

# Advisory Circular

## CROSS-BORDER PERMITS FOR UNMANNED AIRCRAFT OPERATIONS

GENERAL.....	1
PURPOSE .....	1
APPLICABILITY .....	1
RELATED REGULATIONS .....	1
RELATED ADVISORY CIRCULARS .....	1
CANCELLATION.....	1
EFFECTIVE DATE .....	1
OTHER REFERENCES .....	1
1 UNMANNED AIRCRAFT OPERATOR'S RESPONSIBILITIES.....	2
2 APPLICATION FOR UA CROSS-BORDER PERMIT .....	2
3 OTHER PERMITS .....	3
4 INDICATION OF INTEREST PRIOR TO PERMIT APPLICATION.....	3
5 FEES .....	3
APPENDIX 1 LIST OF REPORTABLE SAFETY MATTERS.....	4
APPENDIX 2 DOCUMENTS REQUIRED FOR UA CROSS-BORDER PERMIT APPLICATION .....	5

### GENERAL

Advisory Circulars (ACs) are issued by the Director-General of Civil Aviation (DGCA) from time to time to provide practical guidance or certainty in respect of the statutory requirements for aviation safety. ACs contain information about standards, practices and procedures acceptable to CAAS. An AC may be used, in accordance with section 11 of the Air Navigation Act 1966 (ANA), to show that compliance with a statutory requirement has been achieved. The revision number of the AC is indicated in parenthesis in the suffix of the AC number.

### PURPOSE

This Advisory Circular provides guidance on unmanned aircraft (UA) operations into and out of Singapore that will require permit(s).

### APPLICABILITY

This AC is applicable to persons who intend to apply for cross-border permit under the Air Navigation (101 – Unmanned Aircraft Operations) Regulations 2019 (“ANR-101”).

### RELATED REGULATIONS

This AC relates specifically to Part 2 of ANR-101.

### RELATED ADVISORY CIRCULARS

- AC 101-2-1 Permits for unmanned aircraft operations

### CANCELLATION

Nil

### EFFECTIVE DATE

This AC is effective from 21 November 2023.

### OTHER REFERENCES

Nil.

## **1 UNMANNED AIRCRAFT OPERATOR'S RESPONSIBILITIES**

- 1.1 An unmanned aircraft (UA) operator operating a UA into or out of Singapore must ensure that the UA is operated in a safe manner without endangering the safety of any person, aircraft or property. Any reportable safety matter, of which, a non-exhaustive list can be found in Appendix 1, must be notified to CAAS by the quickest available means.
- 1.2 It is illegal to operate a UA, regardless of the total mass of the UA, into or out of Singapore without a cross-border permit granted by CAAS under regulation 18A of ANR-101. Any operator found operating a UA into or out of Singapore illegally will be liable to prosecution by the authorities. The authorities will also have the powers to take down any unauthorised cross-border UA.

## **2 APPLICATION FOR UA CROSS-BORDER PERMIT**

- 2.1 A person applying for a cross-border permit must also apply for –
- (a) A UA Operator Permit (OP) if the person is operating –
    - (i) UA that has a total mass of more than 25 kg for any purpose;
    - (ii) a UA that has a total mass exceeding 7 kg but not exceeding 25 kg, for an educational purpose;
    - (iii) a UA of any mass that is operated in the course of business or for a purpose that is neither a recreation purpose or an education purpose.
  - (b) An activity permit as necessary.
- 2.2 Appendix 2 contains details of the list of information and supporting documents required for an application for a cross-border permit. CAAS may grant a cross-border permit after the satisfactory assessment of the specific aspects of the activity, such as:
- (a) The flight path where the UA is intended to be operated and if payload would be carried as part of the flight;
  - (b) Approval and positive coordination with the relevant agencies (foreign and domestic)
  - (c) The date(s)/time(s) during which the operation(s) will be conducted at the location(s);
  - (d) The operating altitude and exact GPS coordinates for the entire duration of flight;
  - (e) Mitigation measures proposed by the operator to address site-specific circumstances such as nearby buildings/obstacles, crowds, visibility etc. at the time of operations in and outside of Singapore; and
  - (f) Activity applied for is within the capability of the operator as approved in the UA OP and the UA type is listed within the UA Operator permit.
- 2.3 In the interest of aviation and public safety, the operation of a UA across the border will be subject to a more stringent safety assessment by CAAS to prevent the UA from interfering with manned aircraft operations, in consideration of safety of property and

that of the general public. This might result in more stringent conditions being imposed by CAAS in granting the UA cross-border permit.

### **3 OTHER PERMITS**

3.1 The applicant for a UA cross-border may need to apply for other permits required under Singapore law that are granted by other agencies. The applicant is solely responsible for applying for such permits. These permits include:

- (a) A permit granted by the Singapore Police Force (“SPF”) pursuant to section 32 of the Air Navigation Act 1966 (“ANA”) for taking photographs of a protected area;
- (b) A permit granted by SPF pursuant to section 33 of the ANA for overflying a protected area;
- (c) A permit granted by SPF pursuant to section 26 of the POA for using UA in a special event area;
- (d) A permit for use of radio frequencies and power limits that does not comply with the Info-communications Media Development Authority of Singapore (IMDA) guidelines on radio frequencies and power limits for short range devices.

The applicant should therefore provide the necessary details and supporting documents to identify the necessity for the grant of such permits.

### **4 INDICATION OF INTEREST PRIOR TO PERMIT APPLICATION**

4.1 Interest to apply for a cross-border permit should be submitted to CAAS in writing at [caas\\_uas@caas.gov.sg](mailto:caas_uas@caas.gov.sg) at least 6 months before the intended activity date. CAAS will provide further details on the application after CAAS (along with the relevant agencies) has assessed that there is a need for the grant of a cross-border permit for the activity.

4.2 Permit applicants should note the following guidelines:

- (a) There may be instances when certain requested operating parameters (such as activity dates, times, locations and heights) cannot be approved based on aviation safety and security considerations. Applicants should exercise flexibility in planning their activities.
- (b) Any change to the activity dates in the application should be submitted within 30 working days of the initial application.

### **5 FEES**

5.1 As specified in the Second Schedule of ANR-101, the fee for an application for a UA cross-border permit is \$8,100.

## APPENDIX 1 LIST OF REPORTABLE SAFETY MATTERS

Some examples of reportable safety matters:

- 1 Any malfunctions of, or damage to, the UA structure, components, or subsystems, while in operation, which affect its airworthiness or led to difficulty in control of the aircraft.
- 2 Any damage to UA, due to foreign objects or environment, while in operation, which affect its airworthiness or led to difficulty in control of the aircraft.
- 3 Near collision of the UA with other aircraft or objects, near misses, or occurrence that has a potential of causing an accident.
- 4 Incapacitation of UA pilot crew.
- 5 Any airspace infringement event.
- 6 Any other significant safety incidents that may endanger the operations of the UA and/or cause danger to persons and property.
- 7 Any occurrence during the operation of the UA leading to:
  - (a) Missing or total loss of the UA;
  - (b) Requiring major repairs of the UA; or
  - (c) Serious injury or fatality to people.

A UA operator should inform the CAAS UAS Duty Officer (Tel: +65 9830 6418) on a reportable safety matter relating to a UA within 24 hours of its occurrence and follow up with a written report within 3 working days to [CAAS\\_UAS@caas.gov.sg](mailto:CAAS_UAS@caas.gov.sg).

## APPENDIX 2

## DOCUMENTS REQUIRED FOR UA CROSS-BORDER PERMIT APPLICATION

- 1 In addition to the information required in the eSOMS AP application, an illustration of the whole operation process containing the following points may be required:
  - (a) Flight plan (take-off/landing, hover/flight path, height, speed, how visual line of sight is maintained, number and position of pilots and observers, etc);
  - (b) A map or floor plan (e.g. Google satellite map at the appropriate scale) of the activity site with annotation of launch/recovery point(s) and any horizontal flight path of the unmanned aircraft;
  - (c) If applicable, indicate if the activity is conducted for, or within proximity of an organised event where crowds are expected (marathon, festival, exhibition, parades, events, etc.).
  - (d) An illustration of how the unmanned aircraft will drift in the event of power failure at maximum operating height.
- 2 For each activity, please complete the Risk Assessment Form found online (<https://www.caas.gov.sg/e-services-forms/forms/unmanned-aircraft-systems>). To ensure that the risk assessment is relevant to the activity, the operator should identify all possible hazards specific to the activity and implement control/recovery measures to mitigate the risks. Hazards should be identified for each section of the form.
- 3 Supporting documents may be requested to prove the availability of systems, software, or mechanisms, e.g. manufacturer or product specification, that serve to:
  - (a) ensure that the UA operation can be confined within the planned area of operation;
  - (b) provide in-flight monitoring of critical system parameters (battery power, rotor performance etc.); and
  - (c) allow post flight review of the flight profile.