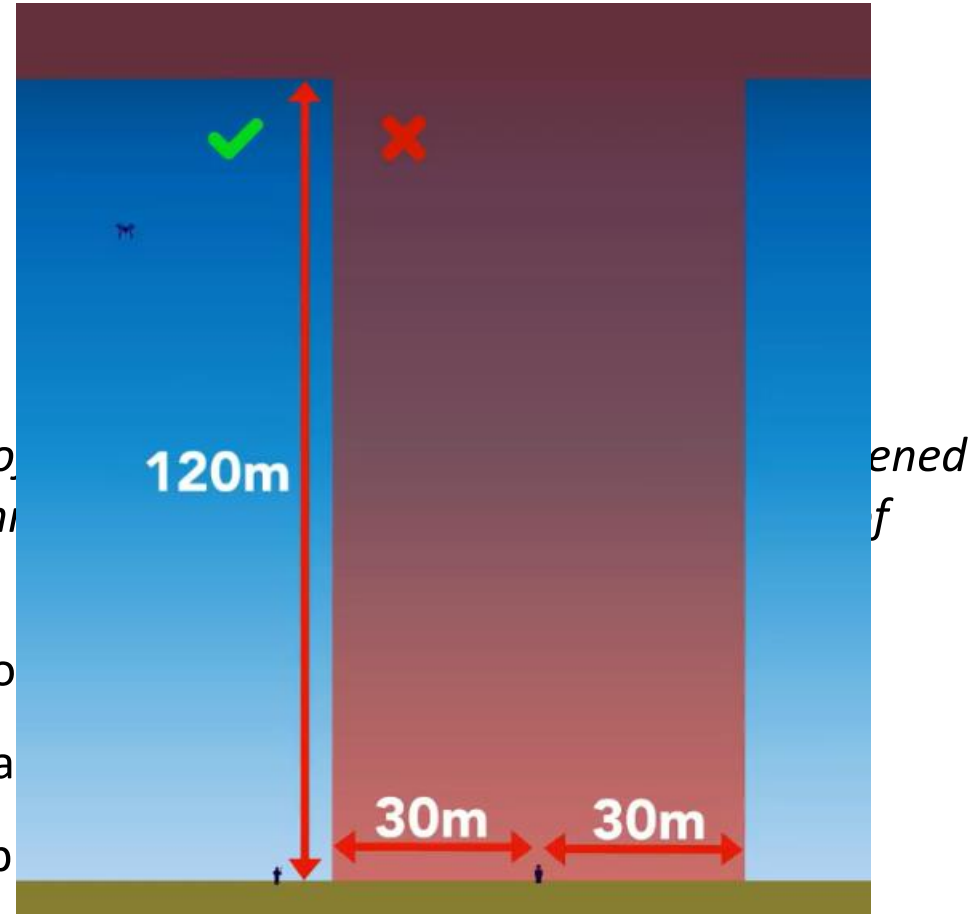
This means there should always be a vertical separation of at least **100 feet** between a drone and any aircraft flying above it.



Standard RPA Operating Conditions:

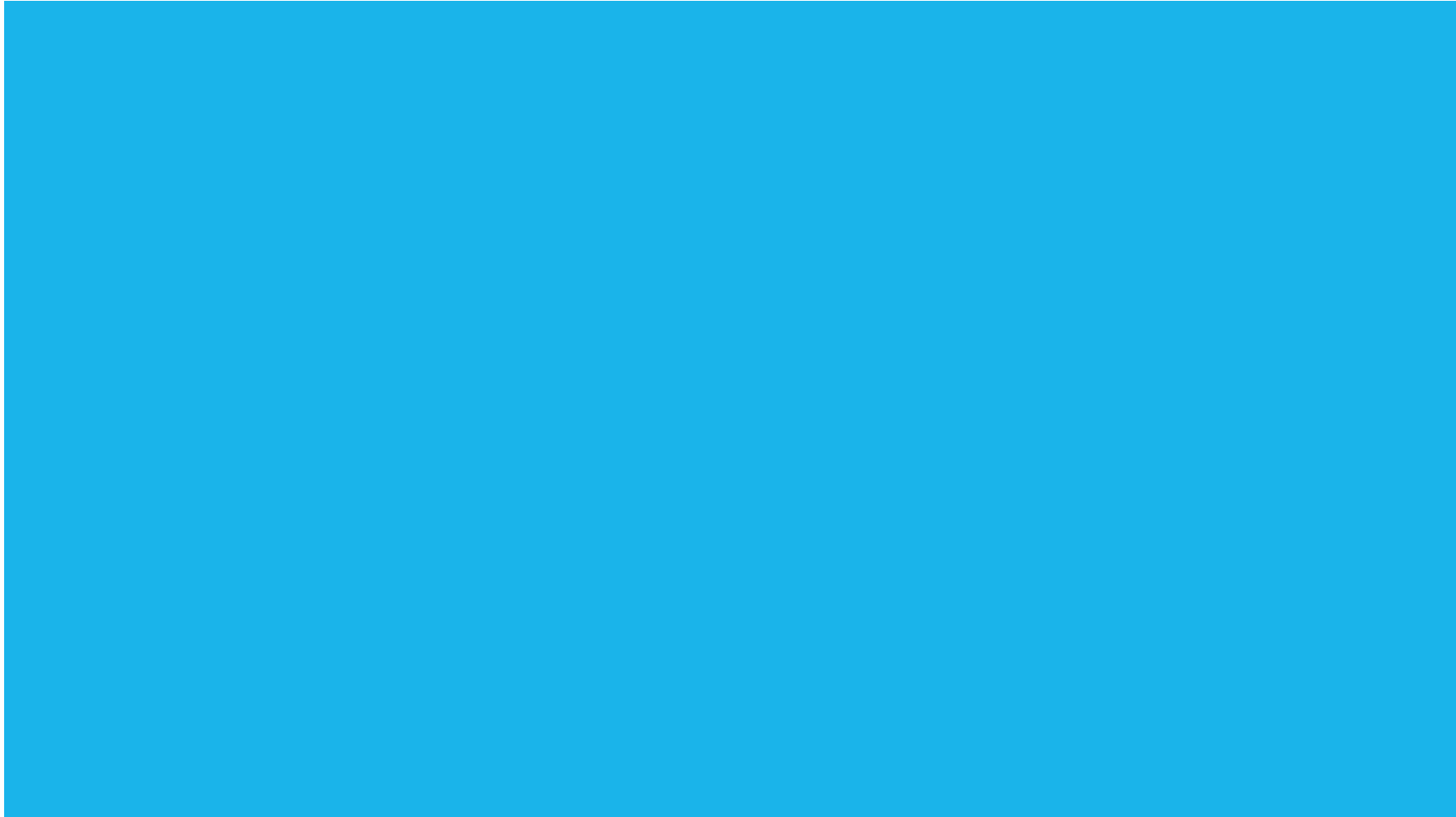
Must **Not** Operate RPA:

1. Within 30m of non-RPA persons
2. Within a Prohibited or Restricted Area
3. Over a Populous area
 - **Populous area:** area of sufficient density of people that, during RPA operation, it would pose an undue risk to somebody who is in the area.
4. Within 3NM (5.5km) of a Controlled Aerodrome
5. Obstructing an aircraft on Take off or Approach
6. Over an area with an Emergency (unless approved)
7. Creating a hazard to another aircraft, person or property





Flying For Fun





Some Rules to Know



- CASR Reg 101.090: A person must not cause a thing to be dropped or discharged from an unmanned aircraft in a way that creates a hazard to another aircraft, a person or property.
- You must have **less than 0.02 BAL** (many companies have a policy of 0.00). Ref: CIVIL AVIATION SAFETY REGULATIONS 1998 - REG 99.010 - Definitions for Part 99 – “Permitted Level (b)”
- All drone operators must make sure they obey the Standard RPA Operating Conditions and don’t cause a hazard to people, aircraft or property.
- Penalties for breaking the rules are up to 50 penalty units (currently \$15,650).



Some Other things to Know



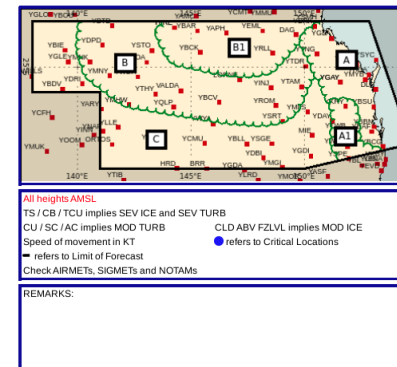
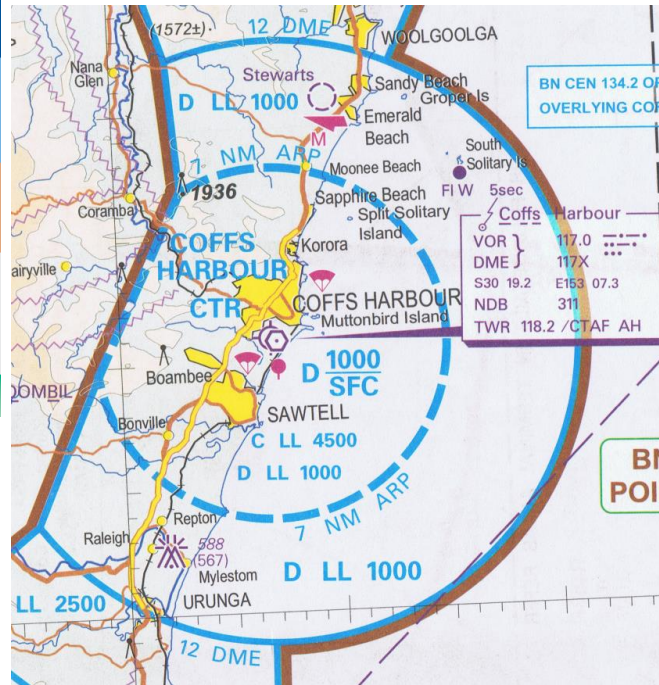
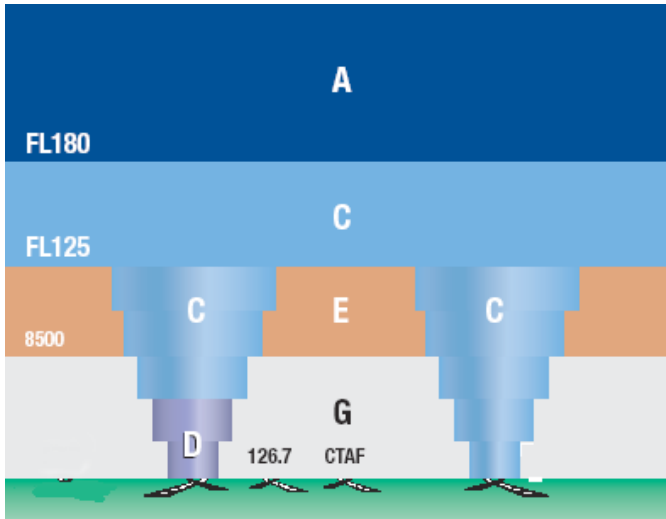
- Controlled Airspace is an airspace of defined dimension within which an air traffic control service is provided to flights in accordance with the airspace classification.
- The pilot of an unmanned aircraft is permitted to enter Restricted Airspace, but only with the express permission of the controlling authority for that area.
- Notice to Airmen (NOTAM) notifications alert pilots to any potential safety hazards along a flight route or in a specified location. They can also advise of changes to aeronautical facilities, services, or procedures (Refer to Air Services Australia Lecture).
- En Route Supplement Australia (ERSA) – Provides details on all aerodromes within Australia including such information as elevation, runway distances, and radio frequencies.



More Information Required.....

Maps

Weather Forecasts



Graphical Area Forecast SFC - 10000FT QLD-S
Issued at 210111022Z - Valid 111700 to 112300Z
Weather Features valid at 111700Z

| AREA | SURFACE VIS AND WX | CLOUD, ICING AND TURB | FZLVL |
|------|--------------------|---|-------------|
| A | >10KM NIL | SCT ST 1000/3000FT LAND SCT CU/SC 3000/8000FT, BASES 2000FT SEA (BKN BASES 2000FT IN A1) | ABV 10000FT |
| B | >10KM NIL | 3000M ISOL SHRA SEA AND LAND W/ 30NM COAST N OF DLP | ABV 10000FT |
| C | >10KM NIL | ISOL TCU 5000/ABV10000FT, BASES 3000FT E OF YBARILORNE BKN SC 2000/7000FT E OF YBARILORNE SCT CU/SC 5000/ABV10000FT, BASES 3000FT E OF YBARILORNE | ABV 10000FT |

BRISBANE YBBN

TAF YBBN 111107Z 1112/1218
19007KT 9999 FEW030
FM112300 12012KT 9999 FEW035
FM121100 19007KT 9999 SCT030
RMK
T 22 22 21 22 Q 1016 1014 1014 1015
TAF3

METAR YBBN 111230Z 20005KT CAVOK 21/17 Q1016
RMK RF00.0/000.0

<http://www.bom.gov.au/aviation/forecasts>

RePL and Accreditation

What do you need and when do you need it?



Categories of Uncrewed Aircraft Operations in Australia



There are 3 broad categories of uncrewed aircraft operations in Australia:

- **Recreational Operations** (including model aircraft): no accreditation is necessary – but pilots must adhere to the Standard RPA Operating Conditions.
 - **Excluded Category Operations**: remote pilots are required to hold a micro and excluded category accreditation.
 - **Commercial Operations**: remote pilots are required to hold a CASA RePL.
- To obtain a RePL, the candidate must complete training - including a practical assessment and theory examination - with a CASA approved training organisation. A candidate who is a crewed pilot licensed under Part 61 of the *Civil Aviation Safety Regulations 1998* (CASR) can complete abbreviated training to obtain a RePL under Part 101 of CASR.
 - A RePL holder is restricted to operating RPA within visual line of sight. This means the RePL holder must operate the RPA at such a distance they can control the RPA based on visual observation of the RPA's position, speed, and direction of flight directly with their own eyes and not through a device or screen.



Excluded Category Drone Safety Rules





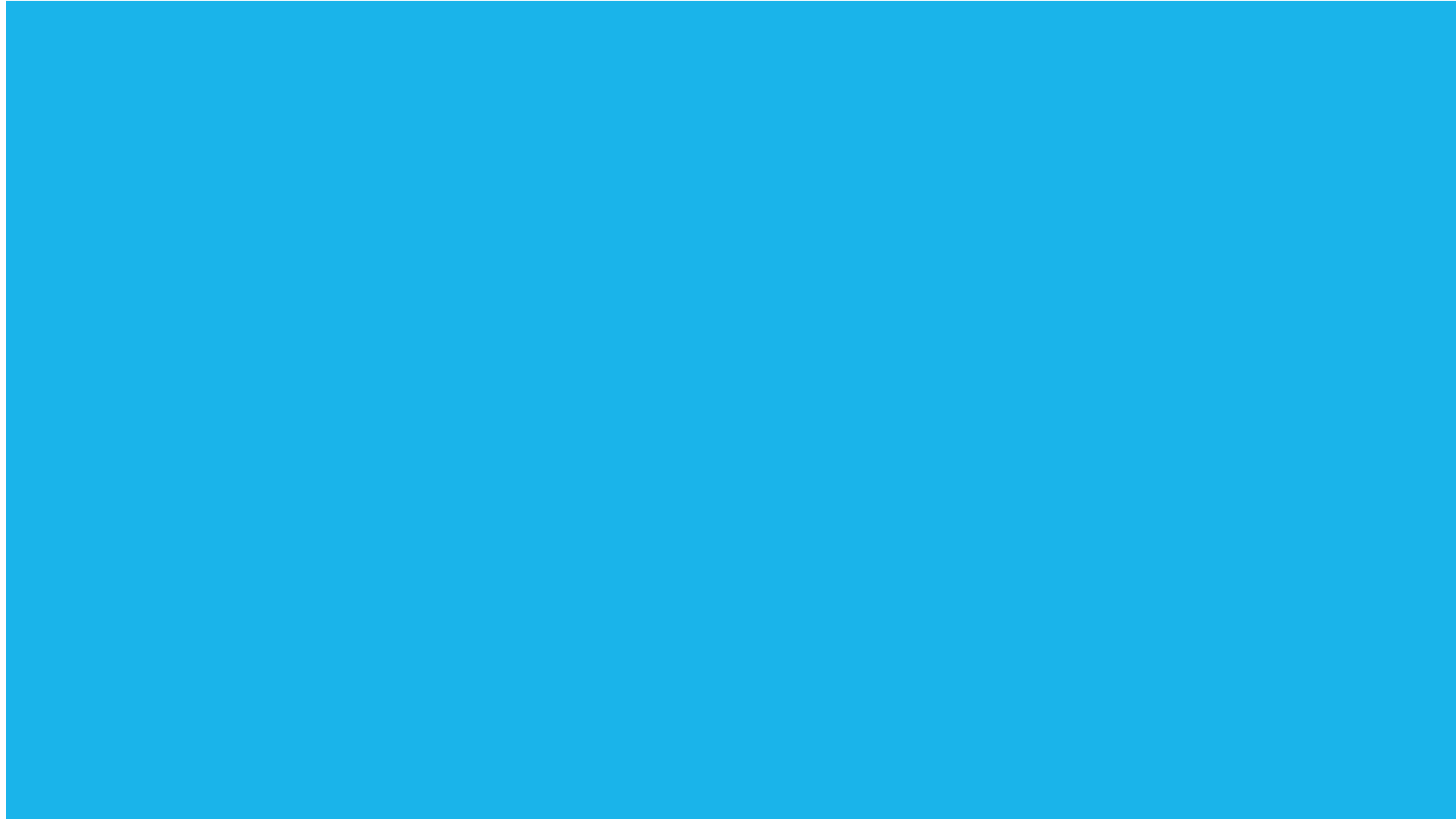
RePL, Accreditation or nothing?



- If you want to fly an RPA purely for fun, sport or recreation - you do not need either a Licence (RePL) or Accreditation. You're good to go - **but** you must adhere to the RPA Standard Operating Conditions.
- If you're flying for fun, sport or recreation, you do **not** need to register your RPA with CASA.
- If you want to fly an RPA as a business or as part of your job, you will need either a Licence (RePL) or Accreditation.



RPA Operator Accreditation





RePL, Accreditation or nothing?



- You **must** apply for a RePL if:
 - You want to fly a drone larger than 2 kg for commercial operations; or
 - You want to fly **outside** the RPA Standard Operating Conditions
- In addition, if you want an income from flying drones, you must either:
 - acquire your own **R**emotely piloted aircraft **O**perator's **C**ertificate (ReOC); or
 - be employed as a remote pilot by an existing ReOC holder.
- RePL's do not expire.
- ReOC's, however, have to be renewed 1 year after the initial ReOC is granted, then every 3 years after that.
- There is no minimum age requirement to obtain a RePL.
- You must register your RPA with CASA (must be 16 or older to register an RPA):
 - **no fee** if they weigh less than 500g
 - \$40.00 fee if they weigh more than that.



How to Register your Drone





RePL, Accreditation or nothing?



Accreditation – **Excluded Category** – Part A

- You **must** apply for **Accreditation** if you do **not** have a RePL but, for commercial purposes, you want to fly:
 - a Micro RPA less than 250g; or
 - a Very Small RPA weighing between 250g and 2kg.
- This is part of what is known as the **Excluded Category**.
- Accreditation can be completed on line, is free and is valid for three years.
- You need to notify CASA at least five business days before your first commercial flight and agree to adhere to the Standard RPA Operating Conditions.
- You must keep records of all your flights – CASA can check on you at any time.
- You must register your RPA with CASA (must be 16 or older to register an RPA) – no fee if your RPA weighs less than 500g.
- If you're younger than 16, you must be supervised by an accredited person over 18 years of age.

Types of RPA:

- | | |
|--------------|------------------|
| ▪ Micro | <250g |
| ▪ Very Small | 250g to <2kg |
| ▪ Small | 2kg to <25kg |
| ▪ Medium | 25kg to <150kg |
| ▪ Large | 150kg or greater |



RePL, Accreditation or nothing?

Accreditation – **Excluded Category** – Part B

- You **must also** apply for **Accreditation** if you do not have a RePL but, for **commercial purposes**, you want to fly any of these types of RPA **over your own land**:
 - a Micro RPA less than 250g;
 - a Very Small RPA weighing between 250g and 2kg; or
 - a Small RPA weighing between 2kg and 25 kg.
- This is the other part of what is known as the **Excluded Category**, and is aimed at farmers, mining companies etc who all own a lot of land, and often wish to use drones over that land for commercial purposes.
- The same rules seen in the last slide apply with respect to giving CASA 5 days' notice – adhering to the Standard Operating Conditions – keeping records – registering your RPA – and rules with respect to being supervised if you're under age 16.

Types of RPA:

- | | |
|--------------|------------------|
| ▪ Micro | <250g |
| ▪ Very Small | 250g to <2kg |
| ▪ Small | 2kg to <25kg |
| ▪ Medium | 25kg to <150kg |
| ▪ Large | 150kg or greater |



How to get Operator Accreditation





Flying A Drone Commercially



State the process for reporting aviation accidents.

Accident: *an occurrence resulting in death or serious harm to a person; or an occurrence resulting in serious damage to an aircraft or property*



Australian Transport Safety Bureau (ATSB)



- Transport Safety Investigation Act 2003
 - *Transport Safety Investigation Regulations 2003*

- Immediately Reportable Matters (IRM)

- “Responsible person” reports **immediately**
- Followed up by a written report within 72 hours



Notify the ATSB by telephone toll-free
1800 011 034

- Routinely Reportable Matters (RRM)

- “Responsible person” completes a written report within 72 hours



Australian Transport Safety Bureau (ATSB))



Immediately reportable matters:

- Accidents involving:
 - Death or serious injury to a person from anything attached or that has become detached from the aircraft,
 - Destruction of or serious damage to the aircraft, vehicles or property or
 - Breakdown of separation standard between aircraft being provided with an Air Traffic Service separation service.

Routinely reportable matters:

- Incident involving:
 - Fuel exhaustion
 - Collision with an animal, including a bird, on a certified aerodrome



Australian Transport Safety Bureau (ATSB)



Who is a “Responsible Person” with respect to reporting?

- a crew member of the aircraft concerned;
- the owner or operator of the aircraft;
- a person performing an air traffic control service in relation to the aircraft;
- a person performing a dedicated aerodrome rescue or firefighting service in relation to the aircraft;
- a member of the ground handling crew in relation to the aircraft;
- a member of the staff of the Civil Aviation Safety Authority;
- the operator of an aerodrome.



Australian Transport Safety Bureau (ATSB)



Transport and Safety Investigation Regulation 2012

■ Voluntary and Confidential Reporting

- REPCON allows any person who has an aviation safety concern to report it to the ATSB confidentially.
- E.g. A procedure, practice or condition that would endanger the safety of aircraft operations.
- Confidentiality is **not** guaranteed with respect to:
 - Imminent threat to life
 - Industrial relations
 - Criminal offence
 - Terrorist act

Other information for you ...



Privacy Act 1988 (Cth)

- Taking Photos & Video Footage:
 - The Privacy Act prescribes a number of principles with respect to the collection, handling, management and use of personal information
 - Whether the Privacy Act will apply to footage taken by an RPA, will depend on who takes the footage and whether the Act applies to that body or organisation.
- **However, the Act does not apply to local governments or private operators**



Law of Trespass



Flying over Private Property

- There is some uncertainty as to whether the flying of RPAs over private property without permission could amount to a trespass to land.
- A trespass to land is an interference with a landowner's rights, which extend to the airspace over their land to a reasonable height.
- So as not to trespass over private property it is recommended RPAs are flown over land quickly as possible and at least at an arbitrary height of 50m, which has been recommended so as not to detract from the landowner's use and enjoyment of their property



CAVOK

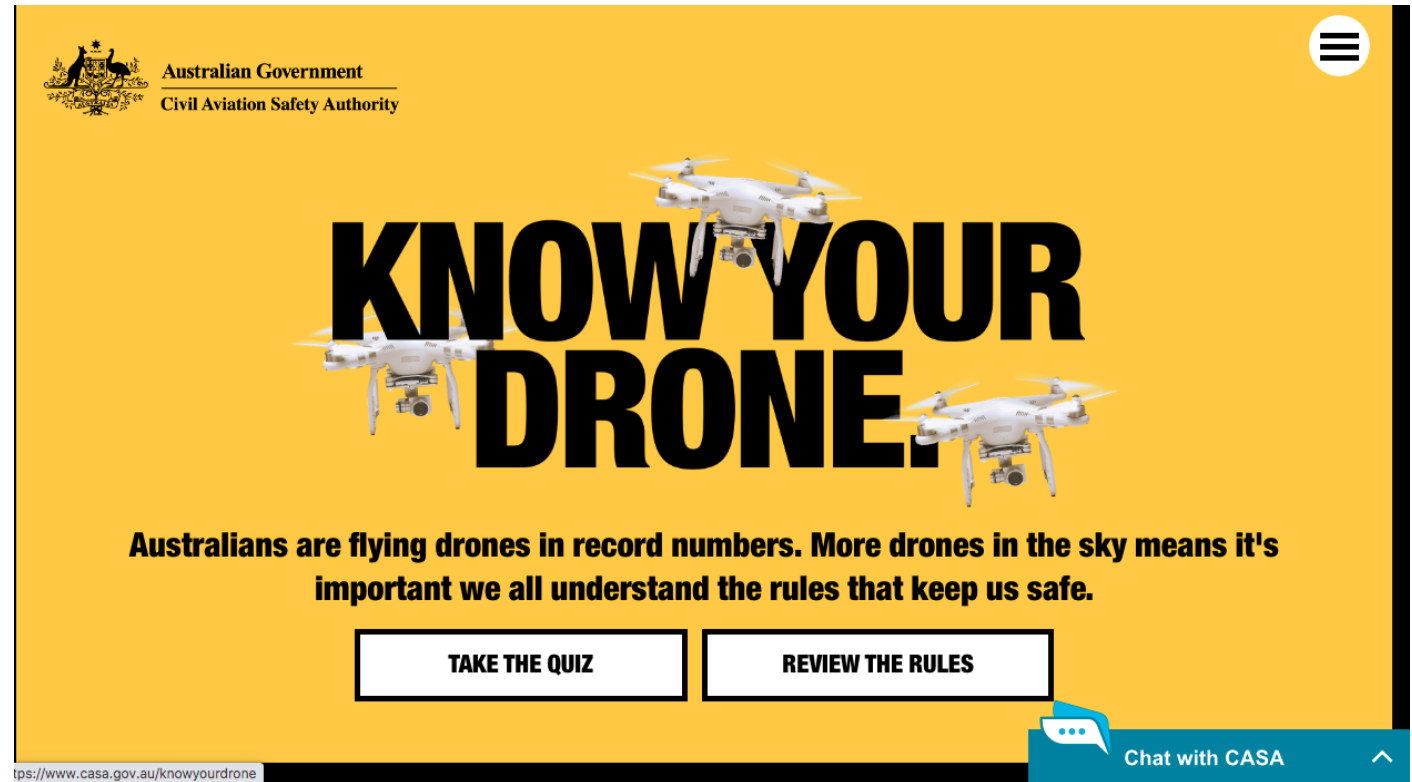


Cloud & Visibility OK - there is a set criteria that is required before this appears on your aviation weather forecasts, whether it's ATIS, AWIS, TAFs etc. Essentially it means you can expect great conditions, the only main element it doesn't cover is wind.

CAVOK Requirements

1. Visibility is greater than 10Km
2. No cloud below 5,000 feet or below the highest 25nm minimum sector altitude - whichever is lower.
3. No Cumulonimbus or Towering Cumulonimbus clouds (storm clouds) at any height.
4. No significant weather – rain, hail, sandstorm etc.

Know your Drone



The screenshot shows a yellow banner for the Australian Government Civil Aviation Safety Authority (CASA). In the top left corner is the Australian Government crest and the text 'Australian Government Civil Aviation Safety Authority'. In the top right corner is a hamburger menu icon. The main text 'KNOW YOUR DRONE.' is in large, bold, black letters, with three white drones flying around it. Below this is a paragraph: 'Australians are flying drones in record numbers. More drones in the sky means it's important we all understand the rules that keep us safe.' At the bottom of the banner are two white buttons with black text: 'TAKE THE QUIZ' and 'REVIEW THE RULES'. In the bottom right corner of the banner is a blue chat bubble icon with the text 'Chat with CASA' and an upward arrow. At the very bottom left of the banner, there is a small URL: 'tps://www.casa.gov.au/knowyourdrone'.

Go to <https://www.casa.gov.au/knowyourdrone>



Air Law



Questions?



Quiz

1. To operate an RPA, what rules must be followed?
 - A. A maximum of 5 RPAs operated at the same time
 - B. Operate within Visual Line of Sight
 - C. Within 30m of people
 - D. At or below 500ft AGL
2. What must you have to operate an RPA commercially?
 - A. An RePL
 - B. An AROC
 - C. An RePL and 200 hours experience
 - D. An RePL if RPA larger than 2kg



Quiz

3. What is the legal Blood Alcohol Concentration permissible for operating an unmanned aircraft?

- A. 0.00
- B. < 0.05
- C. < 0.02
- D. < 0.005

4. Your RPA has experienced a major series of faults and plummets to the ground. Unfortunately, it creates severe damage to a parked vehicle. What are you are required to?

- A. Contact CASA
- B. Notify ATSB within 72 hours
- C. Notify ATSB as an IRM
- D. Contact CASA within 24 hours