



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-002**

Date: 28 October 2022

**Permission for Conducting Small Unmanned Aircraft
Advanced Operations**

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. Operations of different risk levels are subject to the corresponding regulatory requirements.
- 1.2 Due to the higher risks involved, the following operations are classified as “**Advanced Operations**” and shall be subject to more stringent safety and regulatory requirements specified in the SUA Order and the Safety Requirements Document (“SRD”):-
- a) Operations of **Category A1 or A2** SUA that exceed the applicable operating requirements, except wholly within an enclosed area; (*section 15(2) of the SUA Order*)
 - b) Operations of **Category B** SUA; (*section 11(1)(g) of the SUA Order*)
 - c) Operations of any SUA within a **Restricted Flying Zone (RFZ)**, except wholly within an enclosed area; and (*section 18(1) of the SUA Order*)
 - d) Operations involving carriage of **dangerous goods**. (*section 20(1) of the SUA Order*)

Such advanced operations shall only be conducted upon **prior permission from the Civil Aviation Department (“CAD”)** in accordance with section 37 of the SUA Order.

- 1.3 The CAD recognises the diversified SUA types and different operational needs and hence flexibility has been built in the new SUA Order to cater for different types of SUA operations and the rapid development of SUA. This Advisory Circular (“AC”)

aims to provide information on the application required for obtaining prior permission from CAD for conducting advanced operations.

- 1.4 This AC should be read in conjunction with the SUA Order, SRD, the related ACs and documents published by the CAD.

2 Applicability

- 2.1 Depending on the nature and complexity of the advanced operations, and capability and experience of the SUA operator, permissions granted under section 37 of the SUA Order may be of the following types:

- a) cover a specific type of advanced operations only (e.g. SUA night operations only) for a specified period of time;
- b) cover a specific range of advanced operations for a specified period of time; and
- c) event-based for the duration of the event.

This will not only provide flexibility to the industry and permission holders to meet the different SUA operational needs in a timely manner, but also ensure that a system is in place to maintain aviation and public safety.

- 2.2 The types of SUA advanced operations that may be considered for the purposes of paragraph 2.1a) and b) above are as follows:-

- a) **Night Operations** (AC-003)
- b) **Extended Visual Line of Sight Operations** (AC-004)
- c) **Building Survey / Inspection Operations** (AC-005)
- d) **Aerial Survey or Aerial Photography Operations** (AC-006)
- e) **Heavy SUA Operations** (AC-007)

The list of advanced operations provided in paragraph 2.2 will be subject to review and update from time to time in the light of the advancement of technology and increasing popular use and application of SUA. The type of permission granted under section 37 of the SUA Order is thereafter referred as “**advanced operations permission**” or “**AOP**”.

- 2.3 To ensure safe operations of SUA and to mitigate safety risks posed to other airspace users and the public for conducting advanced operations, the applicant shall demonstrate that it is able to meet the requirements set out in this AC. In addition, applicants should refer to the detailed requirements for each specified type of operations provided in the respective ACs as referenced above.

- 2.4 Applications may be made for any one or more than one of the specific types of operations under paragraph 2.2; but in any one flight, only one type of advanced operations shall be involved, unless otherwise specified by the CAD in the AOP concerned.
- 2.5 Should there be exceptional circumstances where **more than one type** of advanced operations are required to be conducted in the same flight, **a separate application** to the CAD detailing such operational circumstances and corresponding safety mitigation measures is required. Applicants are advised to discuss their proposals with the CAD well in advance before making applications.
- 2.6 Considering the vastly different operating environments and the risks posed on the aviation and public safety, the following types of operations will normally only be considered on an **individual event basis** for the purposes of paragraph 2.1c) above:-
- a) **Drone Show** (AC-010)
 - b) **Drone Racing** (AC-011)

Applicants intending to conduct drone show or drone racing should refer to the respective ACs published by the CAD and make separate application for each individual event.

- 2.7 For any other proposed advanced operations not covered in the above paragraphs (e.g. operations in RFZs and those involving carriage of dangerous goods), **a separate application** will be required. Applicants are advised to discuss their proposals with the relevant authorities well in advance to assess the feasibility before making applications.

3 Eligibility

- 3.1 An application will only be processed if the applicant is considered fit and capable of conducting the specific types of SUA advanced operations in Hong Kong safely. The applicant may be required to provide the proof of experience and competency in conducting the specified operation(s) concerned. Subject to the complexity of the proposed operation, the CAD may require the applicant to perform a flight demonstration for assessing its capabilities prior to issuance of the AOP.
- 3.2 The maximum validity period of an AOP is up to **six (6) months** for new applicants and up to **one (1) year** for renewal applications.

Note: Taken into account the competence and experience of operators who had successfully applied to the CAD for conducting SUA operations under the previous regulatory regime upon the commencement of the SUA Order on 1 June 2022, and to

*facilitate them in the transition for obtaining an AOP under the new regime, the maximum validity period of an AOP for these applicants can be up to **one (1) year**.*

4 Application for an AOP

4.1 The application form can be downloaded from the electronic portal for small unmanned aircraft, “eSUA”, at <https://esua.cad.gov.hk/>. The completed form shall be submitted to the CAD by email to sua@cad.gov.hk, accompanied by relevant application fee.¹

4.2 The applicant is required to submit the completed **AOP Application Form** and the **Operations Manual (“OM”)** (see paragraph 7) which shall include, inter alia, the following supporting information as part of the application:

a) Organisation Details

- Name of the organisation
- Registered address
- Organisation contact
- Organisation registration document, e.g. Business Registration Certificate
- Description of the organisation’s nature of work
- Organisation structure

b) Specific Types of Advanced Operations to be conducted

- Details of the proposed advanced operations
- Justifications for conducting the operation
- Additional forms and/or required information/document under the respective ACs of the specific types of advanced operations

c) Details of the Accountable Manager (refer to paragraph 6.4)

- Contact details
- Role in the organisation
- Resume (CV)

d) List of Remote Pilots

- Personal particulars
- Holder of valid Remote Pilot Certificate with Advanced Rating issued by the CAD
- Qualifications and training records

e) List of SUA Models to be Used

- Model and general description of the SUA

¹ The application fee relating to the permission will be waived until further notice.

f) Safety and Quality Assurance System (refer to paragraph 8 for details)

- 4.3 Applicants should note that considerable resources and efforts may be required to prepare an application and therefore, applicants should make comprehensive planning from the outset. Applicants are advised to critically review their need for specific types of advanced operations and only apply for those under genuine operational needs. Applicants may be required to provide supporting information to substantiate their application in this regard.
- 4.4 Applicants are strongly advised to submit application well in advance of the proposed commencement of conducting advanced operations. Upon the receipt of the application form and documents submitted, the CAD will assess the applicant's capability which includes but is not limited to the organisational structure, the proposed procedures for conducting SUA operation including the safety assurance and risk assessment, and the competency of remote pilots.
- 4.5 The CAD will normally make contact with the applicant within two (2) weeks on receipt of the submission or otherwise specified, to provide initial feedback via email. This feedback may contain preliminary findings and/or observations on the readiness of application with a request for the applicant for further information or clarification where required.
- 4.6 The CAD may request the applicant to supplement other required information and documents to substantiate the application by a specified time frame. The CAD will also advise the applicant if the application or the submitted documents contain significant deficiencies, and the applicant may withdraw and amend their application. As the time required for the processing of the application would depend on the complexity of the application; as well as the completeness and readiness of the submission, applicants should ensure that the submissions are in order to facilitate the processing of applications.
- 4.7 In order to assess the applicant's capabilities, the CAD may require the applicant to perform a flight demonstration in considering the application.

5 Renewal Application for an AOP

- 5.1 AOP holder may make an application to renew the AOP. Such application should be submitted at least 30 calendar days prior to the expiry of the existing AOP.
- 5.2 Applicants shall submit the completed AOP Renewal Application Form and provide justification for the need for renewal of their AOP. The applicant shall provide record of the self-assessment (refer to paragraph 8.2.1) performed during the permission period to demonstrate its continuous compliance with the regulatory and safety requirements

as well as the AOP conditions. The CAD may also require the AOP holder to submit document or record in the permission period, such as a list of flights, training records of remote pilot and other personnel involved, summary of SUA and any other relevant documents as appropriate. Applications for renewal will be considered based on previous performance under the risk-based surveillance programme.

Note: The AOP Renewal Application Form can be downloaded from <https://esua.cad.gov.hk/>

6 Responsibilities of the AOP Holder and Accountable Manager

6.1 Compliance with the Regulatory Requirements

6.1.1 Notwithstanding the responsibility of the remote pilot and the SUA responsible person to comply with applicable regulatory requirements and safety guidelines stipulated in the SUA Order, the SRD and relevant ACs, the AOP holder is accountable for the overall compliance of the regulatory requirements and conditions of the AOP.

6.1.2 Under the risk-based approach, advanced operations are subject to more stringent regulatory requirements. The AOP holder shall ensure that all regulatory requirements such as registration and labelling of the SUA, registration of remote pilot, training and assessment, equipment and insurance applicable to the SUA operation as set out in Part 2, Division 2 of the SUA Order are met prior to operate each flight.

6.1.3 For the avoidance of doubt, Category A1 SUA used in advanced operations is not covered by provision of the limited application of regulatory requirements on Category A1 SUA stipulated in section 10 of the SUA Order. All regulatory requirements shall be fulfilled.

6.2 Personnel Requirement

6.2.1 The remote pilot of advanced operations shall hold a valid remote pilot certificate and be assigned with an Advanced Rating. Other personnel assuming the post of visual observer and supporting crew shall be competent staff as satisfied by the remote pilot. These personnel should complete satisfactorily training and be briefed about the flight plan, safety risks involved, risk mitigations, operating procedures and emergency procedures.

6.3 Insurance

6.3.1 A policy of insurance insuring for third-party liability (for bodily injury and/or death) shall be in force during the intended operation period, with minimum coverage HKD 10 million as stipulated in sections 11 and 12 of the SUA Order.

6.4 Accountable Manager

6.4.1 An Accountable Manager shall be appointed to take overall responsibility for ensuring that applicable regulatory requirements and conditions of the AOP are duly observed. The responsibilities of the Accountable Manager should include but are not limited to the following:

- a) Handle all matters relating to the AOP as well as the coordination with the CAD when needed;
- b) Ensure the competency of personnel, including remote pilots and other personnel;
- c) Ensure all advanced operations are conducted under a valid AOP and in accordance with the conditions set out in the AOP and the requirements as detailed in this document and other relevant ACs;
- d) Ensure that the SUA operations are conducted in accordance with the OM, flight plan, and documents accepted by the CAD;
- e) Ensure that the OM, the lists of SUA models and remote pilots are complete and up-to-date, and sent to the CAD for prior acceptance;
- f) Ensure that flight logs and other records and documentations in relation to all SUA operations are properly kept;
- g) Report any compliance or safety issues to the CAD;
- h) Ensure any amendments made in the OM are recorded and sent to the CAD for prior acceptance; and
- i) Implement safety assurance and quality assurance measures including the regular self-assessment.

6.4.2 Given the significant role assumed by the Accountable Manager, the AOP holder shall have an Accountable Manager at all times during the period of AOP. No SUA operation under the AOP shall be carried out should the post of the Accountable Manager become vacant.

6.5 Change of Information

6.5.1 Depending on the nature and extent of the material change, changes of information may necessitate a variation of the AOP. Some examples are given in paragraphs 6.5.2 to 6.5.3 below. AOP holders are therefore advised to notify CAD as soon as a change is planned or required.

6.5.2 The Accountable Manager shall seek prior approval from the CAD for any change about the following aspects. Variation of AOP may be required in these circumstances :

- a) Scope of intended Advanced Operations; and

- b) Procedures in relation to SUA operations including the safety mitigation measures proposed for specified operations (i.e. the procedures written in the OM).
- 6.5.3 The Accountable Manager shall notify the CAD of any intended changes about the following items at least **seven (7) calendar days** prior to the commencement of changes.
- a) Name of the permission holder given that the organisation registration number (i.e. Business Registration number) remains unchanged;
 - b) Models of SUA; and
 - c) Other organisation details.
- 6.5.4 The CAD shall be notified of the change in Accountable Manager appointment within **seven (7) calendar days** from the date on which the new nomination takes effect.
- 6.5.5 The permission holder may make an application for variation to an AOP by submission of the completed application form for variation of AOP together with the supporting documentation required.

Note: The AOP Variation Application Form can be downloaded from <https://esua.cad.gov.hk/>

7 Operations Manual

- 7.1 All advanced operations shall be conducted in accordance with the flight plan, flight procedures, emergency procedures, risk assessment and safety mitigation measures documented in the OM accepted by the CAD. The OM should be comprehensive enough to incorporate all relevant procedures of each type of specified operation, and should be reviewed and updated from time to time. In particular, the following information should be included as a minimum:
- a) Organisational structure and procedures;
 - b) General and emergency procedures of flight operation;
 - c) General procedures of incident and accident reporting and handling;
 - d) Operating procedures in relation to each specific operation(s) intended to be conducted;
 - e) Risk assessment with risk mitigation procedures and measures in relation to each specific operation(s) intended to be conducted; and
 - f) Safety assurance and quality assurance actions if appropriate.

Descriptions of the required information are provided in the Application Form. Applicants may also refer to the sample OM available at <https://esua.cad.gov.hk/>.

8 Safety Assurance and Quality Assurance

8.1 Safety Assurance

8.1.1 The Accountable Manager shall ensure that all SUA operations are conducted in a safe manner through effective management of safety risks. Risk assessment shall be conducted prior to each flight for continuously ensuring and improving safety by identifying hazards, ensuring the implementation of necessary mitigating measures and remedial actions. The Accountable Manager shall ensure that the assessments are properly conducted by competent persons of its organisation and shall properly review and document the assessment results. Relevant sections of the OM template are useful tools for risk assessment.

8.2 Quality Assurance

8.2.1 The Accountable Manager shall perform appropriate quality assurance actions for ensuring continuous compliance of applicable regulatory requirements stipulated in the SUA Order, SRD, various ACs, conditions of the AOP and other documents published by the CAD. To this end, the Accountable Manager shall, as a minimum, conduct a **self-assessment** covering all aspects of operations **at least once every six (6) months** to identify any internal deficiencies and procedures that are not being properly implemented or that require further enhancement. The Accountable Manager can develop their own self-assessment checklist based on the sample provided in the sample OM (Form G of the OM template). In addition, the Accountable Manager should perform on-site supervision to ensure the compliance of the advanced operations regularly, if such flights were not operated by him personally.

8.2.2 Documentation to record compliance with the safety assurance and quality assurance requirements and actions taken shall be properly maintained as per the record keeping requirements in paragraph 10 and shall be made available to the CAD for inspection upon request.

9 Incident and Accident Reporting

9.1 The applicant shall include clear guidance and procedures of the reporting procedures and handling of occurrence. This may include definition of occurrence, detailed procedures of reporting of occurrence (including but not limited to the time and level of management to be reported to), handling of occurrence (including but not limited to identifying the root cause of the occurrence, implementation of corrective action, regular review, etc.), as well as documentation of safety and occurrence report.

9.2 In case of accident or incident, the AOP holder shall **immediately** report the case to the Police, followed by an email notification to the CAD Unmanned Aircraft Office at

sua@cad.gov.hk, if the operation has caused any damage to property or injury to person.

- 9.3 **Within 24 hours of any incident or accident (whether or not there was damage to third party property or injury)**, AOP holder shall provide full details of the circumstances in writing to the CAD Unmanned Aircraft Office by email to sua@cad.gov.hk.
- 9.4 Upon request from the CAD, the AOP holder shall provide additional details and/or investigation findings **within three (3) calendar days**, in writing by email to sua@cad.gov.hk. A log of all incidents, accidents and occurrences shall be properly maintained by the AOP holder and shall be made available upon the request by the CAD.
- 9.5 If the occurrence indicates potential major deficiency or safety concern of the AOP holder, or if the AOP holder fails to report occurrences to the CAD in a timely manner, the CAD may suspend, revoke or vary the AOP as detailed in paragraph 12.

10 Records

- 10.1 The Accountable Manager shall ensure that a record keeping system is in place of which documents in relation to individual flights and those illustrating the organisation's capability to continuously comply with the AOP are properly retained.
- 10.2 Documents in relation to individual flights include flight log, battery log, maintenance record, site safety assessment, risk assessment, flight plan, occurrence report, applicable insurance policy, the consent/ permission from land owners and relevant authorities, etc.
- 10.3 Documents in relation to the maintenance of the AOP include the application form, documents related to requirements under paragraph 4.2 of this AC, a summary of flight of advanced operations conducted, safety assurance and quality assurance related documents such as the self-assessment report, a summary of occurrences, occurrence reports, list of SUA models, remote pilots and other nominated personnel, as well as other supplementary documents, if any.
- 10.4 All records shall be maintained for at least **two (2) years**. They could be kept in either paper form or in electronic format or a combination of both and shall be made available to the CAD for inspection upon request.

11 Continued Validity of the AOP

- 11.1 The CAD may conduct oversight activities that are necessary to assess the AOP holder's compliance with the conditions of the AOP, which may include announced and unannounced inspections, audits, documents checks and any other appropriate activities.
- 11.2 Should objective evidence be identified by the CAD illustrating non-compliance of the applicable regulatory requirements and conditions of the AOP, the CAD may issue a finding to the AOP holder. The AOP holder may then be requested to submit a corrective action plan to the satisfaction of the CAD within a period accepted by the CAD which shall include the identification of the root cause leading to the non-compliance, as well as concrete and feasible measures for preventing reoccurrences of such deficiencies.
- 11.3 If the AOP holder fails to rectify any identified non-compliance for a prolonged period of time, the CAD may suspend, revoke or vary the AOP as detailed in paragraph 12.

12 Suspension, Revocation and Variation by the CAD

- 12.1 If the CAD considers that the regulatory requirements stipulated in relevant ACs, the SRD and the SUA Order cease to be met in part or in whole or the conditions of the permission has been contravened, or if the AOP holder fails to rectify any identified non-compliance for a prolonged period of time, or if any occurrence indicates potential major deficiency or safety concern of the AOP holder, or if the AOP holder fails to report occurrence to the CAD in a timely manner, the AOP may be suspended, revoked or varied by the CAD pursuant to section 38 of the SUA Order.

13 Transferability of the AOP

- 13.1 The AOP granted by the CAD is not normally transferable.

14 Enquiries

- 14.1 This AC will be subject to review and update from time to time. 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 operations of SUA at all times.

14.2 This AC should be read in conjunction with the SUA Order, SRD and other SUA related ACs and documents published by the CAD.

14.3 For enquiries, please contact the Unmanned Aircraft Office of the CAD at sua@cad.gov.hk.

15 **Notes**

This AC supersedes the version dated 31 May 2022.

– END –