



香港特別行政區政府
民航處

Civil Aviation Department
The Government of the Hong Kong Special Administrative Region

Small Unmanned Aircraft Advisory Circular No. AC-006

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Guidelines for Aerial Survey or Aerial Photography Operations Using Small Unmanned Aircraft

1. Background

- 1.1 The Small Unmanned Aircraft Order (“SUA Order”), Chapter 448G of the Laws of Hong Kong, comes into operation on 1 June 2022. Under the SUA Order, small unmanned aircraft (“SUA”) operations are regulated under a risk-based approach and be classified according to the weight of the SUA and the operational risk level. The SUA Order is a piece of subsidiary legislation made under the Civil Aviation Ordinance that aims to provide a flexible and forward-looking regime for the regulation and development of SUA operations in Hong Kong.
- 1.2 In recent years, SUA has become a popular tool for conducting aerial survey or aerial photography tasks. They usually involve operations above landscapes, taking high-resolution images or videos from multiple angles.
- 1.3 This Advisory Circular (“AC”) aims to provide guidelines and set out some general safety requirements for the conduct of aerial survey or aerial photography operations using SUA in Hong Kong from the aviation safety perspective. Should such operations require the use of SUA in circumstances where the following operating requirements under the SUA Order cannot be met, a permission under section 37 of the SUA Order will be required from the Civil Aviation Department (“CAD”) :
- The aircraft is not operated for the flight at the specified hours of a day [section 16(1)(a)¹];
 - A visual line of sight is maintained with the aircraft in a specified way [section 16(1)(b)²];

¹ The hours as specified in the Gazette Notice issued under section 17(2) of the SUA Order are hours other than daylight hours.

² The way in which a visual line of sight is to be maintained as specified in the Gazette Notice issued under section 17(2) of the SUA Order is by the remote pilot of the aircraft, and/or a visual observer, chosen by the remote pilot,

- The distance between the aircraft and any person who is not involved in the flight operation, measured horizontally and at any altitude, is not less than the specified distance [section 16(1)(e)]³; and
- The distance between the aircraft and any vehicle, vessel or structure that is not under the control of the remote pilot of the aircraft for the flight, measured horizontally and at any altitude, is not less than the specified distance [section 16(1)(f)]⁴.

2. **Definition**

- 2.1 **“Daylight hours”** means *the time from half an hour before sunrise until half an hour after sunset (both points of time exclusive), where sunrise and sunset are determined at surface level.*

Note:

Information of sunrise and sunset time may be obtained from the Hong Kong Observatory (“HKO”), e.g. through HKO’s Mobile App under the “Astro & Tide Info” section or the HKO Almanac.

- 2.2 A **visual line of sight (“VLOS”)** is direct and unaided (other than by way of corrective lenses and sunglasses) visual contact with the SUA and the surrounding airspace in which the SUA is operating. VLOS can be maintained by:
- a) the remote pilot of the SUA, and/or
 - b) a visual observer (“VO”), chosen by the remote pilot, who is **at the same location as the remote pilot**, has good eyesight and is capable of communicating timely and effectively with the remote pilot of the SUA to avoid collision.
- 2.3 In special circumstances where the VLOS requirement above cannot be met, the SUA may be required to operate in **Extended Visual Line of Sight (“EVLOS”)**. If an SUA is operated within EVLOS, during the operation, VLOS is maintained by:
- (i) the remote pilot of the SUA, and/or
 - (ii) a VO, chosen by the remote pilot, who is **at a different location from the remote pilot**, has good eyesight, and is capable of communicating timely and effectively with the remote pilot of the SUA to avoid collision.

who has good eyesight and is capable of communicating timely and effectively with the remote pilot of the aircraft to avoid collision.

³ The distance as specified in the Gazette Notice issued under section 17(2) of the SUA Order is 10 m for a Category A1 SUA, and 10 m (with the flying speed of the aircraft not exceeding 20 km/hr) or 30 m (with the flying speed of the aircraft exceeding 20 km/hr but not exceeding 50 km/hr) for a Category A2 SUA.

⁴ The distance as specified in the Gazette Notice issued under section 17(2) of the SUA Order is 10 m for a Category A1 SUA, and 10 m (with the flying speed of the aircraft not exceeding 20 km/hr) or 30 m (with the flying speed of the aircraft exceeding 20 km/hr but not exceeding 50 km/hr) for a Category A2 SUA.

2.4 **“Involved Person”** means a person who takes part in or is well aware of the SUA operation, understands the risk, and is aware of the instructions and safety precautions in regard to the SUA operation. In practical terms, this means that an involved person must:

- be clearly notified about and aware of the SUA operations;
- understand the risks involved;
- have reasonable safeguards introduced for them by the venue manager or the SUA operating crew during SUA operation; and
- be expected to follow the directions and safety precautions provided.

2.5 A **vehicle** or **vessel** is considered to be **“under the control of the remote pilot”** (known as “involved” hereafter) if:

- The remote pilot shall be satisfied that a permission has been granted by appropriate persons which have an interest in the vehicle or vessel (e.g. the management party of the vehicle or vessel) for an SUA to operate within a distance less than the required lateral separation;
- Persons on board can reasonably be expected to follow directions and safety precautions for the SUA operation to avoid unplanned interactions with the SUA; and
- Persons on board should be adequately briefed or informed about the SUA operations.

2.6 A **structure** is considered to be **“under the control of the remote pilot”** (known as “involved” hereafter) if:

- The remote pilot shall be satisfied that a permission has been granted by appropriate persons which have an interest in the structure (e.g. the management party of the structure) for an SUA to operate within a distance less than the required lateral separation;
- Occupants of the structure can reasonably be expected to follow directions and safety precautions for the SUA operation to avoid unplanned interactions with the SUA; and
- Occupants of the structure should be adequately briefed or informed about the SUA operations.

2.7 **“Uninvolved Person/ Vehicle/ Vessel/ Structure”** means any person/ vehicle/ vessel/ structure other than an “involved person / vehicle/ vessel/ structure”.

3. Aerial Survey or Aerial Photography under Standard Operations

3.1 Since the uses of Category A1 or Category A2 SUA for aerial survey or aerial photography that involve operations within the applicable operating requirements are categorised as “Standard Operations”, prior permission from CAD will not be required. Some typical examples of such operation are illustrated in the following paragraphs.

3.2 Example 1:

If aerial survey or aerial photography by a Category A1 or A2 SUA takes place at area where sufficient lateral separation from uninvolved person, vehicle, vessel or structure is maintained, and its operations are in compliance with all applicable operating requirements (e.g. within daylight hours, within VLOS in the specified way, below 100/ 300 ft above ground level (“AGL”), etc.) at all times during the flight, such operation are regarded as standard operations. An example of such operation is shown in Figure 1.

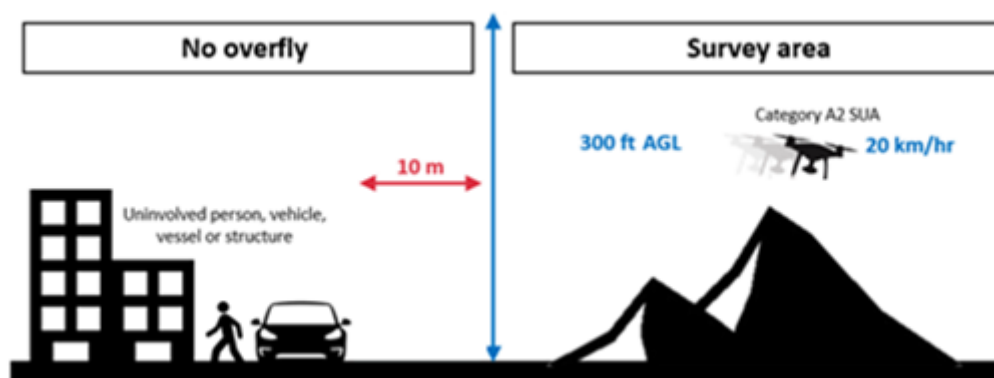


Figure 1: An Example of aerial survey or aerial photography under Standard Operations

3.3 Example 2:

If a Category A1 or A2 SUA is used for aerial photography in a private event, e.g. a wedding, where only personnel relevant to the event (e.g. participants, guests and staff etc.) are present in the area of operation, and they:

- are clearly notified about and aware of the SUA operations;
- understand the risks involved;
- have reasonable safeguards introduced for them by the venue manager (e.g. the event organiser) or the SUA operating crew during SUA operation; and
- be expected to follow the directions and safety precautions provided,

and its operations are in compliance with all applicable operating requirements (e.g. within daylight hours, within VLOS in the specified way, below 100/ 300 ft AGL, etc.) at all times during the flight, such operation are regarded as standard operations.

- 3.4 All regulatory requirements (including but not limited to registration and labelling of the SUA, registration of remote pilots, equipment, insurance, etc.) applicable to SUA under standard operations must be met. Detailed requirements are available in the relevant chapters of the Safety Requirements Document (“SRD”).
- 3.5 For the avoidance of doubt, prior permission from the CAD is not required if:
- ✓ SUA operation is in compliance with the applicable operating requirements;
 - ✓ Category B SUA or Category C SUA is not used for operation;
 - ✓ No dangerous goods is carried;
 - ✓ Operations are not within a Restricted Flying Zone (“RFZ”); and
 - ✓ SUA operations are wholly within Hong Kong.
- 3.6 Permission from relevant land or property owner, management, authority or agency should be obtained if deemed necessary or appropriate for the intended operations is obtained.

4. Aerial Survey or Aerial Photography under Advanced Operations

- 4.1 To ensure aviation and public safety, operators of SUA should always endeavour to operate in compliance with all operating requirements applicable to the SUA as specified under section 15 of the SUA Order at all times during the flight. This notwithstanding, in the context of aerial survey or aerial photography operations, the CAD notes that there are practical needs and operational circumstances at times where the stipulated operating requirements cannot be fully met such as **operations outside daylight hours** (also referred as “night operations” hereafter), **operations in EVLOS** or **flying over uninvolved people/ structures**. Under these circumstances, a permission will be required for the SUA operator to conduct **advanced operations**.
- 4.2 The ensuing paragraphs in this AC provide to applicants who wish to apply for a permission from the CAD to conduct the aerial survey or aerial photography operations within Hong Kong that involve advanced operations. Depending on the practical needs and operational circumstances, different types of advanced operations may be involved.
- 4.3 Applicants and operators of SUA should read this AC in conjunction with other safety guidelines and documents published by the CAD, including but not limited to the SRD and the relevant AC(s) before making the application and conducting the aerial survey or aerial photography operations involving advanced operations.
- 4.4 Unless otherwise advised or specified in the permission, all regulatory and safety requirements as stipulated in the SUA Order and documents published by the CAD shall continue to apply.

- 4.5 The additional safety requirements for obtaining the permission are set out in the following paragraphs of this AC.

5. **Equipment Requirements**

- 5.1 The SUA shall be equipped with the necessary safety system capable of performing the functions specified in section 13 of the SUA Order, i.e. flight log and geo-awareness functions. The information recorded by safety system shall be kept for six months and that information related to any advanced operation shall be accessible in Hong Kong.

- 5.2 Applicant is required to propose **additional safety system or equipment** demonstrating enhanced safety assurance for sustained flight over uninvolved people, vehicles, vessels or structures, for example, using **lightweight SUA** (i.e. Category A1 SUA).

Note: “Sustained flight” does not include a brief, one-time transiting over the uninvolved people, vehicles, vessels or structures, where the transit is merely incidental to a point-to-point operation unrelated to the people or property being flown over.

- 5.3 The SUA to be used for advanced operations of aerial survey or aerial photography shall be equipped with **appropriate navigation lighting**⁵. The lighting must be **visible** to the remote pilot at all times during the flight and it must be **sufficient for the remote pilots and/or VO to determine the orientation and direction of the SUA visually**.

- 5.4 **Strobe or anti-collision light system**, as well as **obstacle avoidance function** is also recommended for use during flight.

- 5.5 **Geo-fence and altitude limiting functions** shall be equipped to cage the SUA’s manoeuvres within the intended area of operation. **Real Time Kinematic (RTK) positioning system** is recommended.

- 5.6 **Appropriate ground station or remote controller software** shall be in place to assist the remote pilot in identifying the SUA’s position in real time.

- 5.7 Before take-off, the ground station or remote controller software must indicate a positive satellite lock has been achieved by the SUA. Where the manufacturer does not specify the number of satellites to gain lock, the SUA shall not fly with less than 7 satellites positively acquired.

⁵ Usually red lights on forward rotor arms and green lights on rear rotor arms, or red lights on left wing and green lights on right wing

- 5.8 All personnel and crew members involved in the advanced operations including the remote pilot are recommended to be provided with appropriate high visibility personal protective equipment (e.g. reflective apparel, safety vests, etc.).

6. Personnel Requirements

- 6.1 The remote pilot for the flight shall hold a valid remote pilot registration and be assigned with a corresponding Advanced Rating.
- 6.2 The remote pilot shall choose a **VO** whom the remote pilot is satisfied that the VO is competent for the advanced operations to be conducted.
- 6.3 In addition to the VO, subject to the area of operation, to provide additional safety and observation support, **sufficient supporting crew** shall be positioned in the operation area to assess the SUA's position, maintain constant visual lookout for any uninvolved people/ vehicles/ vessels getting close to the SUA, and take necessary actions concerning ground safety.
- 6.4 To provide additional safety and observation support, the remote pilot should be assisted by additional supporting crew to monitor the remote controller, if considered necessary.
- 6.5 Both the VO and supporting crew are required to complete satisfactorily internal training and assessment relevant to the duties and responsibilities and maintain currency. The records of relevant training shall be maintained and made available upon CAD's request.
- 6.6 Effective audio communication must be maintained between the remote pilot and any other operating crew at all times during the flight.

7. Operating Requirements

- 7.1 Night operation and EVLOS operation shall not be involved in the same flight.
- 7.2 A **thorough site and flight safety assessment** covering the take-off and landing points, and areas along and surrounding the SUA flight paths shall be conducted in **daylight hours** prior to the intended SUA operations, to identify, record and address any hazards, restrictions and obstacles in the associated areas that might affect the operations. Circumstances permitting, the arrangement of a recce flight(s) in daylight hours should be considered to assist in the site and flight safety assessment process.
- 7.3 The operation area/ path must be carefully chosen with sufficient lateral separation from uninvolved people, structures, vehicles or vessels.

- 7.4 Save for Paragraph 7.3 above, with Hong Kong being a densely populated cosmopolitan with high-rise buildings across the territory, certain aerial survey or aerial photography operations may unavoidably involve flying over uninvolved people and structures. If overflying is unavoidable or sufficient lateral separation cannot be kept, the remote pilot **shall not maintain sustained flight** over any uninvolved people, vehicles, vessels or structures, in particular an assembly of people, and shall reduce as much as possible the time of overflying, unless with additional safety system or equipment accepted by the CAD as specified in Paragraph 5.2. **Overflying of highway, railway or strategic route shall be avoided.**
- 7.5 The access to the site(s) of such operations should be controlled as far as possible. Sufficient supporting crew shall be appropriately positioned to maintain constant visual lookout for any uninvolved people/ vehicles/ vessels getting close to the SUA, and take necessary actions concerning ground safety.
- 7.6 The take-off and landing (including recovery landing) points shall be equipped with **adequate lighting** to provide clear visual reference, and also allow the remote pilot and/or VO to visually see and avoid hazards and obstacles on the ground to facilitate safe take-off and landing of the SUA. A mechanism shall be established to prevent public access to the take-off/ landing points during use.
- 7.7 During the flight, the remote pilot and/ or the chosen VO shall be able to clearly see the SUA and the surrounding airspace while it is airborne, such that the remote pilot is able to monitor the aircraft's flight path and so manoeuvre it clear of anything that it might collide with.
- 7.8 The remote pilot of the SUA has the ultimate responsibility to ensure collision avoidance and operation in a safe airspace during the flight.
- 7.9 The remote pilot shall be satisfied that the airspace in which the operation will take place will be visible at all times by the remote pilot and/or the chosen VO during the flight.
- 7.10 During the flight, the remote pilot shall maintain direct and effective communication with the VO to continuously know and determine the position, altitude, attitude (orientation, deck angle, pitch, bank) and movement of his/ her SUA, as well as the collision avoidance information for safe operation of the SUA.
- 7.11 The VO shall not maintain VLOS with more than one SUA or for more than one remote pilot at any one time. They should not be assigned other duties.
- 7.12 The flying speed of the SUA **shall not exceed 20 km/hr.**

- 7.13 The SUA shall not be operated within a restricted flying zone or carry any dangerous goods during flight, unless a relevant permission has been separately obtained.
- 7.14 The remote pilot shall comply with all other applicable operating requirements to the SUA, i.e. maintaining the flying altitude at 300ft AGL or below, not carrying any person or animal during flight, nothing being dropped from the aircraft, the remote pilot operating no more than one SUA at the same time and the dimension of SUA not exceeding 1m during flight (except that longest distance between any two rotor blade tips can be up to 1.2 m), and that the flight is wholly within Hong Kong. More information about the requirements is available in the SRD published by the CAD.
- 7.15 Applications may be made for any one or more than one specific type of advanced operations; but in any one flight, only one type of advanced operations should be involved, unless otherwise specified by the CAD in the permission concerned.

8. Others

- 8.1 The remote pilot, responsible person of SUA or any other person who knowingly causes or permits the aircraft to be operated for the flight should take note that apart from the SUA Order, other regulations, bylaws, requirements, etc. may also govern the usage of SUA. Applicable rules shall be observed and permission from relevant land or property owner, management, authority or agency shall be obtained if deemed necessary or appropriate for the intended operations.

9. Application

- 9.1 Applicants may apply to the CAD for permission to conduct aerial survey or aerial photography operation that involve advanced operations following the requirements set out in AC-002.
- 9.2 Apart from the requirements prescribed in AC-002, an applicant shall also include the following information/ document specific to the advanced operations as part of the application:
- a) An Operations Manual including (See **Appendix A** for details):
- Duties and responsibilities of all crew member(s) including remote pilot, VO and supporting crew;
 - Description of the specific advanced operations and the procedures to ensure safe operation;
 - General and emergency procedure to conduct the specific advanced operations safely, including flight checks to be carried out and

communication protocols between the remote pilot and crew members;

- Description of qualifications requirements to ensure competency and currency for all personnel involved in the intended operations, including the VO and supporting crew; and

b) A risk assessment identifying hazards specific to the specific advanced operations and the corresponding risk mitigation measures (See **Appendix B** for details)

9.3 Dependent on the risks and complexity of the proposed operation, the CAD may require a flight demonstration to be performed to assess the applicant's capabilities and safety of the proposed operation.

10. Excessive Height Operations

10.1 As one of the operating requirements specified in the Gazette Notice, the flying altitude which the SUA is operated for a flight shall not be higher than 100 ft AGL for Category A1 SUA, and 300 ft AGL for Category A2 SUA. SUA operation must be carefully planned so that the maximum flying altitude is not exceeded at all times during the flight.

Note: "Above ground level" means the altitude at which an SUA flies from a point on the ground (earth's surface or water surface). The "altitude" of the SUA is referenced from the closest point of the ground.

10.2 Notwithstanding the above, in exceptional circumstances, if flying above the maximum flying altitude is unavoidable, in addition to the application requirements set out in the previous paragraphs, the SUA Operator may apply to the CAD for a separate permission with full justifications, details of operation (including a flight plan which provides precise indication of area of operations, flight path, intended flying altitude, etc.) and the corresponding safety mitigation measures.

10.3 It should be noted that such applications are not routinely approved. The applications will only be considered on a case-by-case basis for each specific operation, taking into account the genuine need of such operation and effectiveness of risk mitigation measures to address the potential impact to aviation safety and public safety. In any case, excessive height operation, night operation and EVLOS operation shall not be involved in the same flight.

10.4 Applicants should also note that excessive height operations are subject to thorough assessment by air traffic control, it is therefore strongly advised to submit application well in advance of the proposed commencement of the excessive height operations. It is also advised to critically review the operation need and consider alternative means to achieve the operations, e.g. by breaking down of flights, appropriate choice of camera, selection of a suitable operation area and etc.

11. Enquiries

- 11.1 This AC will be subject to review and update from time to time in the light of the advancement of technology and increasing popular use of SUA in different professional applications. It should also be noted that the safety requirements provided above are not meant to be exhaustive. It shall be the responsibility of the SUA responsible person and remote pilots to comply with all applicable regulatory requirements, put in place appropriate safety precautions and risk mitigating measures for the subject SUA operation, as well as to follow the requirements and guidelines set out by any property owner and/or manager to ensure the safe operation of SUA at all times.
- 11.2 This AC should be read in conjunction with the SUA Order, SRD and other SUA related documents published by the CAD.
- 11.3 For enquiries, please contact the Unmanned Aircraft Office of the CAD at sua@cad.gov.hk.

12. Notes

- 12.1 This AC supersedes the version dated 31 May 2022.

Appendix A – Operations Manual for Aerial Survey or Aerial Photography involving Advanced Small Unmanned Aircraft Operations

The applicant may make reference to the sample of Operations Manual and incorporate into the manual specific descriptions/ policies/ procedures applicable to advanced operations for aerial survey or aerial photography to address any concerns and issues arose. While the following are not intended to be exhaustive or prescriptive, the applicant should give similar considerations in the Operations Manual.

A. Qualification Requirements

- The Visual Observer and Supporting Crew shall be competent for the operations to be conducted. They are required to complete satisfactorily internal training and assessment relevant to the duties and responsibilities and maintain currency by test flights, training flights and/ or actual SUA operations. The training programme for Visual Observer and Supporting Crew shall be documented in the operations manual.
- All training records shall be properly kept and updated by the SUA Operator, and shall be made available in a legible format to the CAD upon request.

[For the responsibilities and duties of nominated personnel, please refer to Section 3 of the Sample Operations Manual.]

B. Equipment Requirements

- The SUA to be used for aerial survey or aerial photography shall fulfil the following requirements:
 - a) Lightweight SUA (i.e. Category A1 SUA) will be used for sustained flight over uninvolved people, vehicles, vessels or structures;
 - b) Appropriate navigation lighting will be used which shall be visible to the remote pilot at all times during the flight and it must be sufficient for the remote pilots to determine the orientation and direction of the SUA visually;
 - c) Strobe or anti-collision light system will be used for operations if necessary;
 - d) Obstacle avoidance function will be used to further mitigate the risk of collision;
 - e) Geo-fence and altitude limiting functions for SUA to operate within the intended area of operation will be used with Real Time Kinematic (RTK) positioning system; and
 - f) Appropriate ground station or remote controller software will be used to assist the remote pilot in identifying the SUA's position in real time.

C. Communications

- The Remote Pilot shall consider adequate means of communication between crew members (including the competent observer and supporting crew) and any other relevant people when conducting operations, including any procedures that need to be implemented. The Remote Pilot should also consider back up communication methods in case the primary means of communication fails.
- Communication protocols between the Remote Pilot, Visual Observer and Supporting Crew to communicate collision avoidance information and corresponding commands.

D. On-site Procedures and Pre-flight Checks

- Before the operation, the Remote Pilot shall conduct comprehensive flight planning (including daylight reconnaissance and site safety assessment) prior to the operation to ensure compliance with all applicable statutory requirements, e.g. carefully choose the flight path to avoid overflying highway, railway or any strategic route, appropriately position the operating crew, determine the geo-fenced area and altitude limits, ensure night operation and EVLOS operation will not be involved in the same flight, and confirm that the operation will be not be within a restricted flying zone, etc. Any hazards, restrictions and obstacles shall be identified, addressed and recorded.

E. Flight Procedures

- The take-off and landing (including recovery landing) points shall be equipped with adequate lighting to provide clear visual reference, and also allow the Remote Pilot to visually see and avoid hazards and obstacles on the ground to facilitate safe take-off and landing of the SUA.
- The navigation lighting (usually red lights on forward rotor arms and green lights on rear rotor arms) of the SUA must be visible to the Remote Pilot and/or Visual Observer at all times during the flight for visual determination of SUA orientation and direction.
- During the flight, the Remote Pilot shall, with the assistance from the Visual Observer, continuously know and determine the position, altitude, attitude and movement of his/her SUA and ensure it remains in the area of intended operation without exceeding the performance capabilities of the command and control link.
- At all times during the flight, the Visual Observer shall maintain VLOS with the SUA to
 - a) know the SUA location;
 - b) Determine the SUA's attitude, altitude and direction of flight;

- c) Observe the airspace for other air traffic or hazards; and
- d) Determine if the SUA become a hazard to any other aircraft, person or property

And maintain continuous and effective communication with the Remote Pilot for avoidance of potential collision hazards and maintaining awareness of the SUA location.

- If both the Remote Pilot and Visual Observer fail to maintain VLOS with the SUA, or the SUA becomes a hazard to any other aircraft, person or property, the Remote Pilot shall immediately respond in accordance with established emergency procedures to ensure the safety of operation. The relevant emergency procedures shall be documented in the operations manual.
- The Visual Observer shall not maintain VLOS with more than one SUA or for more than one Remote Pilot at a time during the flight. Neither should he be assigned other duties during the flight.
- The Supporting Crew shall keep the Remote Pilot updated constantly on an independent monitor on flight parameters of the SUA including battery level and satellites tracked.
- If overflying is unavoidable or sufficient lateral separation cannot be kept, the remote pilot shall not maintain sustained flight over any uninvolved people, vehicles, vessels or structures, in particular an assembly of people, and shall reduce as much as possible the time of overflying, unless a Category A1 SUA is used for flight. Overflying of highway, railway or strategic route shall be avoided.
- The access to the site(s) of such operations should be controlled as far as possible. Sufficient supporting crew shall be appropriately positioned to maintain constant visual lookout for any uninvolved people/ vehicles/ vessels getting close to the SUA, and take necessary actions concerning ground safety.
- At all times during the flight, the flying speed of the SUA shall not exceed 20 km/hr.

F. Emergency Procedures

- The Remote Pilot shall determine suitable responses and fail-safe mechanism for emergency during operation, e.g. loss of command and control link, loss of navigation lighting and loss of GPS signal. If the aircraft will return to the 'home' position and land automatically, considerations shall be given to possible flight path in accordance with the daylight reconnaissance, site and flight safety assessment conducted prior to the operation, such that, when such function is activated, the aircraft will not collide with obstacles. The altitude for such function shall also be deliberated for obstacle clearance and avoiding collision risk with other aircraft, in any case not above 300 ft AGL.

Appendix B – Safety Risk Assessment for Aerial Survey or Aerial Photography involving Advanced Small Unmanned Aircraft Operation

The applicant shall identify risks specific to the proposed advanced operation and propose effective risk mitigation measures so that the risks are mitigated to an acceptable level. A template of risk assessment is available in the sample of Operations Manual. The following is an example of safety risk assessment for the advanced operation and some anticipated risks to be addressed. Applicant should note that the list is not exhaustive. Any other risks associated with the proposed operation shall be identified and addressed.

Risk No.	Identified Hazard	Associated Risk (What & How)	Existing Mitigation	Current Risk Rating	Further Mitigation	Revised Risk Rating
1.	<i>Loss of sight of the SUA</i>	<i>The SUA cannot be effectively controlled and may collide with other aircraft, person or property</i>	<i>A visual observer is appropriately positioned to maintain VLOS with the SUA</i>	4C	<i>Use of electronic aids (i.e. on-screen or moving map displays) to maintain situational awareness</i>	2C
2.	<i>Poor GPS signal when the SUA is out of remote pilot's VLOS</i>					
3.	<i>Loss of command and control link during flight</i>					
4.	<i>SUA flyaway</i>					
5.	<i>Loss of control of SUA</i>					

– END –