

Maldives Civil
Aviation Authority



Drones Workshop - UAS Regulatory Framework and Airspace Integration Regulations and experience in South Asia – Maldives

Delhi, 7 to 8/11/2019

DRONE OPERATING APPROVAL AND DRAFT REGULATIONS FOR GYRO GLYDIERS AND PARASAILS, AND UNMANNED BALLOONS, KITES AND MODEL AIRCRAFT – OPERATING RULES IN THE MALDIVES

(Presented by NASRULLA SHAKEEB/MALDIVES CIVIL AVIATION AUTHORITY)

▶ SUMMARY

- ▶ This paper presents the application process for the Drone approval and MCAA draft regulation for Gyro gliders and Parasails, and Unmanned Balloons, Kites, and Model Aircraft – Operating Rules

INTRODUCTION

- ▶ Due to our unique environment with a huge portion of the nation covered in water and with over 90+ floating platforms with continuous seaplane operations during daytime the drone approval process has become a very tedious and time consuming task and currently all the drone operations are reviewed case-by-case.
- ▶ The Draft regulation would provide information on the Drone restriction zones and operating rules for Gyro gliders and Parasails, and Unmanned Balloons, Kites, and Model Aircraft.

Process for Drone Permit Approval

STEP 1

- For recreational filming/photography using drone:
- Approval from hotel/resort/local island council prior to operation.
- For commercial filming/photography using drone:
- Approval from National Center for Arts

STEP 2

- Obtain Prior approval from MALDIVES NATIONAL DEFENCE FORCE (MNDF) provide a copy of the authorization

STEP 3-

- Apply to CAA for Approval on MCAA Form No: CAA/AD/05 along with MNDF approval

- GRANT APPROVAL/ reject Application (via email/letter)
- *Take NOTAM action if and when required

Draft Regulation MCAR 101 - Gyrogliders and Parasails, and Unmanned Balloons, Kites, and Model Aircraft – Operating Rules

▶ **MCAR 101.1 Applicability**

- ▶ This Part prescribes rules governing the operation of:
- ▶ (1) moored balloons and kites:
- ▶ (2) free balloons:
- ▶ (3) model aircraft:
- ▶ (4) gyrogliders and parasails.

▶ **MCAR 101.3 Definitions**

- ▶ In this Part:
- ▶ **Aerodrome** means an aerodrome that is promulgated in the current AIP MALDIVES.
- ▶ **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 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 230N 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 free balloon.
- ▶ 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 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:
- ▶ Radio controlled model aircraft means a model aircraft that is primarily controlled by radio signals from a remote transmitter being operated by a person:
- ▶ Shielded operation means an operation within 100 m of a structure and below the top of the structure.
- ▶ 4km from an aerodrome means distance of 4km measured from the centre of the runway.

- ▶ **Model aircraft** means a pilotless aircraft with a gross mass of between 100 g to 25 kg and includes:
- ▶ (1) control line model aircraft:
- ▶ (2) free flight model aircraft:
- ▶ (3) radio controlled model aircraft:
- ▶ **SUBPART E — MODEL AIRCRAFT**

- ▶ **MCAR 101.201 Applicability**

- ▶ This Subpart prescribes rules governing the operation of model aircraft.



- ▶ **MCAR 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.



- ▶ **MCAR 101.205 Aerodromes**

- ▶ Model aircraft shall not be operated near any aerodrome except under the rules specified in this Subpart and in accordance with the respective charts for that aerodrome published in the Appendix 1 of this MCAR.

- ▶ **MCAR 101.207 Airspace**

- ▶ (a) No person shall operate a model aircraft beyond line of sight.
- ▶ (b) A model aircraft shall not be operated over populous areas.
- ▶ (c) A model aircraft shall not be operated over sea within the archipelagic baseline of Maldives without prior approval from CAA.

- ▶ (d) A model aircraft may be operated over sea outside the archipelagic baseline but within Male' FIR, below 400 feet AGL, without prior approval from CAA (refer Appendix 2)
- ▶ (e) A model aircraft may be operated over land area provided that it is flown in an open space below 400 feet AGL and free from surrounding structure and outside the No Fly Zone of any aerodrome. (refer Appendix 1)
- ▶ (f) A person operating a radio controlled model aircraft more than 4 km from an aerodrome and above 400 feet AGL must:
 - ▶ (1) operate in a danger area designated for that purpose by CAA; or
 - ▶ (2) obtain approval from CAA at least 72 hours before the operation providing CAA the following information:
 - ▶ (i) the name, address and telephone number of the model aircraft operator;
 - ▶ (ii) the location and purpose of the proposed operation;
 - ▶ (iii) the date, time and duration of the proposed operation;
 - ▶ (iv) the maximum height AGL proposed for model aircraft operation.

- ▶ (g) A person may operate a radio controlled model aircraft above 400 feet AGL in controlled airspace only:
 - ▶ (1) in an area approved by CAA as an area for the operation of radio controlled model aircraft of the same kind as the aircraft, and in accordance with any conditions of the approval; and
 - ▶ (2) in accordance with an air traffic control clearance.

- ▶ **MCAR 101.209 Meteorological limitations**

- ▶ Except for control line model aircraft, a person shall not operate a model aircraft:
 - ▶ (1) in any area where the ground visibility is less than 3 km; or
 - ▶ (2) in any area where the cloud base is at a level where a model aircraft is unable to be operated:
 - ▶ (i) in sight of the operator; and
 - ▶ (ii) beneath the cloud base at all times

▶ **MCAR 101.211 Night operations**

- ▶ With the exception of control line model aircraft, a person shall not operate a model aircraft at night unless the operation is:
 - ▶ (1) indoors; or
 - ▶ (2) a shielded operation.
- ▶ MCAR 101.213 Right of way
- ▶ Each person operating a model aircraft shall ensure it gives way to, and remains clear of, all manned aircraft on the ground and in flight.



▶ Challenges

- ▶ Increase in number of Domestic Airports is a safety risk.
- ▶ Sea plan landing areas are increasing and scattered throughout the country hence drone operation constitute a hazard to low flying seaplanes.



▶ **ACTION BY THE MEETING**



▶ The meeting is invited to:



- ▶ note the information contained in this paper; and
- ▶ discuss any relevant matters as appropriate.



APPLICATION FOR PERMIT TO OPERATE MODEL AIRCRAFTS,
KITES, UNMANNED BALLOONS, PARASAILS & GYROGLIDERS

Applicant's Details:

Applicant's Full Name (Including Initials):	Passport/ ID Card No.:
Date of Birth:	Nationality:
Email:	Phone Number:
Company or Organization:	Present Address:

Details of Operation:

Location Coordinates to WGS84: (Degrees, minutes and seconds) (DD-MM-SS)	Height to be flown (in feet):	Radius of operational area (in feet):
	Start Date:	Start Time:
	End Date:	End Time:
	Duration of Operation:	

(Map of proposed Flight Path Attached: Yes/ No) : Use separate paper

Purpose of Operation (use separate paper if necessary):

Particulars on Unmanned Aerial Vehicle (UAV):

Make: (attach specification if necessary):	Model:
Size: (radius or length x width)	Weight:
Serial Number/ Registration No.:	



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Application for permit to operate unmanned aerial vehicles (drones)

Particulars of Applicant:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Applicant's name (with ID card number, for individuals):		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Date of Birth:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Address:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Passport/ID Card No.:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Company/Organization:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Present Address:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Particulars of drone operation:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Type of aircraft:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Location of operation:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Starting time:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Finishing time:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Purpose of operation (use separate paper if necessary):		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Applicant's Signature/Stamp:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Name:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Date:		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	

Specifications of the drone must be attached with this form. ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް

Permit to operate UAV (drone)		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
Approval from the Ministry of Defence		މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް	
މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް			
މަނިކުމާރުގެ ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް ޖެނެރަލް			

Note:

- Maldives National Defence Force (MNDf) reserves the right to stop the operation of the drone if deemed necessary.
- This permit has been issued on condition that, the drone be operated with the authorization from Maldives Civil Aviation Authority, and that Maldives National Defence Force (MNDf) premises, and all facilities under MNDf be excluded from the video coverage.

THANK YOU