



Summary of Public Submissions Received on

NPRM — Part 102 Unmanned Aircraft Operator Certification

April 2015

Executive summary

1. The Civil Aviation Authority (CAA) issued the Notice of Proposed Rule Making (NPRM) document, NPRM 14-01, on 4 December 2014. The purpose of this NPRM was to consult on proposed changes to address a current gap in the regulation of remotely piloted aircraft systems (RPAS) by establishing a new rule part to regulate the activity of these aircraft. In addition, this NPRM proposed revisions to Civil Aviation Rule Part 101 to ensure that this rule remains fit for purpose. The comment period for this NPRM closed on 30 January 2015.
2. Our response to the feedback is grouped into two parts: Part One is thematic, describing the major contentious issues. Part Two addresses the more specific and/or minor issues.
3. The majority of the submissions are supportive of the proposed rules.
4. There were several main areas of concern throughout the submissions. These were:
 - a. A lack of awareness of and compliance with applicable rules by new aviation participants
 - b. The requirement to obtain permission from owners of property before flying over that property for operators under Part 101
 - c. The proposed rule fails to manage risk of unmanned aircraft collisions with manned aircraft
5. In light of many of the comments and submissions around these issues, the CAA has recommended the following changes to the proposed Rule:
 - a. The requirement to seek consent for RPAS has been moved to 101.207 Airspace
 - b. The shielded operations definition has been updated to improve the protection at the boundary of an aerodrome
 - c. The legacy consents of approved organisations has been recognised

Introduction and NPRM process

6. The purpose of this rule project is to address the immediate safety risks associated with the use of RPAS, and to achieve compliance with international standards and recommended practices with regard to RPAS. The proposal also aims to facilitate CAA understanding of the New Zealand RPAS sector, informing future regulatory work to fully integrate RPAS into the aviation system.
7. The Notice of Proposed Rule Making (NPRM), 14-01, was published on 4 December 2014. A notice of the Minister's intention to make these rules was published in the New Zealand Herald, Waikato Times, Dominion Post, Christchurch Press and Otago Daily Times on 5th December 2014 and in the New Zealand Gazette on 4th December 2014. The NPRM was published on the CAA web site and a notice of publication was sent to 2364 identified stakeholders including representative organisations who were

considered likely to have an interest in the proposal. The notice included links to the consultation document (NPRM) and a draft Advisory Circular (AC).

8. Submissions closed on 30 January 2015. Eighty-six submissions were received.
9. The overall tone of the submissions was generally in favour or neutral on the proposals, with suggestions as to how they could be improved. This summary is focused on those submissions where criticisms or suggestions for improvements have been made.
10. The changes being made are an interim step towards a more full integration of Remotely Piloted Aircraft Systems into the New Zealand aviation system. Officials at the CAA are currently preparing an RPAS integrations strategy. This document will begin the analysis of steps needed for the full integration of RPAS into the New Zealand aviation system. This strategy will include, but likely not be limited to, the following:
 - a. Identifying general areas of focus relating to RPAS integration (e.g. personnel licensing; RPAS airworthiness)
 - b. Agreeing high-level goals for the achievement of full RPAS integration, with indicative timelines
 - c. Identifying necessary actions to achieve full RPAS integration, including actions for CAA, the RPAS industry, government agencies, and other relevant parties
 - d. Identifying ongoing CAA resource requirements for implementation of the strategy, in particular human resources, finance and training requirements
 - e. Facilitating and leading relationship-building with external stakeholders essential to the completion and implementation of the Integration Strategy.

This document

11. This document provides a summary of, and response to, the comments made in the submissions that the CAA received during the consultation process.

The feedback

12. The submissions received and the CAA's response has been grouped into two parts:
 - a. Part One examines the feedback in terms of recurring themes and underlying concerns about the Rule project as a whole.
 - b. Part Two examines more minor or specific issues.

Part One – Major points and themes in submissions

Managing the risks between manned and unmanned aviation

Lack of awareness of and compliance with applicable rules by new aviation participants

13. Submitters were concerned that CAA lacks the capacity to ensure that persons flying unmanned aircraft are aware that rules exist and that there are limits to where and when they can operate. A common theme was the lack of awareness by “new users” posing a “threat to safety through ignorance or willful disregard for the rules.” This lack of awareness creates risks for persons, property and other aircraft.

14. Concerns include—

- a. doubt about how the CAA could implement proposed *rule 101.12 Airspace restrictions* including at point of purchase, and uncertainty about how this rule would be enforced;
- b. difficulties for ordinary members of the public to know about the existence of, and how to access, information about airspace restrictions;
- c. a lack of awareness by operators of aviation activities or changes to airspace restrictions. Submitters suggested that operators should be required to know about the applicable aeronautical charts and AIPNZ information including Supplement and NOTAMs;
- d. whether adequate training programmes for recreational operators beyond the reach of Model Flying New Zealand would be available;
- e. the high levels of penalties for noncompliance with proposed *rule 101.12*; “new rules need to be realistic and enforceable across a community that has embraced UAVs for fun and for the delivery of commercial services.”
- f. that the language is too vague;
- g. that there are no training requirements for Rule Part 101 operators.

15. Suggestions were made by numerous submissions as to how we could manage this risk. One submitter suggested that “an enhanced point-of-sale information campaign should be a first step”.

16. Some submissions took the opposite approach and argued that the proposed rule regulated non-traditional aviation participants too much. For example, one submitter put it this way: Regulation should avoid requiring a five-year old to have knowledge of airspace restrictions and Council permission to “throw a foam glider in the park.” Similarly, the issue of compliance with proposed *rule 101.12* was raised by submitters who suggested that noncompliance may result if the regulation is seen as too difficult or expensive to comply with or is inconvenient.

CAA response:

17. We recognise the significant challenges posed by the emergence of RPAS. The need to bring non-traditional aviation participants into the system is a challenge that we are well aware of.
18. Having considered submitters concerns, the CAA will undertake to:
 - a. Make changes to the rule to ensure that the wording is as clear as is possible.
 - b. Ensure that the Advisory Circulars clear up some of the more difficult concepts contained in the Rule.
 - c. Develop and implement an outreach and education plan for non-traditional aviation participants in order to ensure that they are aware that the rules exist, and understand what the rules require of them.

Obtaining permission from owners of property before flying over that property for operators under Part 101

19. The proposed *rule 101.13* requires the operator of an unmanned aircraft to take all practicable steps to minimise hazards to persons, property and other aircraft. Submitters raised the following concerns about the intent or way that the proposed Rule was worded:
 - a. It's impracticable and onerous in many circumstances. This could take the form of either too many people to obtain permission from or that this would be too difficult;
 - b. Is too confusing a concept;
 - c. Does not clearly reduce the risk of collision with people or property;
 - d. Is unclear in the case of public land (parks, reserves, DoC estate, river beds) who has to be asked for permission;
 - e. That "all practicable steps" and "hazard" were too vague and should be defined, and that the whole provision should be more clearly risk-based;
 - f. Changes practices that have been safe for years;
 - g. The requirement to seek permission may undermine already established access rights in other statutes or easements.
20. A recurring theme is that recreational model flyers have been operating in local parks and reserves for a long time without any problems as they are responsible and avoid flying near people and that this activity is now at risk.
21. Alternate suggestions for how to manage consent and risk included:
 - a. To require the operator to "maintain sufficient horizontal and vertical separation from persons or property" taking into account mass of the RPAS, velocity and meteorological conditions. One submitter suggested that rather than requiring the operator to obtain permission, the risk could be managed by aircraft safety features.

- b. That permissions for aircraft under 5kg should not be required from property owners as the requirement to “minimise hazards” was sufficient and that consent should be based on graduated weight breaks.
- c. That industry bodies could publish guidelines for operating near substations. Alternatively, consider making areas within 12m and up to 400 feet above infrastructure assets restricted airspace. This would include substations, transmission lines, and oil terminals.

CAA response:

22. The purpose of *rule 101.13* was to ensure that operators can identify and be aware of potential hazards during the use of their RPAS. As there are currently no airworthiness standards for RPAS, it is important that operators are able to identify the hazards and use their RPAS accordingly.
23. One part of this hazard identification process is to identify the people and property owners that you will be flying over. The intent of this provision is to make sure that operators are going through a process each time they use their RPAS. In obtaining permission from people, operators essentially reduce the risk by increasing the awareness of these affected parties, ensuring that they informed and have an opportunity to make their own decisions about whether they are prepared to accept the risk.
24. Despite the suggestions from some submitters, we think that there are too many different scenarios that cover too large a range of outcomes when using RPAS to insert prescriptive hazard identification provisions into the Rule. This includes suggestions for limiting the number of people one could fly over, the area someone could fly over, or blanket restrictions on flying in certain other scenarios.
25. However we do recognise that the placement and some of the wording of the hazard provision sections may not have properly covered this intent or that the intent may have been lost by becoming too onerous or impractical. Therefore we have changed the Rule to:
- a. Reflect the safe use that Model Flying New Zealand has had at its danger sites by exempting those who have legacy consent from seeking it again.
 - b. Keep the *rule 101.13* hazard provisions as they currently stand, and instead move the more specific requirements for RPAS to *101.207 Airspace*.
 - c. Change the language from ‘take all practicable steps’ to ‘avoid’ to better recognise the dynamic and changing situation an RPAS operator may find themselves in.
26. We will also continue to offer advice for safe RPAS use through our education campaign and Advisory Circulars (ACs).

The proposed rule fails to manage risk of unmanned aircraft collisions with manned aircraft

27. A number of submissions drew attention to the risks posed by RPAS to traditional manned aircraft and questioned whether the Rule did enough to minimise, or whether or not it was even possible to minimise this risk. Submitters comments included:
- a. That the “see and avoid” method of managing the risk of collision works for pilots in manned aircraft but may be less effective for unmanned aircraft due to the operator’s geographical displacement (not being in the aircraft) and lack of training in “see and avoid” technique.
 - b. Questioning how RPAS users would be able to judge 400 feet from a ground-based position. Some submitters suggested that the rules should require unmanned aircraft to be equipped with a means of informing the operator the height of the craft at all times.
 - c. A submitter proposed that operators of unmanned aircraft should have to pass fit and proper person assessments, aviation awareness assessments, hold some form of pilot qualification and be appropriately licensed. Other submitters agreed that training should be available for Part 101 operators and be endorsed by the CAA, but that this should not be mandatory.
 - d. Another submitter noted the possibility of operators deciding that they can rely on technological solutions in substitution for complying with the rules. For example, by relying on an aircraft’s return to base function instead of maintaining line of sight with their aircraft.
 - e. Submitters were concerned that unmanned aircraft operating under Part 101 use the same airspace as low level manned operations for fire-fighting, police operations, forced landing practices, frost protection operations and other agricultural operations.
 - f. Some submitters were concerned that persons impaired by drugs or alcohol and who operate unmanned aircraft, or perform maintenance on them, are a significant risk. This issue relates to *rule 101.13*.

CAA response:

28. We agree that it is essential that RPAS operators are in full control of their aircraft at all times. We will therefore be taking measures to ensure that all education material and ACs support people to maintain full unaided control of their RPAs. This includes advice on how to remain below 400 feet and to remind people that technological solutions cannot be used as a substitute for human control.
29. We have provisions in the Rule, including *101.213 - Right of way*, *101.209 Visual line of sight operation*, and *101.207 Airspace* (for hazard minimisation) that are explicitly designed to manage the risk of collision between manned and unmanned aircraft.

30. We will continue to monitor the emergence of RPAS and the associated risks as RPAS continue to integrate with the aviation system.

Part Two – Minor or more specific issues

RPAS around aerodromes

31. Submitters expressed the following concerns:

- a. That the 4km boundary is inadequate or that it should have a tiered system that is based on RPAS weights;
- b. That all RPAS users should have to communicate with air traffic control if operating near an aerodrome even if conducting a shielded operation;
- c. That operating anywhere near an aerodrome, even if under a shielded operation, is unsafe and should not be allowed.

32. Suggestions for increased safety around aerodromes included:

- a. Approval by the aerodrome operator, stating that the risks are too great due to inability of a ground-based operator to judge height, distance, wind etc, and uncontrolled flight in the event of loss of control or malfunction.
- b. That all flights near aerodromes or agricultural strips should require the operator to know of applicable Air Laws and hold an FRTO qualification.
- c. The 4km rule should be modified to allow a progressive reduction in maximum allowed height towards the aerodrome boundary.

CAA response:

33. We acknowledge submitters concerns that the use of RPAS around aerodromes is an area of increased risk. We are also aware that most low-risk RPAS users, especially children, should be able to use their low-risk RPAS as part of a shielded operation on their own property.

34. We have therefore inserted a requirement to only allow shielded operations on the boundary of an aerodrome where the structure creates a shield between the RPAS and the aerodrome. We believe this creates an acceptable compromise between the legitimate safety concerns of aerodrome owners and users and the ability of the general public to use their low-risk RPAS.

Shielded operation definition lacks clarity

35. Submitters are concerned that the definition of shielded operation lacks sufficient clarity. Some submitters expressed some concern:

- a. That the definition is too narrow, and should include shielding by land forms such as embankments, terrain, towers and trees as well as “structures” such as buildings.

36. Submitters also requested that flying over the roof of a building to inspect the building should be allowed up to 20m above buildings because this space is low risk as manned aircraft do not operate this close to buildings.

CAA response:

37. We have changed the definition of a shielded operation to include a broader range of structures that could provide a shield.

38. We have also updated the rule so that the use of a shield does not exempt people from maintaining visual line of sight. However, the rule will not be updated to allow flying over the roofs of buildings (as this is not a shield) under Part 101.

Equipment on unmanned aircraft and RPAS airworthiness

39. A number of submitters made suggestions or comments about the equipment on board an RPAS or about the potential for airworthiness standards. For example, one submitter noted that the current lack of standards for unmanned aircraft design, manufacturing, components and control and command systems create risks to person property and other aircraft.

40. Submitters are concerned that unmanned aircraft are too difficult for pilots of manned aircraft to see and suggest that flashing lights should be required to be fitted. Another submitter suggested navigation lights be required on all commercially operated unmanned aircraft.

41. A submitter stated that the proposed rules fail to adequately manage the risk of dangerous goods being carried by unmanned aircraft.

42. Other submitters emphasised that on-board “return to home” and other autonomous flight control features that enhance safety should not be prohibited. Another suggested that such features (or parachutes, or redundancy power features) should be mandatory for heavier aircraft.

CAA response:

43. We have inserted a number of provisions in Rule Part 101 to manage these emerging risks. We will not prohibit the use of any technology that helps with the safe use of RPAS, but we are not yet confident that the technology is fool-proof enough to be used as a substitute for human control.

44. Operations certified under Rule Part 102 will be held to a high safety standard that must match that which is applied to manned aircraft.

45. The proliferation of such a large number and wide range of smaller RPAS makes prescriptive airworthiness and or equipment requirements difficult to implement at this stage. We will continue to monitor developments in lower risk RPAS to ensure that the new rules remain fit for purpose.

Lack of clarity in Part 101 for operation in a mandatory broadcast zone

46. One submitter suggested that the proposed rules are ambiguous and unclear about whether the operation of unmanned aircraft within a mandatory broadcast zone (MBZ) must comply with the rules relating to MBZs.

CAA Response:

47. We have not identified an issue with the use of RPAS within mandatory broadcast zones. A Part 102 RPAS operation will likely be required to comply with MBZ requirements if they are operating outside Part 101 limitations.

Rule 101.209 Visual line of sight operation is unclear

48. Submitters raised a number of issues relating to the requirement for the operator of an unmanned aircraft to maintain visual contact with the aircraft at all times, including issues with the interpretation of proposed *rule 101.209, first person view systems and operation beyond line of sight*. Comments and common themes include:

- a. the line of sight requirement should therefore not apply to the “area” but effectively to the “flying envelope”, because line of sight to whole ground area covered would be interrupted by terrain. Also proposed that operator be required to “maintain eye contact with the aircraft at all times”.
- b. “this wording will allow part 101 operations that are beyond visual line of sight with remotely spaced observers in ‘communication’ with the pilot. Is this the intent? We would suggest the Part 101 FPV operations are limited to having observers within vocal communication range.”
- c. “Why is a shielded operation excluded? A structure may be very high or not allow an unobstructed view of the aircraft.”
- d. It was noted that the proposed rule lacks a definition of “trained and competent observer”. Submitters identified that the reliability of the communication link in a FPV system is a risk and needs a definition.

49. Some submitters suggested that the rule be amended to allow for beyond visual line of sight operations which could be done safely without risk of collision, namely within large rural properties. Examples offered included a high country sheep farmer sending a UAS to check stock in remote or difficult terrain areas on the farm during lambing. Another potential use is to check the height of a river in flood, so that stock can be safely retrieved.

CAA Response:

50. We acknowledge that some of the language and concepts in *rule 101.209* were slightly unclear and have updated them accordingly.

51. It is not our intention to allow beyond visual line of sight under Part 101 rules. The technology for beyond visual line of sight is not yet far enough advanced to satisfy safety requirements.

Certificated operators under Part 102 must comply with all other applicable laws and regulations

52. Submitters raised a number of concerns that 102 operations will not comply with other government laws and regulations. Areas of concern included:
- a. compliance with radio spectrum management requirements;
 - b. restrictions on operating in certain areas that the Department of Conservation controls for reasons such as minimising the risk of fires at times when the fire risk is high or restricted reserves such as bird breeding areas.
53. In a more general sense, submitters were concerned at the potential for use of unmanned aircraft for criminal purposes and for causing nuisances including noise, unwanted visual pollution and invasion of privacy.
54. Submitters suggested that, to manage these issues, the rules should require identification marks on aircraft to assist reporting of incidents to Police and for tracing the persons responsible.

CAA Response:

55. All RPAS operations, under 101 and 102, will have to comply with other relevant government regulations relating to criminal activity, privacy and nuisance, etc. It is impractical for Part 101 operators to be required to identify their aircraft. However, it is likely that operators under 102 will be required to register their aircraft in some form.

Proposed rules do not distinguish commercial operators from recreational users.

56. Submitters pointed out that this approach is inconsistent with how comparable jurisdictions regulate the same activity. Submitters sometimes favoured consistency with CAA UK, FAA and CASA all of which distinguish commercial from recreational purposes.
57. Submitters, suggested that all commercial operators should require certification under Part 102, giving many reasons to distinguish between recreational model aircraft flying and commercial operations. While another said that “broader societal expectations” were that operators for commercial gain in any industry are required to have higher safety expectations and standards.
58. Several submitters were concerned about commercial operations proliferating at the expense of recreational users in the limited airspace available below 400 feet. Recurring comment was: “The airspace below 400 feet requires protection from commercialisation. The airspace below 400 feet should not become a resource. Legislation is required to protect this airspace now.”

CAA Response:

59. A recreational/commercial split for RPAS operations is not necessary. The justification for this was articulated in the preamble to the NPRM: “The government has decided against defining remotely piloted aircraft and model aircraft by whether they are

flown for recreational, public (e.g. search and rescue; policing), or commercial purposes. This is on the basis that these classifications do not best address the risks of unmanned aircraft operation. With no people at risk on the aircraft itself, the difference between commercial and non-commercial operating risk is less clear. It is more appropriate to regulate on the basis of the aircraft itself (such as by weight) and the intended operating specifications (e.g. above 400ft; near people or property; etc).”

Categories of regulation

60. Several submitters advocated for stepped categories of rules with increasing restrictions for higher risk types of operations, based on:
- a. weight, or kinetic energy;
 - b. the operating environment;
 - c. level of performance/capabilities of the craft;
 - d. Speed;
 - e. Pilot qualifications.

CAA Response:

61. The split between Rule Parts 101 and 102 has been chosen on the basis that the best way to regulate the emerging RPAS sector is on risk, rather than on arbitrary thresholds. The level of risk is determined by how the aircraft is being used (complying with Part 101 rules or not), rather than why it is being used (for commercial or recreational purposes). This option will result in improved safety outcomes for RPAS activity, as it will focus CAA resource on the areas of highest risk.

Certificates granted under Part 102 may not adequately manage the risks of—

62. Considering aircraft maintaining airworthiness; several submissions questioned how the certification process under Rule Part 102 will properly ensure airworthiness.
63. Considering inadequate pilot qualifications; submitters were concerned by the lack of defined qualifications which some thought should be mandatory for all operators, or all persons involved in an operation.

CAA Response:

64. It was the intention to not set out prescriptive rules for the operation of unmanned aircraft that fall under Rule Part 102. Measures to ensure safety may include a variety of issues, including airworthiness and qualifications, but this will depend on the specifics of each unmanned aircraft operator certificate application.

Annex 1: Summary of the specific changes made to the final rules from what was published in the NPRM

Rule provision	Required change	Justification
Part 1 Definitions	Remove “kites” from the definition of ‘unmanned aircraft’. Consequential changes to retain separate reference to ‘kites’ in several places in Part 101, alongside the reference to ‘unmanned aircraft’.	Not required for purposes of new Part 102, and Part 101 currently has a definition of kites.
Part 1 Definitions	Delete definition of ‘Remote pilot station’	This term is not used in any of the rules.
Part 1 Definitions	Remove definition of ‘Remotely piloted aircraft’ and insert it into Part 101.	This term is not used in any rule other than 101.
Part 1 Definitions	Remove definition of ‘Remotely piloted aircraft system.’	This term is not used in any rule so definition is not required.
Part 1 Definitions	Remove the proposed amendments to definitions of ‘accident’ and ‘serious incident’.	To amend the definition of ‘accident’ would require an amendment to the Act where this term is already defined. Consequentially, the definition of ‘serious incident’ cannot be changed until the Act is amended.
Part 12.1 Purpose	In (b)(1) insert ‘kites’ after unmanned aircraft.	
Part 12.1 Purpose	Insert “and 102” into 12.1(b)(1) to exclude operations under Part 102 from Part 12. Consequential deletion of clause 2. Not proceeding with proposed changes to rule 12.55.	To include Part 102 operators in the Part 12 reporting regime at this stage would require amendment to the definitions of accident and serious incident. As noted above, this is dependent on an Act amendment.

Part 19	No change.	
Part 47	Minor wording changes. No effect on interpretation.	Editorial.
91.1 Purpose	In (c)(2A), change plural wording to singular and add reference to the grant of a certificate under the Act.	Editorial.
101	Insert ‘kites’ and unmanned balloons in parentheses back into the Title.	Kites are not to be included in the definition of ‘unmanned aircraft’.
101.1 Applicability	Delete proposed paragraph (b). Modify (a) to reflect that a Part 102 certificate affects the extent to which Part 101 applies to unmanned aircraft but does not exempt operators from complying with all of 101.	The relationship between Parts 101 and 102 described in the NPRM has been modified to clarify that these are not alternative regimes, rather the rules in Part 101 apply by default to all operations under 102, except where the operators’ approved expositions explicitly describe operations that are not able to be done under Part 101.
101.3 Definitions	Insert definition of ‘remotely piloted aircraft’.	Moved from Part 1 as proposed because the term is only used in Part 101.
101.3 Definitions	Shielded operations: Change definition to include ‘natural features’ as well as structures; and	To provide for a natural feature operating as a shield.
101.3 Definitions	Amend the definition of ‘controlled aerodrome’ to restrict to the times when ATS is actually being provided.	This change would mean that an aerodrome is only a controlled aerodrome during those times when air traffic control services are

		being provided and not at other times.
101.5 Registration	Insert 'kites' back into this provision now that they have been removed from the definition of 'unmanned aircraft'.	
101.7 Restricted, military operating and danger areas	Insert 'kites' back into this provision now that they have been removed from the definition of 'unmanned aircraft'.	
101.9 Low flying zones	Insert 'kites' back into this provision now that they have been removed from the definition of 'unmanned aircraft'.	
101.11 controlled airspace	Insert 'kites' back into this provision now that they have been removed from the definition of 'unmanned aircraft'.	
101.11 controlled airspace	Insert an exception for shielded operations.	
101.12 Airspace restrictions	Insert 'kites' back into this provision now that they have been removed from the definition of 'unmanned aircraft'.	
101.13 Hazard and risk minimisation	Move the three subparagraphs proposed to Subpart E so that these only apply to remotely piloted aircraft, control line model aircraft and free flight model aircraft.	This change will leave rule 101.13, largely as it is in the current rule, subject to some updating of the language.
101.15 Dropping of articles	Insert 'kites' back into this provision now that they have been removed from the definition of 'unmanned aircraft'. Otherwise no change.	

101.201 Applicability	Change so that it does not exempt 102 operations entirely from complying with 101 Subpart E, Modify to clarify that application of Subpart E is subject to an 102 operator certificate allowing for operations that are inconsistent with requirements of Subpart E.	
101.202 Approved person or organisation	Change wording referring to the AIS provider. Otherwise no change.	Editorial.
101.203	No change	
101.205(c) Aerodromes	Change description of shielded operation to limit operating area to the side of the shielding object that is away from the aerodrome and prohibit the aircraft flying between the shielding object and the aerodrome.	Reduces the risk of a loss of control RPAS flying over the aerodrome.
101.205(a)(3)	Make an exception for a person holding a pilot licence issued under Part 61, and for a person holding a certificate issued under Part 149, from the requirement to hold or be supervised by the holder of a pilot qualification issued by a model aircraft association approved by the Director.	CAA has issued general exemption 14/EXE/56, excepting a person holding a pilot licence issued under Part 61 from the requirement to hold or be supervised by the holder of a pilot qualification issued by a model aircraft association approved by the Director. This should be regularised in the rule.
101.205(c)	Delete reference to control line model aircraft.	These are already excluded by the opening stanza of (a) which only applies to the other two types of aircraft.
101.205(a)(1)(iii)	Style changes. Including deleting the word “model” from ‘remotely	Editorial.

	piloted aircraft’.	
101.205(c)	Add new subparagraph (2) requiring shielded operations within 4 km of an aerodrome to be separated from the aerodrome by a physical barrier.	To better ensure separation of an aircraft from the aerodrome.
101.207 Airspace	Insert three requirements for operators to obtain permission before flying over persons or property and to apply the “see and avoid rule”, as was proposed in 101.13 subparagraphs (1), (2) and (3), except modify (3) to only require observation of surrounding airspace for other aircraft and delete the element of avoiding flying into the proximity of any other aircraft because this is already covered by rule 101.213. Also, restrict the application of these requirements to not apply in a danger area.	
101.207 Airspace	Clarify the restriction on operating above 400 feet above ground level.	Submitters suggested that this requirement was not clearly expressed in the rule.
101.207 Airspace	Insert new provision to grandfather existing operations under the authority of an approved organization (currently referred to as “a model aircraft association approved by the Director”) so that they are not required to obtain permission from persons or in respect of property before operating above said persons or property.	
101.207(a)(2)	Replace ‘whole airspace’ with ‘surrounding airspace’.	Better describes the practical requirement.
101.209 Visual line of sight operation	General - Review language to address any inconsistencies and difficulty interpretation	Some submissions have argued that the rules around VLOS are unclear.

	Replace ‘whole airspace’ with ‘surrounding airspace’ in three places in which it occurs.	Better describes the practical requirement.
	Paragraph (c); add requirement for operator to be able to see the surrounding airspace, not just the aircraft.	To prohibit operator from flying the aircraft into airspace where the view of other aircraft approaching and entering that airspace is obscured by obstacles.
	Paragraph (e) - delete	We do not want people losing VLOS when undertaking a shielded operation
	Paragraph (d) – further define ‘observer’ by clarifying that the observer is required in addition to the first person view system, not as part of a first person view system. Add requirement for the observer to maintain observation of the surrounding airspace. Clarify that the communication between the observer and the operator must be ‘direct’.	Clarify the requirements for an observer where the operator is using a first person view system.
	In paragraph (d), further define visual line of sight by specifying that this may be achieved using spectacles or contact lenses but not instruments.	
101.211 Night operations	No change	
101.213 Right of way	Split into two provisions so that the requirements only apply to a person operating a free flight model aircraft prior to launch. While continuing to apply in respect of the other two types of aircraft both during the whole operation.	It is impracticable for the operator of a free flight model aircraft to comply during the flight as there is no means of control after launch.

101.215 Aircraft mass limits	No change	
102.1 Purpose	No change	
102.3 Application	Delete paragraph (3).	Not required.
102.5 Definitions	No change	
102.7 Requirement for certificate	Make reference to the grant of a certificate under the Act and refer to the type of certificate.	Editorial.
102.9 Application for certificate to operate an unmanned aircraft	No change	
102.11 Unmanned aircraft operator exposition	Change in 102.11(b)(5) to delete reference to Part 12.	If the certificate that is granted requires reporting of occurrences then this will be applied on a case-by case basis to each application and will not incorporate the procedure under Part 12. This is due to the definition of ‘accident’ that is in the Act which governs the use of that term in Part 12, and cannot be changed at this stage.
	Change in 102.11(b) to add new matter that is ‘any other approvals required to conduct the operation’.	This would address issues raised by submitters about the interaction between the certificate and other applicable regulatory requirements. Where other approvals must be obtained, the unmanned

		aircraft operator certificate does not displace those requirements and by incorporating them into the exposition they then become required conditions of operation and failure to comply can be enforced through the certificate.
102.13 Grant of certificate	No change	
102.15 Operations specification	No change	
102.17 Privileges of certificate holder	In paragraph (b), insert “rule” after “required by”.	Editorial.
102.17(b)	Add Part 12 to the list.	Compliance with Part 12 will not be required.
102.19 Duration of certificate	No change	
102.21 Conditions of operation of unmanned aircraft	Add requirement to comply with Part 101 to the extent that the requirements in 101 are not inconsistent with the approved operation.	
102.21 Conditions of operation of unmanned aircraft	In paragraph (a)(2), insert “rule” after “required by”.	Editorial.

102.23 Changes to exposition	No change	
102.25 Renewal of certificate	Replace “the remotely piloted aircraft system operator certificate shall” with “an unmanned aircraft operator certificate must”.	Editorial.
102.27 Transitional provisions	<p>In paragraph (a), after “Despite” insert “rule”; and</p> <p>Replace “Part 19.105” with “rule 19.105”.</p> <p>In paragraph (b), replace “(a) shall” with “paragraph (a) must”; and</p> <p>Replace “102.13(c)” with “rule 102.13(b)”.</p>	<p>Editorial.</p> <p>Correct cross-reference.</p>