



Australian Government
Civil Aviation Safety Authority

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SUMMARY OF PROPOSED CHANGE

Part 101 amendments to provide more flexibility for airworthiness certification of large RPA

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Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and their continuing connection to land, water and community, and pays respect to Elders past, present and emerging.

Artwork: James Baban.

Introduction

CASA is committed to working with industry to provide fit for purpose regulatory policy for remotely piloted aircraft (RPA) that evolves to suit contemporary technologies and operational practices, while ensuring that acceptable levels of safety are maintained.

This summary of proposed change (SPC) sets out CASA's proposal to amend and improve the current requirements for airworthiness certification of large RPA as an action from the RPAS and AAM Strategic Regulatory Roadmap.

CASA is proposing to provide more flexibility both in relation to the kinds of certificates of airworthiness that are permitted for operations of large RPA, and in relation to the circumstances where a certificate of airworthiness would not be required for operations of large RPA. In both cases, the regulations would be supported by associated provisions in the Part 101 Manual of Standards (MOS).

The proposed changes would better provide for current, emerging and future technologies and operations, whilst maintaining an acceptable level of safety.

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Reference material

Acronyms

The acronyms and abbreviations used in this SPC are listed in the table below.

Table 1: Acronyms

Acronym	Description
AC	Advisory circular
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
ICAO	International Civil Aviation Organization
MOS	Manual of Standards
RPA	Remotely Piloted Aircraft
RPAS	Remotely Piloted Aircraft System

Definitions

Terms that have specific meaning within this SPC are defined in the table below. Where definitions from the civil aviation legislation have been reproduced for ease of reference, these are identified by 'grey shading'. Should there be a discrepancy between a definition given in this SPC and the civil aviation legislation, the definition in the legislation prevails.

Definitions

Term	Definition
Large RPA	(a) a remotely piloted aeroplane with a gross weight of more than 150 kg; or (b) a remotely piloted powered parachute with a gross weight of more than 150 kg; or (c) a remotely piloted rotorcraft with a gross weight of more than 150 kg; or (d) a remotely piloted powered-lift aircraft with a gross weight of more than 150 kg; or (e) a remotely piloted airship with an envelope capacity of more than 100 m ³ . ¹

¹ Refer CASR 101.022

References

Legislation

Legislation is available on the Federal Register of Legislation website <https://www.legislation.gov.au/>

Table 2: Legislation references

Document	Title
The Act	<i>Civil Aviation Act 1988</i>
Part 21 of CASR	Certification and airworthiness requirements for aircraft and parts
Part 101 of CASR	Unmanned aircraft and rockets
Part 101 MOS	Part 101 (Unmanned Aircraft and Rockets) Manual of Standards 2019

International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from <http://store1.icao.int/>

Many ICAO documents are also available for reading, but not purchase or downloading, from the ICAO eLibrary (<https://elibrary.icao.int/home>).

Table 3: ICAO references

Document	Title
Annex 8	Airworthiness of aircraft

Advisory material

CASA's advisory materials are available at <https://www.casa.gov.au/publications-and-resources/guidance-materials>

Table 4: Advisory material references

Document	Title
AC 101-01	Remotely piloted aircraft systems - licensing and operations
	RPAS and AAM Strategic Regulatory Roadmap

Background

The rules governing airworthiness certification of large RPA in Subpart 101.F of CASR were developed over 20 years ago and are reflective of the policy and practical environment of that time. Past assumptions about the airworthiness certification pathways for large RPA resulted in rules that have become overly prescriptive and unnecessarily restrictive for contemporary aircraft and operations.

CASA has committed to working with industry to develop clear pathways and regulations for airworthiness certification of RPA and associated systems. The regulatory framework will be risk based and consistent with the approach of major international bodies including ICAO, the Joint Authorities for Rulemaking on Unmanned Systems (JARUS) and like-minded regulators. The framework is based on the following principles:

- For operations that are comparable to traditional conventionally piloted aircraft operations, a comparable level of safety will be sought, taking into account the following as applicable: the risks to occupants, other airspace users, persons on the ground or water, and property.
- Higher risk RPAS for which airworthiness certification is required to ensure the intended level of safety assurance will be certified in line with international regulatory frameworks; the Australian airworthiness certification framework will provide a range of appropriate and practical certification pathways, with airworthiness standards and processes that are proportionate to the associated risks.
- Type certification, where required, will be in line with international regulatory frameworks using internationally accepted airworthiness standards and means of compliance.
- International standards will be accepted, where appropriate, in preference to developing unique Australian standards.
- Lower risk RPAS for which airworthiness certification is not required to ensure the intended level of safety assurance will be assessed and authorised for operations in accordance with recognised methods and processes, including the JARUS Specific Operations Risk Assessment (SORA) methodology.

Purpose and scope of the proposed amendments

CASA is proposing legislation amendments that would provide more flexibility both in relation to the kinds of certificates of airworthiness that are permitted for operations of large RPA (proposal 1 below), and the circumstances where a certificate of airworthiness would not be required for operations of large RPA (proposal 2 below). In both cases, the regulations would be supported by associated provisions in the Part 101 Manual of Standards (MOS).

The proposed changes would better provide for current, emerging and future technologies and operations, whilst continuing to ensure that an acceptable level of safety assurance is maintained.

Key change proposals

Notes:

- (1) These proposed changes would not change the other existing requirements for operation of large RPA. Of particular note, the following requirements would continue to apply.
- (2) The operation of large RPA would still need to be approved by CASA under regulation 101.275 and Division 101.F.4 of CASR.
- (3) Ongoing continuing airworthiness management of the RPA would still be required by the operator under Division 101.F.4 and the Part 101 MOS.
- (4) An RPA may not be operated if there is required maintenance outstanding, or defects or damage that may endanger safety under the Act and the Part 101 MOS.

Proposal 1: The kinds of certificates of airworthiness that are permitted for operations of large RPA

Proposed changes to Part 101 regulations

Current regulations

Consistent with the Act, regulation 101.255 of CASR currently states that a large RPA may only be operated if it has either a certificate of airworthiness in the restricted category or an experimental certificate.

This requirement is overly prescriptive and unnecessarily restrictive for contemporary aircraft and operations, primarily because:

- it excludes all the other kinds of certificate of airworthiness that could be issued for an RPA, including standard certificates of airworthiness
- it does not contemplate circumstances where an acceptable level of safety assurance for a large RPA operation could be established without formal airworthiness certification (see key change proposal 2 in relation to operation of large RPA without a certificate of airworthiness)
- restricted category certificates of airworthiness can only be granted on the basis of an associated type certificate, and type certification is a technically and administratively intensive process that is:
 - » a disproportionate approach to providing an acceptable level of safety assurance for many kinds of RPAS operations

- » impractical for many kinds of RPA that could otherwise be operated with an acceptable level of safety
- restricted category only covers certain kinds of aerial work operations, which excludes operations such as commercial cargo delivery
- experimental certification is not intended to cover commercial operations, particularly not as an ongoing or permanent airworthiness certification arrangement.

Proposed changes to regulations

CASA proposes that regulation 101.255 be amended to replace the prescriptive requirements that require specific kinds of certificate of airworthiness with provisions that accommodate any kind of certificate of airworthiness, subject to the associated provisions in the Part 101 MOS.

Regulation 101.046 of CASR will continue to cover circumstances under which a certificate of airworthiness would not be required for RPA operations. The amendments to regulations 101.046 and 101.255 would function such that a large RPA would require a certificate of airworthiness unless the circumstances are covered by regulation 101.046 (see proposal 2 for proposed amendments to regulation 101.046).

Proposed changes to Part 101 MOS

CASA proposes to amend the Part 101 MOS to include requirements that a large RPA that is being operated under a certificate of airworthiness must be operated in accordance with the conditions and limitations of the certificate of airworthiness.

Proposal 2: The circumstances where a certificate of airworthiness would not be required for operations of large RPA

Proposed changes to Part 101 regulations

Current regulations

Subsection 20AA(3) of the Act requires that aircraft must not be operated without a certificate of airworthiness unless the regulations authorise the flight.

Regulation 101.046 of CASR covers the circumstances under which RPA may be operated without a certificate of airworthiness. Regulation 101.046 currently does not permit operations of a large RPA without a certificate of airworthiness, which means that large RPA must have a restricted category certificate of airworthiness or an experimental certificate as required by regulation 101.255.

This requirement is unnecessarily restrictive for contemporary aircraft and operations, primarily because it does not contemplate circumstances where an acceptable level of safety assurance for a large RPA operation could be established without formal airworthiness certification.

Proposed changes to regulations

CASA proposes that regulation 101.046 be amended to provide for the Part 101 MOS to include circumstances under which a certificate of airworthiness would not be required for operation of a large RPA.

Circumstances not covered by the Part 101 MOS would remain subject to regulation 101.255 and require a certificate of airworthiness (see proposal 1 for proposed amendments to regulation 101.255).

Proposed changes to Part 101 MOS

CASA proposes to amend the Part 101 MOS to include risk and outcome based provisions, as explained below.

A large RPA may be operated without a certificate of airworthiness if:

- a. the RPA does not carry any occupants; and
- b. the operator has conducted an acceptable risk assessment of the operation which shows that:
 - i. the RPA is suitable for the intended operation in respect of its design and construction; and
 - ii. the operation would not have an adverse effect on the safety of air navigation, including other airspace users or persons on the ground or water.

Notes:

- (1) This is intended to be an outcome-based arrangement that provides significantly increased flexibility for industry. It would be the operator's responsibility to demonstrate the suitability of the airworthiness of the RPA and the proposed safety controls for the intended operation, understanding that lower levels of airworthiness safety assurance will necessarily need to be offset by increased operational controls and/or limitations.
- (2) It is intended that this risk assessment could be done using existing methodologies, including SORA or other acceptable means.
- (3) "The RPA is suitable for the intended operation in respect of its design and construction" is intended to ensure that relevant airworthiness considerations are specifically covered in the risk assessment. It is understood that the RPA may not have the formal airworthiness certification documents that underpin a traditional standards-based airworthiness assessment and associated certificate of airworthiness.
- (4) "The operation would not have an adverse effect on the safety of air navigation" means that the risk assessment would need to show that the operation would maintain the level of aviation safety intended by the legislation for that kind of activity. The risk assessment should be comprehensive, thorough and demonstrate that the operator has evaluated the potential hazards and the effectiveness of the proposed safety controls.

- c. the operation of the RPA without a certificate of airworthiness is approved by CASA – it is intended that this approval would be included in the normal approvals for regulation 101.275 and Division 101.F.4 of CASR, i.e. the operational approvals that are currently required for the operation of the RPA, not a new kind of approval.
- d. A large RPA may also be operated without a CofA if the RPA is operating under a special flight permit that covers the operation of the RPA without a CofA. Special flight permits are already covered by Part 21 and regulation 21.197 of CASR lists the purposes for which a special flight permit may be issued.

Transitional arrangements

The proposed changes are intended to provide more flexibility that encompass all existing arrangements, so transitional arrangements are unnecessary. To avoid doubt, it is proposed that the amendment regulations specifically provide for any existing approvals or arrangements under regulation 101.255 of CASR to continue.

Previous consultations

CASA has engaged with the RPAS and AAM Strategic Regulatory Roadmap TWG on these proposed policies and legislation amendments.

Impact on industry

CASA considers that these proposed changes will have a positive effect on industry by providing more flexible arrangements that are more appropriate for operations of large RPA in the contemporary Australian environment.

Safety risk analysis

CASA considers these proposed amendments would not have an adverse effect on safety because in all cases the operation of large RPA would be covered by industry risk assessments, CASA approvals and appropriate oversight arrangements that provide an acceptable level of safety assurance.

Proposal 1: Operations of large RPA with a certificate of airworthiness

The proposed amendments would provide for the full range of relevant certificates of airworthiness available under Part 21 to be used. The existing Part 21 rules covering the issue of certificates of airworthiness provide adequate safety controls to cover large RPA. The certificate of airworthiness rules provide for consideration of the relevant safety effects and the issuance of a certificate subject to any conditions that are necessary to ensure an appropriate level of safety. The proposed MOS amendment would ensure that an aircraft must be operated in accordance with any conditions specified on its certificate of airworthiness.

The primary effect of this proposed change is expected to be permitting the use of standard certificates of airworthiness issued on the basis of compliance with a type certificate under paragraph 21.017(2)(b) of CASR - special class aircraft. This would provide an equivalent or higher level of safety assurance than the existing requirement to have a restricted category certificate of airworthiness or an experimental certificate, which are both special certificates of airworthiness.

Proposal 2: Operations of large RPA without a certificate of airworthiness

The proposed amendments would provide for a wider range of operations to be carried out without a certificate of airworthiness; however, the operations would still have to be assessed under a formal operational risk assessment process and operations of the aircraft without a certificate of airworthiness must be approved by CASA.

The proposed MOS amendments would expressly preclude the carriage of any occupants on an RPA without a certificate of airworthiness. The existing risk assessment arrangements, in particular the SORA framework, are considered sufficiently robust to identify and address any other risks and ensure an appropriate level of safety in the circumstances. In relation to higher risk operations such as over people, beyond visual line of sight and in the vicinity of other airspace users, the proposed legislation amendments are intended to provide for these kinds of operations to be carried out by large RPA without a certificate of airworthiness, but subject to operational risk assessment and approval by CASA.

The primary effect of this proposed change is expected to be providing practical regulatory pathways for lower risk operations of large RPA. Examples include the use of large RPA to carry out agricultural operations in remote areas where the RPA would demonstrably present no safety risk; or operations where sufficient safety controls are available, even though those controls have not been certificated via a Part 21 certificate of airworthiness, such as an appropriate combination of aircraft and operations with reliable and effective flight termination systems and geofencing (noting that the flight termination system and geofencing equipment can be certified by means other than a Part 21 certificate of airworthiness).

Impact analysis

CASA has prepared a Preliminary Assessment for the proposed changes that outlines the impact of the proposed amendments. CASA will submit the Preliminary Assessment to the Office of Impact Analysis for their assessment and will prepare an Impact Analysis document if required.

International considerations

Other countries

Different countries have approached the regulation of emerging RPAS technologies in different ways. All like-minded countries have regulatory arrangements that require approval to operate higher risk RPA; however, the current Australian regulations are uniquely prescriptive and generally also more restrictive than the corresponding rules of other like-minded countries in relation to airworthiness certification options.

The proposed amendments are intended to provide more flexible, proportionate and practical options for large RPA that give outcomes that will be similar to those available in other like-minded countries.

CASA is actively working with other like-minded regulators through forums such as JARUS, the NAA Network and ICAO to ensure international consistency in airworthiness certification of emerging technologies.

ICAO

The proposed changes would be consistent with International Civil Aviation Organization (ICAO) standards and the broader ICAO principles of risk-based standards and regulation as described ICAO Safety Continuum.

Submitting your view and what next

We would like to hear your views on the amendments we have presented. Please review the proposal and provide your feedback and any additional concerns not covered in this SPC.

Your feedback will make a valuable contribution to CASA's policy decision-making process and help to fully inform CASA of the perceived impacts (positive and negative) on the aviation community regarding the proposal.

CASA will consider all comments received as part of this consultation process and incorporate changes as appropriate. Comments on this consultation should be submitted through the online response (CASA Consultation Hub) form by close of business 21 November 2025.