

# DUBAI CIVIL AVIATION REGULATIONS FOR UAS OPERATIONS

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#### **Foreword**

This DCAR-UAS is developed to define policies and requirements in the aim of regulating all related to UAS and it's Operations in the Emirate of Dubai.



















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#### **Reference Documents**

| RD1  | Law No. (4) of 2020 Regulating Unmanned Aircraft in | Emirate of Dubai                            |
|------|---|---|
|      | the Emirate of Dubai                                |   |
| RD2  | JAR doc 06 SORA (package)                           | JARUS – Joint Authorities for Rulemaking on |
|      |   | Unmanned Systems                            |
| RD3  | EN 4709-001. Unmanned Aircraft Systems - Part       | ASD-STAN                                    |
|      | 001: Product requirements and verification          |   |
| RD4  | EN 4709-002. Unmanned Aircraft Systems - Part       | ASD-STAN                                    |
|      | 002: Direct Remote Identification                   |   |
| RD5  | EN 4709-003. Unmanned Aircraft Systems - Part       | ASD-STAN                                    |
|      | 003: Geo-awareness requirements                     |   |
| RD6  | EN 4709-004. Unmanned Aircraft Systems - Part       | ASD-STAN                                    |
|      | 004: Lighting requirements.                         |   |
| RD7  | 4444- PROCEDURES FOR AIR NAVIGATION                 | ICAO  |
|      | SERVICES, AIR TRAFFIC MANAGEMENT                    |   |
| RD8  | ASTM F3411-19. Standard Specification for Remote    | ATSM  |
|      | ID and Tracking                                     |   |
| RD9  | SC Light UAS – Special Conditions for Light UAS     | EASA  |
| RD10 | ARP4671. Guidelines and Methods for Conducting      | SAE International / Eurocae                 |
|      | the Safety Assessment Process on Civil Airborne     |   |
|      | Systems and Equipment                               |   |
| RD11 | DO-160, Environmental Conditions and Test           | RTCA  |
|      | Procedures for Airborne Equipment is a standard for |   |
|      | the environmental testing of avionics hardware.     |   |
| RD12 | Unmanned Aircraft Radio Systems                     | TDRA  |
| RD13 | National Frequency Plan                             | TDRA  |
| RD14 | ITU Radio Regulations Resolution                    | ITU   |
| RD15 |   | GCAA  |
|      |   |   |











Federal Decree-Law No. (26) Concerning the Regulation of the Civil Use of Unmanned Aircraft and Related Activities.

















## **Abbreviations**

| Acronym | Definition  |
|---------|---|
| ADS-B   | Automatic Dependent Surveillance-Broadcast        |
| AEH     | Airborne Electronic Hardware                      |
| AIP     | Aeronautical Information Publication              |
| AMC     | Applicable Means of Compliance                    |
| AMSL    | Above Mean Sea Level                              |
| ANSP    | Air Navigation Service Provider                   |
| ATC     | Air Traffic Control                               |
| ATM     | Air Traffic Management                            |
| ATOL    | Automatic Take-off and Landing                    |
| BVLOS   | Beyond Visual Line of Sight                       |
| C2      | Command and Control                               |
| C3      | Command, control and communications               |
| CNS     | Communication, Navigation & Surveillance          |
| CONOPS  | Concept of Operations                             |
| COTS    | Commercial Off-The-Shelf                          |
| CRM     | Crew Resource Management                          |
| CTR     | Controlled Traffic Region                         |
| DAA     | Detect And Avoid                                  |
| DANS    | Dubai Air Navigation Services                     |
| DCAA    | Dubai Civil Aviation Authority                    |
| DCAR    | Dubai Civil Aviation Regulations                  |
| DEM     | Digital Elevation Model                           |
| DSO     | Dubai Silicon Oasis                               |
| DoC     | Declaration of Conformity                         |
| DRI     | Direct Remote Identification                      |
| D-UOA   | Dubai UAS Operator Authorization                  |
| DUOSA   | DCAA UAS Operations Safety Assessment             |
| DUOSAM  | DCAA UAS Operations Safety Assessment Methodology |









| Acronym | Definition                             |
|---------|--|
| EASA    | European Union Aviation Safety Agency  |
| EMC     | Electromagnetic Compatibility          |
| EMI     | Electromagnetic Interference           |
| ERP     | Emergency Response Plan                |
| FAA     | Federal Aviation Administration        |
| FATO    | Final Approach and Takeoff             |
| FCS     | Flight Control System                  |
| FH      | Flight Hour                            |
| FPV     | First Person View                      |
| FTL     | Flight Time Limitations                |
| GCS     | Ground Control Station                 |
| GM      | Guidance Material                      |
| GNSS    | Global Navigation Satellite System     |
| GPS     | Global Positioning System              |
| НМІ     | Human Machine Interface                |
| HW      | Hardware                               |
| IAW     | In Accordance With                     |
| LOS     | Line of Sight                          |
| МТОМ    | Maximum Take Off Mass                  |
| NRI     | Network Remote Identification          |
| ОМ      | Operations Manual                      |
| oso     | Operational Safety Objectives          |
| RTK     | Real Time Kinematics                   |
| SAIL    | Specific Assurance and Integrity Level |
| SLA     | Service Level Agreement                |
| SW      | Software                               |
| SWAL    | Software Assurance Level               |
| ТВС     | To Be Confirmed                        |
| TBD     | To Be Defined                          |
|         |  |









| Acronym | Definition                                  |
|---------|---|
| UA      | Unmanned Aircraft                           |
| USP     | UTM Service Provider                        |
| UTM     | Unmanned Aircraft System Traffic Management |
| VTC     | Validation Test Campaign                    |
| VFR     | Visual Flight Rules                         |
| VLOS    | Visual Line of Sight                        |
| VTOL    | Vertical take-off and landing               |



















### هيئة دبي للطيران المدني Dubai Civil Aviation Authority

| Acceptable Means of Compliance | Acceptable Means of Compliance (AMC) are non-binding. The AMC serves as a means by which the requirements contained in the Basic Regulation, and the IR, can be met. However, applicants may decide to show compliance with the requirements using other means.  |
|--------------------------------|--|
| Aerodrome                      | A defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for the arrival, departure, and surface movement of aircraft.   |
| 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 surface of the earth, and that is designated for civilian purposes. This includes all aerial vehicles, such as various types of aircraft and fixed-and rotary-wing balloons.   |
| Airport                        | A demarcated area on the ground, on a water body, or on top of a structure, which meets all relevant internationally recognized standards and requirements, and which is designated for Aircraft landing, take-off, overnight stay, and maintenance. This includes the buildings, control towers, runways, devices, equipment, systems, and other facilities attached to that area.  Airport is a certified aerodrome. |
| Air routes                     | Recognized route on the airspace followed by an aircraft (also referred as air routes).  |
| Airspace                       | The portion of the atmosphere that extends vertically and horizontally above the territory of the Emirate.   |
| Airspace Safety                | The procedures taken by the DCAA to ensure the safety of Airspace in accordance with the relevant recognized international standards.  |
| Approved Area                  | A defined portion of Airspace, approved by the DCAA in coordination with the DANS, within which the conduct of Operations is permitted.  |
| C2 Link                        | The data link between the remotely piloted aircraft and the remote pilot station for the purposes of managing the flight.  |











| Contingency volume     | Area outside of Flight Geography where contingency procedures are applied to return the operation to its desired state.  |
|------------------------|--|
| Controlled Airspace    | The portion of the Airspace that is controlled by the DANS.  |
| Controller             | A qualified Person assigned by an Operator to assist the pilot of a Remotely Piloted Aircraft in safely operating it, or to supervise Autonomous Aircraft Operations.  |
| Controlled ground area | The ground area where the UAS is operated and within which the UAS operator can ensure that only involved persons are present  |
| Crew                   | Qualified person or person(s) assigned by an Operator to perform any duties related to Unmanned Aircraft systems throughout a flight.  |
| Detect and avoid       | The capability to see, sense or detect conflicting traffic or other hazards and take the appropriate action.   |
| <b>Dubai City</b>      | Dubai City refers to urbanized part of the Emirate of the Dubai.   |
| Fatality               | An occurrence of death.  |
| Flight geography       | A geographically defined volume (or chained set of volumes), which can<br>be spatially and temporally defined, that is wholly contained within<br>Operation Volume.  |
| Geo-awareness          | a function that, based on the data provided by Member States, detects a potential breach of airspace limitations, and alerts the remote pilots so that they can take immediate and effective action to prevent that breach.  |
| Geofence               | A virtual three-dimensional perimeter around a geographic point, either fixed or moving, that can be predefined or dynamically generated and that enables software to trigger a response when a device approaches the perimeter (also referred to as geo-awareness or geo-caging). |
| Guidance Material      | Guidance Material (GM) is non-binding explanatory and interpretation material on how to achieve the requirements contained in the Basic Regulation, the IRs, the AMCs and the CSs  |
| Heliport               | An area whose coordinates are defined through signs, whether located on the ground or installed on top of structures, on marine platforms,   |











helicopters, and which meets all relevant internationally recognized

|                             | standards and requirements.   |  |
|-----------------------------|---|--|
|                             |   |  |
| Independent Safety Assessor | A Person authorized by the DCAA to verify whether an Owner or Operator is in compliance with the safety and security procedures, requirements, and conditions required by the DCAA. |  |
| Infrastructure              | All facilities, utilities, and software required for operating Unmanned   |  |
|                             | Aircraft, regardless of the type of their control systems.  |  |
| Occurrence                  | Any act or measure that is related to the operation of an Unmanned  |  |
|                             | Aircraft and that may compromise the safety of its operation or cause   |  |
|                             | harm to life or property.   |  |
| Operational volume          | The combination of the Flight Geography and Contingency Volume.   |  |
| Operation Crew              | The Personnel needed to perform UAS Operation ruled under the   |  |
|                             | Operations Manual and the UAS Operator.   |  |
| Operations                  | The operation of Unmanned Aircraft and their control systems,   |  |
|                             | Operation Tests, and all Related Activities thereof.  |  |
| Operation Tests             | A set of technical procedures and processes to which an Unmanned  |  |
|                             | Aircraft is subjected to verify its airworthiness and to ensure   |  |
|                             | Airspace Safety.  |  |
| Operator                    | A person, organization or enterprise engaged in or offering to engage   |  |
|                             | in an aircraft operation.   |  |
| Post Holder                 | A person, nominated by UAS Operator responsible for the   |  |
|                             | management and supervision of UAS Operations of the Operator.   |  |
| Prohibited area             | A defined portion of Airspace within which the conduct of Operations  |  |
|                             | is prohibited.  |  |
| Remote Control Station      | A set of devices which are used for controlling a UA and which form   |  |
|                             | part of its operating system. This includes any equipment or other  |  |
|                             | components used to pilot the UA.  |  |
| Restricted area             | A defined portion of Airspace within which the conduct of Operations  |  |



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is circumscribed by certain conditions.





| Danger Area | A defined portion of Airspace within which risk factors that may       |
|-------------|--|
|             | compromise the safety of Operations, exist.                            |
| Risk buffer | Additional space to the operational volume as a safety area in case of |
|             | accidents or incidents.  |

| Segregated airspace                               | Airspace of specified dimensions allocated for exclusive use to a specific user(s).  |
|---|--|
| UA Pilot  | A person charged by the operator with duties essential to the operation of a remotely piloted aircraft and who manipulates the flight controls, as appropriate, during flight time.  |
| Unmanned aircraft system traffic management (UTM) | A specific aspect of air traffic management which manages UAS operations safely, economically, and efficiently through the provision of facilities and a seamless set of services in collaboration with all parties and involving airborne and ground-based functions. |
| Unmanned aircraft (UA)                            | An Aircraft flying without a human pilot on board. This includes Radio-<br>controlled Aircraft, Remotely Piloted Aircraft, and Autonomous<br>Aircraft.   |
| Unmanned Aircraft (UA) Airport                    | An area designated for the landing and take-off of Unmanned Aircraft.  |
| Unmanned aircraft system (UAS)                    | Unmanned Aircraft and equipment necessary for the safe and efficient operation of the aircraft.  |
| UAS Operations Safety Assessment                  | An assessment process aiming to validate   |
| UAS Vertiport                                     | An area designated for the landing and take-off of VTOL Unmanned Aircraft.   |
| UAS Operator                                      | Refer to description of Operator.  |
| Unmanned Traffic                                  | Unmanned aircraft system traffic management is an air traffic  |
| Management System                                 | management ecosystem for operations of unmanned aerial systems.  |
| Visual line-of-sight (VLOS)                       | An operation in which the remote pilot or RPA observer maintains direct unaided visual contact with the remotely piloted aircraft.   |









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#### **Validation Test Campaign**

Series of planned test activities which may involve simulation and actual flight activities in validation of an Operator's operations from safety and security requirements perspective.







#### **Applicability**

- (1) DCAR for UAS Operations applies for:
  - (a) any UAS activity including but not limited to:
    - (1) Noncommercial activities,
    - (2) Commercial activities,
    - (3) Experimentation, research, and development activities,
    - (4) Demonstration flights, and
    - (5) UA events.
  - (b) Noncommercial activities are flight activities that are performed within an entity to serve internal business operations purposes of that entity without seeking commercial benefits.
  - (c) Commercial activities are activities where a person or operator use the drone for its purpose of its economic activity. These activities would be including but not limited to:
    - (1) Retail delivery,
    - (2) Inspection,
    - (3) Entertainment and similar,
    - (4) Photography,
    - (5) Aerial survey,
    - (6) Medicine delivery,
    - (7) Building cleaning, and similar.











(d) Experimentation, research, and development activities would be including but not limited







- (1) Unmanned Aircraft research & development,
- (2) Performing UA operations in development of new technologies related or nonrelated to UA,
- (3) Installation or integration of a new equipment or function to UA,
- (4) Experimenting new use of UA,
- (5) Scientific or academic research purposes and similar,
- (6) Manufacturing quality check flights.
- (e) Demonstration flights would be for marketing and selling purposes of UAS.
- (f) UA events would be, including but not limited to, drone shows or drone competitions where multiple drones are used at the same time at the same area.
- (2) This DCAR does not apply to:
  - (a) UAS operated by the military.
  - (b) UAS operated for law-enforcement or national security activities.









# Section A

# Airspace Usage for UAS Operations









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### **Section A Scope**

In this section policies, requirements and supporting references regarding to:

- UAS airspace use, and
- UAS airspace limitations,

are defined.

The policies captured within this section are:

| Policy Code     | Title                                   | Description   |
|-----------------|---|---|
| DCAR.UAS.A.01 - | Airspace Policies for UAS Operations    | This article identifies UAS Operators' responsibility in adherence to UAS airspace policies, limitations, and flight zones. |
| DCAR.UAS.A.02 - | Airspace Limitations for UAS Operations | This article identifies operational limitations that UAS Operators shall adhere to in plan and execution of an operation.   |





















#### **Section A Articles**

#### DCAR.UAS.A.01 - Airspace Policies for UAS Operations

- (a) UAS Operator shall ensure that:
  - (1) intended operations are planned and performed in strict adherence to Dubai Airspace policies and limitations,
  - (2) intended operations are planned in accordance with zones as indicated in Dubai UAS Мар,
  - (3) it has up to date information of Dubai airspace and this information is disseminated within the Operator's organization to concerned people,
  - (4) UAS, external systems and support services involved in the operation are suitable for the intended operation ensuring control of the UA all the time,
  - (5) UAS is suitable to operate in environmental conditions of the Emirate of Dubai.
- (b) Any UAS operation shall not be conducted in:
  - (1) prohibited areas,
  - (2) restricted areas without authorization, and
  - (3) controlled airspace without authorization.
- (c) UAS Operator shall have a valid DUOSA to perform any Advanced Category UAS operations.









#### for DCAR.UAS.A.01 (a)(4) technical capability of UAS GM.01.

Technical characteristics of UA is required to be suitable for the intended operation in terms of including but not limited to:

- (1) altitude,
- (2) speed,
- (3) payload,
- (4) maneuverability,
- (5) frequency usage,
- (6) MTOM, and,
- (7) compatibility to environmental conditions in UAE.

#### GM.02. for DCAR.UAS.A.01Dubai UAS Map

Dubai UAS Airspace Map will show:

- (1) Prohibited Area; where no operation shall fly over. These areas are such as military airspace and similar.
- (2) Restricted Areas; where operations can only be performed with specific authorizations for limited purposes. Restricted areas are including but not limited to:
  - heliports, helicopter landing sites, aerodromes,
  - ii. urban areas where there would be congestion or gatherings of people.
- (3) **Controlled Airspace**; where coordination with ATC is mandatory.













(4) Populated Areas; urban areas where there would be congestions or gatherings of people.

- (5) **UAS Flight Zones**; where UAS operations can be planned in compliancy with limitations for operational categories given in Section E DCAR.UAS.E.01.
- (6) UA Landing Areas.

DCAA may change borders of any UAS Airspace area or zone as needed.

Refer to <a href="https://www.dcaa.gov.ae/drone-map">https://www.dcaa.gov.ae/drone-map</a> for Dubai UAS Map.

GM.03. for DCAR.UAS.A.01 (c) high risk operations

For definition of advanced category operations refer to Section E DCAR.UAS.E.01.





















#### DCAR.UAS.A.02 - Airspace Limitations for UAS Operations

- (a) Any intended operation within Dubai Airspace shall be limited to 120m (393ft) maximum attainable height above the ground,
- (b) Any UAS operation shall be planned in a way to ensure a safety distance from:
  - (1) assemblies of uninvolved people,
  - (2) from any buildings and structures,
  - (3) from other UAs,
  - (4) airport, heliports, helicopter landing sites or airfields.
- (c) Any UAS operation, by any means, shall not allow fly over:
  - (1) military areas,
  - (2) police areas,
  - (3) embassies and prohibited areas designated in Dubai Drone Map.
- (d) Any UAS operation shall not allow to fly continuously over:
  - (1) pedestrian paths,
  - (2) motorways,
  - (3) metro and tram lanes.





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#### GM.01. for DCAR.UAS.A.02(a) operation categories

Refer to Section E DCAR.UAS.E.01 for operation categories.

#### AMC.01. for DCAR.UAS.A.02(b) safety distance

(a) For any UA type, safety distance shall follow rule of 1 to 1. This rule implies that the distance to any people or object defined within Section A DCAR.UAS.A.02 - shall be at a minimum equal to height of the UA from the ground.

#### GM.02. for DCAR.UAS.A.02 (c) flying over or landing on a hospital

Any operation that requires flying next to or landing in a designated place in a hospital requires special permits.

Refer to Section F DCAR.UAS.F.01 for operator authorization.











# Section B

# UAS Importing, Exporting and Trade

















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# **Section B Scope**

In this section policies, requirements and supporting references regarding to:

organizations that are aiming for importing, exporting, selling and distribution of UAS, UAS parts, components, sensors, and add-on systems,

are defined.

The policies captured within this section are:

| Policy Code   | Title                   | Description   |
|---------------|-------------------------|---|
| DCAR.UAS.B.01 | UAS Importing           | This article defines the requirements to be met by the importer of UAS manufactured outside the Emirate of Dubai. |
| DCAR.UAS.B.02 | UAS Exporting and Trade | This article defines the regulatory framework for the UA / UAS sales, exports, and procurement process.           |

















# **Section B Articles**

# DCAR.UAS.B.01. UAS Importing

- (a) Any organization that is intending to import UAS or UAS parts and components, hereinafter referred to as Product, shall be registered and authorized under DCAA.
- (b) For registration under DCAA, organization that is intending importing of Products shall:
  - (1) declare compliance with DCAR and Dubai rules for its activities,
  - (2) apply to DCAA to obtain UAS Import Authorization,
  - (3) have a relevant valid trade license from DED or Dubai Free Zones.
- (c) For registration under DCAA of Products without selling or distribution purposes the importer individual shall:
  - (1) be a registered UA Pilot for recreational purposes, or a registered UA Pilot or UAS commercial, non-commercial, experimentation, events, demonstration flights,
  - (2) apply to DCAA to obtain UAS Import Authorization.
- (d) Importing organization that intends to import Products shall:
  - (1) register all the Products under DCAA before being imported into Dubai.
  - (2) ensure that all the Products are in compliance with general safety requirements of relevant authority,
  - (3) ensure proper packaging is done preventing any risk to the health of any person before shipping the product,











- (4) ensure that documentation and permits are complete required for importing,
- (5) ensure clear information is provided in handling and transportation of the Products,

- (6) ensure labelling for shipping is done as per requirements of the relevant authority,
- (e) Importing organization shall obtain approval from relevant security authorities for importing:
  - (1) of Dual-Use products, parts, and components,
  - (2) or imaging sensors and video cameras intended to be used in UAS.
- (f) Importing organization shall ensure any imported Product have a unique serial number of the manufacturer.
- (g) Importing organization shall provide its name, trade name or trademark, website and its postal address on the Product, or Product's package or accompanying documentation.
- (h) Importing organization shall provide all required information with the Product to place the product in the market.
  - (1) Importing organization shall provide manufacturer's procedures, manuals and instructions including but not limited to operation, maintenance and troubleshooting.
  - (2) Documentation shall clearly identify UAS category, operational limitations and all risks associated to the operation or use of the Product.
- (i) Importing organization shall ensure performance conformity of the Product.
- (j) Importing organization shall ensure proper storage, handling, and transportation not to jeopardize compliance of the Product with its specifications.









- (k) Corrective measures and appropriate actions shall be taken immediately if the Importing Organization considers a Product is not in conformance with the DCAR and other applicable regulations and notify DCAA.
- (I) Importing organization shall register all the UAS sub-systems including but not limited to UA and UA controller, UAS parts, components, and add-on products with DCAA.
- (m)Importing organization shall deregister any Product when the ownership of the Product is transferred to another entity.
- (n) Importing organization shall retain all records of its importing activities related to Products for at least 60 months.
- (o) Importing organization shall provide all records, logs, and any relevant documentation to DCAA or DCAA authorized Independent Safety Assessor (ISA), allowing DCAA to perform announced or unannounced audits in ensuring validity of Importing Organization's compliance with DCAR.

# GM.01. for DCAR.UAS.B.01 (b) registration of importing organization

Importing organization shall register thorough <a href="https://dcaa.gov.ae/">https://dcaa.gov.ae/</a> and upload all required documentation for registration and to obtain authorization for importing of Products.

# GM.02. for DCAR.UAS.B.01 (d) general

Importing Organization is required to apply Dubai Customs guidelines for importing Products.

For Dubai Customs refer to:

https://www.dubaicustoms.gov.ae/en/Pages/default.aspx.

# for DCAR.UAS.B.01 (d)(6) labelling for shipping AMC.01.

(a) Labelling shall be done as per Dubai Customs regulations.













(b) Labelling shall include but not limited to airway bill number and relevant NOC for importing the Product.

# GM.03. for DCAR.UAS.B.01 (e) dual-use products

Dual-use items are goods, software and technology that can be used for both civilian and military applications.

Authorization for importing of dual-use products shall be requested from Security Industry Regulatory Agency (SIRA).

Refer to <a href="https://www.sira.gov.ae/en/home.aspx">https://www.sira.gov.ae/en/home.aspx</a> for further details for proper approval and authorization for importing of Dual-Use products.

# for DCAR.UAS.B.01 (k) notification to DCAA GM.04.

Importing organization is required to notify DCAA through <a href="https://dcaa.gov.ae/">https://dcaa.gov.ae/</a> with the information requested within the notification form.

### AMC.02. for DCAR.UAS.B.01 (I) registration of imported products

- (a) Below details shall be provided by Importing Organization for the registration of an UA:
  - (1) DED registration number,
  - (2) Model and serial number of UA,
  - (3) Main color of UA,
  - (4) Weight of the UA without payload, ancillaries or add-ons,
  - (5) Manufacturer's maintenance, operations and user manuals as applicable.
- (b) Below details shall be provided by the Importing Organization for the registration of a ground controller:
  - (1) DED registration number,
  - (2) Model and serial number of ground controller,











- (3) Manufacturer's maintenance, operations and user manuals as applicable.
- (c) All imported detachable ancillary equipment that are intended to be used in an operation shall be registered, providing their DED registration number and model and serial numbers, including but not limited to:
  - (1) cameras.
  - (2) Imaging sensors,
  - (3) any other sensors and/or probes such as gas detectors,
  - (4) mechanical attachments,
  - (5) carriage attachments,
  - (6) dropping equipment,
  - (7) recovery systems such as parachutes.
- (d) All components that are intended to be used in an operation shall be registered, providing their DED registration number and model and serial numbers, including but not limited to:
  - (1) Batteries, battery packs,
  - (2) Blades and similar,
  - (3) Electric motors, electric motor drivers,
  - (4) Flight control systems,
  - (5) Navigation equipment and systems,
  - (6) Radio communication systems,
  - (7) and other relevant components and systems.

AMC.03. for DCAR.UAS.B.01 (m) deregistration of imported products











(a) In deregistration, importing organization shall define reason of deregistration clearly and declare, including but not limited to, the next owner of the Product with relevant details required by DCAA.

# GM.05. for DCAR.UAS.B.01 (I) and (m) registration and deregistration

Registration and deregistration of Products are required to be done through https://dcaa.gov.ae/.

# AMC.04. for DCAR.UAS.B.01 validity for registration and authorization for importing

To ensure validity of registration and authorization for importing, importing organization shall during the validity period:

- (a) remain in compliance with DCAR,
- (b) allow DCAA or DCAA authorized ISA to access its facilities, documents, records, and other relevant material.
- (c) Failure to adhere DCAR requirements may result in suspension or revocation of registration and authorization for importing.





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# UAS Exporting and Trade DCAR.UAS.B.02.

- (a) Any organization that is intending to distribute, sell or export UAS or UAS parts and components, hereinafter referred to as Product, shall be registered and authorized under DCAA.
- (b) For registration under DCAA, organization that intends selling or exporting of Products shall:
  - (1) declare compliance with DCAR and relevant Dubai rules,
  - (2) apply to DCAA to obtain authorization for distributing, selling and/or exporting,
  - (3) have a relevant valid trade license from DED or Dubai Free Zones.
- (c) Organization that intends to distribute, sell, or export Products:
  - (1) ensure that all the Products are in compliance with general safety requirements of relevant authority,
  - (2) shall take preventive and corrective measures in case of the product turns into an unsafe product,
  - (3) shall not provide any Product that is not in conformity with the declared UAS Category and Products specifications,
  - (4) if notices that Product presents safety or security risk, shall inform the manufacturer and the importer, and immediately notify DCAA.
  - (5) ensure proper packaging is done protecting the environment and preventing any risk to the health of consumers before distributing, selling, or exporting the Product,
  - (6) shall ensure that the product remains safe after the offer,
  - (7) shall ensure proper storage and transportation not to jeopardize safety and compliance with the specifications of the Product,













- (8) shall ensure that required documentation and permits are complete required for distributing, selling or exporting,
- (9) shall ensure Product is accompanied with manufacturer's procedures, manuals and instructions including but not limited to operation and trouble-shooting,
- (10)shall ensure that Product have been registered under DCAA before distributing or selling,
- (d) Organization shall ensure that a Dual-Use product shall not be distributed, exported, or sold prior obtaining approvals and authorizations from relevant security authorities.
- (e) Organization shall retain all records of its distribution, selling or exporting activities related to Products for at least 60 months.
- (f) Organization shall provide all records, logs, and any relevant documentation to DCAA or DCAA authorized Independent Safety Assessor (ISA), allowing DCAA to perform announced or unannounced audits in ensuring validity of Importing Organization's compliance with DCAR.

GM.01. for DCAR.UAS.B.02 (b) registration of selling, distributing or exporting organization

Importing organization shall register thorough https://dcaa.gov.ae/ and upload all required documentation for registration and to obtain authorization for importing of Products.

for DCAR.UAS.B.02 (d) approval for selling, distribution or exporting of dual-use GM.02. products

Authorization for selling, distribution or exporting of dual-use products shall be requested from Security Industry Regulatory Agency.

Refer to https://www.sira.gov.ae/en/home.aspx for further details for proper approval and authorization for selling, distribution or exporting of dual-use products.

AMC.01. for DCAR.UAS.B.02 (d) validity for authorization for distribution, selling or exporting













To ensure validity of registration and authorization for distribution, selling or exporting, organization shall:

- (a) remain in compliance with DCAR,
- (b) allow DCAA or DCAA authorized ISA to access its facilities, documents, records, and other relevant material.

Failure to adhere DCAR requirements may result in suspension or revocation of registration and authorization for importing.





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# Section C

# UAS Design, Manufacture, Assembly, Modification and Maintenance















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# **Section C Scope**

This section provides the requirements and the registration and authorization procedures for UAS Manufacturers and Maintenance Organizations to design, manufacture, assemble, modify and maintain in reference to higher level rules and regulations, recognized international regulations and standardizations, as well as Dubai policies and directives in relation with established UAS Categories.

In this section policies, requirements and supporting references regarding to:

- Requirements for UAS Manufacturers Organizations,
- UAS Manufacturer registration and authorization process,
- Requirements for UAS Maintenance Organizations,
- UAS Maintenance registration and authorization process,

are defined.

The policies captured within this section are:

| Policy Code   | Title                                       | Description  |
|---------------|---|--|
| DCAR.UAS.C.01 | UAS Manufacturers                           | This article defines organizational requirements for UAS designers and manufacturers for the production, integration, assembly, and modification of UAS. |
| DCAR.UAS.C.02 | Responsibilities of the UAS<br>Manufacturer | This article defines responsibilities of UAS manufacturer that intends to manufacture, import and distribute UAS.  |









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|--------------------|--|--|
| DCAR.UAS.C.03      | UAS Maintenance Organizations  | This article defines organizational requirements for UAS Maintenance organizations to perform maintenance activities, implement updates over the UAS system or required modifications. |
| DCAR.UAS.C.04      | Responsibilities of the UAS  Maintenance Organization in basic category    | This article defines responsibilities of UAS Maintenance Organization that intends to perform maintenance activities, implement updates over the UAS systems in basic category.        |
| DCAR.UAS.C.05      | Responsibilities of the UAS  Maintenance Organization in advanced category | This article defines responsibilities of UAS Maintenance Organization that intends to perform maintenance activities, implement updates over the UAS systems in advanced category.     |







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# **Section C Articles**

# DCAR.UAS.C.01. UAS Manufacturers

This article establishes the requirements for the manufacturers of UAS to be operated in the Emirate of Dubai classified as per the UAS Operation Categories for non-commercial, commercial, demonstration flight, events, and experimental purposes.

- (a) A UAS Manufacturer shall be considered as:
  - (1) Any legal entity with valid trade license to manufacture, import and distribute a UAS model under its brand, or modify an existing UAS from the local market.
  - (2) Privately built UAS assembled or manufactured for the manufacturer's own use, excluding UAS assembled from sets of components placed on the market in the form of a single ready-to-assemble kit.
- (b) As it is not intended for commercialization, the builder of a privately built UAS shall not be considered as a "Commercial UAS Manufacturer" in the sense of previous article, that is, there is no offer or agreement for the transfer of its ownership or any other property rights.
- (c) UAS Manufacturers aiming law enforcement of defense applications are exempt from complying with the current DCAR.

# GM.01. for DCAR.UAS.C.01 (a)(1) activities of UAS manufacturer

The products included as part of the activities of the UAS manufacturer include, apart from the UA:

(1) The ground control equipment utilized for the control or mission management of the operation.









- (2) Other add-ons flight critical or air traffic control related needed for communication with ATM or UTM.
- (3) Remote Server hosted software services needed to plan, execute and gather flight critical data during the UAS Operation.
- (4) Any imaging sensors or sensors and payloads manufactured for other purposes.

# for DCAR.UAS.C.01 (a) general GM.02.

Commercial UAS Manufacturers also include the following organizations.

- (1) UAS importers and distributors.
- (2) Any UAS Operator that uses his own trademark on the original UAS.
- (3) Any Commercial Organization that modifies the UAS model for its own use or to be provided to third parties.









# DCAR.UAS.C.02. Responsibilities of the UAS Manufacturer

- (a) Any UAS Manufacturer intending to manufacture, import and distribute UAS aiming basic or advanced category, shall:
  - (1) be registered as UAS Manufacturer under DCAA,
  - (2) declare conformance to the UAS Category intended for its product,
  - (3) perform product conformance to the intended UAS Category prior to commercialization of any intended UAS model,
  - (4) ensure measures necessary are implemented to control configuration and traceability of the products manufactured, and ensured compliance with the UAS model design imported, modified, or distributed,
  - (5) name a legal or authorized representative responsible for the fulfillment of the previous requirements,
  - (6) keep a register with the manufactured UAS models, configuration, and technical characteristics.

# for DCAR.UAS.C.02 (a)(1) registration of UAS manufacturer AMC.01.

- (a) The UAS Manufacturer shall submit application through <a href="https://dcaa.gov.ae/">https://dcaa.gov.ae/</a> with the following attachments:
  - (1) Registration details of the UAS Manufacturer organization,
  - (2) Contact information for the legal representative,
  - (3) Statement of commitment with DCAR by legal representative,











(4) Copy of a valid Dubai Department of Economy & Tourism or Dubai Free Zones trade license including relevant activity for manufacturing UAS.

### for DCAR.UAS.C.02 (a)(2) UAS category conformance AMC.02.

- (a) UAS Conformance to basic category shall be demonstrated through design analysis or through testing by DCAA approved ISA.
- (b) In the case of Advanced Category, the UAS conformance shall be demonstrated through UAS Operation Approval process (refer to Section F DCAR.UAS.F.07) with an authorized UAS Operator.
- (c) UAS product conformance, for any category, shall be kept along the lifecycle of each UAS model and its modifications, and the UAS manufacturer shall report with any modification that may affect the conformance of the product or alter its behavior, performance, or functions.
- (d) Maintenance manuals shall be assessed as part of the UAS model design by ISA during conformance evaluation.
- (e) Specific training plans and authorizations for third parties to maintain conformance of the UAS in service shall be required for UAS under Advanced Category.

### AMC.03. for DCAR.UAS.C.02 (a)(4) configuration control

- (a) UAS Manufacturer Organization shall have under control all the manufactured UAS and UAS related products in order to:
  - (1) Provide each UAS with a unique serial number.
  - (2) Assure every UAS manufactured under the same model, versions and revisions configuration control is properly performed.











- (3) Implement a registry with all the supplier and parts received during the lifetime of the product in service.
- (4) Provide the necessary training plans and maintenance manuals to keep the conformance of the UAS throughout its life in service.

# for DCAR.UAS.C.02 (a)(5) authorized representative AMC.04.

(a) The authorized representative may be the same as the legal representative of the UAS Manufacturer Organization or a different one. Its ID and contact details shall be affixed to the registration information.

# for DCAR.UAS.C.02 (a)(6) technical documents and records AMC.05.

- (a) The technical documentation associated with a UAS model shall be at least the same as the documentation required to register the UAS under the DCAA portal.
- (b) The technical documentation shall include technical documentation associated with the UAS utilized to operate and maintain the UAS.
- (c) The technical documentation shall include the unique identifier or name, version, and revision for all the configuration items that form the UAS, as well as for the technical documentation.

















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# DCAR.UAS.C.03. UAS Maintenance Organizations

(a) The UAS Maintenance Organization is any commercial organization in charge of the continuous airworthiness and serviceability of the UAS intended for non-commercial, commercial, events, demonstration flights and experimental purposes, under basic and advanced category UAS Operations.























# DCAR.UAS.C.04. Responsibilities of the UAS Maintenance Organization in Basic Category

(a) Any organization in charge of the maintenance activities of the UAS in basic category operations shall follow the UAS Manufacturer instruction to overcome the maintenance activities.

















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# DCAR.UAS.C.05. Responsibilities of the UAS Maintenance Organization in Advanced Category

- (a) Maintenance activities and maintenance plans performed for UAS in advanced category operations shall be performed by training and qualified personnel on the UAS maintenance manuals and plans. For that reason, the organization shall:
  - (1) follow a maintenance plan elaborated as per UAS maintenance manuals, included in the Operations Manual of the UAS Operator,
  - (2) describe the training plan and competencies for the personnel in charge of the UAS maintenance activities.
  - (3) keep a register with all the qualification and trainings performed,
  - (4) keep an updated list of the valid and qualified personnel in the organization eligible to perform the maintenance activities,
  - (5) keep the maintenance logbook with all the maintenance activities performed on the UAS.

# GM.01. for DCAR.UAS.C.05 (a)(1) maintenance plan

- (1) The maintenance plan for Advanced Category UAS shall be elaborated by the UAS Operator based on the UAS maintenance manuals and other relevant UAS technical documentation.
- (2) The maintenance plan suitability shall be verified and validated during the DUOSA process or conformance to an existing UAS Operation Approved.
- (3) The UAS Operator may widen the scope of the maintenance activities as far as the measures provided will conservatively ensure serviceability of the UAS and safety of the intended UAS Operation.

# for DCAR.UAS.C.05 (a)(2) maintenance training









(a) Qualification and training of the personnel in charge of the maintenance activities could be defined by the UAS Operator or by the UAS Manufacturer, depending on the criteria of the UAS Manufacturer and its UAS technical documentation.

# for DCAR.UAS.C.05 (a)(3) training records

(a) The register shall be kept for at least 60 months for auditing purposes and occurrence investigation.

# for DCAR.UAS.C.05 (a)(5) maintenance records AMC.03.

- (a) The maintenance logbook shall contain at least:
  - (1) UAS designation through model and serial number,
  - (2) maintenance activity performed and reference to the UAS maintenance instructions,
  - (3) personnel identification in charge of the execution of the activities described,
  - (4) date and time when the activity was performed,
  - (5) any issues encountered during the execution of the maintenance activities.
  - (6) clear designation of the parts replaced or maintained as per UAS technical documentation.
- (b) The maintenance logbook shall be kept for at least 60 months and the lifespan of the UAS in service for auditing purposes and occurrence investigation.







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# Section D UAS Radio Frequency Use



















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# **Section D Scope**

In this section, policies, requirements and supporting references are defined regarding to frequency bands that are allowed to be used for UAS Operations.

The policies captured within this section are:

| Policy Code   | Title   | Description   |
|---------------|---|---|
| DCAR.UAS.D.01 | Frequency bands for radio communications in UAS Operations                  | This article identifies the radio bands reserved for UAS operations.  |
| DCAR.UAS.D.02 | Frequency bands for radio communications for UA Pilot and ATC or aerodromes | This article identifies the radio band requirements for communications between UA Pilot and ATC/aerodromes. |
| DCAR.UAS.D.03 | Command and control direct communications                                   | This article identifies the radio band requirements for direct RF link between UA Pilot and UA.             |
| DCAR.UAS.D.04 | Command and Control network communications                                  | This article identifies the network communication requirements between UA Pilot and UA.                     |
| DCAR.UAS.D.05 | Direct Radio Electronic Conspicuity of the UA                               | This article identifies the radio band requirements for direct electronic conspicuity of UA.                |
| DCAR.UAS.D.06 | Network Radio Electronic Conspicuity of the UA                              | This article identifies the network communication requirements for direct electronic conspicuity of UA.     |
| DCAR.UAS.D.07 | Network Radio Communications between UAS and UTM                            | This article identifies the network communication requirements between the UAS and the UTM.                 |
| DCAR.UAS.D.08 | Radio communications between UA Pilot and the operation crew                | This article identifies the radio band requirements for communication between UA Pilot and Operations Crew. |

















## **Section D Articles**

## DCAR.UAS.D.01. Frequency bands for radio communications in UAS Operations

(a) The equipment and infrastructures utilized for the voice and data communications that is intended to be used in UAS Operations shall strictly adhere to TDRA for license-free and licensed frequencies, and other relevant Dubai Laws and Regulations.























# DCAR.UAS.D.02. Frequency Bands for Radio Communications for UA Pilot and ATC or Aerodromes

The equipment and operational procedures assigned for the voice radio communications between UA Pilots and ATC or aerodromes shall follow DCAR as per the following requirements:

- (a) UA Pilots operating in a nearby area or in the same airport, aerodrome or vertiport, shall use an aeronautical VHF frequency for communications with the airport, aerodrome or vertiport authorities.
- (b) The VHF frequency shall be designated by the competent authority.
- (c) UA Pilots operating from remote areas and unable to establish communication via Airband VHF, may use other communication means to coordinate operations under agreement with the relevant ATC or aerodrome authority.

#### for DCAR.UAS.D.02 (c) VHF Airband GM.01.

Frequencies assigned for VHF Airband are considered the frequencies between 108 and 137 MHz (refer to ITU Radio Regulations Resolution 413 (REV.WRC-12))

#### AMC.01. DCAR.UAS.D.02 (c) other means of communication

Other communication means agreed with ATC or aerodrome authorities may use direct or network communications that shall ensure adequate integrity and performance of the communications.











### DCAR.UAS.D.03. Command and Control Direct Communications

Command and control, and any flight critical direct communications shall be provided by the UAS Operator and the UAS, and under considerations of the category of operation:

- (a) The UAS Operator shall be responsible to ensure adequate signal quality for the effective control of the UA, depending on the frequency, the location assigned for the flight plan and the UAS Category:
  - (1) Basic Category operations shall adhere to license-free frequencies defined by TDRA.
  - (2) Advanced Category UAS Operations shall adhere to license free frequencies and shall be allowed to utilize licensed frequency bands if duly justified under security and safety critical scenarios and following the required procedures by TRA to utilize those bands.
  - (3) for Certified Category shall use licensed frequency bands as per agreed certification basis and following procedures established by DCAA.
- (b) Radio frequency bands used for command-and-control direct communications shall strictly meet TDRA frequency allocation and conditions of use for Unmanned Radio Systems, licensed frequencies, licensed free frequencies, and other relevant Dubai Laws and Regulations.

#### AMC.01. for DCAR.UAS.D.03 (b) TDRA

TDRA frequencies and technical conditions of use by transmitters and receivers from the UA and its ground segment are defined by UAE Federal Law by Decree No 3 of 2003.











## DCAR.UAS.D.04. Command and Control Network Communications

Command and control network communications and relative communication infrastructures; either under the control of the UAS Operator or provided as a service by a third party; shall be provided by the UAS Operator and adhere to the following conditions according to the intended category of operation:

- (a) The UAS Operator shall be responsible to ensure adequate signal quality and performance for the effective control of the UA, depending on the frequency or frequencies, the network services, the location assigned for the flight plan and the UAS Category:
  - (1) Basic Category shall not use network communications for their command-and-control communications.
  - (2) Advanced Category shall be allowed to utilize command and control communications through network under license-free or licensed frequencies.
  - (3) Certified Category Operations shall be allowed to utilize command and control communications through network under licensed frequencies strictly allocated to aviation related communications.
- (b) Radio frequency bands used for direct command and control shall strictly adhere to:
  - (1) TDRA requirements for available, licensed frequencies, license-free frequencies,
  - (2) and other relevant Dubai Laws and Regulations.
- (c) The UAS Operator shall ensure that infrastructures and communications utilized to facilitate the network communications shall be secured and protected from unauthorized access.

## AMC.01. for DCAR.UAS.D.04 (a)(2) communication netwroks

LTE, 4G, 5G and satellite communication networks assigned to commercial purposes could be found valid for Advanced Category operations.



















## DCAR.UAS.D.05. Direct Radio Electronic Conspicuity of the UA

Direct Radio Electronic Conspicuity data, equipment and communication means utilized in UAS Operations shall comply with the following requirements:

- (a) Radio frequency bands used to broadcast Direct Radio Electronic Conspicuity messages shall strictly adhere to TDRA frequency allocation and conditions for license-free frequencies, and other relevant Dubai Laws and Regulations.
- (b) Direct Radio Electronic Conspicuity devices and sensors installed on the UA shall work independent from UAS command and control radio communications.
- (c) Communication protocol and frequencies shall allow the usage of commercial devices for the reception of the broadcasted data.
- (d) Information broadcasted for Electronic Conspicuity shall include but not limited to UA identification, UAS Operator Identification, UAS Operation Category, UA location and flight trajectory related information in a timely basis and UA status.
- (e) Communication means and equipment utilized to facilitate broadcast of the Electronic Conspicuity data shall be protected from unauthorized access or modification of the data.
- (f) UTM systems shall be able to display information provided through Direct Radio Electronic Conspicuity messages.

## AMC.01. for DCAR.UAS.D.05 general

Standard specifications for data broadcasted and protocol such as ASD-STAN prEN 4709-002 P1 and ASTM F3411-22a are acceptable for Direct Radio Electronic Conspicuity devices and data protocols.











These standards will be applied in a tailored manner as per DCAA requirements that are to be provided.











## DCAR.UAS.D.06. Network Radio Electronic Conspicuity of the UA

Network Radio Electronic Conspicuity data, equipment, infrastructures, and communication means utilized in UAS Operations shall comply with the following requirements:

- (a) Radio frequency bands used to provide Network Radio Electronic Conspicuity messages in UTM Airspace shall strictly meet TDRA frequency allocation and conditions for licensed and license free frequencies, and other relevant Dubai Laws and Regulations.
- (b) Device and sensors responsible for the Network Radio Electronic Conspicuity of the UA shall be part of the UA, and independent from command-and-control radio communications.
- (c) Information provided to the UTM for Electronic Conspicuity shall include but not limited to UA identification, UAS Operator authentication data, UA location and flight trajectory related information in a timely basis and UA status.
- (d) Communication means and equipment utilized to measure location data, trajectory related data, identification data and authentication shall be secured, protected from unauthorized access or modification of the data.
- (e) Service provider for electronic conspicuity shall ensure required communication performance, quality and security of the data provided by the UAS.
- (f) UTM systems shall be able to display information provided through Network Radio Electronic Conspicuity messages.

## AMC.01. for DCAR.UAS.D.06 (b) data protocol

Standard specifications for data broadcasted and protocol such as ASD-STAN prEN 4709-002 P1 and ASTM F3411-22a are acceptable for Network Radio Electronic Conspicuity devices and data protocols.











These standards will be applied in a tailored manner as per DCAA requirements that are to be provided.













## DCAR.UAS.D.07. Network Radio Communications between UAS and UTM

Network Radio Communications, data, equipment, and infrastructures utilized in UAS Operations shall comply with the following requirements:

- (a) Radio frequency bands used to provide Network Radio Electronic Conspicuity messages in UTM Airspace shall strictly meet TDRA frequency allocation and conditions for licensed and license free frequencies, and other relevant Dubai Laws and Regulations.
- (b) Network Radio Communications with UTM shall be part of the UAS, and independent from command-and-control radio communications on the UAS.
- (c) Information received from the UTM will depend on the services provided by the UTM Service Provider and shall include but not limited to Airspace Situational Awareness, Weather conditions, and flight permits.
- (d) UTM service provider shall ensure required communication performance, quality and security of the data provided to the UAS.

#### AMC.01. for DCAR.UAS.D.07 (b) communications with UTM

Communications with UTM may use the same network radio communications as per network radio electronic conspicuity.









# DCAR.UAS.D.08. Radio Communications between Pilot and The Rest of the Operation Crew

- (a) UAS Operator shall be responsible to provide secure, acceptable communication means and signal quality between the operation crew members, and it shall adhere to TDRA frequency allocation and conditions for licensed free frequencies, and other relevant Dubai Laws and Regulations.
- (b) The radio communications shall adhere to the intended UAS Category and intended operation, as per the following considerations:
  - (1) For Basic Category operations no communications with Operation crew are contemplated.
  - (2) For Advanced Category UAS Operations shall adhere to license free frequencies for direct communications and network communications.
  - (3) For Certified Category shall use licensed frequency bands and VHF Airband as per agreed certification basis and following procedures established by DCAA.



















# Section E

# Categories of UAS Operations









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# **Section E Scope**

In this section policies, requirements and supporting references regarding to:

- UAS operations applicability,
- UAS operation types,
- UAS operations categories and associated UAS requirements,

are defined.

The policies captured within this section are:

| Policy Code   | Title   | Description  |
|---------------|---|--|
| DCAR.UAS.E.01 | UAS Operations Categories   | This article identifies operation categories and compatible UAS technical characteristics, specifications and limitations that are required to operate in an operation category. |
| DCAR.UAS.E.02 | Requirements for UAS to be used in Basic Category Operations      | This article identifies requirements that a UAS shall be in compliance to be authorized for operations in Basic Category.  |
| DCAR.UAS.E.03 | Requirements for UAS to be used in Advanced Category A Operations | This article identifies requirements that a UAS shall be in compliance to be authorized for operations in Advanced Category A.   |
| DCAR.UAS.E.04 | RESERVED - Advanced Category B                                    |  |
| DCAR.UAS.E.05 | RESERVED - Advanced Category C                                    |  |











| DCAR.UAS.E.06 | RESERVED – Certified Category |  |
|---------------|-------------------------------|--|
|               |                               |  |



















## **Section E Articles**

## DCAR.UAS.E.01. UAS Operations Categories

- (a) An UAS operation shall be categorized as Basic Category if:
  - MTOM of UA is less than 25 kg, including all ancillaries, payloads, batteries, add-ons, and any other installations on the UA, and
  - (2) it is a VLOS operation, and
  - (3) UA Pilot shall remain in a fixed location throughout the operation, and
  - (4) have been limited to 120m (393ft) maximum attainable height above the ground, and
  - (5) have a maximum characteristic dimension of less than 3m, and
  - (6) maximum operating speed is less than 19 m/s.
- (b) An UAS operation shall be categorized as Advanced Category A if:
  - (1) MTOM of UA is less than 25 kg, including all ancillaries, payloads, batteries, add-ons, and any other installations on the UA, and
  - (2) have a maximum characteristic dimension of less than 3m, and
  - (3) have been limited to 120m (393 ft) maximum attainable height above the ground, and
  - (4) intended operation is a high-risk operation.
- (c) An UAS Operation shall be categorized as Advanced Category B if:
  - (1) MTOM of UA is less than 600 kg, including all ancillaries, payloads, batteries, addons, and any other installations on the UA, or,













- (2) have a maximum characteristic dimension of less than 8 m.
- (d) An UAS Operation shall be categorized as Advanced Category C if the intended operation is to take place in non-segregated airspace.
- (e) An UAS operation shall be categorized as Certified Category for:
  - (1) Freights using controlled airspace / airports / IFR,
  - (2) Air taxis, manned transportation,
  - (3) International / cross-border flights.
- (f) Any type of operation, including but not limited to below list, shall be considered in one of the categories given in this DCAR:
  - (1) recreational flights,
  - (2) noncommercial flights,
  - (3) commercial flights,
  - (4) experimentation, research, and development activities,
  - (5) demonstration flights, and
  - (6) UA events.
- (g) For all types of operations, except Recreational Flights, DCAR policies shall be strictly adhered to in compliancy with the proper operation category.

#### GM.01. for DCAR.UAS.E.01 (a)(2) VLOS

VLOS is required to be limited to maximum 500 meters away from the UA Pilot in the Emirate of Dubai.













DCAA may change the VLOS limit depending on the operation and UA.

#### GM.02. for DCAR.UAS.E.01 (a)(3) UA Pilot Location

UA Pilot is required to remain close to the take-off and landing location.

The distance should be enough for the UA Operator to safely perform landing and take-off.

DCAA may specify distance to take-off and landing point depending on the operation and UA.

#### GM.03. For DCAR.UAS.E.01 (b)(4) high-risk operations

An operation shall be considered as high-risk operations if at least one of below cases are valid:

- (a) any operation requiring flights beyond visual line of sight (BVLOS) for any MTOM of UA, or
- (b) any operation requiring to carry, transport, deliver or drop external materials, or
- (c) any operation requiring fly over infrastructure, buildings, private or public areas, residential, commercial, or industrial areas, or
- (d) any operation requiring flight in the vicinity of or fly over uninvolved or assemblies of people for any MTOM of UA,
- (e) any cross-border operation between different Emirates,
- (f) any operation in an urban environment.

#### GM.04. for DCAR.UAS.E.01 (b) and (c) limits for advanced category operations

DCAA may apply speed limit for a given operation, depending on the operational conditions provided within the ConOps.











DCAA may change (decrease or increase) maximum attainable height above the ground for a given operation, depending on the operational conditions provided within the ConOps.

for DCAR.UAS.E.01 (f) recreational flight activities GM.05.

For recreational flight regulations refer to Section G.







#### DCAR.UAS.E.02. Requirements for UAS to be used in Basic Category Operations

UAS that are to be used in Basic Category Operations shall:

- (a) provide the UA Pilot with clear and concise information on the height of the UA above the ground,
- (b) be safely controllable with regards to stability, handling, maneuverability, and the commandand-control link performance, by a remote pilot following the manufacturer's instructions, as necessary under all anticipated operating conditions including the failure conditions,
- (c) be able to withstand all possible loads and flight conditions stated by the manufacturer's instructions,
- (d) be equipped with a data link protected against unauthorized access to the command-andcontrol functions.
- (e) provide the UA Pilot an alert when the link is degraded,
- (f) provide the UA Pilot an alert when the link is lost,
- (g) be exclusively powered by electricity,
- (h) have a unique physical serial number labeled or plated on the UA,
- (i) provide the UA Pilot with clear warning when the battery of the UA or its Command Unit reaches to a low level ensuring that the remote pilot has sufficient time to safely land the UA,
- (j) be equipped with lights for the purpose of visibility and controllability of the UA,
- (k) be installed with DCAA approved remote identification system providing clear and detailed information about the UAS, Operator and the intended operation,













- (I) be equipped with DCAA approved geo-awareness system managing operation area information and limitations,
- (m)have a user's manual providing operational and maintenance instructions,

#### AMC.01. for DCAR.UAS.E.02 (e) link degradation

UAS shall provide warning for the degraded link with a manner indicating the degree of the link degradation.

#### AMC.02. for DCAR.UAS.E.02 (k) remote identification system

- (a) ensure, in real time during the whole duration of the flight, provide to UTM below information:
  - (1) the UAS operator registration number,
  - (2) the unique physical serial number of the UA,
  - (3) flight permit number,
  - (4) the time-stamp, the geographical position of the UA and its height above the ground,
  - (5) the route course measured clockwise from true north and ground speed of the UA,
  - (6) the geographical position of the UA Pilot or, if not available, geographical position of the take-off point,
  - (7) indication of the emergency status of the UAS.

#### GM.01. for DCAR.UAS.E.02 (k) DCAA approval for remote identification system

Remote Identification System should be used and maintained as per its User Manual.











Remote Identification System is required to provide specified information to UTM accurately without faults. In case of failures in providing accurate information to UTM, DCAA may reject or cancel approval of the system.

## AMC.03. for DCAR.UAS.E.02 (I) geo-awareness system

- (a) Geo-awareness system shall:
  - (1) allow update of data containing information on airspace limitations related to UA position and altitude imposed by the geographical zones,
  - (2) provide a warning alert to the UA Pilot when a potential breach of airspace limitations is detected,
  - (3) provide information to the UA Pilot on the UA status as well as a warning alert when UA's positioning or navigation systems cannot ensure the proper functioning of the geoawareness system,
  - (4) have user's manual with instructions and procedures to upload the airspace limitations into the geo-awareness function.

#### for DCAR.UAS.E.02 (I) DCAA approval for geo-awareness system GM.02.

In case of failures in geo-awareness functions specified, DCAA may reject or cancel approval of the system.

#### for DCAR.UAS.E.02 (m) user's manual AMC.04.

User's Manual shall provide including but not limited to:

- (a) general description of UAS, UA Class and UA MTOM,
- (b) description of the payloads allowed, payload integration instructions, payload dimensions, mass, and possible restrictions,









- (c) information about equipment and software to control the UA remotely including description, model, and version, where applicable,
- (d) description of the behavior of the UAS in case of a loss of data link; and the method to recover the command-and-control link of the UAS,
- (e) clear operational instructions,
- (f) maintenance instructions,
- (g) operational limitations including but not limited to meteorological conditions.











## Requirements for UAS to be used in Advanced Category A DCAR.UAS.E.03. **Operations**

In addition to DCAR.UAS.E.02, UAS that are intended to operate in Advanced Category A of operations shall:

- (a) have clearly demonstrated the mass and center of gravity of the UA for the flight configuration for safe operation in the user's manual,
- (b) have clearly demonstrated flight envelope information, environmental conditions, and limitations in the user's manual,
- (c) have a unique physical serial number and other relevant markings and placards necessary for its maintenance and operation,
- (d) be installed with DCAA approved emergency recovery systems:
  - (1) UA shall be installed with DCAA approved Geo-Caging and Flight Termination System to avoid UA to fly out of operation area limitations, and,
  - (2) UA shall be installed with DCAA approved parachute recovery system or an equivalent recovery system to decrease the effect of ground impact.
- (e) provide a human factors study demonstrating that the UAS has been designed using environmental qualification standards and shall provide evidence of its compliance with the stated operational and adverse environmental conditions,
- (f) be compatible to environmental conditions applicable for UAE,
- (g) have DCAA approved Detect and Avoid functionality.









#### AMC.01. for DCAR.UAS.E.03 general

For Advanced Category A operations, all requirements provided within Section E DCAR.UAS.E.02 and DCAR.UAS.E.03 shall be explicitly validated in the actual operational scenarios.

DCAA may request proof of validation or may request validation activity to be performed for these requirements during DUOSA process.

For methodology and process, contact DCAA UAS Team.

#### AMC.02. for DCAR.UAS.E.03 (d)(1) geo-caging and flight termination system

Geo-Caging and Flight Termination System shall:

- (a) provide an interface to load and update data containing geo-cage geography related to UA position and altitude imposed by the assigned operational volume,
- (b) provide a warning alert to the UA pilot when a potential breach of geo-cage is detected,
- (c) provide a function to react automatically to either terminate the flight or implement command maneuvers avoiding breach of the geo-cage,
- (d) be manually and automatically activated to terminate the flight,
- (e) have a ground monitoring and control segment,
- (f) have independent communication means from UAS C2 or Payload Communications,
- (g) be segregated from the UAS flight control system and UA power system,
- (h) demonstrate that no single point of failure causes any catastrophic failure condition,
- (i) shall be tested before every flight,











(j) when Flight Termination is deployed, it shall reduce impact kinetic energy lower than 80J under all possible flight conditions within UA flight envelope.







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#### for DCAR.UAS.E.03 (d) parachute recovery system GM.01.

The parachute recovery system shall:

- (1) be deployed in case of a flight termination,
- (2) be deployed in case of an unintended decrease in altitude with the possibility of a crash.

















## DCAR.UAS.E.04. Requirements for UAS to be used in Advanced Category B **Operations**

To be defined in future phases.

















This document is verified by Aviation Safety &

Environment Sector under Dubai Civil Aviation Authority.





## DCAR.UAS.E.05. Requirements for UAS to be used in Advanced Category C **Operations**

To be defined in future phases.



















#### Requirements for UAS to be used in Certified Category Operations DCAR.UAS.E.06.

To be defined in future phases.



















# Section F

# Responsibilities of UAS Operators















This document is verified by Aviation Safety &





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# **Section F Scope**

In this section policies, requirements and supporting references regarding to:

- Authorization of Operators,
- Responsibilities of Operator for basic and advanced of operation categories,
- Security policies for Operators,
- Occurrence policies and responsibilities,
- Post Holder's role and responsibilities,
- Policies for operation safety approval,
- Flight permit policies,
- Continuous airworthiness policies,
- UAS registration policies,
- Operations Crew policies, and
- Policies in use of aerodromes for UAS operations

are defined.

The policies captured within this section are:

| Policy Code   | Title   | Description  |
|---------------|---|--|
| DCAR.UAS.F.01 | Policies for Dubai UAS Operator<br>Authorization (D-UOA)            | This article identifies UAS Operators responsibilities and requirements to obtain authorization to perform operations in Dubai.              |
| DCAR.UAS.F.02 | General Responsibilities of the UAS Operator                        | This article identifies UAS Operators responsibilities in a comprehensive manner to ensure safe operations in Dubai.                         |
| DCAR.UAS.F.03 | Additional Responsibilities of UAS Operator for Advanced Category A | This article identifies additional responsibilities for Advanced Category A of operations over general responsibilities of the UAS Operator. |
| DCAR.UAS.F.04 | Security Policies for UAS Operators                                 | This article identifies policies that UAS Operator shall adhere to ensure security requirements for its operations.                          |











DCAR.UAS.F.05

Responsibilities of UAS Operator in case of an Occurrence

This article identifies UAS Operator's responsibilities in case of an accident, incident or any safety observation that may lead to termination of an operation.







| DCAR.UAS.F.06 | UAS Operator's Post Holder  | This article identifies responsibilities of an authorized dedicated personnel of UAS Operator in coordination and management of UAS operations. |
|---------------|---|---|
| DCAR.UAS.F.07 | Policies for UAS Operations Safety<br>Approval for Dubai Airspace | This article identifies responsibilities of a UAS Operator in obtaining Safety Approval for its intended Advanced Category A of operation.      |
| DCAR.UAS.F.08 | Flight Permit Policies  | This article identifies requirements for UAS Operator in obtaining permit for a flight activity.  |
| DCAR.UAS.F.09 | Policies for UAS Airworthiness                                    | This article identifies requirements that shall be fulfilled to ensure airworthiness of UAS.  |
| DCAR.UAS.F.10 | Policies for UAS Registration                                     | This article identifies policies for registration of an UAS and UAS parts and components.   |
| DCAR.UAS.F.11 | Responsibilities of UA Pilot                                      | This article identifies UA Pilot's responsibilities and requirements in performing operations in Dubai.   |
| DCAR.UAS.F.12 | UA Pilot Registration, Authorization and Validity                 | This article identifies policies for registration of UA Pilot.  |
| DCAR.UAS.F.13 | UAS Operator Responsibilities for Operations Crew                 | This article identifies responsibilities of Operation Crew in performing operations in Dubai.   |
| DCAR.UAS.F.14 | Operations Crew Registration and Validity                         | This article identifies policies for registration of Operation Crew.  |
| DCAR.UAS.F.15 | Policies for UAS Operator in use of an aerodrome                  | This article defines general operational rules to be followed by UAS operator when they intend use of airports, helipads and vertiports         |
| DCAR.UAS.F.16 | Policies for UAS Operations Crew in use of an aerodrome           | This article defines rules to be followed by UAS Operation Crew when they are inside an airport, aerodrome or a vertiport                       |













## **Section F Articles**

## DCAR.UAS.F.01. Policies for Dubai UAS Operator Authorization (D-UOA)

- (a) Any UAS Operator shall be authorized and registered under DCAA to perform UAS operations in Dubai airspace.
  - (1) UAS Operator shall apply to DCAA to obtain Dubai UAS Operator Authorization (D-UAO).
  - (2) UAS Operator shall declare compliance with DCAR.
- (b) Any UAS Operator intending to perform operations under advanced category, shall apply for DCAA UAS Operations Safety Approval (DUOSA) to obtain D-UAO.
- (c) UAS Operator shall register all its personnel and assets involved in operation including but not limited to UA Pilots, operation crew, maintenance crew, safety personnel, UA(s), UA ground controller(s), payloads, external safety add-ons and similar.
- (d) UAS Operator shall update any change on its registered UA Pilot, operation crew and assets.
- (e) D-UOA shall be valid for the validity period defined by DCAA.

#### for DCAR.UAS.F.01 (a) UAS Operator authorization for UAE based Operators AMC.01.

The required process for authorization for registration is as below:

- (a) UAS Operator shall submit an application through https://dcaa.gov.ae/ with the following attachments:
  - (1) Statement of commitment to compliance with DCAR by legal representative,
  - (2) List of the unmanned aircraft type with serial number, color and mass in kilograms,
  - (3) Copy of Dubai Department of Economy & Tourism or Dubai Free Zone trade license,













- (4) List of operation crew, their ID copies.
- (b) UAS Operator shall register to DCAA e-publication,
- (c) UAS Operator shall submit below additional documentation:
  - (1) In case of a demonstration flight activity:
    - i. A detailed description of the proposed operation,
    - ii. A formal invitation or request for demonstration flight from a local potential buyer
  - (2) In case of an event flight activity:
    - i. A detailed description of the proposed operation,
    - ii. A formal contract for event flight from a local customer.
  - (3) In case of an experimentation flight activity:
    - i. A detailed description letter for the purpose of experimentation and the operation.
- (d) UAS Operator shall seek assistance by contacting <u>DCAA Customer Happiness</u> on the following contact details:

i. Overseas: 0097147770000

ii. Contact Number: 80083222

iii. Email: info@dcaa.gov.ae

iv. Fax: 0097142244573.

#### AMC.02. for DCAR.UAS.F.01 (a) UAS Operator authorization for non-UAE based Operators

For temporary short-term activities such as demonstration in an exhibition of non-UAE based companies,

(a) UAS Operator shall submit an application through <a href="https://dcaa.gov.ae/">https://dcaa.gov.ae/</a> with the following attachments:













- (1) Application with description of the proposed operations,
- (2) Statement of commitment to compliance with DCAR by legal or authorized representative,
- (3) List of the unmanned aircraft type with serial number, color and mass in kilograms,
- (4) Copy of trade license or equivalent,
- (5) Operator registration from the foreign civil aviation authority,
- (6) UA registration certificate from the foreign civil aviation authority,
- (7) UA Pilot(s) passport copy and UA Pilot certification(s),
- (8) List of operation crew, their passport copies.
- (b) UAS Operator shall seek assistance by contacting DCAA Customer Happiness on the following contact details:

i. Overseas: 0097147770000

ii. Contact Number: 80083222

iii. Email: info@dcaa.gov.ae

iv. Fax: 0097142244573

#### GM.01. for DCAR.UAS.F.01 (b) DUOSA application

DUOSA application is done through:

https://dcaa.gov.ae/

For application to DUSOA, UAS Operator is required to submit complete documentation required in master data list required for operations safety validation assessment.

For operations safety validation process and details of master data list requirements, contact DCAA UAS Team.

GM.02. for DCAR.UAS.F.01 (c) UAS Operator registration













To complete registration process Operator needs to register its post holder, UA Pilots, operation crew, maintenance crew, safety personnel, UAs, UA controller(s), payloads, external safety addons and similar persons and equipment through:

## https://dcaa.gov.ae/

For UAS Operator Registration Services assistance contact DCAA Customer Happiness on the following contact details:

Overseas: 0097147770000

Contact Number: 80083222

iii. Email: info@dcaa.gov.ae

i.iv. Fax: 0097142244573

Refer to Section F DCAR.UAS.F.10 for policies for UAS Registration.

#### AMC.03. for DCAR.UAS.F.01 (e) D-UOA validity

The validity period for D-UOA is 12 months.

To ensure validity of D-UOA:

- (b) Operator shall remain in compliance with DCAR,
- (c) Operator shall allow DCAA or DCAA authorized ISA to access its facilities, equipment, plans, procedures, manuals, logs, documents, records, data, and any other relevant material.

Failure to adhere DCAR requirements may result in suspension or revocation of D-UOA.

#### GM.03. for DCAR.UAS.F.01 submission of applications

For any application it is required to submit at least two weeks before to ensure proper processing of the application.



















#### DCAR.UAS.F.02. General Responsibilities of the UAS Operator

- (a) UAS Operator shall ensure its operations (including pre-flight, flight and post-flight phases) are planned and performed in strict adherence to DCAR and applicable laws of Dubai.
- (b) UAS Operator shall establish and maintain its processes and procedures to ensure performing safe operations.
  - (1) UAS Operator process and procedures shall be defined and available to UA Pilot and operation crew.
  - (2) UAS Operator process and procedures shall define roles and responsibilities of UA Pilot and operation crew.
  - (3) UAS Operator shall dully notify DCAA for any change or update on UAS Operator's process, procedures and manuals affecting the way it operates, including but not limited to pre-flight, flight and post-flight phases, training, safety, and emergency management. DCAA may require validation of updates that occurred in the UAS Operator process and procedures.
- (c) UAS Operator shall ensure all required insurances are obtained before applying for "Flight Permit".
- (d) UAS Operator shall apply DCAA for "Flight Permit" for any type of intended operation.
- (e) Before applying for a "Flight Permit", UAS Operator shall ensure that it has notified and obtained agreement(s) from both private and public property owner(s) that the UA would fly over the concerned property.
- (f) UAS Operator shall ensure any of its operations does not violate privacy of any individual or entity.
- (g) UAS Operator shall ensure that UA never uses any prohibited area for flying over, buffer zone, emergency landing or for any other operational use.













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- (h) UAS Operator shall plan and perform its operations ensuring the safety of individuals, properties, aircrafts, and environment within the operation area.
  - (1) UAS Operator shall ensure that priority is given to manned aircraft operations at any condition.
  - (2) UAS Operator shall ensure that it applies contingency buffers and minimum safety distances as per operation area and UA type.
  - (3) UAS Operator shall ensure containment of the UA within the planned operation area.
  - (4) UAS Operator shall ensure that it applies contingency and emergency plans as per operation and UA type.
  - (5) UAS Operator shall ensure that UA is equipped with a DCAA approved Remote Identification System and make sure that it is operational throughout the operation.
  - (6) UAS Operator shall ensure that Remote Identification System is integrated to UTM providing required information accurately.
  - (7) UAS Operator shall ensure that UA is equipped with a DCAA approved geoawareness system and geo-awareness system data is up to date in compliance with the intended operation and operation area.
  - (8) UAS Operator shall ensure operations are planned and performed in a way that noise and nuisances to people and animals are at minimum.
  - (9) In case of any incidence, in or out of UAS Operator's control, that has potential to impose safety risk to individuals, properties, aircrafts or environment, UAS Operator shall immediately terminate its operation in a safe manner in compliancy with its declared operation procedures.
  - (10) UAS Operator shall notify DCAA in case of any incident, accident, or unplanned termination of operation in compliance with DCAA Occurrence Reporting Process.









- (i) UAS Operator shall establish and maintain a system to exercise its operation plans and train its operation crew ensuring safe performance of operation plan and contingency procedures.
- (j) UAS Operator shall ensure serviceability (i.e., airworthiness) of UAS that is intended to be used in an operation.
- (k) UAS Operator shall ensure its operation crew are qualified and competent for the intended operations.
  - (1) UAS Operator shall ensure that UA pilot and operation crew have competency on the intended operation.
  - (2) UAS Operator shall ensure that UA pilot and operation crew are fully familiar with and strictly adhere to DCAR.
  - (3) UAS Operator shall ensure that UA pilot and operation crew are fully familiar with and strictly adhere to relevant Dubai laws.
  - (4) UAS Operator shall ensure that UA pilot and operation crew are trained and fully familiar with the UAS manufacturer and operator's procedures.
- (I) UAS Operator shall ensure that UA Pilot and operation crew are fit and free from any condition that may impair their capacity to perform the intended operation before initiating the operation.
- (m)UAS Operator shall ensure that UA pilot and operation crew have obtained updated information regarding the operation area.
- (n) UAS Operator shall ensure that UAs are used, and operations are performed for intended and authorized purposes.
  - (1) UA shall not be used for manned transportation.
  - (2) UA shall not be used for any kind of living animal transportation.
  - (3) UA shall not be used for transportation of dangerous goods unless approved by DCAA and authorities approved by DCAA.













- (4) For advanced type of operations, UA shall only be used for activities authorized in accordance with Operator's DUOSA.
- (5) UA shall not be used for hobby or recreational purposes if approved for experimental, demonstration or commercial use.
- (o) UAS Operator shall ensure proper radio spectrum is efficiently used and radio interferences are avoided.
- (p) UAS Operator shall initiate an operation only when all relevant requirements and permits are complete and fulfilled.
- (q) UAS Operator shall ensure that intended operation ground control means are set and used inside the Emirate of the Dubai,
- (r) Before commencement of an operation UAS Operators shall ensure that:
  - all persons in the controlled ground area are informed regarding to intended operation,
  - (2) all persons participating in the intended operation and persons in the ground control area explicitly agreeing with the plan and risks associated to the operation and this agreement is recorded,
  - (3) UA is serviceable, flight and maintenance logs are complete,
  - (4) all operational tools and equipment, including but not limited to, ground controller, payloads, batteries, attachments, spare parts, and add-ons are serviceable,
- (s) During the operation, UAS Operator shall ensure that flight logs are maintained properly, all observations and incidents are recorded, and flight log is signed by the UA Pilot at the end of the operation.
- (t) UAS Operator shall immediately answer any calls made by DCAA to its Post Holder, Pilot or any other operation crew and promptly implement action(s) requested by DCAA.
- (u) UAS Operator shall retain operational information in a secure manner.









- (v) UAS Operator shall provide records, logs and any relevant documentation to DCAA or DCAA authorized Independent Safety Assessor (ISA), allowing DCAA to perform announced or unannounced audits in ensuring validity of Operator's compliance with DCAR.
- (w) While performing an operation, in case DP requires, UAS Operator shall demonstrate all permits and relevant documentation regarding to the operation that is in execution.

#### for DCAR.UAS.F.02 general GM.01.

Refer to Section F DCAR.UAS.F.08for "Flight Permit Policies" for declarations required for flight permit.

#### GM.02. for DCAR.UAS.F.02 (c) insurances

For insurances refer to Section F DCAR.UAS.F.08.

#### AMC.02. for DCAR.UAS.F.02 (f) privacy of individuals and entities

In ensuring privacy of individuals and entities UAS Operator is required to:

- (a) Retain all data records for at least 60 months in a secured environment protected against damage, alteration, or theft.
- (b) The data records to be retained shall be including but not limited to; camera video and picture records, any add-on system records such as Remote Identification System, ground control records, operation plan, flight logs, maintenance logs, relevant permits, and documents.
- (c) Operator is required to clearly describe its Data security approach within its process and procedures.

Refer to Section F DCAR.UAS.F.04 article for data security.

for DCAR.UAS.F.02 (h)(5) and (6) remote identification system and geo-awareness system GM.03.











Refer Section E DCAR.UAS.E.02 AMC.02 for technical requirements of remote identification system and AMC.03 for technical requirements of geo-awareness system.

#### for DCAR.UAS.F.02 (j) airworthiness of UA GM.04.

Refer to Section F DCAR.UAS.F.09 for UAS airworthiness.

## for DCAR.UAS.F.02 (k) operation crew qualifications and competencies

UAS Operator is required to provide necessary training and briefings in a periodic manner to keep its operation crew qualifications and competencies up to date.

- (a) UAS Operator is required to provide all necessary training to its UA pilot and operation crew to perform their tasks for the intended operations.
- (b) UAS Operator is required to provide training and briefings on updates and changes in its organization, operations procedures, systems, tools, and equipment.
- (c) UAS Operator is required to provide briefings about DCAR and relevant Dubai Laws to its Operation Crew every 12 months.
- (d) UAS Operator is required to immediately brief its UA pilot and operation crew on the updates and changes in DCAR and relevant Dubai laws.
- (e) UAS Operator shall retain records of all training and briefings for the pilots and operation crew for at least 60 months.

#### for DCAR.UAS.F.02 (I) operation crew condition AMC.04.

Required conditions to ensure fitness of its operation crew to perform the intended operation are as follows:

- (a) UA Pilot does not conduct UAS operation (including pre and post operation phases) more than 8 hours in total in a day.
- (b) Maximum consecutive operating, time shall be limited to maximum 4 hours.











- (c) Rest between two operation periods shall be provided to the UA Pilot not to be less than half of the period of the completed operation period.
- (d) A minimum period of 12 hours of rest shall be established from the end of an operation shift to the start of the new operation shift the following day.

#### for DCAR.UAS.F.02 (o) radio interference AMC.05.

UAS Operator is required to follow the below to avoid radio interferences for safety of the operation.

- (a) If continuous radio interference or link degradation is observed operation shall be terminated.
- (b) In case of link loss Operator shall ensure that UA immediately terminates the operation and return to home.

Refer to Section D for radio spectrum usage policies.

#### GM.05. for DCAR.UAS.F.02 (r) pre-operation briefing

UAS Operator is required to inform all persons participating to intended operation and persons in the ground control area with information below:

- (a) the plan of the intended operation,
- (b) the safety risks and safety precautions of the intended operation.

#### AMC.06. for DCAR.UAS.F.02 (u) retaining operational information

(a) Operational information shall be retained for at least 60 months.

#### for DCAR.UAS.F.02 (u) operational information GM.06.

Operational information that are required to be retained are including but not limited to:

(a) Date of the flight,











- (b) Start and end time of the flight,
- (c) Flight plan, operation area and flight coordinates,
- (d) Flight activity details:
  - (1) Operation Category,
  - (2) Activity type,
  - (3) Exact location with coordinates,
- (e) Name of the Pilot, other operation crew names if applicable,
- (f) Flight permit reference number,
- (g) UA details;
  - (1) UA Registration Number,
  - (2) Model and serial number,
  - (3) Take-off weight,
  - (4) Main color,
- (h) Ground control equipment registration, part and serial numbers,
- (i) Registration, part and serial numbers of payloads, add-ons and attachments used,
- (j) Observations, Incident and/or failure records.

#### GM.07. for DCAR.UAS.F.02 (v) safety audits

DCAA may ask an authorized Independent Safety Assessor to implement planned or un-planned audits to ensure UAS Operator's compliancy with DCAR and DUOSA.

UAS Operator is required to provide access ISA to its facilities and logs, records and documentation that shall be retained for at least 60 months including but not limited to:











- (a) all relevant authorization, permits and registration information for:
  - (1) Operation in Dubai Airspace,
  - (2) UA Pilot,
  - (3) Operation crew,
  - (4) Other operation related personnel,
- (b) all training and briefing records for Pilot and operation crew,
- (c) Flight and maintenance logs of UAs registered in DCAA,
- (d) Configuration change records of UASs including manufacturers updates,
- (e) Any data records, and
- (f) Incident and accident reports.











# DCAR.UAS.F.03. Additional Responsibilities of UAS Operator for Advanced Category A

In addition to the responsibilities defined in DCAR.UAS.F.01 and AMC.01, the UAS Operator shall also comply with below rules for advanced category operations.

- (a) UAS Operator shall ensure that it has an operation plan and procedures adapted with limitations and requirements of Dubai U-Space and DCAR.
- (b) UAS Operator shall perform each operation in compliance with limitations, conditions, mitigation, and safety measures in compliance with DUOSA.
- (c) UAS Operator shall ensure adequacy of external services necessary for the intended operation.
- (d) UAS Operator shall ensure UAS is equipped with DCAA approved emergency recovery systems:
  - (1) DCAA approved Geo-Caging and Flight Termination System to avoid UA to fly out of operation area limitations,
  - (2) DCAA approved a parachute recovery system or an equivalent recovery system to decrease the effect of ground impact.
- (e) UAS Operator shall establish and maintain a system to exercise and verify its operation plans and train its operation crew ensuring safe performance of operation plan and contingency procedures.
- (f) UAS Operator shall ensure that UAS as a whole with UA and ground control segment, does not contain any failure modes causing safety incidences against DCAR.
- (g) UAS Operator shall ensure that coordination with the appropriate authorities and third parties has been done and all permits required are obtained before commencement of intended operation.



















#### for DCAR.UAS.F.03 (c) external services GM.01.

External services may include:

- (1) Communication network,
- (2) Weather information services,
- (3) Security of operation area,
- (4) Localization services, and similar.

#### for DCAR.UAS.F.03 (d)(1) geo-caging and flight termination system GM.02.

Refer to Section E AMC.02 for technical requirements of geo-caging and flight termination system.

#### GM.03. for DCAR.UAS.F03 (d)(2) parachute recovery system

Refer Section E GM.01 for information for parachute recovery system.











#### DCAR.UAS.F.04. Security Policies for UAS Operators

- (a) UAS Operator shall ensure establishment of security process and procedures to prevent any possible unauthorized activity in conflict with DCAR.
- (b) UAS Operator shall ensure operation security requirements are in compliancy with DCAA or any other relevant authorities.
- (c) UAS Operator shall ensure avoidance against unlawful interference to the operation.
- (d) UAS Operator shall ensure avoidance against unauthorized access to its UAS, operation area, data bases, storage, and warehouses.
- (e) UAS Operator shall ensure that all its data servers are based in UAE, all operational data is retained inside UAE and no operational data is transferred out of UAE without permission from DCAA and authorities approved by DCAA.
- (f) UAS Operator shall ensure that dangerous goods are not transported by UA including but not limited to:
  - (1) biological substances,
  - (2) any type of explosives,
  - (3) any type of inflammable materials or goods such as gas lighters, deodorants and similar,
  - (4) any type of drugs unless Operator is authorized for medical deliveries,
  - (5) any type of fragile or sharp objects such as glasses, knives and similar.
- (g) UAS Operator shall not use photographic apparatus, imaging sensors and video cameras without permission from DCAA and authorities approved by DCAA.





























#### DCAR.UAS.F.05. Responsibilities of Operators in case of an Occurrence

- (a) While performing an operation, in case of any observation or incidence, in or out of UAS Operator's control, that has potential to impose safety risk to individuals, properties, aircrafts or environment, UAS Operator shall immediately terminate its operation in a safe manner.
- (b) UAS Operator shall immediately notify DCAA and inform required organizations in case of any occurrence, incident, accident, or unplanned termination of an operation.
- (c) Any occurrence, incident, accident, or unplanned termination of an operation shall be immediately reported to DCAA.
- (d) For operations in Advanced Category, UAS Operator shall have an Emergency Response Plan approved by DCAA.
- (e) UAS Operator shall update its procedures to prevent similar occurrences in future and report these procedures to DCAA.

#### GM.01. For DCAR.UAS.F.05 general

- (a) Crashes resulting in any injury or fatality to individuals, UAS Operator is required to immediately terminate the operation, notify the Police Department, and notify and report to DCAA.
- (b) The following list provides, including but not limited to, type of incidences that UAS Operator is required to immediately terminate the operation, notify, and report to DCAA and inform required organizations:
  - (1) Collision with any type of manned or unmanned aircraft,
  - (2) Crashes resulting in damage to a property, building or structure,













- (c) The following list provides, including but not limited to, type of incidences that UAS Operator is required to immediately terminate the operation and report to DCAA only:
  - (1) Operating without DCAA permit,
  - (2) Violates operation plan and operation area limitations and buffers,
  - (3) Violates Dubai Airspace restrictions without DCAA approval,
  - (4) Penetrates controlled airspace without ATC clearance,
  - (5) Operations result in public, environmental or wildlife nuisance,
  - (6) Experiencing near miss with any type of manned or unmanned aircraft and other objects,
  - (7) Conducts photography or video recording without security approval.

### GM.02. for DCAR.UAS.F.05 (b) notification of incidents

An Operator is required to make its notifications to DCAA through below numbers:

DCAA UAS Operations Emergency Notification Call Number: +971506870919

DCAA UAS Operations Incident Notification Call Number: +971506870919

UAS Operator is required to notify Dubai Police Department through below number:

Dubai Police Department: 999

### GM.03. for DCAR.UAS.F.05 (c) reporting of incidents

UAS Operator is required to make reporting of incident by email through:

dcaa.uav@dcaa.gov.ae













## for DCAR.UAS.F.05 (c) reporting of incidents

The report is required to provide including but not limited to below details:

- (a) Date and time of incident,
- (b) Flight permit reference number,
- (c) Pilot and operation crew names,
- (d) UAS details; UA model and serial number, ground control equipment part and serial numbers,
- (e) Payload and accessories details, part and serial numbers,
- (f) Maintenance and Flight Logs,
- (g) Detailed description of incident supported with analysis results,
- (h) Preventive actions for future.













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### DCAR.UAS.F.06. UAS Operator's Post Holder

- (a) UAS Operator shall declare a Post Holder, acting as the primary point of contact for the Operator, authorized by Operator Organization Legal Representative (i.e., CEO or General Manager of the company).
- (b) UAS Operator shall ensure that the Post Holder is fully familiar with and strictly adheres to DCAR and relevant Dubai laws.
- (c) UAS Operator shall ensure that Post Holder is fully familiar with UAS Operator's manuals, operation procedures, manufacturer manuals and relevant documentation.
- (d) UAS Operator shall ensure that Post Holder has complete information on intended operation plans.

### GM.01. for DCAR.UAS.F.06 Post Holder general

To ensure communication and coordination with DCAA and Dubai authorities, Operator is required to assign a Post Holder in Dubai dedicated for Operator's UAS operations.

Post Holder is required to:

- (a) reside in the Emirate of Dubai,
- (b) have full familiarity with DCAR and relevant Dubai Laws,
- (c) have full familiarity with UAS Operator's organization, operations crew, operation procedures, maintenance procedures, safety, and emergency management,
- (d) make all formal correspondence to DCAA and other authorities,
- (e) register and update the UAS Operator's assets such as pilots, UA, and other equipment.

GM.02. for DCAR.UAS.F.06 (a) declaration of post holder













Below information is required in declaration of post holder:

- (a) Name of the Post Holder,
- (b) Passport number of Post Holder if Post Holder is not citizen of UAE,
- (c) Contact details including address, mobile number, and email,
- (d) A secondary mobile number in case primary is not accessible.

### for DCAR.UAS.F.06 replacement of post holder GM.03.

(a) UAS Operator is required to declare another point of contact for the position with the same responsibilities in case the Post Holder is not available temporarily.

In case of permanent change for the Post Holder role, UAS Operator is required to immediately declare a new authorized Post Holder.











### Policies for UAS Operations Safety Approval for Dubai Airspace DCAR.UAS.F.07.

- (a) For advanced category operations, UAS Operator shall apply for "Dubai UAS Operation Safety Approval (DUOSA)" process and successfully demonstrate compliancy to the process requirements in order to perform the intended UAS operation in Dubai Airspace.
- (b) UAS Operator shall apply for DUOSA process through a DCAA authorized validation entity.
  - (1) UAS Operator shall ensure all required input documentation is complete and provided to authorized operations safety validation entity.
  - (2) Operator shall ensure all requirements of validation process are fulfilled to obtain DUOSA.
- (c) UAS Operator shall duly notify DCAA of any change or update in its process, procedures, manuals, and plans that are submitted and accepted for the DUOSA process. DCAA may require Operator to go through DUOSA process for validation of changes and updates.
- (d) DUOSA shall be valid for the validity period defined by DCAA.

### GM.01. for DCAR.UAS.F.07 (a) general

For an operator to become a registered UAS Operator and to obtain authorization for performing advanced category UAS operations within Dubai Airspace, UAS Operator is required to successfully complete DUOSA process.

DUOSA process can only be performed under a DCAA authorized operations validation entity.

Refer to https://dcaa.gov.ae/ for up-to-date list of authorized validation entities.

Upon successful completion of DUOSA process operator will receive DUOSA certificate.

Applications for DUOSA process can be done through <a href="https://dcaa.gov.ae/">https://dcaa.gov.ae/</a>.

AMC.01. for DCAR.UAS.F.07 (b)(1) DUOSA input documentation requirements











Application for DUOSA process, UAS Operator is required to provide, including but not limited

- (a) concept of operations for its proposed operation for Dubai U-Space providing detailed operation information,
- (b) all requested procedures, manuals, specs, and similar documentation in a complete and consistent manner.

### GM.02. for DCAR.UAS.F.07 (b) operation safety validation process requirements

UAS Operator is expected to fulfill requirements of validation process from below perspectives:

- (a) completeness of required documentation,
- (b) compliancy with required content for the requested processes, plans, procedures, and manuals,
- (c) completion of all perquisite trainings and certifications allowing to perform validation flight tests within the authorized operation safety validation entity,
- (d) preparation and readiness for validation flight campaign to demonstrate compliancy to DCAR and DUOSA requirements,
- (e) successful demonstration of validation flight campaign.

### AMC.02. for DCAR.UAS.F.07 (d) DUOSA validity

The validity period for DUOSA is 12 months.

To ensure validity of DUOSA:

- (a) UAS Operator shall perform its operations in compliance with DUOSA,
- (b) UAS Operator shall allow DCAA or DCAA authorized ISA to access its facilities, equipment, plans, procedures, manuals, logs, documents, records, data, and any other relevant material.











Failure to adhere DCAR and DUOSA requirements may result in suspension or revocation of DUOSA.











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# DCAR.UAS.F.08. Flight Permit Policies

- (a) UAS Operator shall have a valid Flight Permit to perform an operation within Dubai U-Space,
- (b) UAS Operator shall apply for Flight Permit unless the intended operation is in an approved flight club.
- (c) UAS Operator shall provide operational information including but not limited to:
  - (1) clear description of the operation and operation type,
  - (2) a validated flight plan clearly indicating the flight geography including intended route, waypoint coordinates, the contingency volume, and the ground buffers,
  - (3) take-off and landing coordinates,
  - (4) emergency landing area coordinates,
  - (5) maximum altitude of the operation,
  - (6) maximum speed,
  - (7) date of the flight,
  - (8) take-off and landing times, duration of the flight,
- (d) UAS Operator shall declare:
  - (1) UA model, serial number, color, flight configuration and MTOM be in accordance with the permit,
  - (2) Information for other assets to be used in the operation.
- (e) UAS Operator shall declare its operation crew:
  - (1) UA Pilot(s) details; full name, registration number, mobile number, UAE ID.













(2) Other operation crew details; list of names, mobile numbers, UAE IDs.













- (f) UAS Operator shall declare:
  - (1) insurances made for the operation,
  - (2) permits provided by the property owners.
- (g) Flight Permit applications shall be done:
  - (1) at least 14 business days before the intended operation for the operations to be conducted in controlled airspace or above,
  - (2) at least 48 hours before the intended operations in the Green Zone.

## AMC.01. for DCAR.UAS.F.08 (a) valid flight permit

For Flight Permit to be valid:

- (a) date and time of the operation shall be in accordance with the permit,
- (b) take-off and landing points shall be in accordance with the permit,
- (c) operation area shall be in accordance with the permit.

### for DCAR.UAS.F.08 (d)(2) other assets GM.01.

Other assets would be including but not limited to:

- (a) Ground control equipment,
- (b) Payload, add-ons and accessories.

## AMC.02. for DCAR.UAS.F.08 (f) insurances for flight permit

For flight permits UAS Operator is required to provide insurance for:

- (a) covering UA, all UA ancillary equipment, payload, and ground equipment to be used in the operation,
- (b) UA Pilot(s) and operation crew,













(c) 3<sup>rd</sup> party persons, structures and goods for damage that can occur due to its operations.









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#### Policies for UAS Airworthiness DCAR.UAS.F.09.

UAS Operator shall ensure airworthiness of UAS with adherence to including but not limited to below regulations:

- (a) UAS Operator shall ensure that UAS have appropriate certification as per its class,
- (b) UAS Operator shall ensure UAS is used in compliance with manufacturer's manuals, procedures, and instructions.
- (c) UAS Operator shall ensure that UAS is used in compliance with operator's manuals, procedures, and instructions.
- (d) UAS Operator shall ensure that UAS is used with the up-to-date SW and HW configuration specified and recommended by the manufacturer.
- (e) UAS Operator shall ensure that UAS is used with attachments, accessories, payloads, and instruments in accordance with manufacturer's and operator's manuals.
- (f) UAS Operators shall ensure the serviceability of other tools, equipment, attachments, accessories, payloads, instruments, and add-on equipment.
- (g) UAS Operator shall keep and retain flight logs for all its UAs and operations it has performed.
- (h) UAS Operator shall keep and retain maintenance logs for all its UAs and Ground Control Equipment.
- (i) UAS Operator shall ensure that UA is used and maintained in accordance with manufacturer's and Operator's manuals and instructions. The serviceability of the UA shall be recorded and be verifiable.
- (j) UAS Operator shall ensure that UAS is maintained with calibrated and serviceable tools and equipment specified as per manufacturer's manuals.













(k) UAS Operators shall ensure proper storage and handling for UAS, UA, ground control equipment and all other tools, equipment, attachments, accessories, payloads, instruments,

and add-on equipment used for maintenance or operation in compliancy with manufacturer's and operator's procedure and manuals.

(I) UAS Operator shall ensure UAS is used in compliancy with its intended use in compliance with manufacturer's and Operator's process, procedure, and manuals.

### AMC.01. for DCAR.UAS.F.09 (a) UA certification

Appropriate UAS certification is required to be CE or equivalent marking.

## for DCAR.UAS.F.09 (g) and (h) logs and records

Operator is required to keep flight and maintenance logs with information including but not limited to below for:

- (a) Flight Logs:
  - (1) Date and location of the flight,
  - (2) Start and end time of the flight,
  - (3) Flight plan, operation area and flight coordinates including altitude,
  - (4) Operation type in detail,
    - i. Experimental, demonstration, commercial or event operation details with clear descriptions.
  - (5) Name of the Pilot,











- (6) Name of the operation crew,
- (7) Flight permit reference number,
- (8) UA details;
  - i. Model and serial number,
  - ii. Take-off weight,
  - iii. Main color,
- (9) Ground control equipment part and serial numbers,
- (10) Part and serial numbers of attachments, add-ons and payloads used,
- (11) Observations, Incident and/or failure records with clear descriptions and time of occurrence.
- (b) UA maintenance logs;
  - (1) Model and serial number of UA,
  - (2) Record of maintenance and repair history of UA,
  - (3) Records for any change, replacement, update or upgrade for SW or HW configuration of UA,
  - (4) Proof of UA serviceability before commencement of an operation,
  - (5) Maintenance person name and signature.
- (c) Ground control equipment maintenance logs;
  - (1) Model and serial number of ground controller,
  - (2) Record of maintenance and repair history of ground controller,
  - (3) Records for any change, replacement, update, or upgrade for SW or HW configuration of ground controller,









- (4) Proof of ground controller serviceability before commencement of an operation,
- (5) Calibration records of any tool and equipment in testing, repairing, or maintaining the UA and ground control equipment.
- (6) Maintenance person name and signature.

## AMC.03. DCAR.UAS.F.09 (g) and (h) retaining logs and records

- (a) Flight Logs shall be retained for at least 60 months.
- (b) Maintenance Logs shall be retained for at least 60 months.

### DCAR.UAS.F.10. Policies for UAS Registration

- (e) Any UAS intended to be operated within Dubai U-Space, including UAS for recreational purposes, shall be registered with the DCAA.
- (f) Below details shall be provided by the UAS owner for the registration of an UA:
  - a. Model and serial number of UA,
  - b. Main color of UA,
  - Weight of the UA without payload, ancillaries, or add-ons,
  - d. Manufacturer's maintenance, operations, and user manuals as applicable.
- (g) Below details shall be provided by the UAS owner for the registration of a ground controller:
  - a. Model and serial number of ground controller,
  - b. Manufacturer's maintenance, operations, and user manuals as applicable.











- (h) All detachable ancillary equipment that are intended to be used in an operation shall be registered, providing their model and serial numbers, including but not limited to:
  - a. cameras,
  - b. Imaging sensors,
  - c. any other sensors and/or probes such as gas detectors,
  - d. mechanical attachments,
  - e. carriage attachments,
  - f. dropping equipment,
  - g. parachutes.











### for DCAR.UAS.F.10 general GM.01.

UAS Operator shall seek assistance by contacting DCAA Customer Happiness on the following contact details:

Overseas: 0097147770000

Contact Number: 80083222

iii. Email: info@dcaa.gov.ae

i.iv. Fax: 0097142244573









# DCAR.UAS.F.11. Responsibilities of the UA Pilot

- (a) UA Pilot shall always act in strict adherence to DCAR and relevant Dubai Laws and Regulations.
- (b) UA Pilot shall ensure that he is fully familiar with DCAR and relevant Dubai Laws and Regulations.
- (c) Before commencement of an operation UA Pilot shall ensure that:
  - (1) he has competency to perform the intended operation with the UAS that is intended to be used,
  - (2) he is fit to perform the operation and not under effect of any psychoactive substance, alcohol, injury, fatigue, medication, sickness, or any other causes,
  - (3) he has all the up-to-date documentation related to UAS including but not limited to UAS User Manual and Maintenance Manual,
  - (4) he is fully familiar with UAS User Manual, Maintenance Manual and Operator's Operation Procedures,
  - (5) there is a valid flight permit issued by DCAA for the intended operation,
  - (6) coordination with the required authorities is done,
  - (7) agreements with property owners that UA would fly over are done and valid,
  - (8) all required insurances are done and valid,
  - (9) he has up to date information for area of operation, restrictions, and limitations,
  - (10) the area of operation is in compliance with Dubai UAS Map,
  - (11) he is fully familiar with the intended operation plan and operation limitations,













(12) for advanced operations, the intended operation is planned in compliance with the DUOSA,

- (13)UAS, geo-awareness and/or geo-fencing systems are updated with up-to-date information from the area of operation,
- (14) UAS maintenance checks are completed before the flight as per the UAS manuals.
- (15) UAS is serviceable and, in a condition to safely complete the intended operation,
- (16) UA configuration and MTOM are in compliance with UA manuals and suitable for the intended operation,
- (17) environmental conditions at the time of the flight activity are in compliance with the operation manuals and environmental limitations of the UA,
- (18) all pre-flight checks are completed as per UAS User Manuals and Operator's Operation Procedures,
- (19) all people in the controlled ground area are informed and agreed about the operation plan and safety risks,
- (20) controlled ground area is secured avoiding uninvolved people to enter the area during the execution of the operation.
- (d) Ensure that the UAS and the radiotelecommunications equipment it incorporates comply with relevant radiotelecommunications regulations.
- (e) Keeping the flight logbook, maintenance logbook and all the UAS documents up to date.
- (f) During the operation, UA Pilot shall:
  - (1) always remain in controlled ground area and ensure that he is in full control of the operation, operation equipment and tools,











- (2) execute the flight in compliance with the operational limitations, flight area limitations and UAS limitations,
- (3) have ability to maintain control of the UA at all times during the flight,









- (4) operate the UAS in accordance with the manufacturer's manuals and UAS Operator's procedures,
- (5) ensure proper radio spectrum is efficiently used in compliance with radiotelecommunication regulations and radio interferences that may affect control authority during the flight are avoided,
- (6) apply the procedures to prevent access by unauthorized personnel to controlled ground area and the remote pilot station,
- (7) immediately terminate the flight and land the UA safely in compliance with Operator's procedures in case of observing another manned or unmanned aircraft in the area of operation.
- (8) in case of any incident, accident or any observation that may affect safety of the operation, immediately terminate the operation, and land the UA safely in compliance with Operator's procedures.
- (9) Immediately notify and report to DCAA and relevant authorities of any incident, accident, safety risk or any unplanned termination of the operation.
- (g) After completion of any operation UA Pilot shall ensure that:
  - (1) any recording of video, photography, flight data and any other data is saved and stored securely,
  - (2) flight logs are complete, saved and secured properly,
  - (3) post-flight checks are done, and maintenance logs are updated,
  - (4) UAS, payloads, add-ons and ancillaries are disassembled, properly packed, and stored securely.













### for DCAR.UAS.F11 (c)(1) and (c)(2) UA Pilot's condition GM.01.

UA Pilot is required to declare that he is competent and fit to perform the intended operation with the intended UA.

for DCAR.UAS.F11 (c)(10) Dubai UAS Map GM.02.

Refer to <a href="https://www.dcaa.gov.ae/drone-map">https://www.dcaa.gov.ae/drone-map</a> for Dubai UAS Map.

GM.03. for DCAR.UAS.F11 (c)(15) serviceability of UAS

Refer to Section F DCAR.UAS.F.09 for UAS airworthiness.

GM.04. for DCAR.UAS.F11 (f)(5) radio spectrum usage

Refer to Section D for radio spectrum usage policies.

GM.05. for DCAR.UAS.F11 (f)(9) occurrence notification

Refer to Section F DCAR.UAS.F.05 for responsibilities of UAS Operator in case of an Occurrence.











## DCAR.UAS.F.12. UA Pilot Registration, Authorization and Validity

- (a) UA Pilot shall register with DCAA with a valid UA Pilot License to obtain authorization to perform flight activities within Dubai Airspace.
- (b) An UA Pilot shall have, including but not limited to, following competencies:
  - (1) ability to apply normal, contingency, and emergency procedures,
  - (2) ability to perform flight planning, flight plan analysis and validation,
  - (3) ability to perform pre- and post-flight checks,
  - (4) ability to use ground control and communication equipment,
  - (5) ability to coordinate and lead the operation team,
  - (6) ability to coordinate with the relevant authorities,
  - (7) situational awareness to recognize operational conditions and safety risks,
  - (8) ability to take decisions to terminate operation in case of possible safety incidence.
- (c) UA Pilot shall have completed all relevant trainings including but not limited to:
  - (1) intended operations with intended UA type,
  - (2) competencies listed in (b),
  - (3) Operational Procedures and Operator's relevant process and procedures,
  - (4) UAS User Manual, UA operation and maintenance manuals,
  - (5) DCAR regulations and related Laws.
- (d) UA Pilot trainings shall be repeated in a periodic manner.











(e) UA Pilot shall have a valid medical certificate ensuring his proper mental and physical health conditions.

- (f) For flights in controlled airspace, UA Pilot shall have radio operator qualification, accredited by means of a rating noted on a pilot's license or certification issued by an approved training organization.
- (g) UA Pilot shall have certificate proving very good command on English language.
- (h) To ensure validity of registration, UA Pilot shall present/ and give access to any documentation, record, certificate, report, or any other evidence required by the DCAA for the purpose of audits, investigations, enforcement, certification, approval, or any other reason as decided by the DCAA.

#### AMC.01. for DCAR.UAS.F12 (a) UA Pilot registration

- (a) UA Pilot can register with DCAA with:
  - (1) a valid UA Pilot License for short term flight activities such as demonstration or experimental flights,
  - (2) UA Pilot License obtained from a DCAA approved UA Pilot Training Organization for long term flight activities.

## AMC.02. for DCAR.UAS.F12 (c) UA Pilot Trainings

(a) To demonstrate compliance with training requirements, the pilot shall keep a flight logbook in which the flight and training activities performed shall be recorded.











(b) Any training certificate completed shall be uploaded to UA Pilot profile with DCAA in a timely manner.

### GM.01. for DCAR.UAS.F12 (c) recreational flight activities

Refer to Section G for regulations for recreational flight activities.

### GM.02. for DCAR.UAS.F12 (d) UA Pilot Trainings period

UA Pilot trainings for licensing purpose is required to be refreshed every 24 months.

DCAA may change the period of refreshment of trainings.

## AMC.03. for DCAR.UAS.F12 (h) validity

- (a) To ensure validity of UA Pilot registration UA Pilot shall remain in compliance with DCAR.
- (b) Failure to adhere DCAR may result in suspension or revocation of UA Pilot registration.
- a) DCAA may impose restrictions, suspend, or revoke any approved registration if the operator or registered personnel does not adhere to DCAR and does not act in a safety manner during the operations.











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### DCAR.UAS.F.13. UAS Operator Responsibilities for Operations Crew

- (a) UAS Operator shall ensure that the operations crew and support personnel assigned is competent to ensure safe conduction of intended operation.
- (b) UAS Operator shall ensure that procedures are established for multi-crew operations if more than one person is directly involved in the intended operation.
- (c) UAS Operator shall ensure that the operations crew is appropriately fit and capable of conducting the intended operation.
- (d) UAS Operator shall ensure that the roles and responsibilities of each member of the operations crew are clearly defined.
- (e) UAS Operator shall ensure that operations crew is trained as per the operational procedures.
- (f) UAS Operator shall ensure that operations crew is informed with the intended flight plan, area of operation and associated risks.

### for DCAR.UAS.F.13 (a) operations crew GM.01.

Operations crew and safety personnel would be composed of, including but not limited to, UA Pilot, observers, safety manager maintenance technicians, payload operator, security personnel and similar.

Refer to Section F DCAR.UAS.F.11 for UA Pilot regulations.

#### AMC.01. for DCAR.UAS.F.13 (a) operations crew

(a) As a minimum, below requirements shall be followed for the roles as specified:













- (1) The observers shall assist the UA Pilot during the operation with maintaining continuous communication and providing information on the status of the UAS and any possible risk observations during the intended operation.
- (2) The safety manager shall ensure that all safety processes and procedures are applied in accordance with DUOSA approval.
- (3) The maintenance technicians shall ensure that the aircraft is maintained and serviceable in compliance with the maintenance plan. The maintenance technician shall have certification of UAS Manufacturer training.







### DCAR.UAS.F.14. Operations crew registration and validity

- (a) UAS Operator shall ensure that any personnel involved within operations shall be registered with DCAA.
- (b) To ensure validity of registration, operations crew shall present and give access to any documentation, record, certificate, report, or any other evidence required by the DCAA for the purpose of audits, investigations, enforcement, certification, approval, or any other reason as decided by the DCAA.

### AMC.01. for DCAR.UAS.F.14 (a) requirements for operation crew registration

- (a) Operator shall provide below including but not limited to below for registration of its personnel that are directly involved with operation:
  - (1) UAE ID,
  - (2) Passport copy for non-residents,
  - (3) Training certificates on operators' operation procedures,
  - (4) Role and responsibility description,
  - (5) other training certificates related to personnel's role and responsibilities such as maintenance technician or observer's certificate as applicable.

### AMC.02. for DCAR.UAS.F.14 (b) validity of operation crew registration

- (a) To ensure validity of UA Pilot registration UA Pilot shall remain in compliance with DCAR.
- (b) Failure to adhere DCAR may result in suspension or revocation of UA Pilot registration.











(c) DCAA may impose restrictions, suspend, or revoke any approved registration if the operator or registered personnel does not adhere to DCAR and does not act in a safety manner during the operations.

### Policies for UAS Operator in use of an aerodrome DCAR.UAS.F.15.

In addition to its other responsibilities specified within other sections, in case an UAS Operator intends to use an aerodrome for its intended operations, including but not limited to; airport, helipad or vertiport, UAS Operator shall follow below policies:

- (a) UAS Operator shall ensure that its permits and approvals include the aerodrome that is intended to be used in its operation,
- (b) UAS Operator shall clearly define use of the aerodrome with exact timing and locations within its operation plans to obtain Flight Permit from DCAA.
- (c) UAS Operator shall ensure that its approved UAS operation category is in compliance with the aerodrome that is intended to be used.
- (d) UAS Operator shall ensure that its insurances cover any possible damage that may happen due to its operations to structures or persons within the aerodrome that is intended to be used,
- (e) UAS Operator shall ensure that its process, procedures, and manuals include operations within an aerodrome in compliance with the aerodrome type.
- (f) UAS Operator shall ensure that all intended activities are coordinated with the aerodrome operator.
  - (1) UAS Operator shall agree with the aerodrome operator for its schedule of activities.
  - (2) In case of any change in UAS Operator's schedule of activities, UAS Operator shall immediately notify aerodrome operator and agree with the aerodrome operator for updated schedule of activities.









- (g) UAS Operator shall ensure that its operations are conducted in accordance with any restrictions specified by the aerodrome operator.
- (h) UAS Operator shall ensure that during performing its intended operation does not interfere or obstruct other operations within the aerodrome.

- (i) UAS Operator shall ensure that it strictly follows operations, safety, and security procedures of the aerodrome.
- (j) UAS Operator shall ensure its operations are performed avoiding any compromise to safety of other aerodrome operator and aerodrome users.
  - (1) UAS Operator shall ensure that all its personnel have full familiarity with the safety rules and plans of the aerodrome.
  - (2) UAS Operator shall ensure that all its personnel strictly stay in adherence to safety rules of the aerodrome,
  - (3) UAS Operator shall ensure that priority is given to emergency landing and/or takeoff situations.
  - (4) UAS Operator shall ensure its planned timings for use of aerodrome areas are strictly followed, including but not limited to FATO, apron, loading areas, use of taxi ways and other areas.
  - (5) UAS Operator shall ensure that the technical and physical specification of the UA that is intended to be used in the aerodrome can be accommodated in the aerodrome, and allows safe take-off, landing, and ground movement.
  - (6) UAS Operator shall ensure that it avoids the risk of collision and injuries to ground personnel while the UA is taxiing or moving.













- (7) UAS Operator shall ensure coordination among stakeholders on safety-related events.
- (8) In case of any incident or accident in the aerodrome, although the UAS Operator or its personnel or properties are not involved, UAS Operator shall immediately terminate its operations in a safe manner and wait for further instructions from the aerodrome operator.
- (9) In case of any incidence that has potential to impose safety risk to any people, UA, aerodrome operations or aerodrome properties due to UAS Operator's activities,

UAS Operator shall immediately terminate its activity in a safe manner and notify aerodrome operator and DCAA.

- (10) In case of any incident or accident in the aerodrome that the UAS Operator or its personnel or properties are involved, UAS Operator shall immediately notify aerodrome operator and DCAA about the occurrence in compliance with DCAA occurrence reporting policies and process.
- (k) UAS Operator shall ensure its operations are performed avoiding any compromise to security of other aerodrome operator and users.
  - (1) UAS Operator shall ensure that all its personnel have full familiarity with the security rules and plans of the aerodrome.
  - (2) UAS Operator shall ensure that all its personnel strictly stay in adherence to security rules of the aerodrome.
  - (3) UAS Operator shall ensure all its activities within the aerodrome are performed with proper authorization from the aerodrome operator.











In case of any unlawful interference to its operations is observed UAS Operator shall notify aerodrome operator and DCAA.

### AMC.08. for DCAR.UAS.F.15 (b) UAS operation categories for aerodromes

- a. For UAS Operations intending use of an airport or helipad, where manned transportation is being performed, intended UAS Operation shall be considered under Certified Category.
- b. For UAS Operations intending use of a UAS Vertiport, UAS Operation shall have been approved for Advanced Category of operations.

### GM.01. for DCAR.UAS.F.15 (f) coordination of activities

In case of use of a UAS Vertiport, coordination is required to be done with the Vertiport Operator.

#### AMC.09. for DCAR.UAS.F.15 (i) aerodrome operations procedures

Aerodrome operation procedures that UAS Operator is required to follow would be including but not limited to:

- (a) standard operation procedures,
- (b) contingency and emergency procedures,
- (c) take-off and landing procedures,
- (d) taxiing and ground movement procedures,
- (e) personnel entry and exit procedures,
- (f) logistics and storage procedures,

equipment intake and outtake procedures.











#### DCAR.UAS.F.16. Policies for UAS Operations Crew in use of an aerodrome

In addition to the responsibilities defined in other sections, UA Pilot and UAS Operations Crew shall also comply with below rules for UAS Operations in an aerodrome:

- (a) UAS Operator shall ensure that its UA Pilot and UAS Operations Crew have proper access authorization to the aerodrome.
- (b) UAS Operator shall ensure that its UA Pilot and UAS Operations Crew are fully familiar with and follows the normal operation, contingency and emergency procedures of the aerodrome.
- (c) UA Pilot and UAS Operations Crew shall:
  - (1) act in strict adherence to aerodrome process and procedures,
  - (2) ensure that he has proper access authorization to the aerodrome to perform any operations within the aerodrome,
  - (3) follow the instructions from aerodrome operator,
  - (4) ensure that their activities are conducted in accordance with any restrictions specified by the aerodrome operator,
  - (5) ensure that while performing their activities, these activities does not interfere or obstruct other operations within the aerodrome,
  - (6) be fully familiar and shall always follow safety rules of the aerodrome,
  - (7) be fully familiar with and shall always follow security rules of the aerodrome,
  - participate emergency exercises hold by aerodrome operator,
  - (9) immediately react to a safety problem involving runway safety, maneuvering area/apron safety.
- (d) UA Pilot shall:













(1) act as point of contact for aerodrome operator,

- (2) shall always retain in coordination with the aerodrome operator,
- (3) ensure that he has all the up-to-date information for the conditions of the aerodrome,
- (4) ensure that its permits and approvals include the aerodrome that is intended to be used in its operation,
- (5) ensure that approved operation category is in compliance with the aerodrome that is intended to be used,
- (6) ensure that all intended activities are coordinated with the aerodrome operator,
- (7) immediately notify aerodrome operator and DCAA any incident, accident, safety risk observation or any unplanned termination of the operation that may affect safety of any person, operation, UA, or property within the aerodrome
- (8) immediately notify aerodrome operator and DCAA of any unlawful interference to the operations.

#### AMC.10. for DCAR.UAS.F.16 (c) access to aerodrome

- (a) UAS Operator is required to coordinate with aerodrome operator to obtain access to aerodrome for its crew and personnel.
- (b) UAS Operator shall make access requests in line with the role of the Operation Crew member for various areas of the aerodrome.
- (c) UAS Operator shall provide its Operation Crew details to the aerodrome operator.













(d) UAS Operator shall immediately inform the aerodrome operator in case any Operations Crew member is no longer required to access to the aerodrome.

#### GM.01. for DCAR.UAS.F.16 (c)(2) proper access permit

Proper access authorization is needed to allow the UA Pilot or the Operations Crew to obtain access grant for the areas of the aerodrome to perform their tasks and duties.

# for DCAR.UAS.F.16 (c)(4) aerodrome instructions

UA Pilot and UAS Operations Crew is required to follow instructions of the aerodrome operator, including but not limited to:

- (a) for moving, carrying, transporting, or taxiing the UA,
- (b) for assigned time slots for landing and take-off,
- (c) for storage and maintenance of their equipment and UA,
- (d) for battery charging,
- (e) for bringing-in or out of aerodrome of any equipment, goods and/or UA.

#### GM.02. for DCAR.UAS.F.16 (d) conditions of the aerodrome

UA Pilot is required to have all up to date information that he needs to perform his activities in a timely and safe manner.

These conditions may include:

- (1) scheduled activities of other aerodrome users that may interfere with his intended operation,
- (2) serviceability, emergency, or safety conditions of the aerodrome sections such as FATO, apron, taxi way and similar,











- (3) meteorological conditions received from the aerodrome operator,
- (4) any update or change in the process and procedures of the aerodrome,
- (5) any emergency or safety condition happening within the aerodrome,
- (6) any security breach that might be happening within the aerodrome.











# Section G

# Recreational UAS Activities













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DCAR.UAS.G.01. 



















# **Section G Scope**

In this section policies, requirements and supporting references regarding to:

Recreational UAS activities,

are defined.

The policies captured within this section are:

| Policy Code   | Title                             | Description  |
|---------------|-----------------------------------|--|
| DCAR.UAS.G.01 | Policies for Recreational Flights | This article identifies regulations and requirements that recreational (hobbyist) flight activities shall adhere to. |



















# **Section G Articles**

# DCAR.UAS.G.01. Policies for Recreational Flights

UAs that are intended to be used for recreational flights shall strictly adhere to policies given below:

- (a) UAS and the UA Pilot shall be registered with DCAA.
- (b) Prior to any flight activity, UA Pilot shall obtain permit from DCAA.
- (c) UA shall not be operated near or above people, any public or private properties, infrastructure, and installments.
- (d) All UA shall provide clear and detailed information about the UA, including but not limited to, UA location and UA Pilot.
- (e) Direct radio control link between UA and UA Pilot shall be maintained throughout the flight.
- (f) Flight shall be within VLOS conditions.
- (g) Flight altitude shall not exceed 120 meters (393 feet) above ground level,
- (h) Maximum operating speed shall not exceed 19 m/s,
- (i) UA shall not be equipped with dropping or releasing devices,
- (j) UA shall not be used to carry, transport, or deliver any item or material,
- (k) UA shall only be flown during daytime,
- (I) UA Pilot shall not violate any individual, public, or private privacy,
- (m)UA Pilot shall immediately stop the flight in case of any safety risk that would be imposed on individuals, properties, or other aircraft,













(n) In case of observation of any air traffic within or in the vicinity of the operation area, UA Pilot shall stop the flight and land immediately,

- (o) UA Pilot's age shall be above 18 years old to perform recreational flights. Users with lower ages shall perform recreational flights under a registered UA Pilot's supervision.
- (p) UAs with MTOM that are below 5 kgs can only fly in "Green Zones" allocated in the Dubai UAS Map,
- (q) UAs with MTOM that are equal or above 5kgs shall be operated only within approved flying clubs.
- (r) UAs that are with MTOM that are equal or above 25kgs are not allowed to be used for recreational purposes.
- (s) In case of any incident, accident or emergency condition UA Pilot shall immediately notify DCAA.

### GM.01. for DCAR.UAS.G.01 (a) registration of UAS and UA Pilot

Refer to Section F DCAR.UAS.F.10 for UAS registration policies.

### GM.02. for DCAR.UAS.G.01 (b) flight permit for recreational activities

For flight permit assistance contact DCAA Customer Happiness on the following contact details:

Overseas: 0097147770000

Contact Number: 80083222

iii. Email: info@dcaa.gov.ae











i.iv. Fax: 0097142244573



## AMC.01.

UA equal to or heavier than 250 grams shall be installed with DCAA approved tracker device.

### GM.03. for DCAR.UAS.G.01 (s) occurrence notification

In case of incidents resulting in any injury or fatality to individuals, UA Pilot shall notify Dubai Police immediately, and after that immediately shall notify DCAA.

In other cases, causing safety and/or security incident, UA Pilot shall immediately notify DCAA.























# Section H

# Reserved for UAS Operations Traffic Management















# Section I

# **Airports for UAS**













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# **Section I Scope**

In this section policies, requirements and supporting references regarding to:

- UAS Vertiport approval, registration, and authorization for different categories of operations supported by guidelines for UAS Vertiport specifications,
- Registration and authorization for UAS Vertiport Operators and their registration and authorization policies,

are defined.

The policies captured within this section are:

| Policy Code   | Title  | Description  |
|---------------|--|--|
| DCAR.UAS.I.01 | UAS Vertiports Authorization for Advanced Category of Operations                     | This article defines requirements for UAS Vertiports to be registered and authorized by DCAA for UAS Operations in Advanced Category.                  |
| DCAR.UAS.I.02 | RESERVED for<br>UAS Vertiports Authorization for Certified<br>Category of Operations |  |
| DCAR.UAS.I.03 | Responsibilities of UAS Vertiport Operator   | This article defines Vertiport Operators' responsibilities in<br>a comprehensive manner to ensure safe and secure UAS<br>Vertiport operations in Dubai |
| DCAR.UAS.I.04 | UAS Vertiport Operator Authorization   | This article defines requirements for an Vertiport<br>Operator to be registered and authorized under DCAA for<br>managing UAS Vertiport operations     |











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# **Section I Articles**

# DCAR.UAS.I.01. UAS Vertiports Authorization for Advanced Category of **Operations**

- (a) Any UAS Vertiport shall be registered and authorized under DCAA to provide services for **UAS Operations.**
- (b) Any UAS Vertiport within the Emirate of the Dubai shall be operated by a DCAA authorized Vertiport Operator.
- (c) For DCAA authorization UAS Vertiport shall:
  - (1) have a DCAA registered and authorized Vertiport Operator,
  - (2) be designed and constructed in compliance with DCAA approved DUBAI UAS Vertiport Design Specifications,
  - (3) have a valid completion certificate from DCAA,
  - (4) have valid permits required from the registered concerned entities,
  - (5) have been approved by DCAA or DCAA authorized ISA for UAS Operations.
- (d) UAS Vertiport Authorization shall be valid for the validity period defined by DCAA.
- (e) UAS Vertiports shall only be used for UAS Operations and VTOL capable UAs as per the approved operation category.
  - (1) UAS Vertiports that are approved only for advanced category of UAS Operations shall not be used for manned transportation or certified category of UAS operations.
  - (2) UAS Vertiports that are approved for certified category of UAS Operations can be used for both certified and advanced category of UAS operations.











(3) Use of other vertiports or aerodromes that are approved for manned operations shall not be used for UAS operations unless approved by DCAA.

#### AMC.01. for DCAR.UAS.I.01 (a) UAS Vertiport authorization

- (a) Any platform, structure or facility, independent form its size or properties, enabling vertical take-off and landing of a UA shall be considered as UAS Vertiport.
- (b) To obtain authorization for a UAS Vertiport the applicant is required to be legal or authorized representative for the UAS Vertiport. This representative does not necessarily have to be a Vertiport Operator.

#### GM.01. for DCAR.UAS.I.01 (a) UAS Vertiport operations assessment and approval

In order to obtain authorization, UAS Vertiport will be taken through a process called UAS Vertiport Assessment and Approval (UAS Vertiport Assessment and Approval process will be defined in future phases).

#### GM.02. for DCAR.UAS.I.01 (c)(1) Vertiport operator

For Vertiport Operator policies refer to Section I DCAR.UAS.I.03 and DCAR.UAS.I.04.

# for DCAR.UAS.I.01 (d) UAS Vertiport authorization validity

The validity period for UAS Vertiport authorization is 6 months.

To ensure validity of authorization of the UAS Vertiport during the validity period:

- (a) UAS Vertiport shall remain in compliance with DCAR,
- (b) The UAS Vertiport authorization has not been surrendered, suspended, or revoked,









- (c) DCAA or DCAA authorized ISA shall be allowed to access UAS Vertiport facilities, equipment, plans, procedures, manuals, logs, documents, records, data, and any other UAS Vertiport relevant material at any time requested.
- (d) Failure to adhere DCAR requirements may result in suspension or revocation of UAS Vertiport Authorization.

GM.03. for DCAR.UAS.I.01 (e) drone delivery platforms for UAS Operations

DCAA approved and authorized drone delivery platforms can be used by advanced categories of UAS Operations.

The authorization process of drone delivery platforms is same as UAS Vertiport authorization.

If to be used by only one UAS Operator, i.e., drone delivery platform service will not be provided to any other UAS Operator's use, drone delivery platforms can be operated by UAS Operator itself.

In case drone delivery platform services will also be provided for other UAS Operator's use, drone delivery platform operator is required to obtain authorization as Vertiport Operator.







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## UAS Vertiports Authorization for Certified Category of Operations DCAR.UAS.I.02.

To be defined in future phases.

















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# DCAR.UAS.I.03. Responsibilities of UAS Vertiport Operator

- (a) Vertiport Operator shall ensure that all activities and operation in the UAS Vertiport are planned and performed in strict adherence to DCAR and applicable laws of Dubai.
- (b) Vertiport Operator shall establish and maintain its processes, procedures, and manuals to ensure safe operations within the vertiport:
  - (1) Vertiport Operations process, procedures and manuals shall be defined, including but not limited to organization plan, operations manual, safety manual, training plan and emergency plan.
  - (2) Vertiport personnel roles and responsibilities shall be defined.
  - (3) Vertiport Operator shall duly notify DCAA for any change or update on process, procedures and manuals affecting the way it operates, training, safety, and emergency management. DCAA may require validation of updates that occurred in the process and procedures.
- (c) For any operations that is intended to use the UAS Vertiport, Vertiport Operator shall ensure:
  - (1) coordination with DCAA,
  - (2) coordination with UAS Operator's using the vertiport,
  - (3) that the UAS Operator that intends to use the UAS Vertiport has DCAA approval for use of the UAS Vertiport,
  - (4) intended UAS Operation category is appropriate for vertiport.
- (d) Vertiport Operator shall ensure safety of all vertiport operations.
  - (1) Vertiport Operator shall ensure safety of whole facility as per DUBAI UAS Vertiport Design Specifications.













(2) Vertiport Operator shall ensure establishment of safety process and procedures.

- (3) Vertiport Operator shall ensure that priority is given to emergency landing requests.
- (4) Vertiport Operator shall ensure that UAS Vertiport is used only for approved operation categories.
- (5) Vertiport Operator shall ensure safe planning and execution of take-off, landing, taxiing, parking, and storage of UAs.
- (6) Vertiport Operator shall ensure that proper insurances are made for UAS Vertiport personnel, properties, and operations within.
- (7) In case of any incidence, in or out of Vertiport Operator's control, that has potential to impose safety risk to individuals, properties, aircrafts or environment, Vertiport Operator shall immediately terminate operations in a safe manner in compliancy with its declared procedures.
- (8) Vertiport Operator shall immediately notify DCAA in case of any incident or accident in compliance with DCAA occurrence reporting policies.
- (e) Vertiport Operator shall ensure its UAS operations management systems are properly integrated to UTM airspace.
  - (1) Vertiport Operator shall ensure providing UAS Vertiport data and condition, as specified in the DUBAI UAS Vertiport Design Specifications, to DCAA and UAS Operators that are intending to use the vertiport.
  - (2) In case connection to UTM airspace is lost, Vertiport Operator shall provide the required information by other means acceptable by DCAA.











- (f) Vertiport Operator shall ensure security of the UAS Vertiport and all operations within the UAS Vertiport in compliancy with DCAA or any other relevant agencies.
  - (1) Vertiport Operator shall ensure establishment of security process and procedures to prevent any possible unauthorized activity within the vertiport.









- (2) Vertiport Operator shall ensure avoidance for any unauthorized interference to any operation within the UAS Vertiport.
- (3) Vertiport Operator shall ensure avoidance of any unauthorized access from landside to airside and from airside to landside as applicable,
- (4) Vertiport Operator shall ensure security and avoidance against unauthorized access to including but not limited to; gates, service access areas, waiting areas, warehouses and stores, hangars, apron, takeoff and landing areas, UA loading areas, delivery or drop-off areas, operation rooms, servers, communication, and any other operation equipment as applicable.
- (g) Vertiport Operator shall ensure that dangerous goods are not admitted, stored, or transported in or out of the UAS Vertiport, including but not limited to:
  - (1) biological substances,
  - (2) any type of explosives,
  - (3) any type of inflammable materials,
  - (4) any type of drugs unless approved by DCAA.
- (h) Vertiport Operator shall:
  - (1) register all its personnel involved in operation including but not limited to vertiport operations crew, maintenance crew and safety personnel,
  - (2) register all its equipment directly involved in a UAS Operation, and
  - (3) update any change on its registered assets.
- (i) Vertiport Operator shall ensure that all its personnel have full familiarity with DCAR and remains in adherence to DCAR.













(j) Vertiport Operator shall ensure that its personnel are competent and fit to perform vertiport operations.

- (k) Vertiport Operator shall ensure that vertiport is equipped with required operational equipment to enable safe performance of UAS Operations within the UAS Vertiport.
- (I) Vertiport Operator shall ensure serviceability of all equipment and tools that is to be used for an intended UAS Operation:
- (m)Before allowing a take-off from the vertiport or landing to the vertiport, Vertiport Operator shall ensure that:
  - (1) there is no obstacle in the FATO that would impose safety risk for take-off or landing,
  - (2) there is no safety or security incidence in the vertiport,
  - (3) there is no emergency condition in the vertiport.
- (n) Vertiport Operator shall ensure that any surrounding developments or buildings or structures does not affect safety of the of the UAS Vertiport Operations:
  - (1) Vertiport Operator shall ensure that vertiport lighting is not affected with surrounding buildings, constructions and developments or confused with surrounding lightings.
  - (2) Vertiport Operator shall take necessary actions in case of any possibility of, including but not limited to, wildlife or bird strike or similar conditions imposing safety risk on the UAS Operations.
  - (3) Vertiport Operator shall remain in coordination with relevant authorities to ensure assessment of developments around the UAS Vertiport that would have affect to the UAS Vertiport's operation and safety of the operations.











- (o) Vertiport Operator shall establish organization structure to perform Vertiport operations,
- (p) Vertiport Operator shall assign a point of contact for all coordination activities with DCAA.
- (q) Vertiport Operator shall immediately answer any calls made by DCAA.
- (r) Vertiport Operator shall ensure that all logs and records are maintained properly.

- (s) Vertiport Operator is required to retain all operation records, logs and any relevant documentation for at least 60 months.
- (t) Vertiport Operator shall provide records, logs, and any relevant documentation to DCAA or DCAA authorized Independent Safety Assessor (ISA), allowing DCAA to perform announced or unannounced audits in ensuring validity of Operator's compliance with DCAR.
- (u) Any server and/or database used for Vertiport operations shall be in Dubai and there shall be no data transferred out of Dubai by any means without DCAA approval.

#### GM.03. For DCAR.UAS.I.03 (d)(8) occurrence reporting

Refer to Section F DCAR.UAS.F.05 Responsibilities of UAS Operator in case of an Occurrence.

#### GM.04. for DCAR.UAS.I.03 (e) UAS Vertiport integration to UTM airspace

Refer to DUBAI UAS Vertiport Design Specifications (UAS Vertiport Design specifications will be defined in future phases) for integration requirements and data exchange needs with the UTM airspace.

GM.05. for DCAR.UAS.I.03 (h)(2) and (j) UAS Vertiport operational equipment













UAS Vertiport operational equipment will be defined in DUBAI UAS Vertiport Design Specifications.

#### AMC.01. for DCAR.UAS.I.03 (I) serviceability of the operational equipment

- (a) Vertiport Operator shall ensure vertiport operational equipment are used and maintained in compliancy with manufacturer's manuals, procedures, and instructions.
- (b) Vertiport Operator shall ensure that vertiport operational equipment are maintained with the up-to-date SW and HW configuration specified and recommended by the manufacturer.

## AMC.02. for DCAR.UAS.I.03 (t) safety audits

DCAA or DCAA approved Independent Safety Assessor would perform planned or un-planned audits to ensure Vertiport Operator's compliance with DCAR.

Vertiport Operator is required to provide access ISA to its facilities and logs, records and documentation including but not limited to:

- (g) all relevant authorization, permits and registration information,
- (h) all training and briefing records for vertiport personnel,
- (i) UA landing and take-off records including but not limited to UA serial number, UA Operator and Pilot, landing and/or take-off time,
- (j) configuration change records of operation equipment including manufacturers updates,
- (k) incident and accident reports.



















#### DCAR.UAS.I.04. UAS Vertiport Operator Authorization

- (a) Any Vertiport Operator shall be registered and authorized under DCAA to manage operations of a UAS Vertiport.
  - (1) Vertiport Operator shall apply to DCAA to obtain UAS Vertiport Operations Management Authorization.
  - (2) Vertiport Operator shall declare compliance with DCAR.
  - (3) Vertiport Operator shall have a valid trade license from DED or Dubai Free Zones.
- (b) Vertiport Operator shall register all its personnel that are directly involved with vertiport operations under DCAA.
- (c) Vertiport Operator shall register the UAS Vertiports under its operations.
- (d) Vertiport Operator shall establish all plans, processes, and procedures for how to manage and operate the UAS Vertiport in a safe and secure manner.
- (e) Vertiport Operator Authorization shall be valid for the validity period defined by DCAA.

#### AMC.01. for DCAR.UAS.I.04 (a) vertiport operator registration

Vertiport Operator registration shall be done through <a href="https://dcaa.gov.ae/">https://dcaa.gov.ae/</a>.

In order to obtain authorization to become a Vertiport Operator, applicant will go through a process called UAS Vertiport Operations Management Assessment and Approval.

#### AMC.02. for DCAR.UAS.I.04 (a)(3) vertiport operations trade license

(a) Trade license of the applicant is required to be relevant to aerodrome operations management and services.











# AMC.03. for DCAR.UAS.I.04 (b) vertiport operator personnel registration

- (a) Vertiport operation personnel would be including but not limited to:
  - (1) management and administrative personnel,
  - (2) operations personnel,
  - (3) airfield personnel,
  - (4) safety personnel,
  - (5) security personnel,
  - (6) logistics personnel.
- (b) Vertiport Operator shall provide copies of, including but not limited to, passport, UAE ID, relevant training certificates and other documentation required by DCAA.

# AMC.04. for DCAR.UAS.I.04 (d) vertiport operations

Vertiport Operator is required to revise its UAS Vertiport management and operations plans, processes, and procedures as per the UAS Vertiport that it is intended to operate.

## AMC.05. for DCAR.UAS.I.04 (e) vertiport operator authorization validity

Validity period for Vertiport Operator authorization is 6 months.

To ensure validity of authorization of the Vertiport Operator during the validity period:

- (a) Vertiport Operator shall remain in compliance with DCAR,
- (b) Vertiport Operator shall allow DCAA or DCAA authorized ISA to access its facilities, equipment, plans, procedures, manuals, logs, documents, records, data, and any other relevant material at any time requested.
- (c) The Vertiport Operator authorization has not been surrendered, suspended or revoked,











(d) Failure to adhere DCAR requirements may result in suspension or revocation of Vertiport Operator Authorization.













