

## **CAR PART VIII**

### **SUBPART 10**

# **OPERATION OF UNMANNED AERIAL SYSTEMS WITHIN THE UNITED ARAB EMIRATES**

## **FOREWORD**

- 1- This is the initial issue of this regulation. It enters into force on 13<sup>th</sup> April 2015
- 2- This regulation is based on NPA 04-2015. Further to the NPA, more changes were introduced to this regulation based on the comments received and as a result of further consultations.

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## 1. INTRODUCTION

- 1.1 The regulatory strategy for the utilisation of Unmanned Aerial Systems within the airspace of the United Arab Emirates aims to establish the aviation regulatory environment to reap the societal benefits of this innovative technology and to deal with citizens' concerns through protective action when necessary.
- 1.2 It shall also set the conditions for creating a strong and competitive manufacturing and services industry with the ability to compete in the global market. UAS applications may only reach full potential once they are able and approved to fly in non-segregated airspace without adversely affecting the safety and the operation of the wider civil and military aviation system.
- 1.3 The progressive integration of UAS into the national airspace must be accompanied by reassurance to citizens on the development of measures to address societal concerns including safety, privacy and data protection, third-party liability & insurance and security.
- 1.4 The regulatory environment for UAS integration into the national airspace presents specific challenges in a number of key areas, in particular:
  - Security  
UAS are not immune to potential unlawful actions. Potentially, UAS could be used as weapons, where the navigation or communications signals of UAS could be jammed or ground control stations hijacked.
  - Safety  
The integration of UAS into the national airspace shall be based on the principle that safety will not be compromised; UAS operations must be as safe as manned aircraft insofar as they must not present or create a greater hazard to persons, property, vehicles or vessels, whilst in the air or on the ground, than those attributable to the operation of manned aircraft.
  - Citizen Concerns  
UAS operations must not lead to a raising of citizen concerns, especially the right to preserving privacy in regard to private and family life and the protection of personal data. Amongst the wide range of potential UAS civil applications, a number involve the collection of personal data, including images, and thus raise ethical, privacy and data collection concerns in particular in the area of surveillance, monitoring, mapping or video recording.
  - Economic and Environmental Concerns  
Thus far, international attempts to integrate UAS into the national airspace have resulted in moderate to severe disruption to commercial aircraft services.  
This has resulted in additional track miles for the commercial aircraft with the associated extra fuel consumption resulting in increased costs, noise pollution and

increased aircraft emissions. The integration of UAS into the national airspace shall reduce or at least balance the current aircraft emission levels. Further UAS operations could introduce noise pollution into areas of airspace where previously flight operations were prohibited or not feasible.

## 1.5 UAS Operational Risks

1.5.1 In addition to the concerns identified above, there are a number of risk categories that are recognised as significant in UAS operations:

### a) Safety Risks

- Collision with Piloted/Manned aircraft
- Collision with other UAS
- Collision with Obstacles-People-Structures-Terrain-Vehicles-Vessels
- Collision with people-3<sup>rd</sup> Party risk to life

### b) Security Risks

- Public
- Commercial
- National

### c) Economic and Environmental Risks

- Aircraft delays
- Potential for additional cost and increased carbon emissions
- Introduction of noise pollution into previously unaffected areas

## **2. DEFINITION**

### **Aircraft;**

Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

### **Aircraft — category;**

Classification of aircraft according to specified basic characteristics, e.g. aeroplane, helicopter, glider, free balloon.

### **Beyond Line of Sight Operations;**

The operation of an Unmanned Aerial System, during which, the system operator maintains electronic communications with the aircraft to manage its flight and meet separation and collision avoidance requirements. In this mode the operator is not required to maintain visual contact with the aircraft.

### **Commercial operation;**

An aircraft operation conducted for business purposes (mapping, security surveillance, wildlife survey, aerial application, etc.) other than commercial air transport, for remuneration or hire.

### **Congested Area;**

A congested area as being 'any area of a city, town or settlement which is substantially used for residential, industrial, commercial or recreational purposes.

### **Control Zone;**

A controlled airspace extending upwards from the surface of the earth to a specified upper limit

### **Controlled Airspace;**

An airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification.

### **Integrated Airspace**

Airspace in which UAV and manned aircraft operate with no segregation, with the same minimum separation standards applied and level of safety as provided between manned aircraft.

### **Leisure;**

The act of relaxation and/or amusing oneself by engaging in a sport or pastime.

**Operator;**

A person, organisation or enterprise engaged in or offering to engage in an aircraft operation.

**Private operation;**

An aircraft operation which is performed for Sport or Leisure purposes not as a commercial venture.

**Radio Controlled Aircraft;**

Unmanned Aerial Vehicle, controlled remotely by a remote pilot using radio control device.

**Remote pilot;**

The person who manipulates the flight controls of a remotely-piloted aircraft during flight time.

**Segregated airspace;**

Airspace of specified dimensions allocated for exclusive use to a specific user(s).

**Sense and avoid;**

The capability to see, sense or detect conflicting traffic or other hazards and take the appropriate action to comply with the applicable rules of flight.

**Uncontrolled Airspace**

Class G airspace in which aircraft are not subject to an Air Traffic Control service.

**Unmanned Aerial system (UAS);**

An aircraft and its associated elements which are operated with no pilot on board. The term does not include unmanned balloons.

**Unmanned Aerial Vehicle (UAV)/ Unmanned Aircraft;**

An aircraft which is intended to operate with no pilot on board.

**Visual line-of-sight operation;**

An UAV operation in which the remote crew maintains direct visual contact with the aircraft to manage its flight and meet separation and collision avoidance responsibilities.

### 3. UAS CLASSIFICATION

3.1 The classification of all UAS shall be based upon the physical and operational parameters of the system itself, namely:

- a) Mass  
The operating mass of the vehicle including fuel, fixtures and payload shall be a primary consideration in the classification. By definition the advanced equipment required for unrestricted operations will increase the mass of the system itself.
- b) Capability  
UAS operating to higher performances e.g. altitude shall, by their nature, require greater levels of regulation.
- c) Type of Operator  
Not all operators shall be subject to the same operational restrictions. Private operators shall have different requirements than commercial operators.

3.2 The following six (6) classifications are deemed applicable for UAS operation within the UAE Civil airspace:

- a) Category 1  
This UAS classification shall be restricted to aircraft having a mass of 5 kg and less.
  - i. Category 1A Private Use  
These UAS shall only be utilised for private leisure and sport purposes.
  - ii. Category 1B Commercial / State Use  
These UAS shall be utilised for commercial purposes including but not limited to Parcel Delivery, Surveillance Security/ Safety, Environmental Monitoring, Agricultural Monitoring, Transport Ergonomics, etc..
- b) Category 2  
This UAS classification shall be restricted to aircraft having a mass more than 5 kg and less than 25 kg.
  - i. Category 2A Private Use  
These UAS shall only be utilised for private leisure and sport purposes.
  - ii. Category 2B Commercial / State Use  
These UAS shall be utilised for commercial purposes including but not limited to Parcel Delivery, Surveillance Security/ Safety, Environmental Monitoring, Agricultural Monitoring, Transport Ergonomics, etc..
- c) Category 3  
This UAS classification shall be restricted to aircraft having a mass of 25 kg or more.

i. Category 3A Private Use

These UAS shall only be utilised for private leisure and sport purposes.

ii. Category 3B Commercial / State Use

These UAS shall be utilised for commercial purposes including but not limited to Parcel Delivery, Surveillance Security/ Safety, Environmental Monitoring, Agricultural Monitoring, Transport Ergonomics, etc..

<b>Category</b>	<b>Mass</b>	<b>User Subclass</b>
<b>1</b>	<b>5Kg and less</b>	<b>A Private</b>
		<b>B Commercial / State</b>
<b>2</b>	<b>More than 5Kg and less than 25 Kg</b>	<b>A Private</b>
		<b>B Commercial / State</b>
<b>3</b>	<b>25 Kg or more</b>	<b>A Private</b>
		<b>B Commercial / State</b>

*Table 3A: Table of UAS Classifications.*

3.3 The UAS classifications outlined above are expanded in the regulations and tables below which detail, mandatory requirements and recommendations for UAS operators, linked to each specific classification.

3.4 Category 1A (Table 3B):

- a) UAS Cat 1A operation shall not be permitted in Controlled Airspace.
- b) UAS Cat 1A operations shall only be permitted in segregated areas approved by GCAA in compliance with Minimum Operator Requirements listed in (d).
- c) Minimum Equipment Requirements;
  - i. Direct radio control link between remote pilot and UAV.
  - ii. Frequency Band Restrictions (29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHz max power 100 mW).
- d) Operational requirements and restrictions;
  - i. All UAS components are in working order in accordance with the supplier's User Manual.
  - ii. Remote Pilot shall maintain the UAV within visual line of sight at all times and maintain an altitude not above 400ft AGL.
  - iii. The UAS shall not be operated within 300 Meters of any person, vessel, vehicle or structure not under the control of the UAS operator; and additionally, during take-off or landing the UAS shall not be flown within 200 Meters of any person, unless that person is under the control of the aircraft operator;
  - iv. Remote Pilot shall be responsible for avoiding collisions with people, objects and other aircraft and shall not harass or endanger people or threaten to damage property.
  - v. UAV shall not be operated over a congested areas, except with the permission of the GCAA; it shall not fly over public or private properties, or within 5km of UAE's airports outer fence, Heliports, Helicopter landing Sites, and airfields and shall remain clear of control zones.
  - vi. UAV operator shall at all times give way to other aircraft.
  - vii. Whenever the UAV Operator hears or sights another aircraft in the vicinity of the UAV operation, the UAV shall be landed.
  - viii. Operator of an UAV shall not cause or permit any article (whether or not attached to a parachute) to be dropped from an UAV.
  - ix. Only day time operation is permitted.
  - x. Use of video or image capturing devices shall be prohibited.
- e) GCAA Requirements;
  - i. GCAA UAV Registration required for UAV which have a total mass including batteries and equipment greater than 1/2 kg. Registration shall be done through Licensing Department

3.5 Category 1B (Table 3B):

- a) UAS Cat 1B operation shall not be permitted in Controlled Airspace.
- b) UAS Cat 1B operation permitted in Uncontrolled Airspace not above 4500 ft. AGL.

- c) UAS Cat 1B operations in Segregated Airspace shall be permitted subject to:
  - i. GCAA UAS Approval.
  - ii. Segregated Airspace Approval.
- d) Minimum Equipment Requirements
  - i. Direct radio control link between remote pilot and UAV.
  - ii. Frequency Band Restrictions (29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHzmax power 100 mW).
- e) Minimum Operator Requirements
  - i. All components are in working order in accordance with the supplier's User Manual.
  - ii. Avoiding collisions with people, objects and other aircraft. Do not endanger people or property.
  - iii. GCAA security permission is required before using camera or any other scanning or surveillance equipment.
  - iv. UAV operator shall at all times give way to other aircraft.
  - v. Whenever the UAV Operator hears or sights another aircraft in the vicinity of the UAV operation the UAV shall be landed.
- f) GCAA Requirements
  - i. GCAA UAV Registration. Registration shall be done through Licensing Department
  - ii. GCAA E-Service UAS Operating Approval.
  - iii. GCAA Security Approval when equipped with camera or other scanning or surveillance equipment.

### 3.6 Category 2A (Table 3C):

- a) UAS Cat 2A operation shall not be permitted in Controlled Airspace.
- b) UAS Cat 2A operation permitted within flying clubs or allocated zone as defined by GCAA.
- c) Minimum Equipment Requirements;
  - i. Direct radio control link between remote pilot and UAV.
  - ii. Frequency Band Restrictions (29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHzmax power 100 mW).
- d) Operational Restrictions and Requirements;
  - i. GCAA approval shall be obtained if operating outside flying clubs airspace or the GCAA allocated defined zones.
  - ii. Operation range is restricted to within line-of-sight and not more than 400' above ground level;
  - iii. UAV shall not be operated near public and private properties;
  - iv. Use of video or image capturing device shall be prohibited;
  - v. Drop or release of any article from the UAV shall be prohibited;
- e) GCAA Requirements;
  - i. GCAA UAV Registration.
  - ii. The applicant shall fill GCAA form to purchase this category. The form can be obtained from Licensing Deptment.

- iii. The applicant shall meet GCAA security requirements;

### 3.7 Category 2B (Table 3C):

- a) UAS Cat 2B operation shall not be permitted in Controlled Airspace.
- b) UAS Cat 2B operation permitted in Uncontrolled Airspace not above 4500 ft. AGL.
- c) UAS Cat 2B operations in Segregated Airspace shall be permitted subject to:
  - i. GCAA UAS Approval.
  - ii. Segregated Airspace Approval.
- d) Minimum Equipment Requirements;
  - i. Direct radio control link between remote pilot and UAV.
  - ii. Frequency Band Restrictions (29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHzmax power 100 mW).
- e) Minimum Operator Requirements;
  - i. All components are in working order in accordance with the supplier's User Manual.
  - ii. Avoiding collisions with people, objects and other aircraft. Do not endanger people or property.
  - iii. GCAA security permission is required before using camera or any other scanning or surveillance equipment.
  - iv. UAV operator shall at all times give way to other aircraft.
  - v. Whenever the UAV Operator hears or sights another aircraft in the vicinity of the UAV operation the UAV shall be landed.
- f) GCAA Requirements;
  - i. GCAA UAV Registration
  - ii. GCAA E-Service UAS Operating Approval.
  - iii. GCAA Security Approval when equipped with camera or other scanning or surveillance equipment.

### 3.8 Category 3A (Table 3D):

- a) UAS Cat 3A operation shall not be permitted in Controlled Airspace.
- b) UAS Cat 3A operation permitted within allocated zone as defined by GCAA.
- b) Minimum Equipment Requirements;
  - i. Direct radio control link between remote pilot and UAV.
  - ii. Frequency Band Restrictions (29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHzmax power 100 mW).
- c) Operational Restrictions and Requirements;
  - i. GCAA approval shall be obtained if operating outside flying clubs airspace or the GCAA allocated defined zone.
  - ii. Applicant shall be at least 21 years of age and shall obtain the necessary security clearance ;

- iii. Operation range is restricted to within line-of-sight and not more than 400' above ground level;
  - iv. UAV not be operated near public and private properties;
  - v. Use of any video or image capturing device shall be prohibited;
  - vi. Drop or release of any article from the aircraft shall be prohibited;
- d) GCAA Requirements;
- i. GCAA UAV Registration. Registration shall be done through Licensing Department
  - ii. The applicant shall fill GCAA form to purchase this category. The form can be obtained from Licensing Department.
  - iii. The security clearance shall be a prerequisite for the permission of operation

### 3.9 Category 3B (Table 3D):

- a) UAS Cat 3B operation shall not be permitted in Controlled Airspace.
- b) UAS Cat 3B operation permitted in Uncontrolled Airspace not above 4500 ft. AGL.
- c) UAS Cat 3B operations in Segregated Airspace shall be permitted subject to:
  - i. GCAA UAS Approval.
  - ii. Segregated Airspace Approval.
- d) Minimum Equipment Requirements;
  - i. Direct radio control link between remote pilot and UAV.
  - ii. Frequency Band Restrictions (29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHzmax power 100 mW).
  - iii. Transponder Mode C
- e) Minimum Operator Requirements;
  - i. All components are in working order in accordance with the supplier's User Manual.
  - ii. Avoiding collisions with people, objects and other aircraft. Do not endanger people or property.
  - iii. GCAA security permission is required before using camera or any other scanning or surveillance equipment.
  - iv. UAV operator shall at all times give way to other aircraft.
  - v. Whenever the UAV Operator hears or sights another aircraft in the vicinity of the UAV operation the UAV shall be landed.

- f) GCAA Requirements;
  - i. GCAA UAV Registration
  - ii. GCAA E-Service UAS Operating Approval.
  - iii. GCAA Security Approval when equipped with camera or other scanning or surveillance equipment.

Type Category	Mass	User Subclass	Class of Airspace & Restriction	Segregated or Integrated Operation	Minimum Equipment Requirements	Operational Restrictions and Requirements	GCAA Requirements
1	5Kg and less	A Private	Not Permitted in control airspace	Within segregated areas approved by GCAA with Minimum Operator Requirements	-Direct radio control link between remote pilot and UAV. - Frequency Band Restrictions( 29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHz max power 100 mW).	<p>-- All UAS components are in working order in accordance with the supplier's User Manual.</p> <p>- Remote Pilot shall maintain the UAV within visual line of sight at all times and maintain an altitude not above 400ft AGL.</p> <p>- The UAS shall not be operated within 300 Meters of any person, vessel, vehicle or structure not under the control of the UAS operator; and additionally, during take-off or landing the UAS shall not be flown within 200 Meters of any person, unless that person is under the control of the aircraft operator;</p> <p>- Remote Pilot shall be responsible for avoiding collisions with people, objects and other aircraft and shall not harass or endanger people or threaten to damage property.</p> <p>- UAV shall not be operated over a congested areas, except with the permission of the GCAA; it shall not fly over public or private properties, or within 5km of UAE's airports outer fence, Heliports, Helicopter landing Sites, and airfields and shall remain clear of control zones.</p> <p>vi. UAV operator shall at all times give way to other aircraft.</p> <p>vii. Whenever the UAV – Whenever the</p>	GCAA UAV Registration required for UAV which have a total mass including batteries and equipment greater than 1/2 kg. Registration shall be done through Licensing Department -

						<p>UAV Operator hears or sights another aircraft in the vicinity of the UAV operation, the UAV shall be landed.</p> <ul style="list-style-type: none"> <li>- Operator of an UAV shall not cause or permit any article (whether or not attached to a parachute) to be dropped from an UAV.</li> <li>- Only day time operation is permitted.</li> <li>- Use of video or image capturing devices shall be prohibited.</li> </ul>	
		<b>B Commer cial/stat e</b>	<b>Controlled Airspace</b>	<b>SEGREGATED</b> -Subject to GCAA UAS Approval -Subject to Segregated Airspace Approval	-Direct radio control link between remote pilot and UAV. - Frequency Band Restrictions( 29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHz max power 100 mW).	<ul style="list-style-type: none"> <li>-All components are in working order in accordance with the supplier’s User Manual.</li> <li>- Avoiding collisions with people, objects and other aircraft. Do not endanger people or property.</li> <li>- UAV operator shall at all times give way to other aircraft.</li> <li>- Whenever the UAV Operator hears or sights another aircraft in the vicinity of the UAV operation the UAV shall be landed.</li> <li>- GCAA security permission is required before using camera or any other scanning or surveillance equipment.</li> </ul>	<ul style="list-style-type: none"> <li>-GCAA UAS Registration.</li> <li>- GCAA E-Service UAS Operating Approval.</li> <li>- GCAA Security Approval when equipped with camera or any other scanning or surveillance equipment *</li> </ul>
			<b>Uncontrolled Airspace</b>				
<b>*As per UAE civil aviation Law Article 9 Aircraft equipped with photographic apparatus shall not be allowed without a prior authorisation by the appropriate Authorities</b>							

*Table 3B: Table of UAS Cat 1 Requirements.*

Type Category	Mass	User Subclass	Airspace & Restriction	Segregated or Integrated Operation	Minimum Equipment Requirements	Operational Restrictions and Requirements	GCAA Requirements
2	More than 5Kg and less than 25 Kg	A Private	Not Permitted in control airspace	Within Sport club airspace or allocated zone as defined by GCAA	-Direct radio control link between remote pilot and UAV. - Frequency Band Restrictions( 29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHz max power 100 mW).	- GCAA approval shall be obtained if operating outside flying clubs airspace or the GCAA allocated defined zones. - Operation range is restricted to within line-of-sight and not more than 400' above ground level; - UAV shall not be operated near public and private properties; - Use of video or image capturing device shall be prohibited; - Drop or release of any article from the UAV shall be prohibited;	- GCAA UAV Registration. Registration shall be done through Licensing Department - The applicant shall fill GCAA form to purchase this category. Form can be obtained from Licensing department - The applicant shall meet GCAA security requirements.
		B Commercial /state	Controlled Airspace Not Permitted  Uncontrolled Airspace -Not above 4500 Ft AGL	SEGREGATED  -Subject to GCAA UAS Approval -Subject to Segregated Airspace Approval	-Direct radio control link between remote pilot and UAV. - Frequency Band Restrictions( 29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHz max power 100 mW).	-All components are in working order in accordance with the supplier's User Manual. - Avoiding collisions with people, objects and other aircraft. Do not endanger people or property. -GCAA security permission is required before using camera or any other scanning or surveillance equipment. - UAV operator shall at all times give way to other aircraft. - Whenever the UAV Operator hears or sights another aircraft in the vicinity of the UAV operation the UAV shall be landed.	-GCAA UAV Registration. - GCAA E-Service UAS Operating Approval. - GCAA Security Approval when equipped with camera or any other scanning or surveillance equipment *
*As per UAE civil aviation Law Article 9 Aircraft equipped with photographic apparatus shall not be allowed without a prior authorisation by the appropriate Authorities							

Table 3C: Table of UAS Cat 2 Requirements.

Type Category	Mass	User Subclass	Airspace & Restriction	Segregated or Integrated Operation	Minimum Equipment Requirements	Operational Restrictions and Requirements	GCAA Requirements
3	25 Kg or more	A Private	Not Permitted in control airspace	Within Sport club airspace or allocated zone as defined by GCAA	-Direct radio control link between remote pilot and UAV. - Frequency Band Restrictions( 29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHz max power 100 mW).	- GCAA approval shall be obtained if operating outside flying clubs airspace or the GCAA allocated defined zone. - Applicant shall be at least 21 years of age and shall obtain the necessary security clearance ; - Operation range is restricted to within line-of-sight and not more than 400' above ground level; - UAV not be operated near public and private properties; - Use of any video or image capturing device shall be prohibited; - Drop or release of any article from the aircraft shall be prohibited;	- GCAA UAV Registration. Registration shall be done through Licensing Department - The applicant shall fill GCAA form to purchase this category. The form can be obtained from Licensing Department. - The security clearance shall be a prerequisite for the permission of operation
		B Commercial/state	Controlled Not Permitted  Uncontrolled -Not above 4500 Ft AGL	SEGREGATE D  -Subject to GCAA UAS Approval -Subject to Segregated Airspace Approval	-Direct radio control link between remote pilot and UAV. - Frequency Band Restrictions( 29.7-47.0 MHz- max power 10 mW OR 2400-2500 MHz max power 100 mW). - Transponder Mode C	-All components are in working order in accordance with the supplier's User Manual. - Avoiding collisions with people, objects and other aircraft. Do not endanger people or property. -GCAA security permission is required before using camera or any other scanning or surveillance equipment. - UAV operator shall at all times give way to other aircraft. - Whenever the UAV Operator hears or sights another aircraft in the vicinity of the UAV operation the UAV shall be landed.	-GCAA UAV Registration. - GCAA E-Service UAS Operating Approval. - GCAA Security Approval when equipped with camera or any other scanning or surveillance equipment *
*As per UAE civil aviation Law Article 9 Aircraft equipped with photographic apparatus shall not be allowed without a prior authorisation by the appropriate Authorities							

Table 3D: Table of UAS Cat 3 Requirements.

## **4 REGULATORY PRINCIPLES**

- 4.1 UAE Civil Aviation Regulation is designed to enable the safe and efficient operation of manned aircraft in all classes of airspace, and hence for UAS operators to be permitted to operate in airspace integrated with manned aircraft they shall be required operate within the same regulatory framework.
- 4.2 UAS operators do not have an automatic right to airspace use. This applies particularly if accepted levels of safety provision cannot be maintained or, if such operations would have an unreasonably negative effect on other airspace users. In order to integrate with other airspace users, UAS operators must ensure that their aircraft can demonstrate an equivalent level of safety, through compliance with the rules and procedures that apply to manned aircraft.
- 4.3 UAS Operators wishing to operate in Segregated Airspace shall submit an application through the GCAA CAAP 41 E-Service – Special Airspace Use request, for GCAA review and approval, prior to the granting of permission to conduct the UAS operation in segregated airspace.
- 4.4 UAS operators must recognise the right and the expectations of other airspace users. As such, the routine flight of any UAS outside of segregated airspace cannot be permitted to increase the risk to existing users and shall not deny use of the airspace to them.
- 4.5 UAS commercial Operators requesting to operate an aircraft with a camera shall be required to include details of the camera usage in the application for GCAA Security review and approval.

## **5 INTERACTION WITH AIR TRAFFIC CONTROL**

- 5.1 Unless special provision is made with the appropriate Air Traffic Control (ATC) unit handling the UAS activity, the provision of an Air Traffic Service (ATS) to a UAS shall be transparent to the Air Traffic Controller. In other words, the controller shall not have to do anything different in the use of R/T or landlines etc. than he would for other aircraft under his control nor should he have to apply different rules or work to different criteria.
- 5.2 UAS Operator who has obtained a GCAA UAS Operation Approval, shall comply with all conditions indicated on the approval.
- 5.3 The UAS Operator shall comply with all ATC Clearances and instructions from the ATC unit and with the minimum equipment requirements applicable to the airspace within which they intend to operate.
- 5.4 On first contact with the ATC Unit, the UAS operator shall ensure that air traffic controllers are fully aware that they are dealing with a UAS flight. Controllers may decide to allocate the UAS Pilot with a Special Callsign or transponder code to highlight they are operating an UAS.

- 5.5 Where “special provisions or conditions” are agreed to with the ATC unit, it is essential that these shall not reduce the situational awareness of other airspace users.
- 5.6 To comply with ATC instructions in a timescale comparable with that of a manned aircraft, it is imperative that the capability of taking immediate active control of the aircraft exists at all times.
- 5.7 Any requirement for special equipment (e.g. SSR Transponder mode S) mandated for manned aircraft in certain airspace shall also be mandated as a minimum requirement for a UAS intending to fly in such airspace.

## **6 SENSE AND AVOID ( required for applicants of special approval to operate in controlled airspace)**

- 6.1 The overriding principle when assessing if a proposed UAS Sense and Avoid function is acceptable shall be that it should not introduce a greater hazard than currently exists. Any proposed function must demonstrate at least equivalence with manned aircraft safety standards and the UAS shall comply with the rules and obligations that apply to manned aircraft including those applicable to separation and collision avoidance.
- 6.2 Any Sense and Avoid Collision Avoidance System shall have the capabilities to:
  - Detect and avoid traffic fitted with transponders (air and ground operations) in accordance with the Rules of the Air;
  - Detect and avoid terrain and other obstacles;
  - Approved by appropriate GCAA Authority.
- 6.3 Additionally Sense and Avoidance System should have the capability to:
  - Detect and avoid all airborne objects, including gliders, hang-glidors, para gliders, micro lights, balloons, parachutists etc.;
  - Avoid hazardous weather;
  - Perform equivalent functions, such as maintaining separation, spacing and sequencing that would be done visually in a manned aircraft.

## **7 UAS OPERATIONS MANUAL**

RESERVED

## **8 OPERATOR TRAINING**

RESERVED

## **9 ACCIDENT/SERIOUS INCIDENT REPORTING**

9.1 Accidents/ Incidents involving the operation of UAS shall be reported to GCAA through the Report of Safety Incident (ROSI). Access to the ROSI is available through the GCAA Website [www.gcaa.gov.ae](http://www.gcaa.gov.ae).

9.2 The following list while not exhaustive includes types of incidents involving UAS Operations, which shall be reported to the GCAA on the ROSI system.

Any UAS involved in an incident, in which the UAV -

- a) Crashes resulting in any injury or fatality to a person, or damage to property;
- b) Experiences a near miss with a manned aircraft or other UAS;
- c) Collides with a building or structure;
- d) Operates without appropriate GCAA approval;
- e) Penetrates controlled airspace without an ATC Clearance;
- f) Conducts photography without an appropriate security approval;
- g) Operation which results in a public nuisance.
- h) Penetrates No flying Zone without appropriate GCAA Approval.

9.3 Any accident or serious incident involving a UAS in which anyone sustains moderate injury or is fatality injured or if the UAV crashes or operates in a manner, where the safety of other aircraft or the public was jeopardized, the incident shall be reported immediately to the 24 Hour GCAA Investigator on the following number 050 641 4667.

## **10 GENERAL REQUIREMENTS AND SAFETY CONSIDERATIONS**

Any operator of an UAS shall only operate a UAS if they are reasonably satisfied that the flight can be conducted safely and in accordance with all UAE Regulations and approval requirements.