



CIVIL AVIATION SAFETY AUTHORITY OF PNG

PNG Civil Aviation Rule Part 101

Gyrogliders and Parasails and Unmanned Aircraft (including Balloons), Kites, and Rockets – Operating Rules

Applicable 14 December 2020

DESCRIPTION

Part 101 prescribes the requirements for the operation of gyrogliders, parasails, unmanned aircraft including remotely piloted aircraft, balloons, kites and rockets.

Part 101 permits only low-risk, recreational, non-commercial remotely piloted aircraft operations to take place without the certification requirements of Part 102, *provided* the operation at all times remains compliant with the restrictions of Part 101.

BULLETIN

This Part first came into force on 01 January 2004 and incorporates the following amendments:

Amendment	Applicable Date
Amendment 1	1 May 2017
Amendment 2	14 December 2020

Summary of Amendments

Amendment 2
(Docket 20/08/CAR101/23)

Rule 101.3 Amended. Added new terms ‘*autonomous aircraft*’, ‘*autonomous operation*’ and ‘*model aircraft*’. Amended ‘*remotely piloted aircraft*’ definition to include ‘*autonomous aircraft*’

Rule 101.5 Amended. Added new paragraph (a) subject to new paragraph (b) requiring remotely piloted aircraft to be registered under Part 47

Rules 101.9, 101.11, 101.12, 101.13, 101.15 – Amended. Deleted the term ‘kite’, and renumbered.

Rule 101.12 Amended and New Rule added. Amended paragraph (b) subject to new paragraph (c). Amended paragraph (b)(1) requiring familiarity with Part 71 airspace designations.

Amended paragraph (b)(2) requiring persons directly supervising operations to have basic knowledge and familiarity with Part 71 airspace designations.

New paragraph (c) requires demonstration of basic Part 71 airspace designation knowledge and restrictions.

Rule 101.17 New Rule. Requires the unmanned aircraft remote pilot-in-command (PIC) or document holder to notify the Director as soon as practicable after an accident on Form CA005 or by a means acceptable to the Director.

Rule 101.19 New Rule. For an approved unmanned aircraft designated operating area published under Part 175.

Rule 101.202 Amended and New Rule added. Rule restructured for RPAS design and construction expertise, operator qualifications and experience, and knowledge of airspace designations and restrictions, and grouping of functions for RPAS greater than 10kg. New rule 101.202(c) includes Part 102 UATO certificate holder.

Rule 101.204 New Rule. Requires any person operating above 400ft AGL to be an approved person or organisation, or with Part 102 authorisation or certificate.

Rule 101.205 Amended and New Rule added. Title amended to specify operations within 5nm of an aerodrome boundary, wording and paragraph renumbered. Paragraph (d)(a)(3) deleted. New rule 101.205(a)(2)(ii) for mandatory use of aeronautical radio in controlled airspace.

Rule 101.206 New Rule. Previous rule 101.207(c)(1) and (2) rearranged and paragraph renumbered for clarity and topical applicability. New Rule 101.206(a) added to require compliance with rule 101.204

Rule 101.207 Amended. Title amended for consent for operations over property instead of airspace. Wording rearranged and revised, and paragraph renumbered for clarity. Amended reference to new

rule 101.204.

Rule 101.208 New Rule. Requirements for RPA operations in proximity to persons whose consent have *not* been obtained for a 30m/100ft minimum horizontal distance; and to persons whose consent have been obtained, a minimum of 15m/50ft horizontal distance; and exemption for the 30m/100ft requirement.

Rule 101.209 Amended. Paragraph (a) amended for clarity.

Rule 101.210 New Rule. Weather requirements for non-Part 102 UAOC RPA operations.

Rule 101.211 Amended and New Rule added. New rule 101.211(b) authorises night operations for holders of Part 102 authorisation or UAOC that permit such night operations.

Rule 101.212 New Rule. Persons may apply for a designated RPA airspace run by an administering authority.

Rule 101.215 Amended. Wording added and paragraphs amended to permit operations of RPA and model aircraft of more than 25kg gross mass, only under a Part 102 authorisation or certificate.

Rule 101.217 New Rule. VLOS standard operating conditions for RPA operations; prohibits RPA operations in Part 71 Prohibited and Restricted areas, populated areas and within 5nm of an aerodrome and in areas of Fire, Police and other public safety and security operations; and restricts RPA operations of one person to one particular RPA.

Rule 101.219 New Rule. Open Category Operations apply to RPA up to 10kg gross takeoff mass and under rule 101.217 standard operating conditions.

Rule 101.221 New Rule. No pilot qualification under Part 101 open category RPA operation more than 5nm from an aerodrome, but pilot qualification required for RPA operations within 5nm of an aerodrome boundary.

Rule 101.223 New Rule. Controlled airspace RPA operations prohibited without a relevant qualification, maintaining a listening watch and broadcasting of information, prescribes the conditions of a Part 102 authorisation issued by the Director to a person and to a particular RPAS or type of RPAS being operated under this rule

Rule 101.225 New Rule. Prohibits RPAS operations that endanger persons and property, and from moving vehicles, vessels or whilst operating manned aircraft.

Rule 101.227 New Rule. Prohibits RPAS operations whilst intoxicated, within 12 hours of consuming alcoholic beverages, or in an impaired state, and may be subject to a test required by the Director.

Rule 101.229 New Rule. RPAS owner or operator required to, upon request, make available the pilot qualification, RPA type rating, and other documents and records, and the Director may test or inspect RPAS and associated persons for compliance purposes.

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Subpart A — General

101.1 Applicability

Subject to rule 102.1(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.

101.3 Definitions

In this Part:

Aerodrome means an aerodrome that is promulgated in the current PNG AIP:

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

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 balloon without propulsion in free flight, having a gas capacity greater than 1.5 m³:

Free flight model aircraft means a model aircraft with a maximum wing loading of 62 g/dm² (20 oz/ft²), 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/cm²; 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:

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 balloon:

Model aircraft means control line model aircraft or free flight model aircraft but does not include radio controlled model aircraft:

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, that has a maximum diameter of more than 1.5 m or a gas capacity of more than 3 m³:

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:

Remotely piloted aircraft means an unmanned aircraft that is piloted from a remote station and-

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

Rocket means a pilotless vehicle propelled by a system that contains all the ingredients 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, and below the top of, a natural or man-made object.

101.5 Registration

- (a) The requirements in Part 47 do not apply to unmanned aircraft, rockets, gyrogliders and parasails.
- (b) Notwithstanding paragraph (a), the requirements in Part 47 apply to remotely piloted aircraft.

101.7 Restricted, military operating, and danger areas

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

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

101.12 Airspace knowledge

(a) This rule applies to a person who operates any of the following:

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

(b) Subject to paragraph (c), a person to whom this rule applies must-

- (1) ensure that before each flight, the person is familiar with the airspace designation under Part 71 and any applicable airspace restrictions in place in the area of intended operation;
or
- (2) conduct the operation under the direct supervision of a person who has knowledge of and is familiar with the airspace designation under Part 71 and any applicable airspace restrictions in place in the area of intended operation;

(c) A person who intends to operate an unmanned aircraft, prior to conducting operations, must be able to demonstrate, in a manner and to a standard acceptable to the Director —

- (1) basic knowledge of airspace designation under Part 71; and
- (2) any applicable airspace restrictions in place in the area of intended operation.

101.13 Hazard and risk minimisation

A person operating any of the following must take all practicable steps to minimise hazards to persons, property and other aircraft:

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

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.

101.17 Notification and reporting of occurrences

- (a) A remote pilot-in-command, or if that person is unable, the holder of the unmanned aircraft authorisation or unmanned aircraft operator certificate issued under the rules, must notify the Director as soon as practicable, after an incident involving:
 - (i) serious injury to any person; or
 - (ii) damage to any property other than the unmanned aircraft.
- (b) The notification required in paragraph (a)(i) must be provided in manner acceptable to the Director.
- (c) The details of the notifiable incidents in paragraph (a) must be provided to the Director on form CA005 prescribed in Part 12, or by a means acceptable to the Director.

101.19 Approval of areas for operation of unmanned aircraft

- (a) A person may apply to the Director for the approval of an area as an area for the operation of:
 - (1) unmanned aircraft generally, or for a particular category of unmanned aircraft, and such approval when granted;
 - (i) will have effect from the time and date specified in the approval contained in the written notice issued to the applicant by the Director: or
 - (ii) will have effect for a particular period, including a period of less than 1 day, or longer, as specified by the Director.
 - (iii) may be subject to conditions imposed by the Director in the interests of aviation safety.
 - (2) Details of an approval granted by the Director under paragraph (1), will be published, including any conditions, in accordance with the Part 175 requirements for the publication of aeronautical information.
- (b) The Director may revoke the approval of an area, or change the conditions that apply to such an approval, in the interests of aviation safety and security, and-
 - (1) publish details of any such revocation or change in accordance with the requirements for publication of aeronautical information of Part 175; and
 - (2) make available written notice of the revocation or change to the person who:
 - (i) applied for the approval of the area; or
 - (ii) currently holds the office, if the person who applied for the approval as an officer of an organization concerned with unmanned aircraft, no longer holds that office.

Subpart B — Moored Balloons and Kites

101.51 Applicability

This Subpart prescribes rules governing the operation of moored balloons and kites.

101.53 Aerodrome area

A person shall not operate a moored balloon or kite—

- (1) on or over any active aircraft movement area of an aerodrome; or
- (2) on or over any runway or runway strip area.

101.55 Aerodrome boundary

Except for a shielded operation, a person shall not operate a moored balloon or kite within 4 km of an aerodrome boundary unless—

- (1) the balloon or kite does not exceed 400 feet AGL; and
- (2) the balloon or kite remains at least 400 feet vertically below cloud; and
- (3) the horizontal visibility is not less than 4 km; and
- (4) if the aerodrome is a controlled aerodrome, they have an ATC authorisation; and
- (5) if the aerodrome is an uncontrolled aerodrome, the operation is performed in accordance with an agreement established with the aerodrome operator.

101.57 Airspace

- (a) Except for a shielded operation, a person operating a moored balloon or kite at a height of more than 400 feet AGL shall—
 - (1) operate in a danger area designated for that purpose under Part 71; or
 - (2) operate in accordance with the restrictions specified in paragraph (b).
- (b) Each person operating a moored balloon or kite at a height of more than 400 feet AGL outside of a danger area shall ensure that—
 - (1) the balloon or kite remains more than 4 km from any aerodrome boundary; and
 - (2) the balloon or kite remains within Class F airspace; and
 - (3) the weight of the kite does not exceed 15 kg; and
 - (4) the balloon or kite remains at least 400 feet vertically below cloud; and
 - (5) the horizontal visibility is not less than 4 km; and
 - (6) they provide the following information to the Papua New Guinea NOTAM office at least 24 hours before the operation:
 - (i) their name, address and telephone numbers;
 - (ii) the date, time and duration of the operation;
 - (iii) a brief description of the moored balloon or kite, including size and predominant colour;
 - (iv) the weight of the moored balloon or kite;
 - (v) the height to which the moored balloon or kite will be operated.

101.59 Night operation

A person shall not operate a moored balloon or kite at night.

101.61 Balloon mooring line marking

A person shall not operate a moored balloon by day unless the mooring lines have coloured streamers or pennants attached at intervals of not more than 15 m commencing no more than 150 feet above ground level and visible for at least 1 nm.

101.63 Balloon rapid deflation device

A person shall not operate a moored balloon unless it contains a device that will automatically and rapidly deflate the balloon if it escapes from its moorings.

101.65 Balloon escape

Each person operating a moored balloon that escapes from its mooring without the deflation device functioning properly shall immediately notify the nearest ATS unit of—

- (1) the original location of the balloon; and
- (2) the time the balloon broke free; and
- (3) the estimated flight path of the balloon.

Subpart C — Free Balloons**01.101 Applicability**

This Subpart prescribes rules governing the operation of free balloons.

101.103 Meteorological limitations

Except where authorised by the appropriate ATS, a person shall not operate a heavy free balloon at or through any altitude below 60 000 feet pressure-altitude at which—

- (1) there are clouds or obscuring phenomena of more than four-eighths coverage; and
- (2) the horizontal visibility is less than 8 km; and
- (3) unauthorised entry into airspace of another State's territory is imminent.

101.105 Operating limitation

A person shall not release a heavy or medium free balloon in a manner that will cause it to fly—

- (1) below 1000 feet over a congested area of a city, town, or settlement; or
- (2) over an open-air assembly of persons.

101.107 Equipment

A person shall not operate a heavy free balloon unless—

- (1) it is equipped with—
 - (i) at least two payload flight-termination devices or systems, whether automatic or by telemetry, that operate independently of each other; and
 - (ii) in an area where ground-based SSR equipment is in use, a secondary surveillance radar transponder, with an altitude reporting capability, which is continuously operating on an assigned code, or which can be turned on when necessary by the tracking station; and
- (2) for polyethylene zero pressure balloons, at least two methods, systems, devices, or combinations thereof, that function independently of each other and are employed for terminating the flight of the balloon envelope; and
- (3) the balloon envelope is equipped with—
 - (i) at least one radar reflective device; or
 - (ii) radar reflective material that will present an echo to surface radar operating in the 200 MHz to 2,700 MHz frequency range.

101.109 Termination

Each person operating a heavy free balloon shall activate the respective termination devices required by 101.107(1)(i) and (2) to terminate the flight where—

- (1) meteorological conditions are less than those prescribed in 101.103; or
- (2) further operation is hazardous to other air traffic or to persons and property on the surface; or
- (3) unauthorised entry into airspace of another State's territory is imminent.

101.111 Night operations

A person shall not operate a heavy free balloon below 60 000 feet pressure-altitude at night unless the balloon and its attachments and payload, whether or not they become separated during the operation, are each equipped with lights that—

- (1) are visible at a distance of at least 5 nm; and
- (2) have a flash frequency of between 40 and 100 cycles per minute; and
- (3) each have their own power supply.

101.113 Trailing antenna

A person shall not operate a free balloon that is equipped with a trailing antenna that requires a force of more than 230 N to break it at any point unless the antenna has coloured pennants or streamers that—

- (1) are attached at not more than 15 m intervals; and
- (2) are visible at a distance of at least 1 nm.

101.115 Suspension device

A person shall not operate a heavy free balloon that is equipped with a suspension device more than 15 m long, other than a highly coloured open parachute, by day below 60 000 feet pressure-altitude unless the suspension device—

- (1) is coloured in alternate bands of high visibility colours; or
- (2) has coloured pennants or streamers attached which are visible for at least 1 nm.

101.117 Pre-launch notice

- (a) Except as provided in paragraph (b), a person shall not launch a medium or heavy free balloon unless they provide the following information to the Papua New Guinea NOTAM office at least 24 hours prior to the estimated launch time:
 - (1) their name and telephone number:
 - (2) the balloon identification or project code name:
 - (3) the balloon classification and description including—
 - (i) the length and diameter of the balloon; and
 - (ii) the length of the suspension device; and
 - (iii) the weight of the payload; and
 - (iv) the length of the trailing antenna:
 - (4) the SSR code as applicable:
 - (5) the location of the launch site:
 - (6) the estimated time of launch, or time of commencement and completion of multiple launches:
 - (7) the number of balloons to be launched or, for multiple launches, the scheduled interval between launches:
 - (8) the expected direction of ascent:
 - (9) the estimated time to reach cruising level or to pass 60 000 feet pressure-altitude, whichever is lower:
 - (10) the planned cruising levels (pressure-altitude):
 - (11) the planned duration of the flight:
 - (12) the estimated time and location of impact with the surface of the earth.
- (b) A person operating a medium or heavy free balloon for solar or cosmic disturbance investigations involving a critical time element may supply the information in paragraph (a) not less than 30 minutes prior to the estimated time of commencement.
- (c) Where there are changes to the information supplied under paragraph (a), the operator shall forward the changes to the Papua New Guinea NOTAM office, at least 6 hours prior to the projected launch time.

101.119 Launch notice

Each person operating a medium or heavy free balloon shall notify the nearest ATS unit of the following information immediately after the balloon is launched:

- (1) the balloon flight identification:
- (2) the launch site:
- (3) the actual time of launch:
- (4) the estimated time at which 60 000 feet pressure-altitude will be passed, or the estimated time at which the cruising level will be reached if at or below 60 000 feet, and the estimated location:
- (5) any changes to the information provided under 101.117(a)(7) or (8).

101.121 Cancellation notice

Each person who has provided a pre-launch notice in accordance with 101.117 who subsequently cancels the operation shall immediately notify the ATS unit of the cancellation.

101.123 Balloon position reports

Each person operating a medium or heavy free balloon shall—

- (1) unless otherwise required by the ATS unit, monitor the course of the balloon and record its position at least every 2 hours; and
- (2) forward any balloon position reports requested by the ATS; and
- (3) immediately notify the nearest ATS unit when a balloon position report is not recorded for any 2 hour period of flight. This notification shall include—
 - (i) the last recorded position; and
 - (ii) any revision of the forecast trajectory; and
- (4) immediately notify ATS when tracking of the balloon is re-established.

101.125 Pre-descent position report

Each person operating a medium or heavy free balloon shall provide the following information to the nearest ATS unit not less than one hour before the beginning of the planned descent:

- (1) the current geographical position:
- (2) the current altitude:
- (3) where applicable, the forecast time of penetration of 60 000 feet pressure-altitude:
- (4) the forecast descent trajectory:
- (5) the forecast time and location of the impact with the surface of the earth.

101.127 Completion of operation

Each person operating a medium or heavy free balloon shall notify the nearest ATS unit when the operation has ended.

Subpart D — Rockets

101.151 Applicability

This Subpart prescribes rules governing the operation of rockets.

101.153 Aerodromes

- (a) Except as provided in paragraph (b), a person shall not operate a rocket on or within 4 km of an aerodrome boundary.
- (b) A person may operate a rocket within 4 km of an aerodrome boundary providing—
 - (1) the rocket does not fly above 400 feet AGL; and
 - (2) at uncontrolled aerodromes, it is operated in accordance with an agreement with the aerodrome operator; and
 - (3) at controlled aerodromes, it is operated in accordance with an authorisation from ATC; and
 - (4) it is not operated on or over any active aircraft movement area of an aerodrome; and
 - (5) it is not operated on or over any active runway strip area.
- (c) A person shall not operate a rocket between 4 and 8 km of an aerodrome boundary above 400 feet AGL.

101.155 Meteorological limitations

- (a) A person shall not operate a rocket at any altitude where—
 - (1) there are clouds or obscuring phenomena of more than four-eighths coverage; and
 - (2) the horizontal visibility is less than 8 km.
- (b) A person shall not operate a rocket into cloud.

101.157 Night operations

A person shall not operate a rocket at night.

101.159 Pre-launch notice

A person shall not launch a rocket unless they provide the following information to the Papua New Guinea NOTAM office at least 24 hours prior to launch:

- (1) their name, address, and telephone number or, where there are multiple participants at a single event, the name, address, and telephone number of the person whose duties include co-ordination of the launch data estimates required by paragraphs (2), (3), and (4) of this rule and co-ordinating the launch event;
- (2) the estimated number of rockets to be operated;
- (3) the estimated size and the estimated weight of each rocket;
- (4) the estimated highest altitude or flight level to which each rocket will be operated;
- (5) the location of the operation;
- (6) the date, time, and duration of the operation;
- (7) any other relevant information requested by the person to whom notification is given.

Subpart E — Remotely Piloted Aircraft, Control Line Model Aircraft and Free Flight Model Aircraft

101.201 Applicability

Subject to rule 102.1(a), this Subpart applies to -

- (1) remotely piloted aircraft; and
- (2) control line model aircraft; and
- (3) free flight model aircraft.

101.202 Approved person or organisation

In this Subpart, an approved person or organisation means a person or organisation—

- (a) having appropriate:
 - (1) expertise in the design or construction of remotely piloted aircraft; or
 - (2) qualifications and experience in the operation of remotely piloted aircraft; or
 - (3) knowledge of airspace designations and restrictions; and
- (b) 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 notify the aeronautical information service provider, for the issue of a NOTAM of remotely piloted aircraft operations; or
 - (4) for remotely piloted aircraft greater than 10kg;
 - i. authorising the construction and modification; or
 - ii. inspecting and approving the construction or modification; or
 - iii. authorising the operation; or
- (c) conducting aviation training and assessments under the provisions of an unmanned aircraft training organisation certificate issued under Part 141.

101.203 Control line model aircraft

A person must not operate a control line model aircraft with a single or multiple wire system longer than 30 m.

101.204 Remotely piloted aircraft above 400ft AGL

- (a) A person must not operate a remotely piloted aircraft at a height greater than 400ft AGL unless the operation is conducted —
 - (1) by an approved person or organisation; or
 - (2) under the provisions of an authorisation or certificate issued under Part 102.

101.205 Within 5 nm of aerodrome boundary

- (a) A person must not operate a remotely piloted aircraft on or within 5 nm of the boundary 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, it is launched downwind of an active runway; and
 - (iii) in the case of a remotely piloted aircraft—
 - (A) each pilot has an observer in attendance while the aircraft is in flight; and
 - (B) the aircraft is not operated at a height of more than 400 feet above ground level unless the operator has been approved by the Director to operate the aircraft above 400 feet above ground level; and
 - (2) a controlled aerodrome, unless it is operated in accordance with:
 - (i) an authorisation from the relevant ATC unit; and
 - (ii) rule 101.223 if the operation is in controlled airspace; and
 - (3) any aerodrome, unless the person is:
 - (i) 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) under the direct supervision of a person appointed to give instruction in the operation of remotely piloted aircraft by an approved person organisation;
 - (iii) the holder of a pilot licence or certificate issued under Part 61.
- (b) A person must not operate a remotely piloted aircraft on or over any active—
- (1) aircraft movement area of an aerodrome; or
 - (2) runway strip area.
- (c) Paragraph (a) does not apply to a shielded operation that is conducted—
- (1) outside the boundary of the aerodrome; and
 - (2) in airspace that is physically separated from the aerodrome by a barrier that is capable of arresting the flight of the aircraft.

101.206 More than 5 nm from aerodrome boundary and above 400ft AGL

A person operating a remotely piloted aircraft more than 5 nm from an aerodrome boundary must not operate at a height greater than 400 feet AGL, unless —

- (a) the operation is conducted in accordance with rule 101.204; and
- (b) the operation remains within Class F airspace; and
- (c) the operation is conducted in a Danger Area designated under Part 71; and
- (d) at least 24 hours before the operation, a person authorised by an approved person or organisation, notifies the aeronautical information service provider for the issue of a NOTAM, of the following information:

- (1) the name, address, and telephone number of the operator:
- (2) the location of the proposed operation:
- (3) the date and time and duration of the proposed operation:
- (4) the maximum height above ground level proposed for aircraft operation.

101.207 Consent for operation over property

- (a) A person operating a remotely piloted aircraft must —
- (1) unless operating in a danger area under Part 71, not operate above a property unless prior consent has been obtained from any person occupying that property or the owner of that property; and
 - (2) maintain observation for other aircraft in the surrounding airspace in which the remotely piloted aircraft is operating; and
 - (3) not operate the aircraft at any height greater than 400 feet AGL except in accordance with rule 101.204.
- (b) Nothing in paragraph (a) requires a person to obtain consent from any person if operating under the authority of an approved organisation or under the provisions of an authorisation or certificate issued under Part 102.

101.208 Consent for operation over and near people

Except for remotely piloted aircraft operations conducted under the authority of an approved organisation as prescribed in rule 101.207(b) —

- (a) No person may operate a remotely piloted aircraft over a person unless that person is:
- (1) directly participating in or associated with the operation of the remotely piloted aircraft; or
 - (2) located under a covered structure or inside a stationary vehicle that can provide reasonable protection; or
 - (3) a second person not directly associated with the operation of the remotely piloted aircraft, provided the remotely piloted aircraft is operated no closer than 30m or 100ft measured horizontally from that second person.
- (b) Paragraph (a)(1), (a)(2), or (a)(3) do not apply if:
- (1) the person has given consent for the remotely piloted aircraft to operate in airspace over or near that person; and
 - (2) the remotely piloted aircraft is operated no closer than 15m or 50ft measured horizontally, of that person.
- (c) Paragraph (a)(3) does not apply if that second person is standing behind a fixed wing remotely piloted aircraft while the fixed wing remotely piloted aircraft is performing a take-off.

101.209 Visual line of sight operation

- (a) This rule applies to—
 - (1) remotely piloted aircraft;
 - (2) 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 surrounding airspace in which the aircraft will operate is obstructed; or
 - (2) meteorological conditions that obstruct the person's ability to maintain visual line of sight of the aircraft.
- (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) be able to see the surrounding airspace in which the aircraft is operating; and
 - (3) operate the aircraft below the cloud base.
- (d) For the purpose 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) spectacles, contact lenses, or a similar device used to correct subnormal vision of the user to no better than normal vision but not the use of an electronic, mechanical, electromagnetic, optical, or electro-optical instrument; or
 - (2) a first person view system and a trained and competent observer who maintains—
 - (i) visual line of sight of the aircraft; and
 - (ii) sight of the surrounding airspace in which the aircraft is operating; and
 - (iii) direct communication with the person who is operating the aircraft.

101.210 Weather and day limitations

- (a) A person must not operate a remotely piloted aircraft —
 - (1) in or into cloud; or
 - (2) in conditions other than visual meteorological conditions (VMC) unless:
 - (i) otherwise permitted under this Part; or
 - (ii) in accordance with an air traffic control clearance.
- (b) Paragraph (a) does not apply the holder of an authorisation or a certificate issued under Part 102 that permits such operations.

101.211 Night operations

- (a) A person must not operate a remotely piloted aircraft at night unless the operation is—
 - (1) indoors; or
 - (2) a shielded operation.
- (b) Paragraph (a) does not apply the holder of an authorisation or a certificate issued under Part 102 that permits such operations.

101.212 Remotely piloted aircraft operating area

- (a) A person with a bona fide interest in airspace allocation may apply to the Director in accordance with Part 71, for the designation or classification of airspace for the operation of remotely piloted aircraft.
- (b) A person must not operate a remotely piloted aircraft within a remotely piloted aircraft operating area designated under paragraph (a) unless that person has obtained prior approval to do so from the administering authority responsible for the remotely piloted aircraft operating area.

101.213 Right of way

- (a) A person who is operating a remotely piloted aircraft or a control line model aircraft 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.
- (b) A person who is operating a free flight model aircraft must before launching the aircraft ensure that during the operation the aircraft will remain 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—
 - (1) except with the approval of and subject to any conditions or limitations specified by the Director; or
 - (2) in the case of remotely piloted aircraft, under the provisions of an authorisation or certificate issued under Part 102.
- (b) A person must not operate a remotely piloted aircraft with a gross mass of between 10 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 rule 101.202; and
 - (2) operated under the authority of an approved person or organisation defined in rule 101.202.

101.217 Standard operating conditions

A remotely piloted aircraft is operated in standard remotely piloted operating conditions if, during the operation —

- (a) the remotely piloted aircraft is operated:
 - (1) maintaining visual line-of-sight in accordance with rule 101.209; and
 - (2) at or below 120m/400ft above ground level; and
 - (3) during the daylight hours; and
 - (4) not less than 30m or 100ft horizontally from any person who is not directly associated with the operation of the remotely piloted aircraft; and
- (b) the remotely piloted aircraft is not operated:

- (1) in a prohibited area designated under Part 71; or
 - (2) in a restricted area designated under Part 71; or
 - (3) over a populated area; or
 - (4) within 5 nm of the movement area of a controlled aerodrome; and
- (c) the remotely piloted aircraft is not operated in or over an area where a fire, police or other public safety, security or emergency operation is being conducted without the approval of a person in charge of the operation; and
- (d) the person operating the remotely piloted aircraft operates only that specific remotely piloted aircraft

101.219 Open Category Operations

A person may conduct remotely piloted aircraft operations as open category operations if that person—

- (a) uses a remotely piloted aircraft with a maximum gross mass of up to 10 kg on takeoff and throughout the duration of each operation, including all items that are on board or otherwise attached to the aircraft: and
- (b) operates the remotely piloted aircraft in accordance with the standard operating conditions prescribed in rule 101.217.

101.221 Requirement for remote pilot licence

- (a) No person may operate a remotely piloted aircraft without a pilot qualification unless the operation is conducted —
 - (1) in accordance with the requirements of Part 101: and
 - (2) more than 5 nm from the boundary of the nearest aerodrome: and
 - (3) as an open category operation as prescribed in rule 101.219.
- (b) No person may operate a remotely piloted aircraft within 5 nm of the boundary of an aerodrome unless that person has —
 - (1) a pilot qualification; or
 - (2) a qualification of knowledge of the use of aeronautical charts and airspace.

101.223 Requirement for the use of aeronautical radio in controlled airspace

- (a) A person must not operate a remotely piloted aircraft in controlled airspace unless that person—
 - (1) holds a relevant qualification as prescribed in paragraph (b); and
 - (2) maintains a listening watch on the specified frequency; and
 - (3) makes broadcasts on the specified frequency at the specified interval giving the specified information.
- (b) The relevant qualification referred to in paragraph (a)(1) means any of the following —
 - (1) an aeronautical radio operator certificate; or
 - (2) a remote pilot licence or flight crew licence; or

- (3) an air traffic control licence; or
 - (4) a flight service licence; or
 - (5) a military qualification equivalent to a licence in paragraph (b)(2), or (b)(3) or (b)(4).
- (c) The specified frequency and specified interval referred to in paragraphs (a)(2) and (a)(3) mean, for a particular airspace, the following —
- (1) specified frequency means a frequency specified from time to time in the AIP or by ATC, as a frequency for use in that airspace;
 - (2) specified interval means the interval specified from time to time in AIP or by ATC, as the interval at which broadcasts must be made while in that airspace;
 - (3) specified information means information specified from time to time in the AIP or by ATC, as information that must be broadcast in that airspace.
- (d) The Director may require in an authorisation issued under Part 102, that a particular person must not operate a remotely piloted aircraft unless that person —
- (1) satisfies the requirements of paragraphs (a) and (b); and
 - (2) complies with the conditions of the authorisation.
- (e) The Director may require in an authorisation issued under Part 102, with regard to a particular remotely piloted aircraft or type of remotely piloted aircraft, that a person must not operate the remotely piloted aircraft unless that person —
- (1) satisfies the requirements of paragraphs (a) and (b); and
 - (2) complies with the conditions of the authorisation.

101.225 Prohibited operations

- (a) No person may operate a remotely piloted aircraft in a careless or reckless manner so as to endanger or likely to be an endangerment to aviation safety and security or the safety and security of any person or property.
- (b) No person may operate a remotely piloted aircraft while that person is operating a moving vehicle, vessel or manned aircraft.

101.227 Prohibited psychoactive substances

- (a) No person may act or attempt to act as a remote pilot, crew member or observer of a remotely piloted aircraft or attempt to perform any other safety critical role —
 - (1) in a state of intoxication; or
 - (2) within 12 hours of consuming any alcoholic beverage; or
 - (3) in a state of health in which the person's capacity to perform their duties would be impaired by reason of having consumed or used any alcohol, drugs or other psychoactive substances.
- (b) Where the Director has reasonable grounds to believe a person of violating the requirements of paragraph (a), that person must submit to a test required by the Director for the presence of alcohol, drugs and other psychoactive substances.

- (c) The test required by paragraph (b) must be conducted by a person authorised for the purpose by the Director within 4 hours of the person acting or attempting to act in their assigned role.

101.229 Inspection and Compliance

- (a) A person who owns or operates a remotely piloted aircraft must, upon request, make available to the Director —
 - (1) the remote pilot qualification; and
 - (2) the remotely piloted aircraft type rating, if applicable; and
 - (3) any other documents, records or reports required under the rules.
- (b) The Director may conduct any test or inspection of the remotely piloted aircraft system, and persons associated with aircraft operations including visual observers, to determine compliance with the rules.

Subpart F — Gyrogliders and Parasails

101.251 Applicability

This Subpart prescribes rules governing the operation of gyrogliders and parasails.

101.253 Aerodromes

- (a) A person must not operate a gyroglider or parasail on an aerodrome or within 4 km of an aerodrome boundary unless—
 - (1) at an uncontrolled aerodrome, the gyroglider or parasail is operated—
 - (i) in accordance with an agreement with the aerodrome operator; and
 - (ii) at a height not exceeding 400 feet AGL; or
 - (2) at a controlled aerodrome, the gyroglider or parasail is operated in accordance with an authorisation from the aerodrome air traffic control service.
- (b) A person must not operate a gyroglider or parasail—
 - (1) on or over any aircraft movement area of an aerodrome; or
 - (2) on or over any active runway or runway strip area of an aerodrome.

101.255 Airspace

A person operating a gyroglider or parasail above 400 feet AGL must

- (1) ensure that the gyroglider or parasail remains more than 4 km from any aerodrome boundary; and
- (2) operate in Class F airspace; and
- (3) provide the following information to the Papua New Guinea NOTAM office at least 24 hours before the operation:
 - (i) the name, address, and telephone number of the operator;
 - (ii) the date, time, and duration of the operation;

- (iii) a brief description of the gyroglider or parasail (including size and predominant colour):
- (iv) the height to which the gyroglider or parasail will be operated.

101.257 Meteorological limitations

- (a) Except as provided in paragraph (b), a person operating a gyroglider or parasail must —
 - (1) not operate closer than 400 feet below cloud; and
 - (2) limit operations to an area where the ground visibility is at least 5 km.
- (b) Paragraph (a) does not apply to the shielded operation of a gyroglider or parasail.

101.259 Night operations

A person must not operate a gyroglider or parasail at night.

101.261 Airworthiness

A person who operates a gyroglider or parasail must ensure that it is fit for the intended purpose and is maintained in an airworthy condition in accordance with the manufacturer's instruction.

101.263 Safety equipment

A person operating a gyroglider or parasail must ensure that each person carried by the gyroglider or parasail—

- (1) when flying over water, or within gliding distance of water, wears a permanent positive buoyancy aid; and
- (2) when flying over land, wears a rigid protective helmet; and
- (3) is secured to the gyroglider or parasail by a harness; and
- (4) for a parasail operation conducted with an extended towline length exceeding 600 feet, as measured from the winch drum to the parasail canopy yoke, is equipped with a positive means of communicating with the parasail operator if an emergency occurs.

101.265 Pre-flight briefing

A person operating a gyroglider or parasail must ensure that each person carried by the gyroglider or parasail receive a pre-flight briefing on—

- (1) the nature of the flight; and
- (2) the standard operating procedures; and
- (3) the emergency procedures including:
 - (i) the location and use of emergency equipment;
 - (ii) the procedures to be followed in the event of a water landing, or towline separation; and
 - (iii) the method for communicating with the gyroglider or parasail operator if an emergency occurs.

101.267 Emergency towline release

A person must not release the towline of any gyroglider or parasail in flight except in an emergency.

101.269 Operating procedures

A person operating a gyroglider or parasail must do so in accordance with the operating procedures and limitations recommended by the manufacturer.

101.271 Wind Speed

A person operating a parasail must-

- (1) use a method or device to accurately determine and monitor the wind speed at the location where the parasailing operation is being conducted; and
- (2) not conduct a parasailing operation in conditions where the sustained wind speed exceeds 20 knots.

101.273 Passenger age limitation

A person operating a parasail must not-

- (1) perform a parasailing operation with an extended towline length of more than 300 feet, as measured from the winch drum to the parasail canopy yoke, when carrying any solo passenger who is between 8 and 11 years old; and
- (2) perform a parasailing operation with a passenger carried by a parasail who is less than 8 years old unless the passenger is accompanied by another passenger who is at least 18 years old, and is able to assist the younger passenger if any emergency occurs.