



NOTICE OF PROPOSED AMENDMENT 2018-04
Issue 01

Date of Issue: 21 November 2018

SUBJECT:

CAR - PASSENGER CARRYING UNMANNED AERIAL SYSTEMS (UAS) OPERATIONS

REASON:

This NPA is prepared following a comprehensive GCAA internal and external review, consultation and experience gained from RTA demonstration flight held in Sept 2017. The GCAA is expecting large number of comments due to novelty of the subject and type of operations, due to which relatively long consultation time for NPA has been proposed.

The proposed initial entry into force date of the regulation is **20th Feb 2019**.

This notice is published to announce to the public the subject regulation and to entitle all concerned parties to:

- 1) Review the attached proposed regulation; and
- 2) Submit their comments online through the GCAA website within **3 months** from the date of this NPA.

Comments must be submitted through the GCAA Website – E-Publication – Notice of Proposed Amendment, using the Action of “Submit NPA Feedback Request.”

Comments and Responses may be viewed in the Comments Response Document CRD pertaining to this NPA on the GCAA website.

AFFECTED STAKEHOLDERS:

N/A

AFFECTED RULES:

N/A

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Passenger Carrying Unmanned Aircraft Systems (UAS) Operations

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A. PURPOSE

1. The purpose of this regulation is to specify the requirements to be met for the grant of a Passenger Carrying UAS Operator Certificate and for the continued validity of such a Certificate.
2. No organisation or a person shall conduct passenger carrying UAS operations unless approved by the GCAA under this regulation.

B. ABBREVIATIONS AND DEFINITIONS

1. Passenger Carrying UAS Operator: An organisation holding the approval for conducting passenger carrying UAS operations in the UAE.
2. Unmanned Aircraft System (UAS): An unmanned aircraft, whether remotely piloted, fully autonomous or combinations thereof, its associated remote control station(s), the required command and control links and any other components as specified in the type design.
3. Physical Location: The locations where Passenger Carrying UAS Operator conducts any kind of operations for example landing / take-off, maintenance.

C. APPLICATION FOR CERTIFICATE TO OPERATE A PASSENGER CARRYING UAS

1. The applicant shall apply for a Passenger Carrying UAS Operator Certificate by submitting an application by completing appropriate Form to the GCAA along with:
 - a. The exposition required by this regulation.
 - b. Security clearance.
 - c. Any other information relating to the application as may be required by the GCAA.

D. LAWS, REGULATIONS, AND PROCEDURES

1. A Passenger Carrying UAS Operator shall ensure that all persons engaged in the passenger carrying UAS operations are familiar with the applicable laws, regulations and procedures.

E. DANGEROUS GOODS

1. Carriage of dangerous goods on the passenger carrying UAS is forbidden unless exempted by the GCAA.



F. SECURITY REQUIREMENTS

1. All persons engaged in the passenger carrying UAS operations shall undergo the background check.
2. The Systems for controlling access to the passenger carrying UAS shall be put in place in order to prevent unauthorized entry and protection from unlawful interference.
3. The data link shall be protected against hacking, spoofing and other forms of interference or hijacking.
4. The Control Station shall utilize mechanism for controlling access rights.
5. Passenger carrying UAS are not permitted to conduct flights over restricted areas unless a special permission is granted by the GCAA.
6. No person is allowed to capture images / videos of restricted areas unless specifically authorized by the GCAA.
7. The Passenger Carrying UAS Operator shall comply with National Civil Aviation Security Programme and other national aviation security requirements.
8. The GCAA may impose additional security requirements based on a risk assessment.

G. INSURANCE

1. The Passenger Carrying UAS Operator shall have insurance to cover the occupants and third party liability.

H. PASSENGER CARRYING UAS REGISTRATION

1. A passenger carrying UAS shall be registered with the GCAA and display A6 nationality and registration marks or a passenger carrying UAS may display foreign nationality and registration marks.
2. The size and location of nationality and registration marks shall be in accordance with CAR PART V Chapter 1.
3. A passenger carrying UAS registration mark shall consist of four alphabets starting with capital letter Z followed by three alphabets assigned by the GCAA under Para 1 above, for example: A6-ZABC.

I. OPERATIONS

1. The passenger carrying UAS operations shall be conducted as per the exposition approved by the GCAA.



2. The Passenger Carrying UAS Operator shall include the following in the exposition:
 - a. Detailed description of the intended operation.
 - b. Details of the physical locations to be used in the operation.
 - c. The key personnel, their role and responsibilities and the facilities.
 - d. The qualifications, training, competency and medical requirements for pilots and any other persons engaged in the operations.
 - e. The procedures for controlling, amending and distributing the exposition.
 - f. The process / procedure for the identification and management of the known and likely hazards and the associated risks to people, property and other aircraft of the proposed operation, as accepted by the GCAA.
 - g. Any other process / procedures required to comply with this regulation
3. A passenger carrying UAS shall be operated in compliance with the operating limitations specified in the passenger carrying UAS flight manual or equivalent issued by the manufacturer or the exposition.
4. A Passenger Carrying UAS Operator shall not operate a passenger carrying UAS unless it is equipped with the type and number of instruments and equipment required by this regulation.
5. A passenger carrying UAS shall not be operated unless all equipment is operative. A flight with an inoperative equipment may only be conducted with the approval from the GCAA.
6. A passenger carrying UAS shall only be operated in the areas designated for the operations and under the conditions promulgated by the GCAA.
7. The minimum operating altitudes and flight requirements for all phases of flight of the passenger carrying UAS shall be based on a safety risk assessment acceptable to the GCAA to ensure that the passenger carrying UAS may be operated to an acceptable level of safety in all potential limited UAS flight modes or weather conditions.
8. A passenger carrying UAS Control Station, take-off and landing areas shall be appropriately manned at all times during the UAS operation.
9. A Passenger Carrying UAS Operator shall ensure compliance with the ATC clearances and instructions.



10. A Passenger Carrying UAS Operator shall, on becoming aware of any condition that is a hazard to safe operations, restrict or suspend operations until the hazard is removed.
11. All accidents and serious incidents shall be reported immediately to the GCAA Duty Investigator who's contact is available on the GCAA website. All incidents involving passenger carrying UAS shall be investigated by the passenger carrying UAS operator for disposal as per CAAP 22.
12. All security incidents/breaches and an act of unlawful interferences shall be reported immediately to the GCAA – AVSEC Department (Hotline/ROSB system). All security incidents/breaches involving passenger carrying UAS shall be investigated by the Passenger Carrying UAS Operator and an investigation report shall be sent to the GCAA within 72 hours.

J. PASSENGER CARRYING UAS AIRWORTHINESS REQUIREMENTS

1. A passenger carrying UAS shall not operate unless:
 - a. The passenger carrying UAS design and manufacture is approved by the GCAA acceptable foreign authority and is Type Accepted under the provisions of CAR 21 Subpart B1.
 - b. Notwithstanding with Para 1a above, the GCAA may issue a Type Certificate under provisions of CAR 21 Subpart B.
 - c. The design and manufacturing facilities shall be approved under CAR 21 Subpart J and G respectively.
 - d. Notwithstanding to the Para 1c above, the GCAA may accept existing design and manufacturing approval equivalent to CAR 21 Subpart J & G respectively.
 - e. A passenger carrying UAS shall comply with the ICAO Annex 16 Volume I Chapter 11 or better noise requirements.
2. The Passenger Carrying UAS Operator is responsible for the airworthiness of the passenger carrying UAS and shall ensure the following:
 - a. The maintenance facilities and personals are approved / accepted by the GCAA and the facilities are kept in the working condition.
 - b. The maintenance is performed in accordance with the instructions approved / accepted by the GCAA.
 - c. The passenger carrying UAS is maintained in an airworthy condition and is safe for flight.
 - d. The records of defects and rectifications are maintained.
 - e. The modifications and repairs are approved by the acceptable foreign authority or by the GCAA.



- f. Applicable airworthiness directive(s) or equivalent are complied with.
- g. Pre-flight and post-flight inspections are carried out as per agreed frequency with GCAA.

K. GRANT OF CERTIFICATE

1. The GCAA may grant a non-terminating passenger carrying UAS Operator Certificate to an applicant in accordance with this rule.
2. When granting a certificate under paragraph 1 above, the GCAA may specify additional conditions that are considered necessary in the interest of aviation safety and security.

L. OPERATIONS SPECIFICATION

1. A Passenger Carrying UAS Operator Certificate shall be issued with the operations specification containing the below details:
 - a. Address and principal base of operations.
 - b. The privileges of the operator including types of operations permitted.
 - c. Type and description, serial number and registration of every UAS that is authorized for use.
 - d. Identification of areas of operations.
 - e. Any additional condition that the GCAA determines is necessary in the interest of aviation safety and security.

M. PRIVILEGES OF CERTIFICATE HOLDER

1. The holder of the Passenger Carrying UAS Operator Certificate is authorized to perform the operations specified in the operations specification.
2. Unless the exposition required by this rule specifies otherwise the holder of the Passenger Carrying UAS Operator Certificate is not required to comply with CAR OPS 1 and CAR OPS 3.



N. CONDITIONS OF APPROVAL

1. A holder of the Passenger Carrying UAS Operator Certificate shall comply with:
 - a. The conditions imposed by the GCAA in the passenger carrying operations specification.
 - b. The exposition required by this regulation.
2. The exposition shall cover how the passenger carrying UAS operator shall comply with this regulation and the other applicable regulations.
3. The Passenger Carrying UAS Operator shall make the records available and give access to the facilities to the GCAA on as required basis.

O. CHANGES TO EXPOSITION

1. The changes to the exposition may only be carried out with prior approval of the GCAA except minor changes as agreed with the GCAA in the exposition.
2. Any minor change in exposition carried out by the Passenger Carrying UAS Operator shall be notified to the GCAA within 10 working days.

P. PORTABLE ELECTRONIC DEVICES

1. No occupant of passenger carrying UAS shall operate a cellphone or other portable electronic devices that is designed to transmit electro-magnetic energy.
2. The GCAA may permit use of cellphone or other portable electronic devices designed to transmit electro-magnetic energy following an acceptable risk assessment by the Passenger Carrying UAS Operator.

Q. BATTERIES/ FUEL FOR POWERING MOTORS

1. A passenger carrying UAS powered by batteries shall have sufficient battery power for the intended flight with 25% reserve.
2. A passenger carrying UAS powered from fuel shall have GCAA acceptable reserve fuel for the intended flight.

R. FLIGHT RECORDS

1. The flight record shall contain following for each flight consisting:



- a. Registration markings of the UAS.
 - b. Date and commencement time of the flight.
 - c. Departure and arrival destinations / landing sites.
 - d. Flight duration.
2. The above records shall be made available to the GCAA for the inspection on as required basis.

S. TAKE-OFF AND LANDING AREA SITES SELECTION

1. A passenger carrying UAS operator shall be able to demonstrate that the minimum required, qualified and competent personnel are available at all passenger carrying UAS landing sites, to ensure the safe and secure operation of the passenger carrying UAS, during landing, refueling / recharging, inspection, maintenance, passenger embarking and disembarking and take-off operations.
2. When defining a site for use as a landing area, the Passenger Carrying UAS Operator shall take into account the following:
 - a. Selection of a site which the operator considers to be satisfactory, taking account of the applicable passenger carrying UAS size, weight, performance requirements and site characteristics (for example: physical size, markings, lighting, and obstacle restrictions).
 - b. Approach and take-off flight paths.
 - c. Surface conditions.
 - d. Public protection and security.
 - e. Rescue and fire emergency response.
 - f. Site Management, including routine inspections, maintenance, refueling/ recharging facilities and incident reporting process.

T. METEOROLOGICAL INFORMATION

1. A passenger carrying UAS shall be operated within the GCAA approved / accepted, based on the weather forecast received from appropriate meteorological sources.
2. A Passenger Carrying UAS Operator shall plan, perform, and control the flight using meteorological information of a sufficient reliability and accuracy provided from a source considered acceptable to the GCAA.



3. A Passenger Carrying UAS Operator shall ensure that passenger carrying UAS operations are only conducted in meteorological conditions, which have been determined through safety risk assessment, acceptable to the GCAA, as suitable to enable safe flight operations.

U. PASSENGER REQUIREMENTS

1. The Passenger Carrying UAS Operator shall ensure that:
 - a. A passenger shall comply with any instruction given by the Passenger Carrying UAS Operator.
 - b. A passenger shall occupy a seat and fasten safety belt at all times while inside the passenger carrying UAS.
 - c. A passenger shall not drop any object during the flight.

V. PASSENGER INFORMATION SIGNS AND INSTRUCTIONS

1. Each passenger carrying UAS shall be equipped with the following signs / placards visible to the Passenger:
 - a. No Smoking.
 - b. Fasten safety belts.
 - c. Emergency exits including location of any tools to enable emergency exit.
 - d. Loadings.
 - e. Emergency related instructions
 - f. Placards / signs required for any additional restrictions and prohibitions.
2. A passenger carrying UAS operator shall ensure that each passenger has been informed about:
 - a. The location and means for opening the passenger entry doors and emergency exits, and the restrictions and permitted use of the emergency exit.
 - b. The location and use of survival and emergency equipment for the passenger use.
 - c. The use of portable electronic devices.
 - d. Procedures in the case of an emergency landing.
 - e. Emergency communication with the Control Station.



W. EMERGENCY ALERTING PROCEDURES

1. A Passenger Carrying UAS Operator shall have a procedure in place to remotely monitor the passenger carrying UAS operation at all times during a flight.
2. A Passenger Carrying UAS Operator shall have an effective communication with: Police, Search and Rescue Units.
3. In the event that an emergency situation does or may exist, the Passenger Carrying UAS Operator shall notify the relevant search and rescue units immediately with the following information:
 - a. The passenger carrying UAS registration mark.
 - b. The type of passenger carrying UAS.
 - c. The route including, departure point, intended landing point, and last known position of the UAS.
 - d. Details of the emergency.
 - e. The total number of passengers.
 - f. Any additional information that may assist search and rescue operations.

X. SURVEILLANCE AND COMMUNICATION EQUIPMENT

1. When operating in non-segregated airspace appropriate surveillance and communication equipment which is interoperable with current ATM system shall be required.
2. For operations in segregated airspace, Para 1 above is recommended.
3. The above equipment shall be approved by the GCAA.

Y. PASSENGER CARRYING UAS MINIMUM INSTRUMENTS AND EQUIPMENT

1. A Passenger Carrying UAS Operator shall have a communication system capable of providing continuous two-way communications between the occupant and the passenger carrying UAS Control Station.
2. A passenger carrying UAS shall be equipped with:
 - a. Instruments and equipment required by applicable airworthiness design standards.
 - b. A system to monitor the cabin during flight.
 - c. A system to provide present location information of the passenger carrying UAS to the Control Station.
 - d. Position lights.



- e. Anti-collision lights.
- f. Compartment lights.
- g. Cabin temperature indicator and control.
- h. Means of recording time in hours, minutes, and seconds.
- i. Means to provide passenger carrying UAS battery / fuel status to the passenger carrying UAS Control Station
- j. Seats with seat belt provision for each passenger.
- k. A lockable door with an unlocking mechanism operate-able on ground only.
- l. Any mission specific equipment for the type of operations approved.

Z. PASSENGER CARRYING UAS CONTROL STATION MINIMUM EQUIPMENT REQUIREMENTS

1. A passenger carrying UAS Control Station shall be equipped with a means of:
 - a. Monitoring and recording the actual position of the passenger carrying UAS.
 - b. Monitoring and recording the passenger carrying UAS battery and fuel status.
 - c. Providing an alert to Passenger Carrying UAS Operator if the battery / fuel status falls below operational requirements.
 - d. Monitoring system for passenger carrying UAS passenger.
 - e. Effective communications with: Police, and Search and Rescue units.
 - f. Monitoring and recording the passenger carrying UAS Flight Control Systems.
 - g. Emergency over-ride, remote pilot control system (If deemed operationally necessary).

AA. EMERGENCY EQUIPMENT

A passenger carrying UAS shall be equipped with:

1. First aid kits specified in GCAA regulations CAR OPS 1 readily accessible to the passenger for the treatment of injuries likely to occur in flight or in minor accidents.
2. A hand-held fire extinguisher.
3. An appropriate tool as mean for breaking out of passenger carrying UAS for emergency evacuation.
4. Life vest for each occupant for flights over water.
5. Portable Emergency Locator Transmitter (ELT).