

## **Notice of Proposed Rule Making**

**NPRM 14-01**

**4 December 2014**

### **Part 102 Unmanned Aircraft Operator Certification**

*Docket 15/CAR/1 Unmanned Aircraft Operator Certification*

#### **Consequential Amendments**

**Part 1**

**Part 12**

**Part 19**

**Part 47**

**Part 91**

**Part 101**

## Background to the Civil Aviation Rules

The Civil Aviation Rules establish the minimum regulatory safety boundary for participants to gain entry into, operate within, and exit the New Zealand civil aviation system. The Rules are structured in a manner similar to the Federal Aviation Regulations of the USA. Close co-operation is being maintained with the Civil Aviation Safety Authority of Australia to ensure maximum harmonisation with their regulatory code.

Rules are divided into Parts and each Part contains a series of individual rules which relate to a particular aviation activity. Advisory circulars accompany many rule Parts and contain information about standards, practices and procedures that the Director has established to be an Acceptable Means of Compliance (AMC) with the associated rule. An Advisory Circular may also contain guidance material to facilitate compliance with the rule requirements.

The objective of the Civil Aviation Rules system is to strike a balance of responsibility between, on the one hand, the Crown and the regulatory authority (CAA) and, on the other hand, those who provide services and exercise privileges in the civil aviation system. This balance must enable the Crown and regulatory authority to set standards for, and monitor performance of, aviation participants whilst providing the maximum flexibility for the participants to develop their own means of compliance within the safety boundary.

Section 12 of the Civil Aviation Act 1990 (the Act) prescribes general requirements for participants in the civil aviation system. Amongst other things, it requires participants to carry out their activities safely and in accordance with the relevant prescribed safety standards and practices.

Section 28 of the Act allows the Minister of Transport to make ordinary rules for any of the following purposes:

- The implementation of New Zealand's obligations under the Convention on Civil Aviation (the Convention)
- The provision of aviation meteorological services, search and rescue services and civil aviation security programmes and services
- Assisting aviation safety and security, including but not limited to personal security
- Assisting economic development
- Improving access and mobility
- Protecting and promoting public health
- Ensuring environmental sustainability
- Any matter related or reasonably incidental to any of the following:
  - i. The Minister's objectives under section 14 of the Act;
  - ii. The Minister's functions under section 14A of the Act;
  - iii. The Authority's objectives under section 72AA of the Act;
  - iv. The Authority's functions and duties under section 72B of the Act; and
  - v. The Director's functions and powers under section 72I of the Act
- Any other matter contemplated by any provision of the Act.

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## 1. Purpose of this NPRM

The purpose of this notice of proposed rule-making (NPRM) is to address a current gap in the regulation of unmanned aircraft systems (UAS) by establishing a new rule part to regulate the activity of these aircraft. In addition, this NPRM proposes revisions to Civil Aviation Rule Part 101 to ensure that this rule remains fit for purpose.

## 2. Background to the Proposal

### 2.1 General Summary

The civilian UAS sector is fast-growing, with increasing use of these aircraft in a wide range of commercial, research and other activities. Examples of operations currently or intending to be active in New Zealand include:

- aerial photography
- surveying and mapping
- crop-spraying
- search and rescue
- power lines inspection.

While some unmanned aircraft resemble traditional aircraft in design and flight capability, there is a wide range of types and size of aircraft. Some unmanned aircraft have unconventional capability, with the ability to operate in ways traditional aircraft cannot, not least due to the different relationship they have to their human pilots.

### Current regulations

Civilian UAS activity in New Zealand is primarily regulated by Civil Aviation Rules (CAR's) Part 101 *Gyrogliders and Parasails; and Unmanned Balloons, Kites, Rockets, and Model Aircraft - Operating Rules*; and Part 19 *Transition Rules*. Non-civilian use of unmanned aircraft by the New Zealand Defence Forces is not regulated under the Act (section 3).

Part 101 sets out the operating rules for model aircraft, which are defined as pilotless aircraft weighing less than 25 kg. Under Part 101, a model aircraft operator must ensure that they remain clear of, and give way to, all manned aircraft on the ground or in flight. Other restrictions under Part 101 include prohibiting (in most circumstances) model aircraft from:

- flying within 4km of an aerodrome without the explicit permission of the aerodrome operator or, in the case of a controlled aerodrome, without authorisation from the relevant ATC unit;
- flying above 400ft unless operating in specifically designated airspace or within the operating limits notified to the New Zealand NOTAM Office;
- flying at night;
- flying out of the line-of-sight of the model aircraft operator; and
- flying in a manner that creates a hazard to aircraft or to persons or property.

Part 19 requires anyone wishing to operate a pilotless aircraft (defined as an aircraft, other than a balloon or kite, designed to fly unmanned with a gross mass greater than 25 kg) to obtain the authorisation of the Director of Civil Aviation.

### Problem definition

#### *Current rules are not fit-for-purpose*

The requirement for an UAS operation to be authorised by the Director of Civil Aviation under Part 19 currently only relates to those unmanned aircraft weighing more than 25 kg (referred to as a 'pilotless aircraft' under the current definitions).

The CAA has (as at July 2014) received 70 enquiries for authorisations for UAS, of which 62 have been for aircraft that weigh less than 25 kg. This current categorisation based on aircraft weight alone has created a gap in regulation that means UAS operators with aircraft under 25 kg must either fly under the restrictions of the model aircraft operating rules in Part 101, or go through the cumbersome and costly process of seeking exemptions from all relevant rule parts.

The risk of a particular UAS operation is not influenced by weight alone. Other factors, such as physical and technical characteristics of the aircraft, the skill and experience of the operators, and the intended operating area, also need to be taken into account.

Part 101 was originally designed with traditional model aircraft hobbyists in mind. The advances in technology and the growth in commercial applications for UAS that weigh less than 25kg has led to the current situation where it is inappropriate for many operators to be regulated under Part 101, but they have no simple alternative.

#### *A growing UAS sector challenges aviation safety*

The increasing use of UAS has the potential to disrupt the current aviation system. The most significant risks include the possibility of a mid-air collision with a manned aircraft, or a mid-air failure of an unmanned aircraft, posing a threat to people and property below.

The safety challenges associated with unmanned aircraft activity are driven by three key factors:

- **Operational risks inherent to unmanned aircraft:** Basic assumptions relating to the situational awareness of the pilot and their ability to respond to safety risks requires reconsideration in the context of UAS. There are also no certified operating qualifications or airworthiness standards for unmanned aircraft in New Zealand that would mitigate those risks.
- **A broadening aviation participant profile to include non-traditional operators:** Unmanned aircraft are widely available, available for purchase online and often at a very low cost compared to traditional manned aircraft. This allows people with no experience with the CAA or aviation regulations, the opportunity to own and operate aircraft.
- **A lack of information about unmanned aircraft activity in New Zealand:** The private use of UAS in New Zealand is outside the traditional oversight of the CAA. The industry is very new and rapidly developing, with considerable uncertainty around its current and projected size and activity.

#### *Current rules are not compliant with ICAO standards*

New Zealand's aviation regulatory environment is, by obligation, heavily influenced by the International Civil Aviation Organisation (ICAO). ICAO works with States and the aviation industry to develop international Standards and Recommended Practices (SARPs), which are then used by States to develop their own legally-binding national civil aviation regulations.

Since 2010, ICAO has released a number of minor amendments to the Annexes of the Convention on International Civil Aviation (1944) that include implications for the regulations of international operations of UAS. These amendments relate to defining UAS, registration of UAS, and accommodating UAS in accident investigation procedures.

New Zealand is yet to adopt these amendments, or file a difference with ICAO.

## **2.2 NPRM Development**

In December 2013 the CAA developed a policy paper on UAS and released it to key stakeholders in the UAS sector for submissions. After reviewing submissions, the CAA and Ministry of Transport developed a Regulatory Impact Statement and Cabinet Paper proposing amendments to the Civil Aviation Rules relating to UAS.

In July 2014, Cabinet approved the development of rules to address issues relating to unmanned aircraft. This initiated the CAA rule development process.

A Project Working Group (PWG) was formed to provide technical advice and expertise for the development of this NPRM. The PWG included both CAA staff and industry representatives. A consultation document outlining the proposed changes was shared with members of the PWG for their feedback.

#### *Proposed rule structure*

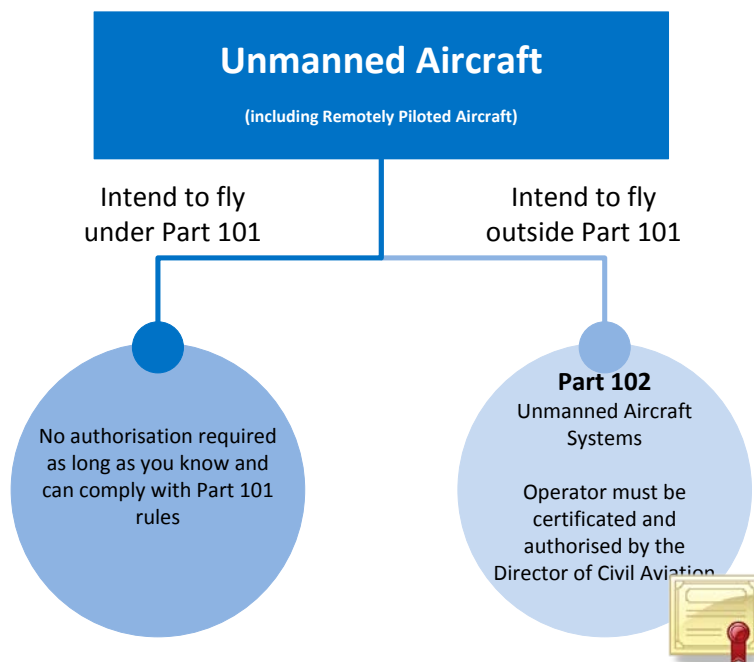
The proposed rules are intended to be a relatively minor refinement of the current rules as an interim measure in advance of a review of the long-term regulatory and non-regulatory interventions that would be necessary to fully integrate remotely piloted aircraft systems into New Zealand's aviation system.

The primary change will be establishing a new rule Part 102: Unmanned Aircraft - Operator Certification. All unmanned aircraft operations that exceed the limits in Part 101 will be required to be conducted under the authority of a certificate issued under Part 102. As the unmanned aircraft sector is diverse and fast-growing, and lacks established standards for airworthiness or pilot licensing, among other areas, the interim approach is to have minimal prescription in the rule which is primarily for the certification of operators. Operating requirements for unmanned aircraft under Part

102 will instead be determined for each application on a case-by-case basis. Comprehensive guidance material to assist applicants in preparing proposed operating requirements will be provided by the CAA in an Advisory Circular.

It is also proposed to revise Part 101 to ensure it is still fit-for-purpose. This rule part essentially provides for 'low-risk' operations of gyrogliders, parasails, unmanned balloons, kites, rockets and remotely piloted aircraft including traditional model aircraft flying. Minor changes would ensure that all unmanned aircraft are covered as well as the traditional 'model aircraft'. Operators will not be required to seek CAA approval before operating, as long as they remain strictly within the operating limits in Part 101 rules. The definition of radio-controlled model aircraft will be changed to remotely piloted aircraft. The definitions of control-line and free-flight model aircraft will be retained.

These rule changes will establish a two-tiered system for unmanned aircraft operations: Part 101 for low-risk unmanned aircraft operations; and Part 102 for all other unmanned aircraft operations of higher or uncertain risk.



## 2.3 Key Stakeholders

The following are identified by the Civil Aviation authority as key stakeholders in the proposed rule amendments contained in this NPRM:

- The Civil Aviation Authority;
- The Minister of Transport;
- The Ministry of Transport;
- Aviation industry representative organisations
- Air traffic service organisations;
- Commercial UAS operators;
- Aviation services organisations working with UAS operators;
- Model aircraft hobbyists.

## 3. Issues Addressed during Development

### 3.1 Definition of a remotely piloted aircraft

The ICAO definition of a remotely piloted aircraft is simply 'an unmanned aircraft which is piloted from a remote pilot station'. Strictly applied, this definition would include model aircraft. However ICAO Circular 328-AN/190 states that model aircraft are:

*'intended for recreational purposes only', and 'fall outside the provisions of the Chicago Convention, being exclusively the subject of relevant national regulations, if any.'*



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). The proposed rules reflect this approach by extending Part 101 to include all unmanned aircraft being operated for recreational, commercial or any other purpose. This provides a consistent risk-based approach.

The proposed approach is to define the terms 'unmanned aircraft' and 'remotely piloted aircraft' using the ICAO definition with the addition of text stating that 'remotely piloted aircraft' includes radio controlled model aircraft. Using the term remotely piloted aircraft (RPA) in the rules recognises that this activity now extends beyond the traditional radio-controlled model aircraft but it will not prevent traditional hobbyists from referring to their aircraft as models.

The new definitions would be added to Part 1.

Part 101 would be amended to replace all current references to 'model aircraft' with the term 'remotely piloted aircraft, control line model aircraft and free flight model aircraft'. The new term 'remotely piloted aircraft' replaces 'radio controlled model aircraft'. The terms 'free flight model aircraft' and 'control line model aircraft' would be retained because the rules distinguish between these unmanned aircraft and radio controlled model aircraft.

The International Civil Aviation Organisation (ICAO) has published minor amendments to the Annexes to the Convention on International Civil Aviation concerning unmanned aircraft. These include updates to the current definitions of 'accident' and 'serious incident' to include reference to unmanned aircraft. It is proposed that similar changes are adopted in New Zealand legislation. The definition of 'accident' would be amended to ensure that accidents involving unmanned aircraft were required to be reported, as provided for in Part 12 of the CARs. As 'accident' is defined in the Civil Aviation Act 1990 this proposed change may be dependent upon a legislative change to the Act.

[Reference 4.1]

### **3.2 Application of the rules – Unmanned aircraft**

As noted above, the application of Part 101 and Part 102 will not be defined by the *purpose* of the unmanned aircraft flight (i.e. for hire or reward, recreational, research or other reasons) but on the safety risk (i.e. intended activity and, in part, weight). Part 101 will be revised to ensure that it remains fit-for-purpose as a rule that sets out the operating limitations for unmanned aircraft, as well as gyrogliders, parasails and rockets, that are regarded as low risk. Operations of unmanned aircraft that, without controls, would be higher risk will be subject to an operator certification regime that will be set out in the new Part 102.

Innovation and development in unmanned aircraft is expected to rapidly continue and it is difficult to predict where this might lead to in terms of aircraft design and operational ability. For example, while not likely in the near future, there is the potential for the development and use of autonomous unmanned aircraft that do not allow for pilot intervention in the management of the flight. While Part 101 provides for certain types of unmanned aircraft which have minimal pilot control, for example free flight model aircraft and balloons, Part 102 certification will apply to the operator of *all* unmanned aircraft, of any design, that operate outside of the limitations of Part 101. This includes any unmanned aircraft operation intending to be wholly or partially autonomous.

Part 101	Part 102
<p>The following unmanned aircraft which can and intend to operate exclusively under Part 101:</p> <ul style="list-style-type: none"> <li>Remotely piloted aircraft</li> <li>Free flight model aircraft</li> <li>Control line model aircraft</li> <li>Unmanned balloons</li> <li>Model rockets.</li> </ul>	<p>All unmanned aircraft that cannot, or do not intend, to operate under Part 101.</p>

### 3.3 Clarification of scope of Part 101

The intention to provide for potentially higher risk unmanned aircraft activity to be conducted under a certification regime that is set out in a new rule Part 102, entails a revision of Part 101 to ensure that the boundary between the two regimes is clear. Amendments to Part 101 are proposed to clarify the limits of activities that may be undertaken without an unmanned aircraft operator certificate. Part 101 defines and limits activities such that they can be regarded as low risk. In order to operate unmanned aircraft beyond these limits the operator must be certified under Part 102.

The current limits on operations in Part 101 are very general and apply to unmanned aircraft including unmanned balloons, kites, model aircraft and rockets, as well as manned gyrogliders and parasails. Traditional model aircraft operators (and operators of other unmanned aircraft) have effectively managed the risks of their activities through measures such as flying in open areas away from people and property that may be at risk from the activity. The advent of new applications for unmanned aircraft has meant that some operators are more likely to want to operate near populated areas.

For this reason it is necessary to better define the threshold between operations under Part 101, which are considered to be low risk, and operations that the rule will require to be conducted under the authority of an operator certificate issued under Part 102.

#### *Applicability*

The applicability provision in Part 101 will be amended to replace the term ‘model aircraft’ with the term ‘remotely piloted aircraft’. A new rule would also be added to clarify that operators of unmanned aircraft may either operate within the limitations of Part 101, or obtain an operator certificate under Part 102.

[Reference 4.6.2]

#### *Knowledge of airspace restrictions*

Part 101 operations are limited by restrictions on operating in specified classes of airspace. These restrictions include operating in controlled airspace, operating within 4 km of an aerodrome, operating above 400 feet above ground level and a prohibition on using model aircraft in Classes C, D and E airspace. Different restrictions apply to moored balloons and kites, free balloons, rockets, model aircraft and gyrogliders and parasails. These categories of aircraft are dealt with in the separate subparts of Part 101. However, there are some general requirements in subpart A that apply to operators of all aircraft under Part 101.

The ability of operators to remain within the limitations prescribed in Part 101 depends on a reasonable knowledge of airspace classification, location of aerodromes and restricted and low flying zones.

Model aircraft flying has generally been conducted under the oversight of Model Flying New Zealand (MFNZ) which, being an organisation that has knowledge of these restrictions, has effectively managed the risk of model aircraft operators unknowingly flying their aircraft into restricted airspace. With the recent growth in the use of remotely piloted aircraft for both commercial and recreational purposes it is desirable to reconsider how effectively this risk is being managed.

It is proposed to require that all persons operating an aircraft under Part 101 must have a basic knowledge and understanding of the restrictions that might apply in the area in which they intend to fly their aircraft. This requirement would be added to subpart A and would apply to operators of all unmanned aircraft, rockets, parasails and gyrogliders. It would be achieved by placing a duty on all persons who intend to operate any of these aircraft to take reasonable steps to ensure that they are aware of the airspace restrictions and classifications that apply to the airspace that they intend to use. Alternatively, direct supervision of the operator by another person who does hold the requisite knowledge would be acceptable.

[Reference 4.6.5]

#### *Hazardous operation*

Operators of unmanned aircraft, rockets, gyrogliders and parasails under Part 101 must not operate in a manner that creates a hazard to aircraft or to persons or property. It is proposed to further clarify this requirement by amending the rule to state that an operator of any of these aircraft must take all steps that are practicable in the circumstances to minimise the hazard to persons and property.

The rule cannot prescribe all the steps that an operator should take to manage the risks of his or her activity because the range of circumstances of potential operations is unlimited. Therefore the steps that are practicable and that must be taken will need to be considered by each individual operator for every operation. However, the proposed amendment rule does specify the following steps which should be regarded as minimum requirements.

One way of mitigating the risks of injury to persons or damage to property is to avoid flying over persons or property without first obtaining the consent of those persons or the persons occupying the property. Therefore, the proposed amendment rule specifies that an operator must avoid flying over persons or property without first obtaining consent from those persons or occupiers of the property as the case may be. Another significant risk that the operator must address is the risk of collision with other aircraft. To mitigate this risk the operator must look for and avoid flying within the proximity of any manned aircraft.

[Reference 4.6.6]

#### *Operations near aerodromes*

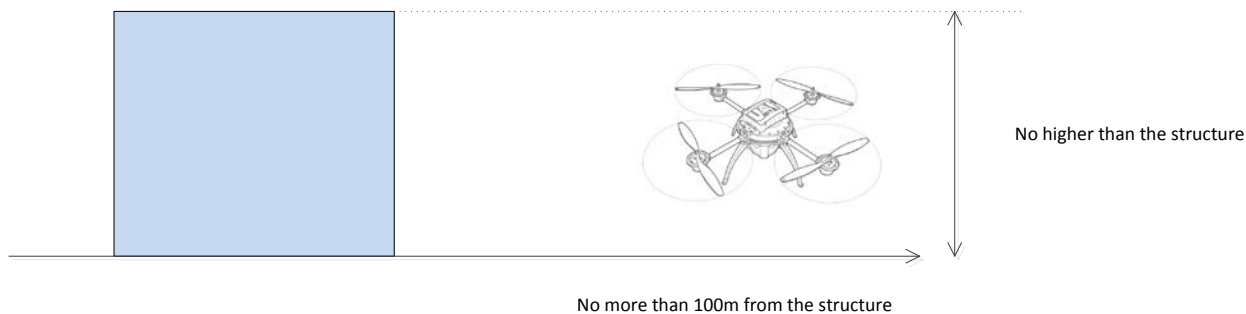
Rule Part 101 restricts operating within 4 km of an aerodrome. However, this only applies to aerodromes listed in Volume 4 of the Aeronautical Information Publication (AIP) and not to all aerodromes as defined in Part 1. The Part 1 definition of 'aerodrome' includes any place used for landing, departure or surface movement of aircraft. It would be difficult for all operators of unmanned aircraft to ascertain where all such places might be. Therefore, it is proposed to retain the current definition in Part 101 as this enables operators of unmanned aircraft to access a list of aerodromes and ensure that they comply with the rule. This also enables aerodrome operators to manage any risks that unmanned aircraft may pose to their operations by listing their aerodrome in the AIP.

A minor amendment is proposed to the definition in Part 101 to remove the reference to 'Volume 4' of the AIP. This would mean that the rule will apply to the most recent version of the publication.

It is proposed to amend 101.205(a)(3) to change the identification of the body that may be approved by the Director, to issue a pilot qualification and to appoint persons to give instruction in the operation of remotely piloted aircraft, from "a model aircraft association" to "an approved person or organisation". This change reflects that the unmanned aircraft sector is now wider than traditional model aircraft operators.

It is also proposed to make an exception to the 4 km prohibited zone around aerodromes. This change would allow the operation of remotely piloted aircraft, outside of aerodrome boundaries, that remain shielded by operating solely within 100 m of a structure and below the height of that structure.

## Shielded operation



[References 4.6.3(b), 4.6.10]

### *Airspace*

The current provision in rule 101.207 will need to be amended to replace the term ‘radio controlled model aircraft’ with ‘remotely piloted aircraft’. This rule allows for remotely piloted aircraft to operate above 400 feet above ground level if that operation is conducted within a danger area designated for the purpose or if notification is made using the NOTAM system.

It is also proposed to amend this rule to extend the range of persons who may be approved by the Director to authorise the lodging of a notice with the New Zealand NOTAM Office. Currently, this notification procedure is limited to persons authorised by a model aircraft association that has been approved by the Director. The aim of this proposed amendment is to expand this to any person or organisation approved for the purpose by the Director. The rule would clarify the criteria that any person or organisation can meet in order to obtain approval from the Director to authorise the lodging of NOTAM notifications in a new provision; 101.202.

[Reference 4.6.11]

### *Meteorological limitations*

Remotely piloted aircraft operated under Part 101 must not be operated in conditions that prevent the operator from keeping the aircraft in sight at all times. This requirement is currently reflected in rule 101.209 Meteorological limitations. It is proposed to retitle this rule as ‘visual line of sight operation’.

The proposal is to retain the current prohibition on operating in meteorological conditions that limit visibility. However, the current reference to ‘ground visibility’ would be replaced as this has caused confusion. It would be replaced by a new provision specifying that the operator must not operate in meteorological conditions that are such as to prevent the operator from keeping the aircraft in clear sight. Further, it is proposed to specify that the operator must have an unobstructed view of the whole area in which the operator is intending to fly the aircraft. While the use of binoculars or other instruments that may assist an operator would not be prohibited the proposed rule would make it clear that the minimum conditions for operating are conditions under which the operator can maintain visual contact without needing to rely on any such instrument. For the avoidance of doubt the rule would specify that visual aids such as sunglasses or corrective lenses may be used.

The amended provision would also specify the requirement for the operator to maintain eye contact with the aircraft at all times. For remotely piloted aircraft systems it would be acceptable to use a first person view system in which an observer maintains direct eye contact with the aircraft and communicates directly to the operator.

[Reference 4.6.12]

### *Mass limits*

Currently the definition of ‘pilotless aircraft’ in Part 19 distinguishes these aircraft from model aircraft that operate under Part 101 on the basis of a 25 kg weight limit. This threshold is repeated in the definition of ‘model aircraft’ (which must weigh less than 25 kg) in Part 101. It is proposed to delete both of these definitions. Part 101 makes a further distinction between model aircraft that weigh less than 15 kg and those that are between 15 and 25 kg. Model aircraft in the higher of these weight bands are required to be constructed and operated under the authority of a model aircraft association approved by the Director.

It is proposed to retain the current weight limits for remotely piloted aircraft operating under Part 101. However, this will be stated as a rule rather than as part of a definition. This will set in place a three tier weight regime under which remotely piloted aircraft operating under Part 101 must be either under 15 kg or, if between 15 and 25 kg, must be constructed under the authority of, or inspected by, and be operated under the approval of, a person appointed by the Director. Currently only Model Flying New Zealand holds an appointment to perform this duty. Remotely piloted aircraft that are above 25 kg can only operate under the authority of a certificate issued under Part 102.

The proposed amended rule 101.215 would set out this weight regime and also amend the requirement for approval of aircraft that are between 15 and 25 kg in weight. These amendments would:

- (a) Extend the current requirement for the aircraft to be “constructed and operated” under the authority of a model aircraft association approved by the Director to also include the modification of an aircraft and the inspection of an aircraft that is presented fully constructed.
- (b) Extend the authority to approve the construction and operation of a remotely piloted aircraft (currently only held by Model Flying New Zealand) to any person or organisation approved for this purpose by the Director by replacing the term “model aircraft association” with “approved person or organisation”.

A new provision; 101.202 would specify the criteria a person or organisation must meet in order to gain an approval from the Director to authorise the construction or modification and operation of unmanned aircraft greater than 15 kg. In order to be approved for this purpose the person or organisation must have a level of expertise in the design, construction and operation of remotely piloted aircraft that is acceptable to the Director.

The proposed weight-based regime is summarised in the following Table:

Mass of RPA	Approval required
Less than 15kg (and operating within Part 101 limits)	No approval required
15-25kg (and operating within Part 101 limits)	Must be inspected and the operation approved by a person or organisation approved by the Director
25kg and over OR Operating outside Part 101 limits	Operation must be certified under Part 102

[Reference 4.6.14]

### 3.4 New Rule Part 102

#### *Certification of operators of unmanned aircraft*

It is proposed to make a new rule, Part 102, which would set out requirements for the certification of operators of unmanned aircraft. The proposed rule does not prescribe rules for the operation of unmanned aircraft, instead it would require operators to submit an application to the CAA setting out the scope of their proposed unmanned aircraft operation including their proposed measures to manage the risks. Measures may include requirements for airworthiness, pilot licensing, and maintenance of unmanned aircraft. Guidance on appropriate operating conditions would be provided by the CAA in an Advisory Circular. If satisfied that the proposed operating conditions would adequately manage the risks to people, property and other aircraft of the UAS operation, the Director would grant a certificate to operate the unmanned aircraft subject to the operating conditions being complied with.

The certificate would be an ‘unmanned aircraft operator certificate’ and would be an aviation document for the purposes of the Act.

The rationale for this approach is the fact that the unmanned aircraft sector is diverse and fast-growing, with established and universally recognised standards for airworthiness or pilot licensing, among other areas, still to be established. It would be premature of the CAA to develop prescriptive standards of its own. To do so may lead to inappropriate requirements that do not improve safety and are an unnecessary barrier to development of the sector.

### *Application of Civil Aviation Rules*

The proposed approach is to exempt unmanned aircraft operations that are conducted under an unmanned aircraft operator certificate from having to comply with other Civil Aviation Rules, with the exception of *Part 12 Accidents, Incidents, and Statistics*. However, where an applicant considers that the risks of the proposed operation would be managed by applying particular requirements prescribed in a Rule, the application could specify that the operation would comply with those requirements. If the Director approved that application then compliance with the rule requirements would become a condition of the certificate that authorises that operation.

This approach is consistent with that of other state regulators, with legislated general requirements for unmanned aircraft supported by more detailed guidance material (for example the UKCAA).

The proposed rule Part 102 specifically provides that the following Civil Aviation Rules do not apply to unmanned aircraft operations conducted under a valid certificate issued under Part 102: Parts 19, 21, 26, 39, 43, 47, 61, 63, 65, 66, 67, 91, 92, 93, 95, 115, 119, 129, 133, and 137.

[Reference 4.7]

Part 47 provides requirements for the registration and marking of all aircraft as required by section 6 of the Act. Unmanned aircraft operating in accordance with Part 101 are exempted from these requirements in Part 47. It is expected that most unmanned aircraft operating under a certificate issued under Part 102 would not need to be registered because of the size of the craft, the operating area, height and nature of the operations. Therefore it is proposed to exempt unmanned aircraft operating under Part 102 from the requirements for aircraft registration and marking.

However, depending on the type of aircraft to be used, the scale, and the location of the operation, it may be appropriate to require registration and compliance with Part 47. Therefore the proposed amendment rule amends Part 47, rule 47.51(b), to explicitly enable this requirement to be applied as a condition on Part 102 certificates. This would provide that the Director may require an unmanned aircraft, operated under the authority of an unmanned aircraft operator certificate, to be registered in accordance with Part 47 if the Director determines that registration of the aircraft is necessary in the interests of aviation safety. [Reference 4.4.1]

Part 91 sets out the general operating and flight rule requirements for all aircraft. It specifically exempts aircraft operating under Part 101 from these requirements. It is proposed to extend this exemption to unmanned aircraft operating under Part 102. [Reference; 4.5.1]

### **3.5 ICAO SARPS and Level of Risk to NZ Aviation Safety**

There are currently no comprehensive ICAO standards or recommendations for UAS; the first of these is expected to be promulgated in 2018.

ICAO has made three UAS-related amendments to the Annexes since 2010. These are:

- Amendment 13 to Annex 13: Defining accident to include reference to unmanned aircraft (March 2010)
- Amendment 6 to Annex 7: Registration and identification requirements for remotely piloted aircraft (April 2012)
- Amendment 43 to Annex 2: High level requirements relating to remotely piloted aircraft systems (April 2012).

As noted above (section 3.1), at this stage of regulatory development the government is choosing to differ in part from the ICAO interpretation of UAS. However the proposed rules will largely cover the requirements laid out in the above amendments. Some of these requirements will be imposed under the certification process itself, without being prescribed in rules.

### **3.6 Compliance Costs**

Compliance costs for this new rule are expected to be minimal.

The current approval process for most UAS operators requires them to petition for exemptions from model aircraft (Part 101) rules that are not fit-for-purpose. This is a cumbersome process that doesn't provide clarity to potential operators, imposing costs. Certification under Part 102 will incur an application fee, however, this is not expected to be especially onerous. The current fee for processing an application is the standard rate of \$284 per person hour. This fee is set out in the *Civil Aviation Charges Regulations (No 2) 1991*. Certification may in fact reduce costs for operators by providing regulatory certainty.

## 4. Description of Proposed Rule Changes

### 4.1 Part 1 Definitions and Abbreviations

#### 4.1.1 Rule 1.1 General Definitions

1. It is proposed to insert the following new definitions:

**Remotely piloted aircraft** means an unmanned aircraft which is piloted from a remote station and includes a radio controlled model aircraft but does not include a control line model aircraft or a free flight model aircraft:

**Remotely piloted aircraft system** means a remotely piloted aircraft, each of its associated remote pilot stations, the required command and control links and any other components required to operate the system:

**Remote pilot station** means the component of a remotely piloted aircraft system comprising the equipment used to pilot the aircraft:

**Unmanned aircraft** means an aircraft with no pilot on board and includes unmanned balloons, kites, control line model aircraft, free flight model aircraft and remotely piloted aircraft:

**Unmanned aircraft system (UAS)** means an aircraft and its associated elements which are operated with no pilot on board:

2. The proposal is to amend the following two definitions, currently in Part 1, to align with recent ICAO Amendment No. 13 to Annex 13 to the Convention on International Civil Aviation. However, as 'accident' is defined in the Act, amendment to this term may be subject to a future review and amendment of the Act. The proposed wording contains minor editorial changes from the ICAO definitions which have been made to assist interpretation. The changes extend the definitions to apply to unmanned aircraft.

“**Accident** means an occurrence that is associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight and such time as all such persons have disembarked and the engine or any propellers or rotors come to rest, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight and the time it comes to rest after the flight and the primary propulsion system is shut down, being an occurrence in which—[...]

“**Serious incident** means an incident involving circumstances indicating that there was a high probability of an accident and is associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight and such time as all such persons have disembarked and the engine or any propellers or rotors come to rest, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight and the time it comes to rest after the flight and the primary propulsion system is shut down:”

### 4.2 Part 12 Accidents, Incidents, and Statistics

#### 12.1 General

A consequential amendment to Part 12, rule 12.1(b)(1), would replace the term 'model aircraft' with 'unmanned aircraft'. This would not change the effect of the provision other than to align the terminology with the proposed amendments to Part 101. This rule provides that incidents associated with the operation of unmanned aircraft under Part 101 are exempted from the requirements in Part 12 to notify, investigate and report incidents and accidents. Persons operating unmanned aircraft under the authority of a valid certificate issued under Part 102 are not exempt from the notification requirements of Part 12.

The provision that sets out the responsibility of a certificate holder to notify the Authority regarding any aircraft incident would also be amended to include holders of an unmanned aircraft operator certificate. This would add Part 102 to the lists of other parts set out in rules 12.55(a)(1), and 12.55(a)(4).

### 4.3 Part 19 Transition Rules

#### 4.3.1 Rule 19.1 Definitions

The definition of ‘pilotless aircraft’ would be deleted.

#### 4.3.2 Rule 19.105 Pilotless aircraft

The proposal is to delete this current provision and replace it with a new rule Part 102.

### 4.4 Part 47 Aircraft Registration and Marking

#### 4.4.1 Rule 47.51 Requirement for aircraft registration and certificate

Amend paragraph 47.51(b) to exclude persons operating unmanned aircraft under a Part 102 certificate from the requirements for aircraft registration and marking except where any of the requirements in Part 47 are required as conditions of the certificate. This change is provided for in a proposed new subparagraph (b)(3).

### 4.5 Part 91 General Operating and Flight Rules

#### 4.5.1 Rule 91.1 Purpose

Amend 91.1(c) to insert a new provision, subparagraph (2A), to exempt persons operating unmanned aircraft under a certificate issued under Part 102 from the general operating and flight rule requirements except where any of the requirements in Part 91 are required as conditions of the certificate.

### 4.6 Rule Part 101 Gyrogliders and Parasails; and Unmanned Balloons, Kites, Rockets, and Model Aircraft - Operating Rules

#### 4.6.1 Rule Part 101 Title

It is proposed to change the title of Part 101 to:

“101 Gyrogliders, Parasails, Unmanned Aircraft and Rockets – Operating Rules”.

#### 4.6.2 Rule 101.1 Applicability

Amend 101.1 to:

- (a) replace “model aircraft” with “remotely piloted aircraft, control line model aircraft and free flight model aircraft”; and
- (b) add a new provision to exempt unmanned aircraft operating under Part 102 from the requirements of Part 101.

#### 4.6.3 Rule 101.3 Definitions

In Rule 101.3 Definitions:

- (a) Delete the definitions of ‘model aircraft’ and ‘radio controlled model aircraft’.
- (b) Amend the definition of ‘aerodrome’ to delete the words “Volume 4”. The new definition is “aerodrome means an aerodrome that is promulgated in the AIPNZ”.

#### 4.6.4 Rules 101.5, 101.7, 101.9, 101.11 and 101.15

Consequential amendments to the following rules would replace the term ‘model aircraft’ with the term ‘unmanned aircraft’.

Rule	Proposed amendment
101.5 Registration;	Replace “model aircraft” with “unmanned aircraft”.
101.7 Restricted, military operating, and danger areas, paragraphs (a) and (b)	
101.9 Low flying zones	
101.11 Controlled airspace	



101.15 Dropping of articles	
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#### 4.6.5 Rule 101.12 Knowledge of airspace restrictions

It is proposed to insert the following new provision into subpart A of Part 101:

“A person must not operate an unmanned aircraft, gyroglider, parasail, or rocket unless:

- (a) before each flight the person is aware of the airspace designation under Part 71 and any applicable airspace restrictions in place in the area of intended operation; or
- (b) the operation is conducted under the direct supervision of a person who is aware of the airspace designation under Part 71 and any applicable airspace restrictions in place in the area of intended operation.”

#### 4.6.6 Rule 101.13 Hazardous operations

It is proposed to replace the current rule 101.13 with the draft rule set out below:

##### 101.13 Hazard and risk minimisation

A person operating an unmanned aircraft, gyroglider, parasail or rocket must take all practicable steps to minimize hazards to persons, property and other aircraft, including, but not limited to, the following:

- (a) keeping clear of airspace above persons who have not given consent to the flight being conducted over them; and
- (b) not operating aircraft above property without obtaining consent from any persons occupying that property or the owner of the property; and
- (c) maintaining observation of airspace for other aircraft and taking measures to avoid flying into the proximity of any other aircraft.

#### 4.6.7 Rule 101 Subpart E Model Aircraft

The title of this Subpart would be replaced with: “Remotely piloted aircraft, control line model aircraft and free flight model aircraft”.

#### 4.6.8 Rule 101.201 Applicability

In addition to replacing the term ‘model aircraft’ with ‘remotely piloted aircraft, control line model aircraft and free flight model aircraft’, this rule would be amended to include a clarification that Part 101 does not apply to unmanned aircraft that are operating under a valid certificate issued under the new Part 102.

#### 4.6.9 Rule 101.202 Approved person or organisation

It is proposed to insert a new provision that would outline the requirements for gaining approval from the Director to be an approved person or organisation, and to set out the functions of that person or organisation, for the purposes of this Subpart. The criteria a person or organisation must meet in order to gain an approval from the Director to approve the construction or modification and operation of unmanned aircraft greater than 15 kg is that the person or organisation must have a level of expertise in the design, construction and operation of unmanned aircraft that is acceptable to the Director. Other functions relate to approving persons to issue NOTAM notifications under 101.207 and issuing pilot qualifications for operating model aircraft under 101.205.

This is a response to the widening of the unmanned aircraft sector beyond the traditional model flying clubs and association. Under the current system certain functions have been undertaken by ‘an approved model aircraft association’ (currently only MFNZ). This proposed rule envisions an unmanned aircraft sector where a range of entities might undertake those functions.

#### 4.6.10 Rule 101.205 Aerodromes

Several references in this rule need to be amended to replace the term ‘model aircraft’ with ‘remotely piloted aircraft’.

It is proposed to amend 101.205(a)(3) to replace “a model aircraft association” with “a person or organisation”. This would change the identification of the body that may be approved by the Director, to issue a pilot qualification and to appoint persons to give instruction to operators of remotely piloted aircraft, which would no longer be restricted to model aircraft associations.

It is further proposed to amend this rule to allow operations of remotely piloted aircraft and other model aircraft within 4 km of the boundary of an aerodrome if they are shielded operations. This would be achieved by extending the current exception for control line model aircraft in 101.205(c) to also except all shielded operations.

#### **4.6.11 Rule 101.207 Airspace**

This rule would be amended to:

- (a) replace the term ‘radio controlled model aircraft’ with ‘remotely piloted aircraft’; and
- (b) extend the range of persons who may be approved by the Director to authorise the lodging of a notice with the New Zealand NOTAM Office. Currently, this is limited to persons authorised by a model aircraft association that has been approved by the Director. The proposal is to replace “a person authorised by a model aircraft association approved by the Director” with “an approved person or organisation” and to specify the criteria that a person or organisation must meet in order to obtain an approval from the Director to authorise the lodging of NOTAM notices in a new rule; 101.202.

#### **4.6.12 Rule 101.209 Meteorological limitations**

This proposal is to replace rule 101.209 Meteorological limitations with a new provision to clarify that all unmanned aircraft operations under Part 101 must be conducted under conditions that enable a visual line of sight connection between the aircraft and the operator, or an observer, at all times. The current provision restricting operation where ground visibility is less than 3 km has caused confusion and the proposal is to replace this. A new requirement would specify that operations must not be conducted whenever meteorological conditions are such as to prevent an operator from keeping the aircraft in clear sight.

#### **4.6.13 Rules 101.211 Night operations, and 101.213 Right of way**

Consequential amendments to these two rules would replace the term ‘model aircraft’ with the term ‘remotely piloted aircraft’.

#### **4.6.14 Rule 101.215 Radio controlled model aircraft**

The proposal is to amend rule 101.215 to restate the 25 kg mass limit for remotely piloted aircraft operating under Part 101. This limit is currently implemented by means of the definitions of ‘model aircraft’ and ‘pilotless aircraft’ which are proposed to be deleted.

It is also proposed to redraft the current rule to:

- (a) extend the current requirement for an unmanned aircraft with a gross mass of between 15 kg and 25 kg to be constructed and operated under the authority of a model aircraft association approved by the Director to also include the modification of an aircraft and the inspection of an aircraft that is presented fully constructed;
- (b) extend the current authority to approve the construction and operation of an unmanned aircraft that is greater than 15 kg to any person or organisation approved for this purpose by the Director by replacing the term “model aircraft association” with “person or organisation”:

### **4.7 New Rule Part 102 Unmanned Aircraft – Operator Certification**

This proposal is to make a new Rule Part 102 to prescribe requirements for the certification and continuing operation of unmanned aircraft that operate beyond the limits in Rule Part 101.

Clause 102.1 sets out the purpose of this Part.

Clause 102.3 sets out the application of this Part.

Clause 102.5 contains the definition of terms required for the interpretation of this Part.

Clause 102.7 provides that the operation of an unmanned aircraft, other than an operation that complies with Part 101, must only be done under the authority of a valid certificate to operate an unmanned aircraft. A corresponding offence for breach of this rule will be added to the Civil Aviation (Offences) Regulations 2006 and will attract a penalty on conviction of up to \$5000 for an individual or \$30,000 in the case of a body corporate.

Clause 102.9 sets out the requirements for an application for a certificate. These include the requirement for an applicant to submit an exposition setting out details of how the operation, if approved, would be conducted.

Clause 102.11 sets out the matters that an applicant's exposition must address and provides flexibility for the Director to scale this requirement to the nature of the proposed operation.

Clause 102.13 sets out how the Director will grant a certificate and impose any conditions that are considered necessary in the interests of aviation safety.

Clause 102.15 requires the Director, when issuing a certificate, to produce an operations specification for the approved operator.

Clause 102.17 sets out the privileges conferred by a certificate.

Clause 102.19 provides that the maximum period of validity for a certificate is five years.

Clause 102.21 sets out the conditions of operation under a certificate including the duty of an operator to ensure that all operations undertaken under the authority of a certificate comply with the conditions. The regulations would be amended to make a new offence of failure to comply with these conditions.

Clause 102.23 provides for changes to be made to an operator's exposition.

Clause 102.25 provides for the renewal of certificates.

Clause 102.27 provides for the continued use of valid authorisations that have been issued under Part 19.105 after this Part comes into effect and Part 19.105 is revoked.

This new rule is set out in section 8 below, beginning on page 30.

A draft Advisory Circular to accompany the proposed new Part 102 has been prepared and is available on the consultation page of the CAAs website for comment.

## 5. Legislative Analysis

### 5.1 Power to Make Rules

The Minister may make ordinary rules under sections 28, 29, 29A, 29B and 30 of the Civil Aviation Act 1990, for various purposes including implementing New Zealand's obligations under the Convention, assisting aviation safety and security, and any matter contemplated under the Act.

These proposed rules are made pursuant to:

- (a) section 28(1)(c), which provides for rules to assist aviation safety and security, including (but not limited to) personal security:
- (b) section 28(1)(cc), which provides for protecting and promoting public health:
- (b) section 28(5), which provides that an ordinary rule may provide for a matter to be determined, undertaken, or approved by the Authority, the Director, or any other person; or empower the Authority, the Director, or any other person to impose requirements or conditions as to the performance of any activity, including procedures to be followed:
- (c) section 29(c) which provides for general operating rules, air traffic rules, and flight rules, including but not limited to the following:
  - (i) the conditions under which aircraft may be used or operated, or under which any act may be performed in or from an aircraft:
  - (ii) the prevention of aircraft endangering persons or property:
- (c) section 29(d)(ii) which provides for the control of, including the construction, use, or operation of, anything likely to be hazardous to aviation safety:
- (d) section 30(d) which provides for rules for the purpose of definitions, abbreviations, and units of measurement to apply within the civil aviation system.

## **5.2 Matters to be taken into account**

The development of this NPRM and the proposed rule changes take into account the matters under section 33 of the Act that the Minister must take into account when making ordinary rules including the following:

### **5.2.1 ICAO Standards and Recommended Practices**

Pursuant to section 33(1) of the Act, the proposed rules are generally consistent with the ICAO requirements relating to UAS, as captured by ICAO Circular 328-AN/190 and UAS related amendments to the Annexes of the Convention on International Civil Aviation, namely:

- Amendment 43 to Annex 2: Rules of the Air
- Amendment 6 to Annex 7: Aircraft Nationality and Registration Marks
- Amendment 13 to Annex 13: Aircraft Accident and Incident Investigation.

The government has decided, at this stage, not to adopt the ICAO categorisations of model aircraft and UAS. This distinction is that model aircraft are flown for recreational purposes only, and UAS are flown for commercial, research or other non-recreational purposes.

Specific ICAO requirements – for example the requirement under Amendment 43 for an UAS to obtain a certificate of airworthiness – will not necessarily be satisfied under this rule change. While airworthiness will be a key consideration of the Part 102 certification process, an airworthiness certificate is not envisioned at this stage.

### **5.2.2 Assisting Economic Development**

The proposed rules are expected to have an economic benefit to New Zealand.

The new regulatory regime will not significantly increase the regulatory burden on commercial UAS operators, while clarifying regulatory expectations. This is likely to facilitate growth in the commercial UAS sector, with run-on economic benefits.

### **5.2.3 Assisting Safety and Personal Security**

The proposed rules are intended to increase the level of safety for people travelling on New Zealand aircraft, and people and property on the ground.

### **5.2.4 Improving Access and Mobility**

The proposed rules will have no significant effect on improving access and mobility.

### **5.2.5 Protecting and Promoting Public Health**

The proposed rules will have no significant effect on protection and promotion of public health.

### **5.2.6 Ensuring Environmental Sustainability**

The proposed rules will have no significant effect on environmental sustainability.

## **5.3 Incorporation by reference**

The proposed rules do not incorporate any documents by reference.

## **5.4 Civil Aviation (Offences) Regulations**

The proposed changes will be supported by amendments to Schedule 1 of the Civil Aviation (Offences) Regulations 2006. These regulations are made by the Governor General pursuant to section 100 of the Civil Aviation Act 1990 and specify summary and infringement penalties associated with offences against various civil aviation rules.

The proposed rule will require amendment to the Civil Aviation (Offences) Regulations 2006. Refer to Appendix A to this NPRM for the proposed amendments.

## **6. Submissions on the NPRM**

### **6.1 Submissions are invited**

This proposal has been developed in conjunction with industry organisations and individuals. Interested persons are invited to participate in the making of the proposed rules by submitting written data, views, or comments. All submissions will be considered before a final draft Rule is submitted to the Associate Minister of Transport for signing.

If there is a need to make any significant change to the rule requirements in this proposal as a result of the submissions received, then interested persons may be invited to make further submissions.

## 6.2 Examination of Submissions

All submissions will be available in the rules docket for examination by interested persons both before and after the closing date for submissions. A consultation summary will be published on the CAA web site.

Submissions may be examined by application to the Docket Clerk at the Civil Aviation Authority Level 15, Asteron Centre, 55 Featherston Street, Wellington 6011 between 8:30 am and 4:30 pm on weekdays, except statutory holidays.

## 6.3 Official Information Act

Submitters should note that submissions are subject to the Official Information Act 1982. Any information attached to submissions may become available to the public on request.

Submitters should state clearly if there is any information in their submission that is commercially sensitive or if for some other reason, the submitter does not want the information to be publically available.

## 6.4 How to make a submission

A pre-prepared response sheet is available on the CAA web site at <http://www.caa.govt.nz/rules/nprms.htm> to assist with submissions.

Submissions may be sent by the following methods:

- by mail: Docket Clerk (NPRM 14-01)  
Civil Aviation Authority  
PO Box 3555  
Wellington 6140  
New Zealand
- delivered: Docket Clerk (NPRM 14-01)  
Civil Aviation Authority  
Asteron House  
Level 15  
55 Featherston Street  
Wellington 6011
- fax: Docket Clerk (NPRM 14-01)  
Docket Clerk, +64-4-560 9481
- e-mail: [docket@caa.govt.nz](mailto:docket@caa.govt.nz) and marked NPRM 14-01

## 6.5 Final date for submissions

Comments must be received before 31 January 2015.

## 6.6 Availability of the NPRM:

Any person may obtain a copy of this NPRM from–

CAA web site: [www.caa.govt.nz](http://www.caa.govt.nz);

*or from:*

Docket Clerk  
Civil Aviation Authority  
Asteron House  
Level 15  
55 Featherston Street  
Wellington 6011  
Phone: 64-4-560 9603;  
Fax 64-4-560 9481 (quoting NPRM 14-01)

## 6.7 Further information

For further information contact:

Andrew Allen  
Aviation Standards Specialist  
Civil Aviation Authority of New Zealand  
Level 15  
Asteron Centre  
Wellington 6011  
ph. +64 (0)4 560 9603

## 7 Proposed Amendment Rule

### 7.1 Part 1 Amendment Definitions and Abbreviations

#### 1.1 General Definitions

7.1.1 In 1.1 General Definitions, insert in the appropriate alphabetical places the following definitions:

“**Remotely piloted aircraft** means an unmanned aircraft that is piloted from a remote station and—

- (1) includes a radio controlled model aircraft, but
- (2) does not include a control line model aircraft or a free flight model aircraft:

“**Remotely piloted aircraft system** means a remotely piloted aircraft, each of its associated remote pilot stations and the command and control links required to operate the system:

“**Remote pilot station** means the component of a remotely piloted aircraft system comprising the equipment used to pilot the aircraft:

“**Unmanned aircraft** means an aircraft designed to operate with no pilot on board and includes unmanned balloons, kites, control line model aircraft, free flight model aircraft and remotely piloted aircraft:

“**Unmanned aircraft system (UAS)** means an aircraft and its associated elements which are operated with no pilot on board:”

7.1.2 In 1.1 General Definitions, replace the definition of ‘Accident’, with:

“**Accident** means an occurrence that is associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight and such time as all such persons have disembarked and the engine or any propellers or rotors come to rest, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight and the time it comes to rest after the flight and the primary propulsion system is shut down, being an occurrence in which—

- (1) a person is fatally or seriously injured as a result of—
  - (i) being in the aircraft; or
  - (ii) direct contact with any part of the aircraft, including any part that has become detached from the aircraft; or
  - (iii) direct exposure to jet blast—

except when the injuries are self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to passengers and crew; or

- (2) the aircraft sustains damage or structural failure that—
  - (i) adversely affects the structural strength, performance, or flight characteristics of the aircraft; and
  - (ii) would normally require major repair or replacement of the affected component—

except engine failure or damage that is limited to the engine, its cowlings, or accessories, or damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents, or puncture holes in the aircraft skin; or

- (3) the aircraft is missing or is completely inaccessible:

7.1.3 In 1.1 General Definitions, replace the definition of ‘Serious incident’ with:

“**Serious incident** means an incident involving circumstances indicating that there was a high probability of an accident and is associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight and such time as all such persons have disembarked and the engine or any propellers or rotors come to rest, or in the case of an

unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight and the time it comes to rest after the flight and the primary propulsion system is shut down.”

## **7.2 Part 12 Accidents, Incidents, and Statistics**

7.2.1 Replace rule 12.1 with:

### ***12.1 Purpose***

(a) Subject to paragraph (b), this Part prescribes rules for the—

- (1) notification, investigation, and reporting of accidents and incidents; and
- (2) preservation of aircraft, aircraft contents, and aircraft records following an accident or serious incident; and
- (3) preservation of records relating to an accident, facility malfunction incident, an airspace incident, or a promulgated information incident; and
- (4) reporting of aircraft operating and statistical data.

(b) This Part does not apply to an incident that is associated with any of the following operations that are not conducted under the authority of an adventure aviation operator certificate issued by the Director under the Act and Part 115:

- (1) gyrogliders and parasails, unmanned aircraft and rockets operated under Part 101;
- (2) microlight aircraft operated under Part 103;
- (3) gliders operated under Part 104;
- (4) parachutes operated under Part 105;
- (5) hang gliders operated under Part 106.

7.2.2 Replace 12.55(a)(1) with:

(1) Parts 102, 115, 119, 129 and 137— aircraft incident, or dangerous goods incident:

7.2.3 In 12.55(a)(4), after “47,” insert “102,”.

## **7.3 Part 19 Transition Rules**

### ***19.1 Definitions***

7.3.1 In 19.1 Definitions, delete the definition of ‘pilotless aircraft’.

### ***19.105 Pilotless aircraft***

7.3.2 Delete rule 19.105.

## **7.4 Part 47 Aircraft Registration and Marking**

### ***47.51 Requirement for aircraft registration and certificate***

(a) Except as provided in paragraph (b), every person lawfully entitled to the possession of an aircraft for 28 days or longer must, if the aircraft flies to, from, within, or over New Zealand territory, register that aircraft and hold a valid certificate of registration for that aircraft from—

- (1) the Director; or
- (2) the appropriate aeronautical authorities of a contracting State of ICAO; or
- (3) the appropriate aeronautical authorities of another State that is party to an agreement with the Government of New Zealand or the Civil Aviation Authority of New Zealand which provides for the acceptance of each other's registrations.



- (b) Paragraph (a) does not apply to –
- (1) an aircraft manufacturing organisation certificated under Part 148, conducting flight testing of a new production aircraft for which a special flight permit has been issued under Part 21; or
  - (2) a person operating aircraft or equipment in accordance with Parts 101, 105, or 106; or
  - (3) a person operating an unmanned aircraft under the authority of a certificate issued under Part 102 unless compliance with this Part is required as a condition of operation.
- (c) No aircraft may be registered in New Zealand, if it is registered in any other country.

## **7.5 Part 91 General Operating and Flight Rules**

### **91.1 Purpose**

Replace 91.1(c), with:

- (c) This Part does not apply to—
- (1) any member of the New Zealand Defence Force or any aircraft operated by the New Zealand Defence Force acting in connection with—
    - (i) any war or other like emergency; or
    - (ii) the defence of New Zealand and other New Zealand interests; or
    - (iii) aid to the civil power in time of emergency; or
    - (iv) the provision of any public service; or
    - (v) any operation performed within a restricted, danger, or military operating area designated under Part 71 for military purposes; and
  - (2) persons operating aircraft to which Part 101 applies; and
  - (2A) persons operating aircraft under the authority of an unmanned aircraft operator certificate issued under Part 102 unless compliance with any of the requirements in this Part is required as a condition of operation; and
  - (3) persons and equipment to which Part 105 applies.

## **Proposed consolidated Part 101**

### **7.6 Part 101 Gyrogliders and Parasails, Unmanned Aircraft and Rockets - Operating Rules**

#### **Subpart A – General**

##### **101.1 Applicability**

- (a) This part prescribes rules governing the operation of—
- (1) moored balloons and kites;
  - (2) free balloons;
  - (3) rockets;
  - (4) remotely piloted aircraft, control line model aircraft and free flight model aircraft;
  - (5) gyrogliders and parasails.
- (b) This Part applies to gyrogliders, parasails, rockets and unmanned aircraft, other than unmanned aircraft that are required to be operated under the authority of a valid certificate issued under Part 102.

### 101.3 Definitions

In this Part—

**Aerodrome** means an aerodrome that is promulgated in the AIPNZ:

**Controlled aerodrome** means an aerodrome at which air traffic control service is provided to aerodrome traffic:

**Control line model aircraft** means a model aircraft primarily controlled in flight by a single or multiple wire system operated by the person flying the aircraft and restricted to circular flight about a central point:

**Free Balloon** means a pilotless aerostat without propulsion in free flight, having a gas capacity greater than 1.5 m<sup>3</sup>:

**Free flight model aircraft** means a model aircraft with a maximum wing loading of 62 g/dm<sup>2</sup> (20 oz/ft<sup>2</sup>), with a flight path that, once launched, is uncontrollable:

**Gyroglider** means a ground or water towed non-power-driven heavier-than-air aircraft supported in flight by the reaction of the air on one or more rotors which rotate freely on substantially vertical axes, capable of carrying a person or persons:

**Heavy free balloon** means a free balloon, that—

- (1) carries a payload with—
  - (i) a combined mass of 6 kg or more; or
  - (ii) a payload package of 3 kg or more; or
  - (iii) a payload package of 2 kg or more with an area density of more than 13 g/cm<sup>2</sup>; and
- (2) uses a rope or other device for suspension of the payload that requires an impact force of 230 N or more to separate the suspended payload from the balloon:

**Kite** means a pilotless aerodyne without propulsion that is tethered to a fixed point, or is hand held, and is sustained by the wind:

**Large model rocket** means a rocket that—

- (1) uses more than 25 g but not more than 125 g of propellant; and
- (2) produces more than 20 but not more than 320 Newton seconds of total impulse; and
- (3) uses a slow-burning propellant; and
- (4) is made of lightweight materials such as paper, wood, rubber and plastic; and
- (5) does not have the nose cone, fins, or body fabricated from metal; and
- (6) has a gross mass, including the propellant of more than 453 g but not more than 1.5 kg:

**Medium free balloon** means a free balloon, that—

- (1) carries a payload of 2 or more payload packages with a combined mass of—
  - (i) more than 4 kg; and
  - (ii) less than 6 kg; and
- (2) does not meet any of the criteria specified in the definition of the term heavy free balloon:

**Model Rocketry Safety Code** means the code of that name that is approved by the New Zealand Rocketry Association:

**Moored balloon** means a pilotless balloon that is moored to the surface of the earth, or to an object on the surface of the earth, and has a maximum diameter of more than 1.5 m or a gas capacity of more than 3 m<sup>3</sup>:

**Parasail** means an aerodyne, having the general form of an open, circular parachute carrying a person or persons towed behind a vehicle or motorboat to sustain flight:

**Rocket** means a pilotless vehicle propelled by a system that contains every ingredient needed to form its own jet other than—

- (1) an aerial firework; or
- (2) a rocket propelled by a model rocket motor of size A-D which achieves no more than 20 Newton-seconds of total impulse:

**Shielded operation** means an operation within 100 m of a structure and below the top of the structure.

#### **101.5 Registration**

The requirements in Part 47 do not apply to unmanned aircraft, rockets, gyrogliders and parasails.

#### **101.7 Restricted, military operating, and danger areas**

(a) A person must not operate an unmanned aircraft, rocket, gyroglider, or parasail within a restricted area designated under Part 71 unless the person has approval to do so from the administering authority responsible for the restricted area.

(b) A person must not operate an unmanned aircraft, rocket, gyroglider, or parasail within a military operating area designated under Part 71 unless the person has approval to do so from the administering authority responsible for the military operating area.

(c) A person must not operate a gyroglider or parasail within a danger area designated under Part 71 unless the person has established that the activity associated with the danger area will not affect the safety of the gyroglider or parasail.

#### **101.9 Low flying zones**

A person must not operate any of the following within a low flying zone designated under Part 71:

- (1) an unmanned aircraft:
- (2) a rocket:
- (3) a gyroglider:
- (4) a parasail.

#### **101.11 Controlled airspace**

A person must not operate any of the following in controlled airspace without prior authorisation from the ATC unit responsible for that airspace:

- (1) an unmanned aircraft:
- (2) a rocket:
- (3) a gyroglider:
- (4) a parasail.

#### **101.12 Airspace restrictions**

A person must not operate an unmanned aircraft, rocket, gyroglider or parasail unless—

- (1) before each flight, the person is aware of the airspace designation under Part 71 and any applicable airspace restrictions in place in the area of intended operation; or
- (2) the operation is conducted under the direct supervision of a person who is aware of the airspace designation under Part 71 and any applicable airspace restrictions in place in the area of intended operation.

**101.13 Hazard and risk minimisation**

A person operating an unmanned aircraft, rocket, gyroglider or parasail must take all practicable steps to minimize hazards to persons, property and other aircraft, including, but not limited to, the following:

- (1) keeping clear of airspace above persons who have not given consent to the flight being conducted over them;
- (2) not operating above property without obtaining prior consent from any persons occupying that property or the property owner;
- (3) maintaining observation of airspace for other aircraft and taking measures to avoid flying into the proximity of any other aircraft.

**101.15 Dropping of articles**

A person operating any of the following must not allow any object to be dropped in flight if such action creates a hazard to other persons or property:

- (1) an unmanned aircraft;
- (2) a rocket;
- (3) a gyroglider;
- (4) a parasail.

**Subpart E - Remotely Piloted Aircraft, Control Line Model Aircraft and Free Flight Model Aircraft****101.201 Applicability**

This Subpart applies to—

- (1) remotely piloted aircraft; and
- (2) control line model aircraft; and
- (3) free flight model aircraft, but
- (4) does not apply to remotely piloted aircraft that are required to be operated under the authority of a certificate issued under Part 102.

**101.202 Approved person or organisation**

In this Subpart, an approved person or organisation means a person or organisation having appropriate expertise in the design, construction or operation of remotely piloted aircraft, or appropriate knowledge of airspace designations and restrictions, and who has been approved by the Director to perform one or more of the following specified functions:

- (1) issuing a pilot qualification for operating remotely piloted aircraft; or
- (2) appointing persons to give instruction to operators of remotely piloted aircraft; or
- (3) authorising a person to give the New Zealand NOTAM Office notification of remotely piloted aircraft operations; or
- (4) authorising the construction or modification of remotely piloted aircraft greater than 15kg; or
- (5) inspecting and approving the construction of a remotely piloted aircraft greater than 15kg; or
- (6) authorising the operation of a remotely piloted aircraft greater than 15kg.

**101.203 Control line model aircraft**

No person shall operate a control line model aircraft with a single or multiple wire system longer than 30 m.

**101.205 Aerodromes**

- (a) A person must not operate a remotely piloted aircraft or a free flight model aircraft on or within 4 km of—

- (1) an uncontrolled aerodrome, unless—
    - (i) the operation is undertaken in accordance with an agreement with the aerodrome operator; and
    - (ii) in the case of a free flight model aircraft, the aircraft is launched downwind of an active runway; and
    - (iii) in the case of a remotely piloted model aircraft, the aircraft is not operated at a height of more than 400 feet AGL, unless the operator has been approved by the Director to operate above 400 feet AGL, and each pilot has an observer in attendance while the model aircraft is active in the air; and
  - (2) a controlled aerodrome, unless it is operated in accordance with an authorisation from the relevant ATC unit; and
  - (3) any aerodrome, unless—
    - (i) the person is the holder of, or is under the direct supervision of the holder of, a pilot qualification issued by an approved person or organisation; or
    - (ii) the person is under the direct supervision of a person appointed to give instruction in the operation of remotely piloted aircraft by an approved person or organisation.
- (b) A person must not operate a remotely piloted aircraft, a control line model aircraft or a free flight model aircraft—
- (1) on or over any active movement area of an aerodrome; or
  - (2) on or over any active runway strip area.
- (c) Paragraph (a) does not apply to—
- (1) a control line model aircraft; or
  - (2) a shielded operation conducted outside of the boundary of the aerodrome.
- (d) Paragraph (a)(3) does not apply to a free flight model aircraft.

#### **101.207 Airspace**

A person operating a remotely piloted aircraft more than 4 km from an aerodrome boundary and above 400 feet AGL must ensure that the operation remains clear of Class C, D, and E airspace and must—

- (1) operate in a danger area designated for that purpose under Part 71; or
- (2) ensure that, at least 24 hours before the operation, a person authorised by an approved person or organisation, gives to the New Zealand NOTAM Office the following information:
  - (i) the name, address, and telephone number of the operator;
  - (ii) the location of the proposed operation;
  - (iii) the date and time and duration of the proposed operation;
  - (iv) the maximum height AGL proposed for the aircraft operation.

#### **101.209 Visual line of sight operation**

- (a) This rule applies to the following types of aircraft:
- (1) a remotely piloted aircraft;
  - (2) a free flight model aircraft.
- (b) A person must not operate an aircraft to which this rule applies in—
- (1) any area in which the person's view of the whole area in which the aircraft will operate is obstructed; or

- (2) meteorological conditions that obstruct the person's ability to view the aircraft without the use of an instrument.
- (c) A person who operates an aircraft to which this rule applies must at all times—
  - (1) maintain visual line of sight with the aircraft; and
  - (2) operate the aircraft below the cloud base.
- (d) For the purposes of this rule visual line of sight means a straight line along which an observer has a clear view and which may be achieved with the use of—
  - (1) corrective lenses; or
  - (2) a first person view system comprising a trained and competent observer who maintains both direct visual observation of the aircraft and communication with the person who is operating the aircraft.
- (e) Paragraphs (a) and (b) do not apply to a shielded operation.

#### **101.211 Night operations**

A person shall not operate a remotely piloted aircraft or free flight model aircraft at night unless the operation is—

- (1) indoors; or
- (2) a shielded operation.

#### **101.213 Right of way**

(a) This rule applies to the following:

- (1) each person operating a remotely piloted aircraft;
- (2) each person operating a control line model aircraft;
- (3) each person operating a free flight model aircraft.

(b) A person to whom this rule applies must ensure the aircraft that the person is operating gives way to, and remains clear of, all manned aircraft on the ground and in flight.

#### **101.215 Aircraft mass limits**

(a) A person must not operate a remotely piloted aircraft, a control line model aircraft or a free flight model aircraft with a gross mass of more than 25 kg.

(b) A person must not operate a remotely piloted aircraft with a gross mass of between 15 kg and 25 kg unless the aircraft, and any modification made to it, is—

- (1) constructed under the authority of, or inspected and approved by, an approved person or organisation defined in 101.202; and
- (2) operated under the authority of an approved person or organisation defined in 101.202.

## **8 Proposed New Rule Part**

### **Part 102 Unmanned Aircraft Operator - Certification**

#### **102.1 Purpose**

The purpose of this Part is to enable the Director to determine whether to grant an unmanned aircraft operator certificate to a person after giving consideration to whether that person—

- (1) has conducted an adequate assessment of the risk to safety of conducting the proposed unmanned aircraft operation; and

- (2) has developed procedures to adequately manage the risks and to ensure that the operation is conducted safely.

### 102.3 Application

This Part applies to the following:

- (1) a person who operates an unmanned aircraft other than in accordance with Part 101:
- (2) a person who operates an unmanned aircraft in accordance with Part 101 and who wishes to apply for an unmanned aircraft operator certificate:
- (3) an applicant for an unmanned aircraft operator certificate.

### 102.5 Definitions

**Exposition**, unless the context otherwise requires, means the exposition required by 102.11.

### 102.7 Requirement for certificate

A person must not operate an unmanned aircraft other than in accordance with Part 101 except under the authority of, and in accordance with the terms of, a valid certificate to operate an unmanned aircraft issued by the Director under this Part.

### 102.9 Application for certificate to operate an unmanned aircraft

- (a) Before operating an unmanned aircraft other than in accordance with Part 101 a person must apply for an unmanned aircraft operator certificate.
- (b) A person who operates an unmanned aircraft in accordance with Part 101 may apply for an unmanned aircraft operator certificate.
- (c) A person in (a) or (b) must apply by—
  - (1) submitting an application to the Director in accordance with section 8 of the Act; and
  - (2) paying the appropriate fee specified in regulations made under the Act.
- (d) An application must include—
  - (1) the name and address for service in New Zealand of the applicant; and
  - (2) the details required by 102.15 for the operations specification; and
  - (3) the applicant's exposition required by rule 102.11; and
  - (4) any other information relating to the application as may be required by the Director.

### 102.11 Unmanned aircraft operator exposition

- (a) An applicant for an unmanned aircraft operator certificate must provide the Director with an exposition that is acceptable to the Director.
- (b) The exposition must address the following matters, having regard to the nature, degree and risk of the intended operation—
  - (1) the identification of a person who will have primary responsibility for the operation; and
  - (2) the identification of any person who is to have or is likely to have control over the exercise of the privileges under the certificate; and
  - (3) details of the physical locations to be used in the operation; and
  - (4) a hazard register that—
    - (i) identifies the known and likely hazards to people, property and other aircraft of the proposed operation; and

- (ii) for each of the hazards identified, includes an assessment of the associated risks; and
  - (iii) includes a description of the measures that can be implemented to mitigate or manage the risk; and
- (5) procedures for reporting information to the Civil Aviation Authority as required by Part 12; and
  - (6) operating requirements for personnel licensing, qualifications, training and competency including pilot and support crew qualifications, training or medical requirements; and
  - (7) details of the number and specifications of the aircraft to be used, including any identification system used on the aircraft (for example colour schemes, unique identification numbers, markings); and
  - (8) details of the control system to be used to pilot the aircraft; and
  - (9) procedures for maintenance of aircraft and measures to ensure continued airworthiness; and
  - (10) inflight procedures including minimum distances from persons or property; and
  - (11) procedures for handling cargo or dropping items, if such operations are intended; and
  - (12) initial airworthiness standards that must be met; and
  - (13) procedures for controlling, amending and distributing the exposition.
- (c) An exposition may adopt, by reference, a requirement in a Civil Aviation Rule for the purpose of mitigating or managing a risk identified in the hazard register required by 102.11(b)(4).
- (d) The Director may require only some of the matters in (b) to be contained in the exposition, should it be appropriate in the particular circumstances.
- (e) The exposition must remain acceptable to the Director.

### **102.13 Grant of certificate**

- (a) The Director may, in accordance with section 9 of the Act, grant a certificate to a person who has applied under 102.9.
- (b) When issuing a certificate under (a), the Director may—
- (1) impose requirements for unmanned aircraft systems and may specify procedures to be followed by the operator of any unmanned aircraft that are operated under the authority of the certificate; and
  - (2) in accordance with section 7(3) of the Act, specify any additional conditions that he or she considers necessary in the interests of aviation safety; and
  - (3) after considering the type of aircraft to be used, determine that any aircraft to be operated under the certificate must be registered and display identification markings in accordance with Part 47 if he or she considers that it is necessary in the interests of aviation safety.

### **102.15 Operations specification**

- (a) If the Director grants an unmanned aircraft operator certificate under 102.13, the certificate must be issued with an operations specification containing the details described in (b).
- (b) The operations specification must include:
- (1) details of the physical location of the certificate holder's principal base of operations; and
  - (2) the certificate holder's address for service in New Zealand; and
  - (3) a list of any business names under which the certificate holder is approved to operate; and
  - (4) the privileges and operations that the operator is permitted to perform, including:
    - (i) the number, type and description, including, if applicable, the serial number and registration, of every aircraft that is authorised for use; and



- (ii) identification of the geographical areas of operations approved by the Director; and
  - (iii) any exemption granted from any requirement of this or any other Part; and
- (5) any additional condition that the Director determines is necessary in the interests of aviation safety.

#### **102.17 Privileges of certificate holder**

- (a) The holder of an unmanned aircraft operator certificate is authorised to perform the operations specified in the accompanying operations specification.
- (b) Unless the exposition required by 102.11 specifies otherwise the holder of an unmanned aircraft operator certificate is not required to comply with Civil Aviation Rules Parts 19, 21, 26, 39, 43, 47, 61, 63, 65, 66, 67, 91, 92, 93, 95, 115, 119, 129, 133, and 137.

#### **102.19 Duration of certificate**

- (a) When granting or renewing a certificate under this Part the Director must specify a date on which the certificate will expire.
- (b) The Director may not specify a date under paragraph (a) that is later than 5 years after the date on which the certificate was granted.

#### **102.21 Conditions of operation of unmanned aircraft**

- (a) A holder of an unmanned aircraft operator certificate must comply with—
- (1) the conditions imposed by the Director on the unmanned aircraft operations specification; and
  - (2) the exposition required by 102.11.
- (b) The certificate holder is responsible for ensuring that any other operator or other personnel involved in an operation conducted under the authority of that certificate are notified of and comply with the requirements of (a).

#### **102.23 Changes to exposition**

- (a) Each holder of an unmanned aircraft operator certificate must—
- (1) ensure that the exposition is amended—
    - (i) so that it remains a current description of the certificate holder's operation; and
    - (ii) to ensure continued compliance with the Civil Aviation Rules; and
  - (2) provide the Director with a copy of each amendment to the exposition as soon as practicable after the amendment is incorporated into the exposition; and
  - (3) make such amendments to the exposition as the Director considers necessary in the interests of aviation safety.
- (b) If a holder of an unmanned aircraft operator certificate proposes to change any of the following, prior acceptance by the Director is required:
- (1) the identification of any person who is to have or is likely to have control over the exercise of the privileges under the certificate;
  - (2) the identification of locations from which the certificate holder conducts unmanned aircraft operations.

#### **102.25 Renewal of certificate**

The holder of the remotely piloted aircraft system operator certificate shall make an application for the renewal of the certificate in accordance with section 8 of the Act.

#### **102.27 Transitional provisions**

- (a) Despite 102.7 an authorisation to operate a pilotless aircraft issued under Part 19.105 that was valid immediately before the day on which Civil Aviation Rule Part 102 came into force may continue to be used until six months after the day on which Part 102 came into force unless it expires or is suspended or revoked.

(b) An authorisation in (a) shall be deemed to be a certificate issued under this Part while it remains valid and any conditions on that authorisation shall be deemed to have been imposed under 102.13(c).

## Appendix A

### Table of Amendments to Civil Aviation (Offences) Regulations

The following amendments are proposed to the Civil Aviation (Offences) Regulations as a consequence of the proposed amendments to Parts 19 and 101 and the introduction of Part 102:

Revoke the following offences:

Provision	Brief Description	Fines and Fees (\$)			
		Summary Conviction		Infringement Fees	
		Individual	Body Corporate	Individual	Body Corporate
Part 19	Transition Rules				
19.105(a)	No person may operate pilotless aircraft except with authorisation and in accordance with conditions.	5,000	30,000	2,000	12,000

Amend the following offences: to replace ‘model aircraft’ with ‘unmanned aircraft’ or other minor drafting changes. No change to fine/penalty levels.

Provision	Brief Description	Fines and Fees (\$)			
		Summary Conviction		Infringement Fees	
		Individual	Body Corporate	Individual	Body Corporate
Part 101	Gyrogliders and Parasails; and Unmanned Balloons, Kites, Rockets, and Model Aircraft – Operating Rules				
101.7(a)	Person may not operate unmanned aircraft, rocket, gyroglider, or parasail within restricted area unless they have approval of prescribed administering authority	2,500	15,000	1,000	6,000
101.7(b)	Person may not operate unmanned aircraft, rocket, gyroglider, or parasail within military operating area unless they have approval of prescribed administering authority.	2,500	15,000	1,000	6,000
101.9	Person may not operate	5,000	30,000	2,000	12,000

	unmanned aircraft, rocket, gyroglider, or parasail within low flying zone				
<i>101.11</i>	Person may not operate unmanned aircraft, rocket, gyroglider, or parasail in controlled airspace without prior authorisation from responsible ATC unit	5,000	30,000	2,000	12,000
<i>101.13</i>	Person may not operate moored balloon, kite, free balloon, rocket, model aircraft, gyroglider, or parasail without taking all practicable steps to minimise hazards to aircraft, persons, or property	5,000	30,000	2,000	12,000
<i>101.15</i>	Person operating moored balloon, kite, free balloon, rocket, unmanned aircraft, gyroglider, or parasail may not allow object to be dropped in flight if it creates hazard to other persons or property	5,000	30,000	2,000	12,000
<i>101.205(a)</i>	Responsibilities of person operating remotely piloted- or free flight model- -aircraft on or within 4 km of aerodrome	1,250	7,500	500	3,000
<i>101.205(b)</i>	No person may operate remotely piloted- or free flight model- - aircraft on or over active	1,250	7,500	500	3,000

	movement area or active runway strips of aerodrome				
101.207	Responsibilities of person operating remotely piloted aircraft more than 4 km from aerodrome boundary and above 400 feet AGL	1,250	7,500	500	3,000
101.209	Responsibilities of person operating remotely piloted aircraft or free flight model aircraft: visual line of sight operations	1,250	7,500	500	3,000
101.211	Responsibilities of person operating remotely piloted aircraft or free flight model aircraft at night	2,500	15,000	1,000	6,000
101.213	Responsibilities of person operating remotely piloted aircraft, control line model aircraft or free flight model aircraft: giving way to and remaining clear of manned aircraft	5,000	30,000	2,000	12,000
101.215	Responsibilities of person operating remotely piloted aircraft, control line model aircraft or free flight model aircraft: construction and operation approval from approved person	2,500	15,000	1,000	6,000

	or organisation				
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Proposed new offences:

Provision	Brief Description	Fines and Fees (\$)			
		Summary Conviction		Infringement Fees	
		Individual	Body Corporate	Individual	Body Corporate
Part 101	Gyrogiders and Parasails; and Unmanned Balloons, Kites, Rockets, and Model Aircraft – Operating Rules				
101.12	No person may operate gyroglider, parasail, moored balloon, kite, free balloon, rocket or unmanned aircraft without awareness of airspace designation or restrictions, or under supervision of person who does.	2,500	15,000	1,000	6,000

Proposed new offences:

Provision	Brief Description	Fines and Fees (\$)			
		Summary Conviction		Infringement Fees	
		Individual	Body Corporate	Individual	Body Corporate
Part 102	Unmanned Aircraft – Operator Certification				
102.5	Person must not perform an unmanned aircraft operation except under the authority of, and in accordance with, the privileges of the prescribed certificate.	5,000	30,000		
102.17	Operator of unmanned aircraft must ensure compliance with conditions of certificate.	5,000	30,000	2,000	12,000
102.19(c)	Holder of expired or revoked unmanned aircraft operator	1,250	7,500	500	3,000

	certificate must surrender it to Director				
102.19(d)	Holder of suspended unmanned aircraft operator certificate must produce it to Director for endorsement	1,250	7,500	500	3,000
102.21(a)(1)	Holder of unmanned aircraft operator certificate must comply with operations specification	5,000	30,000		
102.21(a)(2)	Holder of unmanned aircraft operator certificate must comply with procedures specified in exposition	5,000	30,000	2,000	12,000
102.21(b)	Holder of unmanned aircraft operator certificate must ensure the operator or other personnel are notified of, and comply with, requirements.	2,500	15,000	1,000	6,000
102.23(a)(1)	Responsibilities of unmanned aircraft operator certificate holder to ensure exposition is current	2,500	15,000	1,000	6,000
102.23(a)(2)	Responsibilities of unmanned aircraft operator certificate holder to ensure amendments to exposition meet requirements and comply with procedures;				
	(a) where offence is failing	2,500	15,000	1,000	6,000

	to meet specified requirements				
	(b) where offence is failing to ensure amendment complies with exposition procedures.	625	3,750	250	1,500
<i>102.23(a)(3)</i>	Responsibilities of air operator certificate holder to provide Director with copy of amendments to exposition	2,500	15,000	1,000	6,000
<i>102.23(a)(4)</i>	Responsibilities of unmanned aircraft operator certificate holder to amend exposition as Director considers necessary	5,000	30,000	2,000	12,000
<i>102.23(b)</i>	Certificate holder must obtain approval of Director to specified changes in exposition	5,000	30,000	2,000	12,000