Australian Government
Civil Aviation Safety Authority

POLICY PROPOSAL
PP 2612US

Drone operations above 400 ft in defined environments

Project: US 21/02	**File ref:** D26/179859

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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.

Overview

CASA is seeking feedback on a proposal to permit certain drone operations above 400 ft in altitude above ground level (AGL), without requiring CASA approval or to be operated under a remotely piloted aircraft (RPA) operator's certificate (ReOC), in two defined operating environments where crewed aircraft are not likely to be operating.

The first operating environment would permit an RPA or model aircraft (collectively called a drone for the purposes of this policy proposal), to be flown up to an additional 100 ft (31 m) measured from the highest point of a vertical structure, object or obstacle such as a cliff, wind turbine or building, but only when the drone operation is within 120 m laterally (horizontally) of the vertical structure, object or obstacle.

The second environment would permit a drone's altitude to be measured up to 400 ft (approximately 120 m) from the natural surface of the earth such as the pit edge or crest nearest to the drone, when operating over an excavated area of an active mining operation, and not measured from the excavated pit floor.

The proposal is intended to reduce burden for operators, remote pilots, and CASA while maintaining an acceptable level of aviation safety. The proposal is intended to:

- reduce the need for repeated applications to CASA
- provide greater certainty for operators and remote pilots undertaking recurring work
- support a more practical and proportionate framework
- provide CASA flexibility to focus regulatory assessment effort on more complex, novel or higher risk activities.

The proposal is limited in scope. Drone operations conducted under this instrument would be subject to all other applicable legislative requirements. Individual approvals, and relevant operator certification, would still be required where an operation does not meet the proposed conditions and criteria.

We invite all relevant stakeholders to review the proposal and provide your feedback regarding any concerns or challenges and any improvements that should be considered. We will consider all feedback but may elect to defer action on some matters to a later date, so that achievable improvements can be delivered in the shorter term.

This proposal summarises the proposed alleviations for specific drone operating environments; following consultation, this initiative would be finalised and communicated through subsequent legislative drafting and industry guidance material.

A summary of consultation will also be developed and published.

Contents

1 Reference material

1.1 Acronyms

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

Table 1: Acronyms

Acronym	Description
AGL	above ground level
AROC	Aeronautical Radio Operator Certificate
BVLOS	beyond visual line of sight
CASA	Civil Aviation Safety Authority
CASR	*Civil Aviation Safety Regulations 1998*
EVLOS	extended visual line of sight
NOTAM	Notice to Airmen
ReOC	Remotely Piloted Aircraft Operator's Certificate
RePL	Remote Pilot Licence
RPA	remotely piloted aircraft
RPAS	remotely piloted aircraft systems
VFR	visual flight rules
VLOS	visual line of sight

1.2 Definitions

Terms that have specific meaning within this policy proposal 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 policy proposal and the civil aviation legislation, the definition in the legislation prevails.

Table 2: Definitions

Term	Definition
above ground level (AGL)	Means above ground or water level.
active mining operation	A mining operation involving an excavated pit area in active use for extraction or associated operational purposes.
excluded RPA	An RPA operated under prescribed conditions for certain purposes that does not require a CASA authorisation in the form of an ReOC (and/or RePL for specified types of RPA).

Term	Definition
medium RPA	An RPA with a gross weight of more than 25 kg but not more than 150 kg, or a remotely piloted airship with an envelope capacity of not more than 100 m3.
micro RPA	An RPA with a gross weight of not more than 250 g.
model aircraft	An aircraft that is used for sport, recreational and education purposes which cannot carry a person, with a maximum gross weight of not more than 150 kg.
Notice to Airmen (NOTAM)	A notice issued to alert pilots and aviation personnel to temporary changes or hazards that may affect the safety or operation of a flight.
non-involved person	A person who is not directly associated with the operation of the aircraft.
operator (the ReOC holder)	A person, organisation or enterprise engaged in, or offering to engage in, an RPAS operation that is the holder of a remotely piloted aircraft operator's certificate.
remote pilot	The person who manipulates the flight controls of an uncrewed aircraft or who initiates and monitors the flight and is responsible for its safe conduct during flight time.
remotely piloted	An aircraft is remotely piloted when controlled from a pilot station that is not on board the aircraft.
remotely piloted aircraft (RPA)	An RPA, other than a balloon, a kite, or model aircraft.
shelter or barrier	A structure or physical barrier that would reasonably protect a person from injury in the event of aircraft failure, loss of control, descent or collision with the structure or barrier.
small RPA	An RPA with a gross weight of more than 2 kg but not more than 25 kg.
uncrewed aircraft	Collective term for the applicable types of aircraft within Part 101 of CASR, i.e. model aircraft, remotely piloted aircraft, rockets, unmanned balloons.
vertical object or obstacle	A natural or constructed object extending significantly above surrounding terrain including towers, masts, stacks, wind turbines, buildings, cliffs and similar structures.
very small RPA	An RPA with a gross weight of more than 250 g but not more than 2 kg.
visual line of sight (VLOS)	A drone is being operated within the visual line of sight of the person operating the aircraft if the person can continually see, orient and navigate the aircraft to meet the person's separation and collision avoidance responsibilities, with or without corrective lenses, but without the use of binoculars, a telescope or other similar device.

1.3 References

Legislation

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

Table 3: Legislation references

Document	Title
	Civil Aviation Act 1988
	Civil Aviation Regulations 1988 (CAR)
	Civil Aviation Safety Regulations 1998 (CASR)
Part 101 of CASR	Unmanned aircraft and rockets
Part 101 Manual of Standards	Unmanned aircraft and rockets

2 Background

We have identified some categories of lower risk drone operations that currently require operation under an RPA operator's certificate (ReOC) and a CASA approval. These operations may benefit from a conditional approach where the operating environment is restricted, the activity is recurring and the relevant safety considerations are addressed through standardised conditions.

In such cases, review and assessment has indicated these operations may not need to be operated by a ReOC holder and the requirement for repeated applications which may impose unnecessary cost, delay and administrative effort on both operators and CASA, may not deliver the commensurate safety benefit.

CASA continues to holistically review and improve our application and assessment processes with the aim of refining and improving the remotely piloted aircraft system (RPAS) regulatory framework.

This policy proposal intends to address some of these issues through a more measured regulatory approach for clearly defined operations.

3 Drone operations above 400 ft in defined environments

3.1 Current framework

Under CASAs current regulatory framework, drone operations above 400 ft AGL require a CASA approval and the publication of a Notice to Airmen (NOTAM)[1] to alert crewed aircraft pilots flying in an area, when and where a drone operation is intending to occur above 400 ft. CASA approvals for operations above 400 ft are typically issued to holders of a ReOC.

Generally, drone operations can only be operated up to 400 ft AGL measured from a point on the ground or water directly beneath a drone, without CASA approval. This is one of several regulatory requirements intended to ensure operational separation between a drone and crewed aircraft that are generally operated 500 ft AGL and above. This 100 ft separation buffer is designed to ensure drones and crewed aircraft have at least 100 ft, or approximately 31 m between remotely piloted aircraft and crewed aircraft, and to provide sufficient time for the remote pilot to safely manoeuvre the drone away from the crewed aircraft's area of operation.

The requirement to obtain a CASA approval for drone operations above 400 ft includes operations in locations and airspace where crewed aircraft are almost certain to not operate due to the proximity to certain structures. For example, around wind turbines, telecommunications towers, stacks, buildings, cliff faces and similar vertical structures, as well as within and over mining pits which may be several thousand feet deep.

Crewed aircraft are almost certain to not operate near or around these structures, as a safety separation buffer between the structure and the crewed aircraft is required. This buffer zone is generally 500 ft measured from the top of the structure and the aircraft, to ensure the pilot has sufficient time and altitude to navigate safely around or over the structure.

In these circumstances, CASA considers the requirement for separate approvals or for some drone operations to be performed by a ReOC holder, may be burdensome and may result in repeated assessment of materially similar operations without a commensurate safety benefit.

3.2 Proposal

CASA proposes to enable certain drone operations above 400 ft in defined environments and under certain conditions.

The first defined environment under this proposal would support operations to be conducted above 400 ft up to an additional maximum height of 100 ft (approximately 31 m) measured from the top of a structure, without a CASA approval, and no requirement to be operated by a holder of a ReOC, when the following criteria are met:

Operating near a vertical structure

The person operating the drone (the remote pilot) holds a remote pilot licence (RePL) for the relevant type and category of drone, and the drone is operated:

- Within 120 m measured horizontally or laterally from a natural or human-made vertical structure such as a wind turbine or cliff face.
- Operations are restricted to not more than 100 ft (approximately 31 m) above the highest point of that structure.

[1] subregulation 101.030(7) of CASR.

- The remote pilot must maintain a listening watch for crewed aircraft operating in the area on an appropriate aeronautical radio frequency[2].

> **Note**: For example, if the natural or human-made vertical structure is 700 ft high, the drone may be operated up to a maximum altitude of 800 ft, but only while remaining within 120 m horizontally or laterally from that structure.

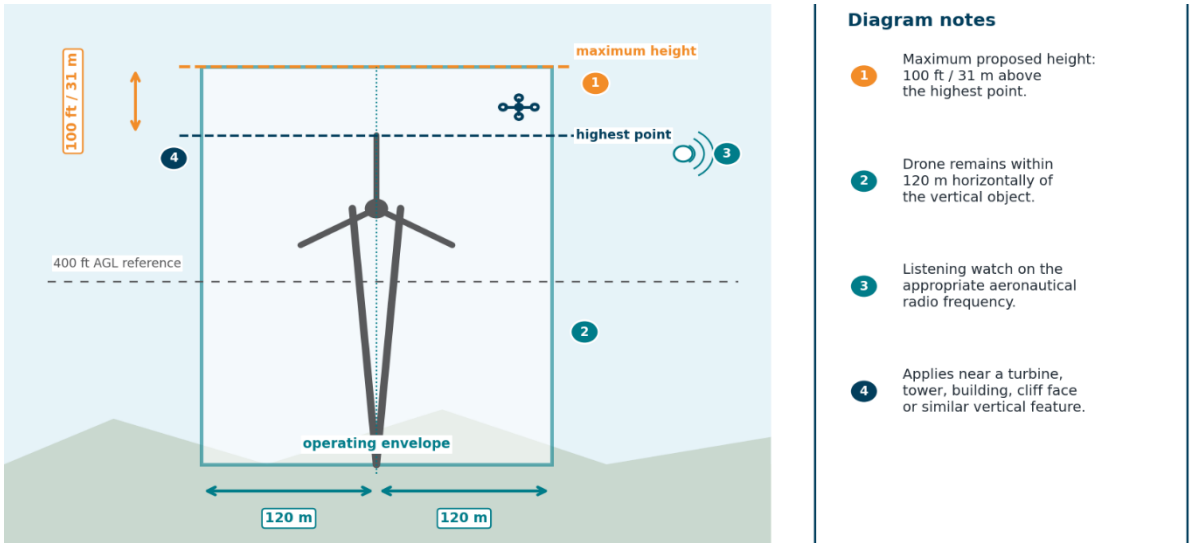

Figure 1: Operating near a vertical object

Source: CASA

The second defined environment under this proposal would support the 400 ft operating altitude for certain operations over an active mining excavation to be measured from the natural surface of the earth, instead of the point on the ground directly beneath the drone.

Operating over an active mining excavation

- The person operating the drone (the remote pilot) holds a remote pilot licence (RePL) for the relevant type and category of drone, and the drone is operated:
  - Within operational limits to not more than 400 ft, measured from the natural surface of the earth, being the pit edge or pit crest nearest to the drone.
  - The remote pilot must hold an Aeronautical Radio Operator and make aeronautical radio broadcasts before commencing operations and at regular intervals during the flight[3].

[2] For situational awareness, to alert the remote pilot to crewed aircraft in the area and take appropriate action.

[3] To advise other airspace users of intent to operate or current operations.

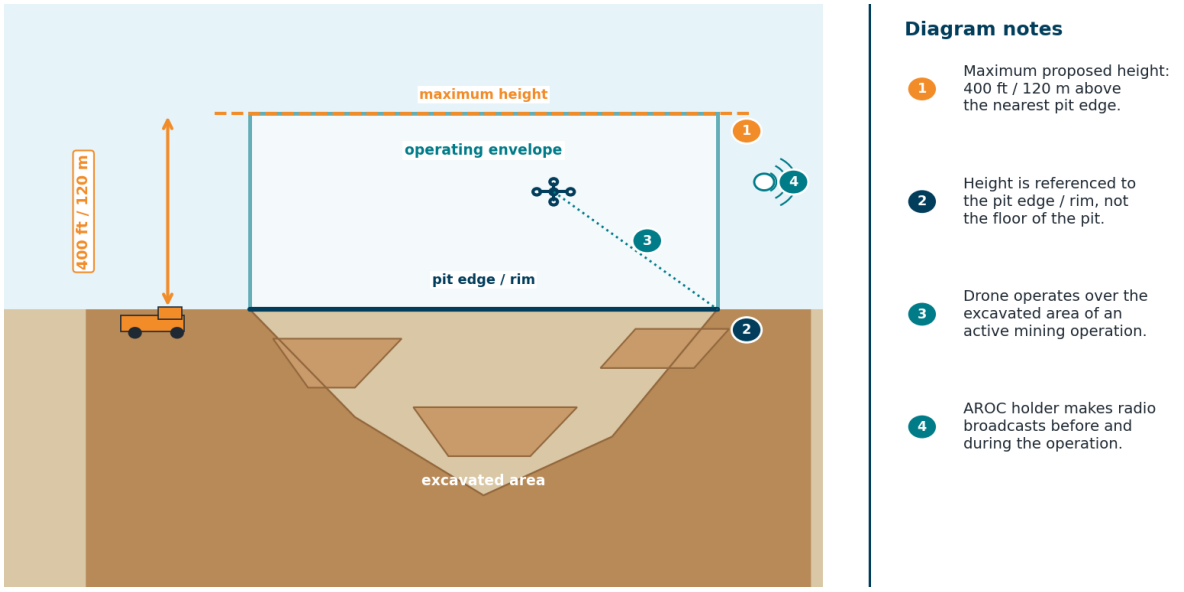

Figure 2: Operating over an active mining excavation

(Source: CASA)

For both operating environments, the operation must be conducted by a remote pilot who holds a remote pilot licence (RePL) for the type and category of the RPA being operated and conducted in either:

- within the visual line of sight (VLOS) of the remote pilot

  or

- outside VLOS where an airspace observer is used and the operator holds a CASA approval authorising beyond visual line of sight (BVLOS) or extended visual line of sight (EVLOS) operations (which are generally required to be operated by a ReOC holder).

The drone must not be operated:

- in controlled airspace
- within the no-fly zone of a controlled aerodrome
- within the no-fly zone of a non-controlled aerodrome when a crewed aircraft is approaching, landing at, taking off from, or manoeuvring on the movement area of the aerodrome
- as part of a one-to-many operation, such as a swarm or a lightshow
- where a separate approval is required for another reason, unless that approval is already in force.

This proposal introduces conditional relief for some operations that need to extend slightly beyond the 400 ft AGL height limitation and is not intended to apply as a broader operational approval. It is intended to operate in parallel with (and not in place of) other regulatory requirements or CASA approvals that may apply to a given operation.

For example:

- Where an operation requires a separate CASA authorisation or approval (for example BVLOS/EVLOS operations, or over and near people, or in restricted or controlled airspace) that approval must still be obtained and complied with independently of this proposal.

- Where such an approval is valid, the operator may operate under this proposal for the purpose of exceeding the standard 400 ft AGL limitation, provided all conditions of this proposal are met.

This proposal removes the need for a separate approval to operate above 400 ft in the defined environments but does not expand or modify any other operational approval, or limitation.

For example:

- An operator conducting an EVLOS inspection of a wind turbine may operate EVLOS under a CASA approval, while also operating up to an additional 100 ft above the structure, but only if the operation remains within 120 m laterally of the structure and all other conditions are met.
- An operator without a BVLOS or EVLOS approval cannot use this proposal to operate outside VLOS.

Remote pilots and ReOC holders would remain subject to all other applicable legislative requirements, including the general obligation to not operate a drone within 30 m of people, in a populous area, or in a way that creates a hazard to another aircraft, person, or property[4].

3.3 Rationale

The intent of the proposal is to support inspection, survey, monitoring and similar activities; however, the proposal applies to all drone operations that meet the criteria regardless of the purpose.

Risks to airspace users

The principal aviation safety risk associated with this policy proposal is conflict with crewed aircraft. CASA considers that this risk is reduced by the narrow and predictable operating environments to which the proposal would apply.

Under the proposal, the drone would remain either close to a vertical object or, within or over an excavated area of an active mining operation. These are environments in which the likelihood of interaction with crewed aircraft is lower than in general airspace.

Separation buffers

Crewed aircraft operating under the Visual Flight Rules (VFR) are subject to minimum height requirements under Part 91 of CASR designed to ensure separation from terrain, obstacles and other airspace users.

These include:

- A requirement to operate no lower than 500 ft measured from above the highest point of terrain or obstacle within a horizontal radius of 300 m in non-populous areas.
- A requirement to operate no lower than 1,000 ft measured from above the highest point of terrain or obstacle when operating over populous areas or public gatherings.

These requirements mean that in normal operations, crewed aircraft will not operate near vertical structures or terrain features except where specifically authorised, for example during take-off, landing or approved low level operations. Even where such operations are authorised, they are subject to risk assessment, operational controls and are typically limited in duration and scope.

The conditions of this proposal are deliberately aligned with these separation principles. By restricting drone operations to within 120 m laterally of a vertical structure or obstacle, and to an additional height of not more

[4] Regulation 101.055 of CASR

than 100 ft above the highest point of the structure, operations are confined to a volume of airspace in which crewed aircraft are operationally and regulatorily disincentivised from entering.

When these factors are considered together, a typical scenario would result in:

- Vertical separation of at least 400 ft (approximately 120 m) between a drone operating at the upper limit of the proposal and a crewed aircraft complying with minimum height requirements.
- Sufficient horizontal separation, noting that crewed aircraft are generally required to maintain clearance from obstacles and operate with sufficient manoeuvring margins.

These conditions are proposed to maintain separation, through regulatory minima, pilot behaviour and environmental constraints and ensure the likelihood of interaction between drones and crewed aircraft does not increase.

Controls and communication

For operations conducted in or over an active mining sites, the likelihood of interaction between drone and aircraft is also low. The regular use of explosives and other heavy machinery at active mining sites generally prohibits crewed aircraft overflight. Aviation advisory information such as NOTAMs are raised for these types of activities which alerts crewed pilots to re-route around the active mine site or fly over the area at a much higher altitude. Mine operators also control access and egress from the mine sit for authorised aircraft such as helicopters and other small aircraft. Combined, these activities reflect operational and environmental controls including terrain confinement, turbulence, reduced visibility, and site coordination requirements, which make unauthorised low-level crewed aircraft operations unlikely.

The proposed exclusion of operations within controlled airspace and controlled and non-controlled aerodrome no-fly zones would not change the likelihood of interaction between remote and crewed aircraft in those areas.

The policy proposal would not authorise general higher altitude flight in any location. It would apply only in the defined circumstances proposed and would remain subject to clear operating limits and exclusions.

Further, the proposed policy is limited to operations conducted by RePL or ReOC holders. This limitation is to ensure that remote pilots have a level of theoretical and practical competency to respond to those abnormal operations that may result in the drone exiting the defined areas, such as a fly-away. The use of geofencing[5], particularly around a vertical obstacle (up to 100 ft above and 120 m laterally), to reduce the likelihood of the drone leaving the designated operational area would also be encouraged.

The proposed condition for a crew member or observer to maintain situational awareness of the airspace visually, combined with the requirement that the remote pilot holds a RePL and maintains a listening watch on the appropriate aeronautical radio frequency, should ensure crewed aircraft flying in the vicinity are identified and appropriate action is taken to ensure the drone does not create a hazard to any crewed aircraft.

The proposal proposes to remove the requirement to issue a NOTAM for each specific operation under these proposed conditions, and instead, publish the change through CASA and Airservices Australia advisory material (such as an advisory information circular), advising all airspace users of the potential for drone traffic in the areas covered by the proposal.

In consultation with Airservices Australia, CASA will consider stakeholder feedback to determine the most effective and appropriate approach to educate and notify airspace users and consider transitional arrangements.

While a NOTAM is an important tool for advising airspace users of potential hazards, for operations conducted near vertical objects in accordance with the proposal, the likelihood of an encounter is considered low due to the existing and proposed mitigations in place.

[5] A pre-defined, virtual boundary that helps contain a drone to a geographical area.

For this reason, operation specific NOTAMs may provide limited additional safety benefit in these defined environments. However, their continued use for a limited period may be appropriate to support awareness and education.

3.4 Industry impact

The proposal has been developed anticipating it will reduce barriers and financial and administrative impost posed by the current regulatory system for certain lower-risk drone operations above 400 ft AGL conducted by a ReOC holder.

Under the current framework, operators need to prepare and submit individual applications for work that is materially similar from one job to the next. The proposal would remove the time, effort, and cost required to prepare those applications. It would also remove the requirement to obtain a ReOC for these specific operations.

This policy proposal is expected to benefit operators conducting repeated operations around tall structures and within active mining pits. Typical use cases include inspection, survey, monitoring and mapping activities. Many of these operations are narrow in scope, take place in predictable settings and are repeated across similar sites. It would also provide greater certainty to operators by allowing recurring work to be planned against a known set of conditions rather than depending on repeated applications and approvals.

While not specifically within CASA's remit, the proposed use of drones under this proposal may enhance workplace health and safety by removing personnel from hazardous environments, such as working at heights or within mining pits.

3.5 Implementation

Subject to consultation feedback, implementation of the proposal would first be supported by guidance and communication material to the aviation community and would be enabled under a CASA instrument. Future regulatory amendments to Part 101 of CASR or its Manual of Standards would be subject to additional consultation measures.

The proposed enabling instrument would clearly define the conditions and circumstances in which the increased operating height is permitted and would detail the relevant limitations and exclusions.

Advisory and guidance material, and transitional implementation of any proposed changes to the NOTAM process would be developed and released before operations would be permitted under a CASA instrument.

4 Previous consultation

The policy intent underlying this proposal has been considered through earlier consultation and internal engagement.

During CASA's 2021–2022 post implementation review of the Part 101 of CASR reforms, stakeholders were asked about how and where CASA could provide greater flexibility for certain operations above 400 ft, including operations near vertical structures and over mine sites.

Feedback from that process indicated support for a more proportionate approach where the operating environment is constrained and the safety case could be addressed through other means such as standard operating conditions.

The policy proposal has also been considered and supported through internal consultation across relevant areas of CASA and preliminary discussions with Airservices Australia.

5 Submitting your view and what's next

We would like to hear your views on the proposal.

Please review the proposal and provide your feedback and any additional concerns you may hold.

Your feedback will make a valuable contribution to CASA's decision-making process and help to fully inform CASA of the impact the proposed changes would have on the aviation community.

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 CASA Consultation Hub by close of business 30 July 2026.