REMOTELY PILOTED AIRCRAFT SYSTEMS POLICY AND PROCEDURE

CONTENTS

1 PURPOSE

1.1 This policy and procedure provides an effective, accountable and transparent framework for working with Remotely Piloted Aircraft Systems (RPAS) at CQUniversity, and ensures compliance with the *Civil Aviation Act 1998* (Cwlth) and Civil Aviation Safety Regulation 1998 Part 101 (Cwlth).

2 SCOPE

2.1 This policy and procedure applies to CQUniversity employees, students, visitors and contractors undertaking activities involving the operation and use of RPAS conducted by and/or on behalf of CQUniversity and its controlled entities. This includes activities such as fieldwork and research on land not controlled by CQUniversity.

2.2 This policy and procedure does not apply to CQUniversity RPAS operations outside of Australia. Where RPAS equipment registered under the CQUniversity Remotely Piloted Aircraft Operator's Certificate (ReOC) is used internationally, pre-approval must be received from the University nominated Chief Remote Pilot. Where international operations occur, the licenced Pilot must adhere to local aviation legislation and regulations. If local regulations do not exist, Australian Civil Aviation Safety Regulations (CASA) should be followed by way of best practice.

3 POLICY STATEMENT

Criteria

3.1 The University will consider the use of RPAS for educational, research purposes and other business when:

- there is a demonstrated educational or business purpose for the use of the RPAS
- the RPAS is not operated in violation of the *Civil Aviation Safety Act* or Civil Aviation Safety Regulations
- the RPAS is operated in accordance with this policy and procedure, and
- the RPAS Operator holds appropriate licences or accreditation.

Safety

3.2 RPAS operations must adhere to the Occupational Health and Safety Policy. All occupational health and safety incidents related to RPAS operations will be managed in accordance with the University's policy documents and ReOC compliance requirements.

Privacy

3.3 RPAS operations will comply with this policy and procedure and applicable University information privacy policy documents.

4 PROCEDURE

RPAS operations roles and responsibilities

4.1 Appendix 1 outlines the RPAS operational structure.

Chief remote pilot

4.2 The Chief Remote Pilot is responsible for all operational matters and remote pilot training affecting the safety of operations.

4.3 The Chief Remote Pilot is responsible for:

- acting as the University representative and central conduit for all enquiries, information, and communications with CASA
- having an overview of all RPAS activities within the University and ensuring all operations are conducted in accordance with CASA regulations or exemptions arranged in consultation with CASA
- developing and maintaining the CASA approved ReOC Certificate, including:
  - RPAS Operations Manual
  - RPAS Operations Library, and
  - RPAS Flight Procedures
- providing supervision, assistance, and support to the Senior Base Pilot, Pilot, Operators and Maintenance Controller
- ensuring the ReOC operational status is maintained through the provision of safe systems of work, CASA RPAS documentation and any legislation compliance requirements
- managing equipment including registration, de-registration, purchases approval and oversight of maintenance activity
- managing the ReOC induction and software training for remote pilot licence (RePL) holders conducting Advanced RPAS Operations, and
- managing initial compliance software training for RPAS Senior Base Pilot/Pilot/Operator conducting Basic RPAS Operations.

Maintenance controller

4.4 The Maintenance Controller is responsible for ensuring the maintenance of equipment registered under the University CASA Aviation Reference Number in accordance with the manufacturer specifications.

4.5 The Maintenance Controller is responsible for:

- acting as a liaison with CASA, through the Chief Remote Pilot, with regards to maintenance and technical issues relating to RPAS and their registered pilots
- controlling maintenance of registered RPAS under ReOC compliance
- monitoring and enforcing RPAS maintenance standards and appropriate recordkeeping
- ensuring maintenance activities are conducted in accordance with the procedures specified in the RPAS Operations Manual
- ensuring payloads or modifications attached to the RPAS (both passive and active) conform with the RPAS specification, and
- assessing and approving new payloads, and determining if the payload will be approved for the Pilot, Operator or Senior Base Pilot. This should be in accordance with Basic RPAS Operations or Advanced RPAS Operations.

Senior base pilot

4.6 The Senior Base Pilot is responsible for:

- conducting Advanced RPAS Operations, in consultation with the Chief Remote Pilot
- when appointed under delegation of the Chief Remote Pilot:
  - providing oversight over Pilots and/or Operators
  - authorising Basic RPAS Operations
  - completing required planning and safety assessments via the approved compliance software, and
  - providing technical advice and support
- participating in incident investigations at the request of the Chief Remote Pilot, and
- reporting all incidents to the Chief Remote Pilot, via the University near-miss incident and hazard reporting process/system and complying with incidents and non-compliance investigations.

Pilot

4.7 The Pilot is responsible for:

- holding and maintaining a RePL and flying under both Basic RPAS Operations and Advanced RPAS Operations
- notifying and declaring RPAS assets to the Chief Remote Pilot and receiving confirmation of registration prior to conducting RPAS operations
- consulting with the Chief Remote Pilot or Senior Base Pilot for RPAS Operations
- conducting RPAS operations in accordance with a RePL and consulting with the Chief Remote Pilot for Advance RPAS Operations
- adhering to any advice, information or instruction stipulated by the Chief Remote Pilot or Senior Base Pilot
- adhering to procedures associated with RPAS flights, including items identified during pre-flight planning activities
- submitting required notifications and documentation, through the approved compliance management system, and receiving required approvals prior to flight, and
- reporting all incidents to the Chief Remote Pilot, via the University near-miss incident and hazard reporting process/system and complying with incidents and non-compliance investigations.

Operators

4.8 The Operator is responsible for:

- holding and maintaining RPAS accreditation and flying under only the Basic RPAS Operations
- notifying and declaring RPAS assets to the Chief Remote Pilot and receiving confirmation of registration prior to conducting RPAS operations
- conducting RPAS Operations in accordance with CASA accreditation
- adhering to advice, information or instruction stipulated by the Chief Remote Pilot or Senior Base Pilot
- adhering to procedures associated with RPAS flights, including items identified during pre-flight planning activities
- submitting required notifications and documentation, through the approved compliance management system, and receiving required approvals prior to flight, and
- reporting all incidents to the Chief Remote Pilot, via the University near-miss incident and hazard reporting process/system and complying with incidents and non-compliance investigations.

Flight operations and certification requirements

4.9 CASA has specified several different classifications of RPAS Operations including model aircraft, micro weighing under 250g, excluded and included operations with different certification requirements and regulatory restrictions. The University's RPAS Operations will be classified into two categories: Basic RPAS Operations and Advanced RPAS Operations. The following certification and training requirements apply to RPAS operations conducted by employees and students. Visitors are exempt from these requirements.

- **Basic RPAS Operations**: for RPAS weighing less than two kilograms (CASA excluded commercial operations). Operators undertaking Basic RPAS Operations must have CASA accreditation and operate under CASA's standard operating conditions.
- **Advanced RPAS Operations**: for RPAS weighing more than two kilograms (CASA included commercial operations). Remote pilots undertaking Advanced RPAS Operations must have a RePL.

4.10 CASA RPAS accreditation can be obtained through the CASA webpage and a RePL can be obtained by successfully completing a CASA approved training organisation. Pilots and Operators must provide copies of the accreditation certificates and RePLs to the Chief Remote Pilot for CASA compliance obligations.

Basic RPAS operations

4.11 Basic RPAS Operations are operations that utilise RPAS that weigh less than two kilograms. These operations have legal requirements relating to remote pilot accreditation, RPAS registration and RPAS operational flight logs.

4.12 RPAS weighing less than two kilograms, flown commercially or under a landholder exemption, must operate under CASA's Standard Operating Conditions. For the University's Basic RPAS Operations, flights with RPAS equipment weighing less than two kilograms that do not require special approvals (RPAS Advanced Operations) will be flown under the Standard Operating Conditions.

4.13 RPAS weighing less than 100 grams fall into the model aircraft category when used for the University's training purposes (eg STEM or school group training). The RPAS may be flown within 30 meters of people, provided the operation is indoors and approved risk management procedures are used including personal protective equipment (ie safety glasses).

Basic RPAS operations flight approval process

4.14 Operators must download the CASA approved drone safety application to help decide where flights can take place according to the CASA Standard Operating Conditions.

4.15 Flights under the Basic Operations category do not require Chief Remote Pilot or Senior Base Pilot approval. Flights can take place provided:

- a Job Safety Assessment is completed and submitted in the approved compliance management software under faculty login, prior to a flight by the Operator, Pilot or Senior Base Pilot
- Standard Operating Conditions and legislative requirements are met throughout the flight, and
- flight details are logged in the compliance management software post-flight.

4.16 A pre-flight checklist and post-flight summary must be completed by the Operator, Pilot or Senior Base Pilot conducting the RPAS Operations. These checklists can be found in the ReOC Operations Library or on the approved compliance software portal. The checklist is used by the Maintenance Controller to confirm the airworthiness of the RPAS immediately prior to flight.

4.17 A post-flight summary completed by the Maintenance Controller should detail any issues experienced during flight (breach of pedestrian segregation, technical malfunction of RPAS, flight communication issues, etc), potential operational improvements to be considered for future flights or any additional information. This must be completed in the approved compliance software.

Advanced RPAS operations

4.18 Advanced Operations are operations that utilise RPAS that weigh more than two kilograms and/or RPAS that weigh less than two kilograms and are being used for night flying, tethered operations or require CASA approvals. These operations have legal requirements relating to remote pilot licencing, RPAS registration, RPAS operational flight logs and CASA ReOC compliance procedures.

4.19 RPAS flown commercially with a weight over two kilograms and not operating under landholder exemptions must be flown according to the University's ReOC Certificate. These are aviation law legal requirements.

Advanced RPAS operations flight approval process

4.20 Flights under the Advanced Operations category require Chief Remote Pilot approval prior to flight. Flights can take place provided:

- The Operator has completed Chief Remote Pilot or Senior Base Pilot assessment and approval for flight under the ReOC Certificate. The Operator must have read and signed the ReOC manuals
- a Job Safety Assessment is completed and submitted in an approved compliance management software under individual login, prior to flight by the Operator
- Chief Remote Pilot approval has been given to the Operator once the Job Safety Assessment and flight details are evaluated
- ReOC Procedures and legislative requirements are met throughout the flight, and
- Flight details are logged in an approved compliance management software post-flight.

4.21 A pre-flight checklist and post-flight summary must be completed by the Operator, Pilot or Senior Base Pilot conducting RPAS Operations. These checklists can be found in the ReOC Library or on the approved compliance software portal. The checklist is used by the Maintenance Controller to confirm the airworthiness of the RPAS immediately prior to flight.

4.22 A post-flight summary completed by the Maintenance Controller should detail any issues experienced during flight (breach of pedestrian segregation, technical malfunction of RPAS, flight communication issues), potential operational improvements to be considered for future flights or any additional information. This must be completed in the approved compliance software.

Additional approvals for advanced RPAS operations

4.23 Approvals can be requested for Advanced Operations outside of the Standard Operating Conditions for:

- a flight closer than 5.5 kilometres from a controlled aerodrome
- a flight on the approach/departure path of a controlled aerodrome

- a flight above 400 feet above ground level
- extended visual line of sight operations, and/or
- beyond visual line of sight operations.

4.24 A Pilot or Senior Base Pilot must notify the Chief Remote Pilot at least 30 days in advance and additional information will be requested by Chief Remote Pilot.

Contractor pilots

4.25 The Chief Remote Pilot may approve RPAS operations conducted by contractors on University land or leased land provided the following conditions are met:

- Contractor Pilot must hold a CASA registered Aviation Reference Number
- Contractor Pilot must provide the following documentation prior to RPAS operation (and where required under legislation, provided five days prior to the flight):
  - RePL, and/or
  - ReOC
- A flight specific Job Safety Assessment and a completed flight plan must be provided prior to the flight and any CASA flight approval or restricted airspace clearance documentation relative to the proposed flight.

4.26 Contractor Pilots must provide evidence of appropriate public liability insurance and all operations must be conducted in accordance with CASA legislative requirements.

CASA standard operating conditions

4.27 Unless special approval or exemptions are provided by CASA, all flights must adhere to CASA's Standard Operating Conditions. These include that flights must:

- only fly during the day and keep the RPAS within visual line-of-sight: close enough to see, maintain orientation and achieve accurate flight and tracking. This always means being able to see the aircraft with the pilot's own eyes (rather than through a device)
- only fly one RPAS at a time and only in the daytime
- not fly RPAS higher than 120 metres (400 feet) above ground level, referenced to a point on the ground immediately below the RPAS at any time during the flight
- not fly RPAS over or near an area affecting public safety or where emergency operations are underway. This could include situations such as a traffic accident, police operations, a fire and associated firefighting efforts, and search and rescue
- keep RPAS at least 30 metres away from other people. That is any person who is not charged with duties essential to the safe operation of an RPAS
- not fly RPAS over or above people. This could include beaches, parks, events, or sports ovals where there is a game in progress
- not fly RPAS in prohibited/restricted areas unless approval granted from the controlling authority of the area. The locations of restricted areas are marked on aeronautical charts with contact details of controlling authorities able to be obtained from the Air Services Australia En-Route Supplement Australia (ERSA). Locations of restricted areas can also be checked in the approved compliance management system.
- only fly within 5.5 kilometres of a non-controlled aerodrome or helicopter landing site if no manned aircraft are operating to or from the aerodrome. If the pilot becomes aware of manned aircraft operating to or from the aerodrome or helicopter landing site, they must manoeuvre away from the aircraft and land as soon as safely possible if within 5.5 kilometres of a non-controlled aerodrome or 1.375 kilometres of a non-instrument approach helicopter landing sight, and
- keep RPAS at least 5.5 kilometres away from controlled aerodromes - one with an operating control tower and remain clear of the approach and departure paths as per CASA requirements.

Procurement and registration

4.28 RPAS equipment must be registered with the Facilities Management Directorate. Equipment cannot be operated or flown until approval is given by the Chief Remote Pilot and/or Maintenance Controller in cases related to maintenance issues.

4.29 Any purchase of RPAS on behalf of the University must be in consultation with the Facilities Management Directorate. The Chief Remote Pilot will advise any restrictions or requirements regarding the operation of the RPAS.

4.30 The Facilities Management Directorate will register RPAS equipment with CASA and the Student and Corporate Services Division for compliance, accounting and insurance purposes.

4.31 RPAS purchasers must provide the following information for registration:

- manufacturer name
- model name
- RPAS category
- RPAS weight
- RPAS serial number
- battery serial number
- sensor equipment and serial number
- tablet/ground stations, and
- land based equipment associated with the RPAS.

Reporting to CASA

4.32 The Chief Remote Pilot, acting as the University's ReOC holder, has the responsibility of reporting to CASA.

4.33 It is the ReOC holders' responsibility to notify CASA of any changes to its status, name, addresses and/or contact details. Information on how to lodge these changes can be found on CASA's website.

4.34 The Chief Remote Pilot must submit the University's RPAS Operational Procedures (Library) and Remotely Piloted Aircraft Systems Operations Manual to CASA for aviation compliance purposes.

4.35 The Chief Remote Pilot must report RPAS incidents and accidents to CASA and the Australian Transport Safety Bureau to monitor the safety of RPAS operations as well as analysis and evaluation.

4.36 In the case of operations outside the Standard Operating Conditions, the ReOC holder must seek a Notice to Airmen issue and provide the details to the CASA RPAS office. The RPAS office will then draft the Notice to Airmen and pass it on to the Notice to Airmen Office to be issued.

Reporting of flight details/flight logs

4.37 Pilots and Operators must keep a documented record of their RPAS Operations on the approved compliance management system.

4.38 The flight logs will detail:

- flight location, date, time, the purpose of the activity and actual hours flown
- details of any supervisor (name, contact details, etc if conducting education and training)
- RPAS and equipment used for flight
- RPAS pilot flight time
- aircraft serviceability, and

- applicable workplace health and safety risk assessments.

5 RESPONSIBILITIES

Compliance, monitoring and review

5.1 The Director Facilities Management is responsible for implementing, monitoring, reviewing, and ensuring compliance with this policy and procedure.

Reporting

5.2 No additional reporting is required.

Records management

5.3 Employees must manage records in accordance with the Records Management Policy and Procedure. This includes retaining these records in a recognised University recordkeeping information system.

5.4 University records must be retained for the minimum periods specified in the University Sector Retention and Disposal Schedule on the Queensland State Archives website. Before disposing of any records, approval must be sought through the Records Management Office (email records@cqu.edu.au).

6 DEFINITIONS

6.1 Terms not defined in this document may be in the University glossary.

Terms and definitions

CASA: Civil Aviation Safety Authority
ReOC: Remotely Piloted Aircraft Operators Certificate
RePL: Remote Pilot Licence
RPAS: Remotely Piloted Aircraft System

Controlled aerodromes: temporary or permanent areas of airspace where RPAS flights may be permitted at the expressed approval of the controlling authority or CASA. This may include, but is not limited to aerodromes, non-instrument helicopter landing sites, instrument helicopter landing sites, and military areas.

Night operation: 'night' is that period between the end of the evening civil twilight and the beginning of the morning civil twilight. First light should be construed as the beginning of civil twilight and last light as the end of civil twilight. The terms 'sunrise' and 'sunset' have no relevance when calculating daylight operating times for the RPAS operations.

Notice to airmen: 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.

Remotely Piloted Aircraft Systems (RPAS): The Remotely Piloted Aircraft System encompasses the governance, management, documentation, certificates and licenses associated with RPAS Operations conducted by the University, as derived from CASA regulatory requirements. This also includes the technology and hardware associated with any RPAS.

In addition to the above definition, for the University use, the term RPAS includes Remotely Piloted Aircraft (RPA), Unmanned Aerial Vehicles (UAV), Unmanned Aerial System (UAS), Remotely Piloted Aircraft Systems (RPAS) or First Person View (FPV) aircraft, regardless of size, ability to carry a payload or type of powertrain. It includes any contrivance invented, used or designed to navigate or fly in the air that is operated without the possibility of direct human intervention from within or on the aircraft.

Standard Operating Conditions: Standard Operating Conditions (SOC) are a list of flight requirements applicable to all and any commercial RPAS flight activity not conducted under a ReOC and are stipulated by CASA.

7 RELATED LEGISLATION AND DOCUMENTS

Civil Aviation Act 1988 (Cwlth)

Civil Aviation Safety Authority (CASA) Advisory Circular AC 0101-01

Civil Aviation Safety Regulations 1998 (Cwlth)

8 FEEDBACK

8.1 Feedback about this document can be emailed to policy@cqu.edu.au.

9 APPROVAL AND REVIEW DETAILS

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10 APPENDIX 1 – RPAS operational structure