CIVIL AVIATION DIRECTIVE – 6011 PART (I)

UNMANNED AIRCRAFT SYSTEM

REMOTE PILOT TRAINING ORGANISATION

CIVIL AVIATION AUTHORITY OF MALAYSIA

ISSUE 01
REVISION 01 – 15TH NOVEMEBER 2022

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Introduction

In exercise of the powers conferred by section 24O of the Civil Aviation Act 1969 [Act 3], the Chief Executive Officer makes this Civil Aviation Directive 6011 Part (I) - Remote Pilot Training Organisation – ("CAD 6011 Part (I) – RPTO"), pursuant to Regulation 64 and Regulation 189 read together with Regulation 193 of the Malaysian Civil Aviation Regulations (MCAR 2016).

This CAD contains the Standards, requirements and procedures pertaining to the provisions for Remote Pilot Training Organisations authorised by the CAAM.

This Civil Aviation Directive 6011 Part (I) - Remote Pilot Training Organisation – ("CAD 6011 (I) – RPTO") is published by the Chief Executive Officer under Section 24O of the Civil Aviation Act 1969 [Act 3] and come into operation on 15 November 2022.

Non-compliance with this CAD

Any person who contravenes any provision in this CAD commits an offence and shall on conviction be liable to the punishments under Section 24O (2) of the Civil Aviation Act 1969 [Act 3] and/or under Malaysian Civil Aviation Regulation 2016.

(Datuk Captain Chester Voo Chee Soon)
Chief Executive Officer
Civil Aviation Authority of Malaysia

Civil Aviation Directive components and Editorial practices

This Civil Aviation Directive is made up of the following components and are defined as follows:

Standards: Usually preceded by words such as *"shall"* or *"must"*, are any specification for physical characteristics, configuration, performance, personnel or procedure, where uniform application is necessary for the safety or regularity of air navigation and to which Operators must conform. In the event of impossibility of compliance, notification to the CAAM is compulsory.

Recommended Practices: Usually preceded by the words such as "*should"* or "*may*", are any specification for physical characteristics, configuration, performance, personnel or procedure, where the uniform application is desirable in the interest of safety, regularity or efficiency of air navigation, and to which Operators will endeavour to conform.

Appendices: Material grouped separately for convenience but forms part of the Standards and Recommended Practices stipulated by the CAAM.

Definitions: Terms used in the Standards and Recommended Practices which are not self-explanatory in that they do not have accepted dictionary meanings. A definition does not have an independent status but is an essential part of each Standard and Recommended Practice in which the term is used, since a change in the meaning of the term would affect the specification.

Tables and Figures: These add to or illustrate a Standard or Recommended Practice and which are referred to therein, form part of the associated Standard or Recommended Practice and have the same status.

Notes: Included in the text, where appropriate, Notes give factual information or references bearing on the Standards or Recommended Practices in question but not constituting part of the Standards or Recommended Practices;

Attachments: Material supplementary to the Standards and Recommended Practices or included as a guide to their application.

It is to be noted that some Standards in this Civil Aviation Directive incorporates, by reference, other specifications having the status of Recommended Practices. In such cases, the text of the Recommended Practice becomes part of the Standard.

The units of measurement used in this document are in accordance with the International System of Units (SI) as specified in CAD 5. Where CAD 5 permits the use of non-SI alternative units, these are shown in parentheses following the basic units. Where two sets of units are quoted it must not be assumed that the pairs of values are equal and interchangeable. It may, however, be inferred that an equivalent level of safety is achieved when either set of units is used exclusively.

A common units of measurements used within this document are expressed in accordance with those used in normal aviation practise within Malaysia:

a) Vertical distances of aircraft (heights, altitudes) are expressed in ***feet (ft)***
b) Heights of obstructions are expressed in ***metres (m)***
c) Distances for navigation, airspace reservation plotting, and ATC separation are expressed in ***nautical miles (nm)***

d) Shorter distances are expressed in ***metres (m)*** and ***kilometres (km)*** when at or over 5000 metres
e) Mass is expressed in ***kilogrammes (kg)*** and ***grammes (g)*** when less than 1 kg
f) Speed is expressed in ***knots (kt)***
Note. - Speeds below 50 kts may also be expressed in ***metres per second (m/s)***

Where appropriate, conversions will be provided with the text with the alternative value shows in brackets e.g. 400 feet (120 metres).

Other typical conversions that are used are:

a) Distance
10 feet = 3 metres
50 feet = 15 metres
500 feet = 150 metres

b) Mass
250 g = 0.55 lb (pounds)
25 kg = 55 lb

Any reference to a portion of this document, which is identified by a number and/or title, includes all subdivisions of that portion.

Throughout this Civil Aviation Directive, the use of the male gender should be understood to include male and female persons.

CAD 6011 (I) is a subset the 'CAD 6011 series' of UAS Directives and Guidance documentation, which includes:

CAD 6011	:	Unmanned Aircraft System (General)
CAGM 6011	:	Unmanned Aircraft System (General)
CAD 6011 (I)	:	Remote Pilot Training Organisation
CAD 6011 (II)	:	Agricultural UAS Operations
CAD 6011 (III)	:	UAS Rotary Wing Swarm Operations
CAD 6011 (IV)	:	Standard Scenarios (STSs)
CAD 6011 (V)	:	Special UAS Project

Note. - Work is currently being done to develop a CAD 6011 (II) in a 'Bahasa Malaysia' Edition. CAD 6011, CAGM 6011, CAD 6011 (III) and CAD 6011 (IV) will be introduced at a later stage.

Enquiries related to CAD 6011 (II) can be made to the UAS Unit via drone@caam.gov.my

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Record of Revisions

Revisions to this handbook shall be made by authorised personnel only. After inserting the revision, enter the required data in the revision sheet below. The *'Initials'* has to be signed off by the personnel responsible for the change.

ISS/REV No.	Revision Date	Revision Details	Initials
ISS01/REV01	15 November 2022	Refer to Summary of Changes	CAAM

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Summary of Changes

ISS/REV no.	Item no.	Revision Details
ISS 01/REV 01	Para 1.2.3	Applicability added to make clear difference of applicability between CAD 1 and CAD 6011 requirements.
	Para 1.4.3	RPTO will issue the student's certification for RCOC and other additional modules, not including the RPTO's additional courses. The RPTO will also manage and update each of their student's one2fly profile on the progress accordingly.
	Para 1.4.9	RCoC-B is a requirement within Special UAS Project
	Para 2.2	Abbreviations update
	Para 3.3	RPTO will issue the student's certification for RCOC and other additional modules, not including the RPTO's additional courses. The RPTO will also manage and update each of their student's one2fly profile on the progress accordingly.
	Para 3.9.1(i)(3);	Changes in theoretical knowledge examination requirements
	Para 3.12.2.1.3	Changes in NPH (excluding than Safety Manager) to hold several posts to allow flexibility to small organisation.
	Para 3.12.6.1 (g)	Replace the word "FC" within the sentence to "RPTO"
	Para 3.12.7	Requirements for MC has been changed
	Para 3.12.8.1(a)	Changes made to PCO Certificate requirements, instead of PCO License
	Para 3.12.9.4	Changes made to PCO Certificate requirements, instead of PCO License
	Para 3.14.3	Emergency Response Plan
	Para 3.16.1.1	Training file for NPH, RFI and RGI personnel
	Para 4.2.1	Amendment to the statement
	Para 4.4.3	Reduction number of days RPTO required to submit to CAAM for student enrollment
	Par a 4.5.3(b)	Changes in theoretical knowledge examination requirements
	Para 5.1.1.1	Changes to clarify the validity and expiry date of the (A2) RCoC.
	Para 6.1.1.1(c)	Changes to clarify the validity and expiry date of the RCoC.
	Para 7.1.2	Changes in theoretical knowledge examination requirements
	Para 7.1.4	Changes in theoretical knowledge examination requirements
	Para 7.1.7.3	Changes in theoretical knowledge examination requirements

	Para 7.1.8	Requirement of examination process to have CAAM UAS Inspector as invigilator to monitor the examination process.
	Para 8.1.1(a)	Changes in theoretical knowledge examination requirements
	Para 8.1.2(c)	Changes in theoretical knowledge examination requirements
	Para 9.1.2	Replace the word “ATO” with “RPTO”
	Para 9.2.6	Methods on informing CAAM set up of RPTO
	Para 9.3.2	Certification processes to include 75% score for filtering processes
	Para 9.5	Changes to certification process
	Appendix 5	Changes to the LEP to provide clarification
	Appendix 6 item 1.2.3	Reword from ‘accident’ to ‘incident’
	Attachment F	RPTO COA Approval Flow Chart
	Attachment I	RCoC Template

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1 General

1.1 Citation

1.1.1 These Directives are the Civil Aviation Directives 6011 (I) – Remote Pilot Training Organisation (CAD 6011 (I) – RPTO), Issue 01/Revision 01, and comes into operation on 15 November 2022.

1.1.2 This CAD 6011 (I) – RPTO, Issue 01/Revision 01 will remain current until withdrawn or superseded.

1.2 Applicability

1.2.1 This CAD is applicable to all Remote Pilot Training Organisation seeking to become an Approved Training Organisation by CAAM.

1.2.2 This CAD prescribes the requirements for issuance and renewal of the Remote Pilot Training Organisation.

1.2.3 This CAD covers competency requirements for domestic Special UAS Approval applicants and does not cover international/cross border operations of unmanned aircraft system.

1.3 Revocation

1.3.1 This CAD also revokes Civil Aviation Directives 6011 (I) – Remote Pilot Training Organisation (CAD 6011 (I) – RPTO) Issue 01/Revision 00, dated 1 March 2021.

1.4 Introduction

1.4.1 This CAD sets out the requirements, administrative processes, instructions, and guidance related to the operation of the Remote Pilot Training Organisation (RPTO) within Malaysia.

1.4.2 ATO-RPTO is an organisation that has been formally approved by the CAAM to submit reports for theoretical knowledge instruction and flight instruction and assessment in relation to the competency of remote pilots.

1.4.3 The CAAM approves RPTO to assess the competence of remote pilots against a specific set of requirements and to issue the appropriate certificate on CAAM's behalf.

1.4.4 Once the CAD 6011 becomes effective, the UAS regulations follow 3 basic concepts in that they are operation centric, risk-based, and performance-based. The fundamental principle in these concepts is the safety risk that an unmanned aircraft's flight will present to uninvolved third parties. UAS operations will fall into three categories: Open, Specific or Certified.

1.4.4.1 While the basic remote pilot competency requirements for operations within Open category are covered by the successful completion of the CAAM'S 'Unmanned and Model Aircraft Registration and Education Scheme' online test, operations within the A2 subcategory require an additional remote pilot qualification. Similarly, within the Specific category, although competency can be addressed within the operational risk assessment (OSC or SORA), operations that are conducted under a standard scenario (STS) or pre-defined risk assessment (PDRA) will include prescriptive details of the level of the remote pilot competency required for compliance.

1.4.5 This document is intended to serve the following purposes:

a) Help new organisations ensure that an application as an RPTO satisfy CAAM requirements;

b) Explain administrative arrangements, instructions and legal matters in relation to how CAAM will administer RPTOs; and

c) Give guidance to organisations to ensure continued compliance as and when there are any appropriate or necessary changes to the organisations.

Note. - When the relevant CAD(s) becomes effective, this CAD should be read in conjunction with relevant provisions of CAAM CAD 1 -PEL, CAD 6011 and CAGM 6011.

1.4.6 The list of all approved RPTOs is published on the CAAM's website.

1.4.7 The CAAM remote pilot competency scheme consists of two (2) certificates as follows:

a) The **'A2 Remote Pilot Certificate of Competency' (A2 RCoC)** – this theoretical examination, conducted at an RPTO test facility. The A2 RCoC satisfies the Open category requirements for operations within the A2 subcategory.

Note. - The A2 CofC will only become effective once the CAD 6011 is effective.

b) The **'Remote Pilot Certificate of Competency' (RCoC)** –This comprises both a theoretical examination and a practical flight test, conducted at an RPTO facility. The RCoC-B satisfies the requirements within the Specific category (when CAD 6011 becomes effective). The RCoC-B satisfies the competency requirements of a published PDRA or STS that involves VLOS flights.

1) However, the RCoC-B when augmented with additional modules satisfies the competency requirements for the works which commensurate Agricultural UAS operations or Special UAS Project; or in order to comply with the requirements of more complex SORA.

Note. - In some cases, these certificates may also be considered appropriate for some operations conducted under an operational risk assessment (e.g.A2 CofC may prove sufficient in cases where the operation entails flight at reduced distances from uninvolved persons) – only applicable when CAD 6011 becomes effective.

1.4.8 If the RPTO intends to conduct additional training courses such as Train the Trainer, Specific Operations Risk Assessment (SORA), Safety Management System (SMS) for Unmanned Aircraft Operations and Crew Resource Management (CRM), CAAM approval for these courses can be done on case by case basis.

1.4.9 From 01 December 2021 onwards, all remote pilots must be in possession of a RCoC-B and its additional modules for an authorisation within the Special UAS Project.

1.5 Impartiality of RPTO

1.5.1 If RPTO is also a Special UAS Approval Holder/Agricultural UAS Aerial Work Certificate Holder and is conducting training for its own operation, the RPTO and the UAS Operator shall ensure a clear separation between the training activities and any other operational activity to guarantee the independence of the evaluation.

1.6 Policy

1.6.1 UAS operating in Malaysia must meet at least the same safety and operational standards as manned aircraft when conducting the same type of operation in the same airspace.

1.6.2 As a result, when compared to the operations of manned aircraft of manned aircraft of an equivalent class or category, UAS operations must not present or create a greater hazard to persons, property vehicles or vessels, either in the air or on the ground.

1.6.3 However, with unmanned aviation, the primary consideration is the type of operation being conducted, rather than who or what is conducting it, or why it is being done. Because there is ‘no person on board’ the aircraft, the consequences of an incident or accident are purely dependent on where that incident/accident takes place. The CAAM’s focus therefore on the risk that the UAS operation

presents to third parties, which means that more effort or proof is required where the risk is greater.

1.6.4 For the purpose of UAS operations, the 'See and Avoid' principle employed in manned aircraft is referred to as 'Detect and Avoid'.

1.7 Unmanned aircraft – clarification of terms

1.7.1 The following term are reproduced here:

a) 'unmanned aircraft' means an aircraft and its associated elements which are operated with no pilot on board.

b) 'aircraft' means a machine that can derive support in the atmosphere from reactions of the air, other than reactions of the air against the surface of the earth.

c) For clarification, the CAAM considers the following as flying 'objects' rather than flying 'machines' and so are not considered to be unmanned aircraft:

1) Paper aeroplane
2) Hand launched glider, but only those with no moveable control surfaces or remote control link
3) Frisbees, darts and other thrown toys.

d) For the purpose of electrically powered unmanned aircraft, the batteries are considered as part of the aircraft, and the 'charge' is considered as the fuel.

1.8 ICAO Annexes

1.8.1 The 19 Annexes to the Chicago convention contain the International Standards and Recommended Practices (SARPS), upon which every ICAO member State then uses to create its own national regulations.

1.8.2 ICAO is currently in the process of developing international SARPS covering Remotely Piloted Aircraft Systems which are conducting international Instrument Flight Rules (IFR) operations within controlled airspace and from aerodromes. These SARPS fit into the Certified category of UAS operations and the appropriate regulations will be adapted in accordance with these SARPS when they are completed.

1.8.3 ICAO is not currently developing SARPS for any other types of UAS operations.

1.9 Civil and Military regulations

1.9.1 Any aircraft which is not 'military aircraft' must, under Civil Aviation Act 1969 [Act 3] comply with civil requirements. 'Military aircraft' means a military aircraft as defined in item 2. (1) of Civil Aviation Act 1969 [Act 3].

1.10 Personal Data Protection Act (PDPA Act 709)

1.10.1 UAS Operators and remote pilots should be aware that the collection of images of identifiable individuals, even inadvertently, when using surveillance cameras mounted on an unmanned aircraft, may be subject to the Malaysian Personal Data Protection Act 2010 [Act 709] which regulates the processing of personal data in commercial transaction with the implementation of the 7 Personal Data Protection Principles on the protection of individual with regard to the processing of personal data and on the free movement of such data.

1.10.2 UAS operators must be aware of their responsibilities regarding operations from private land and any requirements to obtain the appropriate permission before operating from a particular site. They must ensure that they observe the relevant trespass laws and do not unwittingly commit a trespass whilst conducting a flight.

1.11 Insurance

1.11.1 Each holder of a COA for RPTO shall maintain a valid insurance to cover its liability towards a third party.

1.12 Enforcement

1.12.1 The CAAM takes breaches of aviation legislation seriously and will seek to prosecute in cases where dangerous and illegal flying has taken place.

1.12.2 Please report any misuse of UAS to CAAM and the Royal Malaysian Police.

1.12.3 The CAAM's remit is limited to safety and also to investigate where someone is operating, or has operated, in a manner that is not in accordance with their Aerial Work Certificate. This does not include concerns over privacy or broadcast rights. Breaches of Aviation Regulation legislation pertaining to UAS must be reported directly to: drone.enforcement@caam.gov.my.

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2 Definition and Abbreviation

2.1 Definition

a) For the purposes of this CAD, the definitions in Malaysia Civil Aviation Regulation 2016 apply.

b) The following definitions also apply:

1) **'unmanned aircraft system' (UAS)** means an aircraft and its associated elements which are operated with no pilot on board;

2) **'unmanned aircraft system operator' ('UAS operator')** means any legal or natural person operating or intending to operate one or more UAS;

3) **'assemblies of people'** means gatherings where persons are unable to move away due to the density of the people present;

Note. - Assemblies of people have been defined by an objective criterion related to the possibility for an individual to move around in order to limit the consequences of an out-of-control UA. It was indeed difficult to propose a number of people above which this group of people would turn into an assembly of people: numbers were indeed proposed, but they showed quite a large variation. Qualitative examples of assemblies of people are:

a) sport, cultural, religious or political events;

b) beaches or parks on a sunny day;

c) commercial streets during the opening hours of the shops; and

d) ski resorts/tracks/lanes

4) **'UAS geographical zone'** means a portion of airspace established by the competent authorities that facilitates, restricts or excludes UAS operations in order to address risks pertaining to safety, privacy, protection of personal data, security or the environment, arising from UAS operations;

5) **'robustness'** means the property of mitigation measures resulting from combining the safety gain provided by the mitigation measures and the level of assurance and integrity that the safety gain has been achieved;

6) RESERVED

7) **'visual line of sight operation' ('VLOS')** means a type of UAS operation in which, the remote pilot is able to maintain continuous unaided visual contact with the unmanned aircraft, allowing the remote pilot to control the flight path of the unmanned aircraft in relation to other aircraft, people and obstacles for the purpose of avoiding collisions;

8) **'beyond visual line of sight operation' ('BVLOS')** means a type of UAS operation which is not conducted in VLOS;

9) RESERVED

10) RESERVED

11) **'dangerous goods'** means articles or substances, which are capable of posing a hazard to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified to those instructions.

Note.1 - In the case of an incident or accident, that the unmanned aircraft is carrying as its payload, including in particular:

i) Explosives (mass explosion hazard, blast projection hazard, minor blast hazard, major fire hazard, blasting agents, extremely insensitive explosives);
ii) Gases (flammable gas, non-flammable gas, poisonous gas, oxygen, inhalation hazard);
iii) Flammable liquids (flammable liquids, combustible, fuel oil, gasoline);
iv) Flammable solids (flammable solids, spontaneously combustible solids, dangerous when wet);
v) Oxidising agents and organic peroxides;
vi) Toxic and infectious substances (poison, biohazard);
vii) Radioactive substances;
viii) Corrosive substances;

Note. - Under the definition of dangerous goods, blood may be considered to be capable of posing a hazard to health when it is contaminated or unchecked (potentially contaminated). In consideration of Chapter 09 of CAD 6011 (V) -SUP.

a) medical samples such as uncontaminated blood can be transported in either 'Special UAS Project' or it must be 'certified' in accordance with CAD 6011 (V) - SUP;

b) unchecked or contaminated blood must be transported in the 'Special UAS Project' or the 'certified' category. If the transport may result in a high risk for third parties, the UAS operation belongs to the 'certified' category. If the blood is enclosed in a container such that in case of an accident, the blood will not be spilled, the UAS operation may belong to the 'Special UAS Project' if there are no other causes of high risk for third parties.

12) **'payload'** means instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is installed in or attached to the aircraft and is not used or intended to be used in operating or controlling an aircraft in flight, and is not part of an airframe, engine, or propeller;

13) **'direct remote identification'** means a system that ensures the local broadcast of information about an unmanned aircraft in operation, including

the marking of the unmanned aircraft, so that this information can be obtained without physical access to the unmanned aircraft;

14) **'follow-me mode'** means a mode of operation of a UAS where the unmanned aircraft constantly follows the remote pilot within a predetermined radius;

15) **'geo-awareness'** means a function that, based on the data provided by the competent authorities, 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;

16) **'privately built UAS'** means a UAS assembled or manufactured for the builder's own use, not including UAS assembled from sets of parts placed on the market as a single ready-to-assemble kit;

17) **'autonomous operation'** means an operation during which an unmanned aircraft operates without the remote pilot being able to intervene;

Note. - Flight phases during which the remote pilot has no ability to intervene in the course of the aircraft, either following the implementation of emergency procedures, or due to a loss of the command-and-control connection, are not considered autonomous operations.

An autonomous operation should not be confused with an automatic operation, which refers to an operation following pre-programmed instructions that the UAS executes while the remote pilot is able to intervene at any time.

18) **'uninvolved persons'** means persons who are not participating in the UAS operation or who are not aware of the instructions and safety precautions given by the UAS operator;

Note. - Due to the huge variety of possible circumstances, the general guidelines below may be used.

An uninvolved person is a person that does not take part in the UAS operation, either directly or indirectly.

A person may be considered to be 'involved' when they have:

a) given explicit consent to the UAS operator or to the remote pilot to be part of the UAS operation (even indirectly as a spectator or just accepting to be overflown by the UAS); and
b) received from the UAS operator or from the remote pilot clear instructions and safety precautions to follow in case the UAS exhibits any unplanned behaviour.

In principle, in order to be considered a 'person involved', one:

c) is able to decide whether or not to participate in the UAS operation;
d) broadly understands the risks involved;
e) has reasonable safeguards during the UAS operations, introduced by the site manager and the aircraft operator; and

f) is not restricted from taking part in the event or activity if they decide not to participate in the UAS operation.

The person involved is expected to follow the directions and safety precautions provided, and the UAS operator or remote pilot should check by asking simple questions to make sure that the directions and safety precautions have been properly understood.

Spectators or any other people gathered for sport activities or other mass public events for which the UAS operation is not the primary focus are generally considered to be 'uninvolved persons'.

People sitting at a beach or in a park or walking on a street or on a road are also generally considered to be uninvolved persons.

An example: when filming with a UAS at a large music festival or public event, it is not sufficient to inform the audience or anyone present via a public address system, or via a statement on the ticket, or in advance by email or text message. Those types of communication channels do not satisfy the points above. In order to be considered a person involved, each person should be asked for their permission and be made aware of the possible risk(s). This type of operation does not fall into the 'open' category and may be classified as 'specific' or 'certified', according to the risk.

19) **'making available on the market'** means any supply of a product for distribution, consumption or use on the Malaysian market in the course of a commercial activity, whether in exchange of payment or free of charge;

20) **'placing on the market'** means the first making available of a product on the Malaysian market;

21) **'controlled ground area'** means the ground area where the UAS is operated and within which the UAS operator can ensure that only involved persons are present;

22) **'maximum take-off mass' ('MTOM')** means the maximum Unmanned Aircraft mass, including payload and fuel, as defined by the manufacturer or the builder, at which the Unmanned Aircraft can be operated;

Note. - This MTOM is the maximum mass defined by the manufacturer or the builder, in the case of privately built UAS, which ensures the controllability and mechanical resistance of the UA when flying within the operational limits.

The MTOM should include all the elements on board the UA:

a) all the structural elements of the UA;
b) the motors;
c) the propellers, if installed;
d) all the electronic equipment and antennas;
e) the batteries and the maximum capacity of fuel, oil and all fluids; and
f) the heaviest payload allowed by the manufacturer, including sensors and their ancillary equipment.

23) **'unmanned sailplane**' means an unmanned aircraft that is supported in flight by the dynamic reaction of the air against its fixed lifting surfaces, the free flight of which does not depend on an engine. It may be equipped with an engine to be used in case of emergency.

24) **'unmanned aircraft observer'** means a person, positioned alongside the remote pilot, who, by unaided visual observation of the unmanned aircraft, assists the remote pilot in keeping the unmanned aircraft in VLOS and safely conducting the flight;

25) **'aircraft observer'** means a person who assist the remote pilot by performing unaided visual scanning of the airspace in which the unmanned aircraft is operating for any potential hazard in the air;

26) **'command unit' ("CU")** means the equipment to control unmanned aircraft remotely as defined in point 32 of Article 3 of Regulation (EU) 2018/1139 which supports the control or the monitoring of the unmanned aircraft during any phase of flight, with the exception of any infrastructure supporting the command and control (C2) link service;

27) **'C2 link service'** means a communication service supplied by a third party, providing command and control between the unmanned aircraft and the CU;

28) **'flight geography'** means the volume(s) of airspace defined spatially and temporarily in which the UAS operator plans to conduct the operation under normal procedures;

29) **'flight geography area'** means the projection of the flight geography on the surface of the earth;

30) **'contingency volume'** means the volume of airspace outside the flight geography where contingency procedures are applied;

31) **'contingency area'** means the projection of the contingency volume on the surface of the earth;

32) **'operational volume'** is the combination of the flight geography and the contingency volume;

33) **'ground risk buffer'** is an area over the surface of the earth, which surrounds the operational volume and that is specified in order to minimise the risk to third parties on the surface in the event of the unmanned aircraft leaving the operational volume;

34) **'night'** means the time between 20 minutes after sunset and 20 minutes before sunrise, excluding both the times, determined at surface level;

36) **'Agricultural UAS operations**' is the operations of a UAS for the purpose of:

   i) Dispensing any 'agricultural payload' intended for plant nourishment, soil treatment, propagation of plant life, or pest control; or
   ii) Engaging in dispensing 'agricultural payload' and surveillance activities directly affecting agriculture, horticulture, or forest preservation, but not including the dispensing of live insects.

37) **'Agricultural Payload'** means any dispensing materials such as pesticides and any other substances as permitted by Department of Agriculture (DOA). (Refer to DOA website for approved Agricultural Payload List)

38) **'Pesticides'** means, subject to subsection (2) of Pesticides Act 1974 means:

   i) Any substance that contains an active ingredient; or
   ii) Any preparation, mixture or material that contains any one or more of the active ingredients as one of its constituents, but does not include contaminated food or any article listed in the Second Schedule of Pesticides Act 1974.

2.2 Abbreviation

AEC	Airspace Encounter Category
AEH	Airborne Electronic Hardware
ANSP	Air Navigation Service Provider
ARC	Air Risk Class
AGL	Above Ground Level
AM	Accountable Manager
AMC	Acceptable Means of Compliance
AO	Airspace Observer
ATC	Air Traffic Control
ATO	Approved Training Organisation
ATP	Authorised Technical Personnel
AWC	Aerial Work Certificate
BVLOS	Beyond Visual Line Of Sight
CAAM	Civil Aviation Authority of Malaysia
CEO	Chief Executive Officer (CAAM, unless stated otherwise)
CG	Centre of Gravity
CGSO	Chief Government Security Office
COA	Certificate of Approval
CRP	Chief Remote Pilot
C2	Command and Control
C3	Command, Control and Communication
ConOps	Concept of Operations
DAA	Detect And Avoid
DOA	Department Of Agriculture
ERP	Emergency Response Plan
FHSS	Frequency-Hopping Spread Spectrum
FOM	Flight Operations Manager
GRC	Ground Risk Class

GM	Guidance Material
GNSS	Global Navigation Satellite System
HMI	Human Machine Interface
ISM	Industrial, Scientific and Medical
JARUS	Joint Authorities for Rulemaking on Unmanned Systems
JUPEM	Jabatan Ukur dan Pemetaan Malaysia
LRMP	Lembaga Racun Makhluk Perosak
MAFI	Ministry of Agriculture and Food Industries
METAR	Aviation Routine Weather Report (in (aeronautical) meteorological code)
MC	Maintenance Controller
MCC	Multi-Crew Cooperation
MCAR	Civil Aviation Regulation 2016
MCMC	Malaysian Communications and Multimedia Commission
MTOM	Maximum Take-Off Mass
OM	Operations Manual
OSO	Operational Safety Objective
PDRA	Pre-Defined Risk Assessment
PtF	Permit to Fly
RBO	Risk-Based Oversight
RCoC	Remote Pilot Certificate of Competency
RCP	Required Communication Performance
RF	Radio Frequency
RFI	Remote Pilot Flight Instructor
RGI	Remote Pilot Ground Instructor
RLP	Required C2 Link Performance
RP	Remote Pilot
RPS	Remote Pilot Station
RPTO	Remote Pilot Training Organisation
SAIL	Specific Assurance and Integrity Level
SIRIM	Standard and Industrial Research Institute of Malaysia

SM	Safety Manager
SMSM	Safety Management System Manual
SOE	Schedule of Events
SORA	Specific Operations Risk Assessment
SPECI	Aviation Selected Special Weather code (in (aeronautical) meteorological code)
STS	Standard Scenario
SW	Software
TAF	Terminal Area Forecast
TCAS	Traffic Collision Avoidance System
TMPR	Tactical Mitigation Performance Requirement
TPM	Training and Procedure Manual
UA	Unmanned Aircraft
UAS	Unmanned Aircraft System
UAS Regulation	MCAR 2016 Part XVI and its legislations pertaining to UAS, including CAD 6011 and its subseries
VLL	Very Low Level
VLOS	Visual Line of Sight
VO	Visual Observer

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3 Remote Pilot Training Organisation Certificate of Approval (RPTO COA)

3.1 Scope of RPTO COA

3.1.1 No person shall engage in any course of training or instruction or authorise any person to conduct any examination or test for a RCoC unless in possession of valid RPTO COA issued by the CAAM, and in accordance with this CAD.

3.1.2 If required by the CAAM, the applicant shall, upon an application for the issuance of the RPTO COA, cause the CAAM inspector to be trained and rated on the type of the UA listed in the application form.

3.1.3 If required by the CAAM, the RPTO COA holder shall, upon application for the variation of the RPTO COA to include additional type of UA, cause the CAAM inspector to be trained and rated on the type of aircraft listed in the application form.

3.2 Criteria for the issuance of RPTO COA

3.2.1 An applicant is entitled to a Remote Pilot Training Organisation Certificate of Approval if it is approved by the CEO and is satisfied that:

a) Each applicant has demonstrated and meets the applicable requirements of this CAD; and

b) The granting of RPTO COA is not contrary to the interest of aviation safety.

3.3 Privileges of an RPTO COA

3.3.1 A Remote Pilot Training Organisation Certificate of Approval is an organisation that has been formally approved by the CAAM to submit reports and/or issue certificates on the CAAM's behalf in relation to the competency of remote pilots.

3.3.2 To ensure a standardisation of the issuance of student's certificate of competency, an RCoC template (refer to Attachment I) shall be used by the RPTO.

Note. – RPTO to request editable template from CAAM for standardisation.

3.3.2.1 The RPTO shall display a QR code of one2fly ID profile on each of the certificates issued as a method of authenticating the certificate. The one2fly ID profile is an integrated tracking system to display the Remote Pilot's (RP) progress and may act as a verification of the Remote Pilots conformance to CAAM. Hence, the RPTO shall manage and update the progress of one2fly ID on the RCoC and its additional modules.

3.4 Transferability of an RPTO COA

3.4.1 A Remote Pilot Training Organisation Certificate of Approval is not transferable.

3.5 Validity, suspension and revocation of RPTO COA

3.5.1 Subject to the power of the CEO to revoke or suspend the RPTO COA under regulation 193 of MCAR, the COA shall be valid for a period of 12 months.

3.5.2 Notwithstanding paragraph 3.5.1, CAAM may extend the validity period as specified in paragraph 3.5.1, to a period not exceeding 3 months if CAAM is satisfied that the RPTO has a satisfactory record of successful regulatory evaluations during the validity period of 12 months.

3.5.3 The CEO may revoke or suspend the COA under regulation 193 of the MCAR if the operations of the RPTO are not in active for more than 6 months.

3.5.4 The Certificate that expires shall forthwith be deposited by the holder to the CEO.

3.6 Changes to the RPTO COA

3.6.1 No holder of RPTO COA shall make any changes affecting—

a) the terms and conditions of the RPTO COA or the particulars in the RPTO COA;

b) its associated training specifications;

c) any of the elements of the RPTO's management system as specified in paragraph 3.11.

unless with the approval of the CEO.

3.6.2 An application for the changes under paragraph 3.6.1 above shall be made to the CEO and accompanied by the documents and information as may be required by the Chief Executive Officer and in accordance with the requirements as may be required by the CEO.

3.6.3 The CEO may impose such terms and conditions on the approval of changes.

3.6.4 The holder of RPTO COA shall continue to operate under the terms and conditions of the RPTO COA and requirements under this CAD, and such terms and conditions and requirements shall, pending the approval of changes continue in full force and effect.

3.7 Notification of changes and cessation of training activities

3.7.1 An RPTO shall notify the CAAM without undue delay of the following:

a) any changes to the information contained as listed in 3.6.1;

b) any changes to the information in the RPTO COA and to the training programme or programmes or the approved training manual or manuals respectively;

c) the cessation of some or all training activities covered by the RPTO COA

3.7.2 An RPTO shall no longer be entitled to provide some or all of the training specified in its COA on the basis of that declaration, where one of the following occurs:

a) the RPTO has notified the CAAM of the cessation of some or all of the training activities covered by the COA;

b) the RPTO has not provided the training for more than 36 consecutive months.

3.8 Variation to Existing RPTO COA

3.8.1 If the holder of an RPTO COA wishes to apply for the variation of its certificate, such as:

a) Changes to the location(s) listed on the training specification;

b) Changes to the UA listed on the training specification;

c) Changes to the type of training syllabus/programme conducted as listed on the training specification;

d) Name of the organisation specified in the Certificate of Approval;

e) Place of business of the organisation specified in the Certificate of Approval;

f) The Operator's Operational Point of Contact details; and

g) Or any changes to the Certificate of Approval or training specifications.

The RPTO COA holder shall submit full details of the requested amendments. The minimum notice required is 60 working days, but the RPTO COA holder is advised to give as much notice as possible. No undertaking can be given that an application will be dealt with within any requested timeline.

3.8.2 On receipt of the submission of the requested amendments, special inspections may be conducted which may include demonstration of training. After all documentation is complete and upon satisfactory completion of any special inspection, the relevant amended page of the COA or the training specifications will be issued to the operator as approval for the requested variation to the RPTO COA.

3.9 Application process

3.9.1 The issuance of an approval for an RPTO and the continued validity of the approval shall depend upon the organisation's compliance with the requirements of this section. An application for the issuance of a Remote Pilot Training Organisation Certificate of Approval (RPTO COA) shall be made in a form and manner prescribed by the CAAM. The following information and documentation shall be submitted as part of an initial and renewal application for review by the CAAM:

a) Name and address of the RPTO;

a) Date of intended commencement of activity;

b) Personnel details of the Accountable Manager;

c) Personnel details and qualifications of the:

1) Safety Manager (SM);
2) Chief Remote Pilot (CRP);
3) Maintenance Controller (MC);
4) Remote Pilot Flight Instructor (RFI);
5) Remote Pilot Ground Instructor (RGI).

d) Name(s) and address(es) of the aerodrome(s) and/or operating site(s) at which training the applicable is to be conducted. A complete Risk Assessment must be included for the flying training area(s);

e) List of UA to be operated for training, including their class or type and documentation describing the proposed UA to be operated for training and supporting role equipment. This includes copies of the manufacturer's documentation;

f) Type of training that the RPTO wishes to provide and the corresponding training programme;

g) The Training and Procedure Manual (TPM) and Safety Management System Manual (SMSM);

h) All course material including:

1) All lesson plans. This includes lesson covering Theoretical Knowledge Standards and the Practical skill training and assessment Standards
2) All lesson materials that are used to communicate the syllabus (Power Point lessons / online slide shows / video lessons / handouts) and/or lessons conducted through other means
3) 100 questions on Theoretical Knowledge Examination

4) A practical Competency Flight Test for each category of UA included in the training course or courses being applied for

Note. - RPTOs are to provide the CAAM 30 questions yearly on each subject of the certification course that they intend to teach.

i) All other relevant material, possibly including:

1) Student reference workbooks
2) Student course flight log templates
3) Student course material handouts (timetables, course exercise, student code of conduct, student version exam policy)
4) Student pre-course material (if applicable)
5) All instructor guide per lesson given (what the instructor needs to say to cover off the required items in the syllabus)

j) Any other documentation or information required as outlined by the CAAM.

3.9.2 An applicant for an initial issuance of RPTO COA shall provide a statement of compliance in the Training and Procedure Manual declaring the compliance with the provision of the MCAR, directive, notice, circular and information as issued by the CEO.

3.9.3 A holder of an RPTO COA shall comply with the terms and conditions of the RPTO COA issued by the CAAM and requirements of this CAD.

3.10 Renewal of RPTO COA and Audit

3.10.1 RPTO COA Holders shall be subjected to an annual safety regulatory oversight (also termed as audit) which includes:

a) Initial audit's;

b) Primary concern regarding the RPTO;

c) Provision of facilities;

d) Quality of the instruction being given, and flight operations as conducted; and

e) A checklist for the audit's Non-Compliance Report and RPTO's Corrective Action Respond Plan.

3.10.2 The main elements of safety regulatory oversight include:

a) staff adequacy of number and qualifications;

b) instructor validity of licences and ratings;

c) logbooks;

d) facilities adequacy to the courses to be conducted and to the number of students;

e) documentation;

f) training records and test forms; and

g) demonstration of RPTO's ability to train and assess the competence of remote pilots for theoretical knowledge and where relevant, practical flight.

3.10.3 These annual safety regulatory oversight may either be done by annual desktop review or some RPTO COA may be selected on a random basis for an 'on-site' audit.

3.10.4 The application for a renewal of RPTO COA shall be submitted to the CEO at least four (4) months prior to the expiry date of the Certificate, along with a statement in the application regarding the current capability and competency of the RPTO COA Holder.

3.10.5 Depending on the complexity of the organisation or the operations being conducted by the UAS operator, performance-based oversight principles may dictate that the CAAM's level of oversight is increased. This may mean more frequent audits of some UAS operators, or variations in the scope and manpower employed to conduct the audit.

3.10.6 On-site audits will be normally be scheduled with the UAS operator, although the CAAM reserves the right to conduct audits at 'no notice' if such an action is considered necessary. Audits will be conducted by the CAAM and may be carried out at the UAS operator's 'base' and/or at an operating location while carrying out an operating task.

Note. - For the purpose of demonstrating compliance with the UAS Regulation, RPTO COA Holder shall grant to any person, that is duly authorised by the CAAM, an access to any facility, UAS, document, records, data, procedures or to any other material relevant to its activity.

3.10.7 Any findings or observations will be discussed during the audit and a timescale for their rectification will be agreed.

3.10.8 Oversight reports will be distributed to the RPTO COA holder within 28 working days of completion of an audit. The RPTO COA holder will be expected to respond within the allocated timescale detailing actions it intends to take to rectify any identified issues. Further communication will continue as considered necessary by the CAAM until the oversight report and associated findings/observations are closed.

3.10.9 Renewal of RPTO COA will be denied in the case the RPTO COA holder fails to come up with an adequate corrective action to a satisfactory level. Lack of timely corrective action or non-conformance with the regulatory requirements may result in enforcement action whenever applicable.

3.10.10 Findings

3.10.10.1 After receipt of notification of findings, the operator shall identify the root cause of the non-compliance and define a corrective action plan.

3.10.10.2 The corrective action plan defined by the RPTO should address the effects of the non-conformity, as well as its root cause. Corrective action is the action to eliminate or mitigate the root cause(s) and prevent recurrence of an existing detected non-compliance or other undesirable condition or situation. Proper determination of the root cause is crucial for defining effective corrective actions.

3.10.10.3 For the purpose of an application for the issuance or renewal of RPTO COA, the CAAM practice 5 points closure plan for each finding. The RPTO shall within 28 days from the receipt of the notification of findings, submit the plan of corrective action to the CAAM as follows:

a) immediate corrective action taken in the short term at least to contain the findings and stop it from continuing;

b) root cause analysis to identify the origin of the findings;

c) root cause correction that should significantly reduce or eliminate the chances of recurrence;

d) follow up to verify the effectiveness of the corrective action taken; and

e) closure statement from the Head of Training or responsible person stating his reason for acceptance of the corrective action taken

3.10.10.4 Upon the submission of the corrective action plan, the RPTO shall demonstrate corrective action implementation to the satisfaction within a period as agreed by the CAAM.

3.10.10.5 Findings are classified as follows:

a) A level-one finding is any non-compliance with these requirements that could lead to uncontrolled non-compliances and which could affect the safety of a UAS operation;

b) A level-two finding is any non-compliance with these requirements that is not classified as level-one.

An observation may be raised where there is potential for future non-compliance if no action is taken, or where the CAAM wishes to indicate an opportunity for safety improvement or indicate something that is not considered good practice.

3.11 Management System

3.11.1 An RPTO shall establish, implement and maintain a management system that includes:

a) clearly defined lines of responsibility and accountability throughout the RPTO, including a direct safety accountability of the accountable manager;

b) description of the overall philosophies and principles of an RPTO with regard to safety, referred to as the safety policy;

c) the identification of aviation safety hazards entailed by the activities of the RPTO, their evaluation and the management of associated risks, including taking actions to mitigate the risk and verify their effectiveness;

d) maintaining personnel trained and competent to perform their tasks;

e) documentation of all management system key processes, including a process for making personnel aware of their responsibilities and the procedure for amending this documentation;

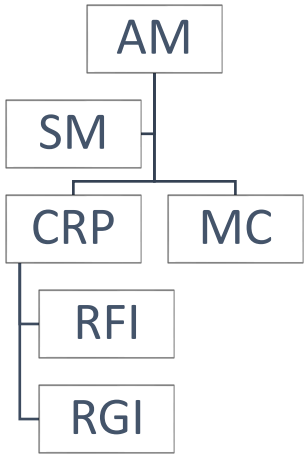
f) a function to monitor compliance of the RPTO with the relevant requirements. Compliance monitoring shall include a feedback system of findings to the accountable manager to ensure effective implementation of corrective actions as necessary;

g) any additional requirements that are prescribed in this CAD or relevant act, regulations, notices, circulars or information issued by the CAAM;

h) a management system that correspond to the size of an RPTO and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in these activities; and

i) submission of a status report on the instruction in flying training to the CAAM every quarterly.

3.11.2 Organisation structure of an RPTO should be as outlined below:



3.12 Personnel requirements

3.12.1 An RPTO shall appoint an accountable manager as approved by the CAAM, who has the authority for ensuring that all training and assessment for the competency of remote pilots can be financed and carried out in accordance with this CAD and the applicable requirements issued by the CAAM.

3.12.2 An RPTO shall appoint nominated post holder with the responsibility of ensuring that an RPTO remains in compliance with the applicable requirements and who is ultimately responsible to the accountable manager as follows:

a) Safety Manager (SM);

b) Chief Remote Pilot (CRP);

c) Maintenance Controller.

3.12.2.1.1 In addition, an RPTO shall appoint the following:

a) Remote Pilot Flight Instructors (RFI);

b) Remote Pilot Ground Instructors(s) (RGI).

Note. - NPH must possess comprehensive knowledge on SMS. Therefore, NPH must undergo and hold an SMS certificate. An introduction to SMS is sufficient for all other NPH except for SM, whereby requires having undergone SMS Implementation Course.

3.12.2.1.2 The requirements for the staff file content and arrangements shall be as follows:

a) Biodata;

b) Employment Letter;

c) Job description or Term of Reference;

d) Yearly Training Programme; and

e) Certificates of attended courses.

3.12.2.1.3 The acceptability of a single person holding several posts, possibly in combination with being the AM as well, will depend upon the nature and scale of the operation. The two main areas of concern are competency and an individual's capacity to meet his responsibilities.

3.12.3 Combination of NPH's Responsibilities:

a) The acceptability of a single person holding several posts, possibly in combination with being the AM as well, will depend upon the nature and scale of the operation. The two main areas of concern are competency and an individual's capacity to meet his responsibilities.

b) With regards to competency in the different areas of responsibility, there shall not be any difference from the requirements applicable to persons holding only one post.

c) The capacity of an individual to meet his responsibilities will primarily be dependent upon the scale of the operation. However, the complexity of the organisation or of the operation may prevent, or limit, combinations of posts which may be acceptable in other circumstances.

d) An RPTO shall maintain appropriate experience, qualification and training records to show compliance with item 3.12.3 (a) (b) and (c) above.

e) An RPTO shall ensure that all personnel are aware of the rules and procedures relevant to exercise of their duties.

3.12.4 Competence of RPTO Staff

a) The staff responsible for any delivery of theoretical knowledge and assessment tasks must have the required knowledge, experience and competence. The assessment staff must be free of any pressure and incentive which could affect their judgement or the results of their assessments.

b) The RPTO must demonstrate capability to adequately perform the technical and administrative tasks linked with the assessment process, including the use of personnel, facilities and equipment appropriate to the task.

3.12.4.1 The staff responsible for any delivery of theoretical knowledge education or practical training and assessment tasks shall meet the following requirements:

a) Sound technical and vocational training in a relevant subject area, demonstrated by any of the following means:

1) A practical background in aviation in the areas relevant for the theoretical knowledge training provided and have undergone a course of instructional technique training; or

2) Previous experience in delivering theoretical knowledge instruction an appropriate theoretical background in the subject on which they will provide theoretical instruction.

b) A sound knowledge of the requirements for the practical skill assessment tasks they carry out and adequate experience of such processes;

c) The ability to administer the declarations, records and reports that demonstrate that the relevant assessments have been carried out and the conclusions of those assessments;

d) The ability to interpret and assess operations manuals;

e) Information that is supplied to RPTOs by individuals applying for remote pilot certificates, or by UAS operators, must not be disclosed to any person other than the CAAM.

3.12.5 Safety Manager (SM)

a) An RPTO shall nominate a SM acceptable to CAAM which:

1) Has extensive applicable and adequate knowledge and experience commensurate with the RPTO's planned operations, MCAR 2016, UAS Regulations and SMS.

Note. - SM requires to have undergone SMS Implementation Course.

2) The SM is responsible for the implementation and maintenance of an effective SMS. (Refer to 3.13 below for further detail)

3.12.6 Chief Remote Pilot (CRP)

a) An RPTO shall nominate a Chief Remote Pilot (CRP) acceptable to CAAM which:

1) Satisfies the requirement listed in 3.12.4.1;
2) Possess sufficient and sound managerial capability;
3) Advance knowledge and experience commensurate with the RPTO's planned operations.

3.12.6.1 The CRP's responsibilities shall include:

a) Ensuring that the training provided is in compliance with the MCAR and UAS Regulations and, in the case of flight test training, that the relevant requirements and the training programme have been established;

b) Ensuring the satisfactory integration of flight training of and theoretical knowledge instruction;

c) Supervising the progress of individual students;

d) Nominate qualified staff under his supervision namely:

1) Remote Pilot Flight Instructor (RFI); and

2) Remote Pilot Ground Instructor (RGI).

e) supervision and standardisation of all instructors and the provision of instructor briefing materials;

f) supervision and standardisation of all instructors (it will be acceptable for the CRP to be supported by instructor nominated as Standard Instructors accepted for this purpose by the CAAM); and

g) ensuring that suitable arrangements are in place for the signing of all course completion certificates. Arrangements acceptable to the CAAM are to be made for periodic standardisation training and such training is to be detailed within RPTO's Training Procedure Manual.

3.12.7 Maintenance Controller (MC)

a) An RPTO shall nominate a MC acceptable to CAAM which:

1) Possess sufficient and sound managerial capability;
2) Advance knowledge and experience commensurate with the RPTO's planned operations.

b) The MC is responsible for ensuring the maintenance of UAS in accordance with manufacturer specifications. The roles and responsibilities of MC shall include:

1) Control all UAS maintenance, either scheduled or unscheduled;
2) Keep records of personnel permitted to perform maintenance of UA including details of their training and qualifications;
3) Develop, enforce and monitor UAS maintenance standards;
4) Maintain a record of UAS defects and unserviceability;
5) Ensure that the specialist equipment items including payload equipment are serviceable;
6) Maintain a thorough technical knowledge of UAS operating under the authority of the RPTO;
7) Ensure maintenance activities are conducted in accordance with the procedures detailed in the Training Procedure Manual;
8) Investigate all significant defects in the UAS.

3.12.8 Remote Pilot Flight Instructor (RFI) and Remote Pilot Ground Instructor (RGI)

a) If the scope of training warrants it, an RPTO shall appoint a RFI and RGI acceptable to CAAM which satisfies the requirement listed in 3.12.4.1.

3.12.8.1 Additional Requirement on RFI/RGI teaching Agricultural Module.

a) The instructor must be competent in handling pesticides and shall hold current Pest Control Operator (PCO) Certificate issued by LRMP.

3.12.9 Authorised Evaluations and Checks Carried out by the RPTO

3.12.9.1 At the discretion of the CAAM, it may be appropriate for the RPTO to designate authorised examiners (AE) for conduct of practical flying checks in accordance with criteria approved by the CAAM. Such an arrangement should be considered only when the RPTO can demonstrate that it is acceptable of consistent compliance with the standards prescribed by the CAAM.

3.12.9.2 At the discretion of the CAAM, it may be appropriate for the RPTO to designate Flight Instructor Examiner (FIE) to conduct checks, evaluate and issue out authorised examiners (AE) rating on CAAM's behalf.

3.12.9.3 Theoretical knowledge examinations are conducted solely by the CAAM via online examination and may be held in-house at the RPTO at the CAAM's discretion.

3.12.9.4 An AE/FIE assessing for Module 2 (Agricultural Operations) shall hold a valid Pest Control Operator (PCO) Certificate issued by LRMP.

3.13 Safety Management System

3.13.1 Safety policy

a) The safety policy should define, in relation to the RPTO training programme, at least the means and methods used for:

1) hazard identification;
2) risk assessment; and
3) effectiveness of the mitigation measures (implementation and follow-up).

b) The safety policy should additionally include the procedures required for occurrence reporting as per paragraph 3.15 of this Chapter.

Note. - Further guidance on SMS can be found in Appendix 7 of this CAD.

3.14 Emergency Response Plan

3.14.1 An RPTO shall establish an ERP that provides the actions to be taken by the RPTO or specified individuals in the case of an emergency. The ERP should reflect the size, nature and complexity of the activities performed by the RPTO.

3.14.2 An RPTO shall develop the ERP Flow Chart detailing the flow, process, procedures and contact persons in the event of incident or accident. The contact details shall also cater for other agency such as Malaysian Air Accident Investigation Bureau, Royal Malaysian Police, Fire and Rescue Department of Malaysia, nearest General Hospital and others related agency.

3.14.3 The ERP Flow Chart shall be made aware to every personnel required. It may be published on the notice board of the Operation Room.

3.14.4 An RPTO shall ensure that the ERP contains:

a) an orderly and safe transition from normal to emergency operations;

b) safe continuation of operations or return to normal operations as soon as practicable; and

c) coordination with the emergency response plans of other organisations, where appropriate.

3.15 Occurrence Reporting

3.15.1 The RPTO or RP of a UAS used by an RPTO who has knowledge of any reportable occurrence shall report the occurrence within 48 hours to the CAAM as required under regulation 165 of the MCAR. Refer to Appendix 6 of this CAD for further detail on occurrence reporting.

3.16 Record-keeping

3.16.1 An RPTO shall establish a system of record-keeping that allows adequate storage and reliable traceability of all activities developed. An RPTO shall specify the format of the records in an RPTO's procedure.

3.16.1.1 The RPTO shall keep a training file for the NPH, RFI, RGI and relevant staff (such as those in maintenance). The content and arrangement shall be as follows:

a) Biodata;

b) Employment Letter;

c) Job description or Term of Reference;

d) Yearly Training Programme; and

e) Certificates of attended courses and/or theoretical knowledge examination.

3.16.2 The RPTO must keep the following records for a period of five (5) years:

a) A record of each student's:

1) Theoretical assessment;
2) Practical flight assessment;

Note. - Records should include details of any failed examinations/ test attempts.

b) Full details of any remote pilot competency certificate that has been issued, along with any additional modules included with the RCOC;

c) Any recommendations made to the CAAM;

d) A record of each quarterly formal, periodic internal review/meeting and any subsequent follow-up actions.

3.16.3 These records must be stored in a secure manner to ensure that no damage to, or tampering of records can occur.

3.16.4 The RPTO must provide the CAAM with the following quarterly and upon request:

a) A list of all RCOC certificates that have been issued during that month;

b) A list of RCOC additional module certificates that have been issued during that month.

3.16.5 The record-keeping system of an RPTO should have the following characteristics:

a) Completeness: The records kept by the RPTO should be sufficient to provide documentary evidence of each training action and follow the reconstruction of training history of each student or instructor in the RPTO.

b) Integrity: It is important to maintain the integrity of records, ensuring that they are not removed or altered. A backup of the records is also necessary to ensure continuity in case of a major disaster.

c) Accessibility: Records of both instructional personnel and trainees should be readily accessible.

3.16.6 If paper system is used, it should use robust material which can withstand normal handling and filing. If electronic system is used, it should have at least one backup system, which should be updated within 24 hours of any new data entry. Computer systems should include safeguards against unauthorised alteration of data.

3.16.7 Training records should be kept in a paper or electronic version by the RPTO where the candidate is undertaking their training.

3.16.8 Each RPTO should also establish rules for archiving personal employment and training records that are non-active.

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4 Training

4.1 Pre-requisites for RCoC training

4.1.1 Minimum age requirement for the issuance of RCoC-B and its additional modules by the CAAM is 18 years old. Minimum age requirement for the issuance of A2 RCoC by the CAAM is 16 years old.

4.1.2 The RPTO shall establish a system of record keeping of the training file for the instructors and students involved in instruction and assessment for a RCoC.

4.1.3 ***RESERVED***

4.2 Facilities and Equipment Requirement

4.2.1 Facilities

4.2.1.1 An RPTO shall have access to facilities appropriate to the size and scope of the intended operations provided in an environment conducive to learning. These facilities should include:

a) General areas which consist of sufficient:

1) Office space for RPTO managerial, administrative and training staff;

2) Study and reference/library facilities; and

3) Storage areas, including secure areas for training and personnel records.

b) Emergency Response Room

c) Classroom which are suitably equipped to effectively deliver the theoretical elements of the specified training programme.

d) Examination hall for CAAM theoretical online examination.

e) Practical training areas.

f) Practical training area should also include Flight Operations which are designed and equipped to ensure the attainment of end-state competencies. These facilities should include, whenever applicable:

1) Operations, flight planning and briefing rooms that include:

i) Current maps and charts;
ii) Current meteorological information;
iii) suitable communication between ATC and the operations room; and
iv) maps showing current danger/restricted and training areas.

2) Simulation and procedure trainer areas.

3) Workshop for maintenance of UA and storage facilities.

4) Parts, tools and material storage areas.

4.2.1.1.1 As required by paragraph 3.9.1 (e), Risk assessment is required. Risk assessment should also include the nominated Practical UA training area. The location of intended practical UA training area should have the following characteristics:

a) Not at a populated area;

b) Must require Municipal permission;

c) Preferably at a height of less than 400 ft;

d) Not in an Aerodrome Traffic Zone (unless paragraph 4.3 is applicable); and

e) If it is within a designated area:

1) it must have signage all around the location to make 'uninvolved person' aware that there is a UA training activity present.

4.2.2 Training courseware and equipment

4.2.2.1 An RPTO needs to ensure that all courseware and equipment required by the training programme, are available and in good working order. Changes to working conditions and any temporary "work-around" solutions should be discussed with the CAAM prior to continuing with the scheduled training.

4.2.3 Approval of training devices

4.2.3.1 With the rapid improvements in technology, an increasing number of simulation training devices for training personnel within the aviation industry are entering the marketplace. Some training programmes even use web-based simulation to such an extent that full accreditation for successful programme completion is achieved without the trainees ever having to leave their normal place of work or, in some cases, their residences.

4.2.3.2 Each training device that is intended for training in an approved training programme and for which credit is being sought needs to be made available to the CAAM, prior to initial use, for determination of its suitability.

4.2.3.3 In addition to meeting the obligations of the directives, the RPTO should implement at least the following for all training devices:

a) A routine maintenance programme to ensure that the training devices continue to function properly and, when applicable, continue to accurately replicate any component, system or equipment for which training, checking or testing credits are being sought; and

b) A record-keeping process for each training device to be established and maintained, which accurately records the device's use and lists any discrepancies with respect to its functionality or intended performance characteristics that may impact training.

4.3 Aerodrome and Operating Sites

4.3.1 If applicable, an RPTO shall use aerodromes or operating sites that have the appropriate facilities and characteristics to allow training of the manoeuvres relevant, taking into account the training provided and the category and type of aircraft used. These aerodromes and operating sites must be approved for use by the CAAM.

4.3.2 The base aerodrome or operating site and any other aerodromes or operating sites at which flight training is being conducted should have at least the following facilities:

a) at least one runway or final approach and take-off area (FATO) that allows training aircraft to make a normal take-off or landing within the performance limits of all the aircraft used for the training flights at that aerodrome or operating site;

b) a wind direction indicator that is visible at ground level from the ends of each runway or at the appropriate holding points;

c) adequate runway electrical lighting, if used for night training;

d) an air traffic service (ATS), except for uncontrolled aerodromes or operating sites where the training requirements may be satisfied safely by another acceptable means of communication.

4.4 Training Programme

4.4.1 Theoretical knowledge instructional and practical skill training time

a) The RPTO shall ensure that adequate time should be allocated to classroom exercises, progress tests, revision, demonstrations, films etc., must necessarily be made by the organisation.

4.4.2 Time limit for course

a) The training course shall be completed within the following timeline:

1) Theoretical knowledge training phase – 08 months.
2) Practical skill training phase – 04 months.

b) This timeline starts when the course is commenced.

4.4.3 Approval of the CAAM for each student intake

a) The request shall be submitted to CAAM at least 14 calendar days before the commencement of the RCoC course with the information on the current status of the flight instructors, aircraft and other relevant matters which provide complete picture of the current situation of the RPTO. RPTO is also required to comply with other agencies requirements.

b) This shall be made via an email to drone.rpto@caam.gov.my. In the subject field, put a "request for new batch intake for state your RPTO". Within the body of the e-mail, indicate the details required in item (a) above.

4.5 Manual and Teaching Materials

4.5.1 Training and Procedure Manual (TPM)

4.5.1.1 The training and procedures manual describes the training programmes being offered and the way in which the RPTO conducts its activities. It is an essential document for the RPTO because it provides the management and line personnel with clear guidance on the policy of the RPTO as well as the procedures and processes which are used to provide training. It is also an essential document for the CAAM. During the approval (certification) process, it allows the CAAM to assess whether the way in which an RPTO is planning to operate is in line with existing requirement and accepted practices. Once the RPTO is approved, a large part of the surveillance activities of the CAAM is to ensure that the RPTO is following the training and procedures manual.

4.5.1.2 It is important that the contents of the training and procedures manual be consistent with other operational documents, regulations and manufacturer's requirements. The manual should also be user-friendly. It is also necessary to ensure that the manual is used consistently across all departments within the RPTO. This can be achieved through an integrated approach that recognises operational documents as a complete system.

4.5.1.3 Appendix 5 explains how the training and procedure manual should be developed, implemented and managed.

4.5.2 Safety Management System Manual

4.5.2.1 MCAR 2016 states that an ATO that is exposed to safety risks during the provision of its services, is required to implement a safety management system (SMS) acceptable to the State(s) responsible for the organisation's approval.

4.5.2.2 It is important for the CAAM and RPTO's to realise and understand the applicability of SMS for ATOs: the requirement to adopt SMS practices is intended to be restricted to only those training entities whose activities directly impact upon the safe operation of aircraft. For example, ATOs either using aircraft (such as UA) for flight training would be required to institute an SMS programme. An example of an ATO not directly posing a risk to the safe

operation of aircraft would be an ATO that provides training solely on flight simulation training devices.

4.5.2.3 SMS is a management system consisting of documented policies, processes and procedures designed to manage safety risks, which integrates operations and technical systems with the management of financial and human resources to ensure aviation safety and the safety of the public.

4.5.2.4 Further guidance on SMS can be found in Appendix 7 of this CAD.

4.5.3 Examination Papers and Answers

a) The theoretical knowledge examination shall be conducted via CAAM online papers.

b) The RPTO shall develop 30 questions for each subject provided and shall be submitted to the CAAM for approval.

Note. - Refer to Chapter 8 for further guidance on RPTO Theoretical Examination via online.

4.5.4 Standards Operating Procedures

a) The manufacturers manuals may be sufficient. However, if required the RPTO may develop its own Standards Operating Procedure to provide insight to RPs.

4.5.5 Teaching Materials/slides and Instructor Study Guide

a) All teaching slides must be drafted in accordance with the syllabus topics outlined in its respective RCoC course syllabus of training.

4.5.6 Student Handouts

a) Student handouts include items such as workbooks and subject matter to support the teaching material and reflect all current guidance and regulations.

b) Any handouts must be drafted with reference to the syllabus topic outlined in its respective RCoC course syllabus of training.

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5 A2 RCoC Course Syllabus of Training

5.1 Units of Remote Pilot training

5.1.1 **‘**A2 Remote Pilot Certificate of Competency’ (A2 RCoC)

a) This certificate covers operations that are intended to assure safe operations of unmanned aircraft close to uninvolved persons. The certificate assures an appropriate knowledge of the technical and operational mitigations for ground risk (the risk of a person being struck by the unmanned aircraft)

b) The (A2) RCoC is required to be held by the remote pilot when:

1) Operating in the A2 subcategory

2) Specific Category

i) Operating under the conditions of a published STS or PDRA when the (A2) RCoC is specifically listed as an acceptable level of remote pilot competency for that STS or PDRA.

c) In some circumstances, the (A2) RCoC may also be proposed within a UAS operator’s operational risk assessment as being a sufficient level or remote pilot competency for the operation being proposed; however, the CAAM will still hold the final determination on whether this is acceptable.

5.1.1.1 The (A2) RCoC is valid until the expiry date of the (A2) RCoC which will be at the end of the month of which the assessment of competence is done, 5 years later.

5.1.1.2 The (A2) RCoC is a theoretical examination only but is predicated on a ‘building block’ process of training and testing which is listed in the following paragraph. There are no practical flight test requirements for the (A2) RCoC.

5.1.1.3 Prior to taking the examination, the remote pilot is required to have completed the following ‘building blocks’:

a) Successful completion of the CAAM’s ‘Unmanned and Model Aircraft Registration and Education Scheme’ online training course for basic remote pilot competency and the associated competency test, and be in possession of the ‘12fly ID’ number associated with that test;

b) Completion of a period of practical flight training, either under the guidance of an RPTO or under ‘self-monitored’ circumstances, conducted within the operating conditions of subcategory A3 but simulating the operating situations associated with the A2 subcategory.

1) For a fixed-wing UA: a minimum of 15 hours of practical flight training is required.

2) For a rotorcraft: a minimum of 5 hours of practical flight training is required.

c) Remote pilot must declare, in writing, that they have completed the above building blocks to the CAAM UAS Unit.

5.1.1.4 The A2 RCoC shall comprise the minimum of:

a) Theoretical Knowledge Requirements

1) The theoretical knowledge requirements for A2 RCoC are satisfied by the requirements as listed in Appendix 1.

b) Practical Flying Requirements

1) Refer to item 5.1.1.3 (b).

5.2 Theoretical Examination Process

5.2.1 The A2 RCoC examination must be conducted under formal online examination provided by the CAAM at the RPTO test centres.

Note. -Refer to Chapter 8 for further guidance on RPTO Theoretical Examination via Online.

5.2.2 The examination comprises of a minimum of 30 multiple-choice questions which are aimed at assessing the remote pilot's knowledge of the technical and operational mitigations for ground risk and will specifically cover the following subjects:

a) Meteorology;

b) UAS flight performance;

c) Technical and operational mitigations for ground risk.

5.2.3 The specific syllabus topics are listed in Appendix 1.

6 RCoC course syllabus of training

6.1 Units of Remote Pilot training

6.1.1 'Remote Pilot Certificate of Competency' (RCoC)

a) This certificate satisfies the requirements within:

1) Specific Category

i) RCoC-B is acceptable for all VLOS operations conducted under a published STS or PDRA and, in most circumstances, it will be considered an acceptable level of remote pilot competency within an operational risk assessment for any VLOS operation.

ii) If the RCoC-B is paired with Module 1 (EVLOS), the Certificate holder may operate operations that involve an unmanned aircraft being flown beyond the VLOS of the remote pilot but make use of visual observers for the purpose of avoiding collisions (i.e., operations that are frequently referred to as Extended VLOS [EVLOS]).

a.1.ii.1 The syllabus requirements are detailed at Appendix 3.

iii) If required by the SORA, the RCoC-B shall be paired with additional modules proposed by the RPTO or UAS Operator which is acceptable to the CAAM.

Note. - Item 6.1.1 (a) is only applicable once the CAD 6011 becomes effective.

2) Agricultural Operations

i) RCoC-B is acceptable for all VLOS operations requirements of CAD 6011 (II) for 'other than dispensation' operations. (surveillance, mapping, etc)

a.2.i.1 The syllabus requirements are detailed at Appendix 2 (A) – Theoretical Knowledge Syllabus for RCOC-B and Appendix 2 (B) – Practical Flying Syllabus/Assessment Criteria for RCOC-B.

ii) If the RCoC-B is paired with Module 2 (AGR), the Certificate holder may operate operations for agricultural UAS works which include dispensation operations and fulfils requirements of CAD 6011 (II).

a.2.ii.1 The syllabus requirements for RCOC-B are detailed at Appendix 2 (A) – Theoretical Knowledge Syllabus for RCOC-B and Appendix 2 (B) – Practical Flying Syllabus/Assessment Criteria for RCOC-B.

a.2.ii.2 The syllabus requirements for Module 2(AGR) are detailed at Appendix 4(A) and Appendix 4(B).

iii) If the RCoC-B is paired with Module 1 (EVLOS), the Certificate holder may operate operations which are primarily involving an unmanned

aircraft being flown beyond VLOS of the remote pilot but make use of visual observers for the purpose of avoiding collisions (i.e., operations that are frequently referred to as Extended Visual Line of Sight [EVLOS]) which include other than dispensing operations and fulfils requirements of CAD 6011 (II).

a.2.iii.1 The syllabus requirements for RCOC-B are detailed at Appendix 2 (A) – Theoretical Knowledge Syllabus for RCOC-B and Appendix 2 (B) – Practical Flying Syllabus/Assessment Criteria for RCOC-B.

a.2.iii.2 The syllabus requirements for Module 1(EVLOS) are detailed at Appendix 3.

3) Special UAS Project

i) If the RCoC-B is paired with Module 1 (EVLOS), the Certificate holder may operate operations which are primarily involving an unmanned aircraft being flown beyond VLOS of the remote pilot but make use of visual observers for the purpose of avoiding collisions (i.e., operations that are frequently referred to as Extended VLOS [EVLOS]).

a.3.i.1 The syllabus requirements for RCOC-B are detailed at Appendix 2 (A) – Theoretical Knowledge Syllabus for RCOC-B and Appendix 2 (B) – Practical Flying Syllabus/Assessment Criteria for RCOC-B.

a.3.i.2 The syllabus requirements for Module 1(EVLOS) are detailed at Appendix 3.

ii) If required by the SORA, the RCoC-B shall be paired with additional modules proposed by the RPTO or UAS Operator which is acceptable to the CAAM.

6.1.1.1 For better understanding of the RCOC-B and its additional Modules, refer below:

a) Basic Module

1) **RCoC-B (RCoC-Basic) module:** This module is suitable for VLOS operations. However, this module is not suitable for operations close to uninvolved persons.

b) Additional Modules.

1) **RCoC (EVLOS) module 1:** This module covers operations that involve and unmanned aircraft being flown beyond VLOS of the remote pilot but make use of visual observers for the purpose of avoiding collisions (i.e. operations that are frequently referred to as Extended VLOS [EVLOS]).

2) **RCoC (AGR) module 2:** This module covers operations for agricultural UAS works which include dispensation operations.

Note. - CAAM will come up with additional module(s) at a later stage.

c) Each competency certificate (the RCoC-B and the additional modules) is valid until the expiry date of the RCoC-B and the respective additional module which will be at the end of the month of which the assessment of competence is done, 5 years later.

d) The RCoC comprises of both a theoretical knowledge examination and a practical flight test, conducted at an RPTO facility.

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7 Theoretical Examination and Practical Flying Test Process

7.1 Theoretical Examination

7.1.1 The RCoC-B and/or additional module(s) theoretical examination must be conducted under formal online examination provided by the CAAM at the RPTO test centres.

Note. - Refer to RPTO Theoretical Examination via Online Chapter 8.

7.1.2 The examination shall comprise depending on the course taken, as following:

a) a minimum of 60 questions for RCoC-B

b) 30 questions for module 2

c) 30 questions for A2 RCoC.

7.1.3 The examination questions will be in the following formats:

a) The examination may be electronic but must be of a closed book format (except when questions require reference to charts, or other sources of specific aeronautical information).

7.1.4 The duration of the examination shall be, depending on the course taken, as following:

a) RCoC-B: 90 minutes

b) Module 2: 45 minutes

c) A2 RCoC: 45 minutes

Note. - Any candidate with a recognised disability or additional needs (e.g., dyslexia or dyspraxia) should be granted an extra 10% of the allocated assessment time to complete the examination. The candidates shall inform CAAM beforehand during application for examination and provide proof of his condition.

7.1.5 Pass standards:

a) A pass in a theoretical knowledge examination paper will be awarded to an applicant achieving at least 75% of the marks allocated to that paper. There is no penalty marking.

b) Unless otherwise determined in these Directives, an applicant has successfully completed the required theoretical knowledge examination for the appropriate Certificate of Competency when he has passed all the required theoretical knowledge examination papers within a period of 8 months counted from the end of the calendar month when the applicant commences the course.

c) If the applicant has failed at least one theoretical knowledge examination paper within such period, the need for further training course shall be determined by the RPTO, based on the needs of the applicant.

d) If an applicant has failed in all 4 attempts of the same paper is deemed to have failed the entire theoretical knowledge examinations. An applicant has to re-sit all theoretical knowledge examination papers by starting the theoretical knowledge training all over again after a grace period of 3 months. Similarly, if an applicant is unable to pass all theoretical knowledge examination papers within the 8 months' period, then he is deemed to have failed the entire theoretical knowledge examination. As such he has to re-sit all ground examination papers by starting the theoretical knowledge training all over again after a grace period of 3 months which starts after his last failed paper.

e) Before re-taking the theoretical knowledge examinations, the applicant shall undertake further training at an RPTO. The extent and scope of the training needed shall be determined by the RPTO, based on the needs of the applicant.

f) Should the applicant be unable to attend the examination due illness, the total fees paid will be forfeited. A new application and payment shall be resubmitted. An explanatory letter accompanied by a medical certificate from a Government Hospital/Clinic stating the applicant is unfit to sit for the examination without which his attempt number will be counted.

g) Should the applicant be unable to attend the examination for any reason (other than due illness) after the closing date for applications, the total fees paid will be forfeited. A new application and payment shall be submitted, and the attempt number will be counted.

7.1.6 Validity period:

a) The successful completion of the theoretical knowledge examination will be valid:

1) For the issuance of RCoC, for a period of 1 year.

i) The period shall be counted from the day when the Remote Pilot successfully completes the theoretical knowledge examination, in accordance with paragraph 7.1.5.(b) above.

7.1.7 Theoretical Examination Syllabus

7.1.7.1 The A2 RCoC theoretical examination provided by the CAAM; as well as any associated theoretical knowledge training courses that are provided by the RPTO, shall cover at minimum all subject areas as listed in Appendix 1 – Theoretical Knowledge Syllabus for A2 RCoC.

7.1.7.2 The RCoC-B and/or its additional module(s) theoretical knowledge examination provided by the CAAM, as well as any associated theoretical knowledge training courses that are provided by the RPTO, shall cover at minimum all subject areas as listed as following:

	Item	Subjects
a)	RCoC-B	Theoretical Knowledge Syllabus for RCoC-B
b)	Module 1	Does not require an additional theoretical knowledge syllabus. Only require practical flight test training and assessment.
c)	Module 2	Theoretical Knowledge Syllabus for Module 2

7.1.7.3 Each subject shall be examined in enough depth to establish that students hold a suitable level of understanding of the topic so that they can determine the intent, the methods of compliance, and how this relates to their own intended operation. Specific attention will be given to how problem/emergency scenarios are addresses.

Note. - As per requirement 3.9.1 (i)(3), RPTOs are to provide the CAAM 30 questions yearly on each subject of the certification course that they intend to teach.

7.1.8 Conduct of Examination

7.1.8.1 The approved RPTO shall email to CAAM an intent to conduct the examination with a list of students and its program prior to conducting the exam. CAAM UAS Unit will advise the approved RPTO on the slot availability and will monitor the conduct of examination via VC.

7.2 Practical Flying Test

7.2.1 The RCoC practical flying test is designed to provide assurance that the remote pilot being examined can safely undertake a wide range of operations, whilst adhering to a set of procedures contained within an operations manual. The test should be based on the subjects within the RCoC theoretical syllabus but must specifically include the points covered within the practical flight syllabus table at below.

7.2.2 The practical flight test must be conducted and assessed against an operations manual provided by the examinee (either self-developed or his/her employer's).

7.2.3 The RPTO staff responsible for the assessment tasks must have adequate knowledge and competence of the operations of the type of unmanned aircraft that is to be flown during the test. The person responsible for conducting the practical flight assessment may also offer suitable training to the student prior to conducting the assessment.

7.2.4 The practical flying test must be conducted outdoors and at a location that is suitable for conducting the test (i.e., of suitable dimensions, volume and airspace class).

7.2.5 The RPTO must include practical demonstrations of manoeuvres, relevant to the candidate's operations manual, that display the remote pilot's ability to safely position and control the aircraft. Manoeuvres may be demonstrated individually, or as part of a more generalised operating scenario; they must be clearly described and illustrated within the RPTO's application documentation and will be subject to assessment for suitability during the approval process.

7.2.6 The RPTO must define the pass/fail criteria for the practical flight test assessment. As a general guide, the criteria should consist of a combination of:

a) **'Minor' errors** – cumulative up to a maximum of 7, at which point the test is failed;

b) **'Major' errors** – cumulative up to a maximum of 3, at which point the test is failed;

c) **'Safety' errors** – any single safety error will result in an automatic failure.

7.2.7 The practical test must be summarised in a written report that details the test scenario that was used, the manoeuvres undertaken and an assessment of the examinee's performance for each 'section' of the test, along with guidance on areas for improvement where applicable. Reports must also contain details of the examinee, the assessor, any additional personnel involved, and the date and location of the test.

7.2.8 If possible, the practical flying assessment shall be conducted by the Chief Remote Pilot (CRP) or a Remote Pilot Flying Instructor (RFI) who has not conducted the training for the student.

7.2.9 A record of each practical assessment must be retained by the RPTO for a minimum of 5 years.

8 Guidelines on conduct of RPTO Theoretical Examination via Online

8.1 Online Theoretical Examination Components

8.1.1 Question Banks

a) In order to standardize the quality of the RPTO's examination questions, all RPTOs must submit 30 questions yearly for each subject of the certification course using the template given in Attachment A (1) to the CAAM.

b) The question will also be filtered by the CAAM. The RPTO shall provide an answer and link/reference/attachment for the CAAM to verify the authenticity, validity and applicability of each question and answer to the materials taught.

8.1.2 Question Format

a) All of the examination question used in the exams are in a format of multiple-choice question (MCQ).

b) Only four answer shall be provided for each question in which there's only one correct answer.

c) The examination details are as follows:

1) Passing marks – 75% and above
2) Examination duration – based on paragraph 7.1.4
3) Number of question – based on paragraph 7.1.2
4) Question style – multiple choice questions (MCQ)

Note. - The examination duration and/or number of questions may vary depending on subject.

d) An unanswered question is scored as incorrectly answered.

e) All questions are 'standalone', that is, they are not linked to one another and therefore will neither affect nor be dependent upon the answers of other questions.

8.1.3 ZOOM Video Conference (VC)

a) The CAAM representative will monitor each examination conducted that is related for the certification of Remote Pilot Certification of Competency (RCoC). To achieve that, every computer shall use ZOOM software for the monitoring process.

b) The webcams must be switched on at all times during the process of examination.

c) CAAM invigilator will attend the VC to monitor the conduct of the examination.

d) One instructor from the RPTO shall be present during the examination period to assist the CAAM invigilator.

8.1.4 PDPA and Security

a) The design of the online exam should include robust security controls and measures to ensure the reliability and privacy of the system and the data that is stored, processed, or accessed by the system.

b) The RPTO should fully comply with the Personal Data Protection Act (PDPA) for the collection, use and disclosure of personal data and notify the CAAM upon detection of any confirmed IT security incident or security breach affecting the system of its data, and provide the CAAM with any follow-up actions to be taken.

8.2 Online Examination Method

8.2.1 Identification

a) The RPTO shall print out and distribute the examination booking confirmation slip to candidates prior to taking the examination.

b) The slip shall have the RPTO's stamp to verify its authenticity.

c) The slip shall include at minimum:

1) Name
2) MyKad/passport number
3) 12fly ID
4) Exam subject
5) Time and duration of the examination
6) Date
7) Seating number.

Note. - Refer Attachment A (2) to view the format of examination slip.

d) Candidates must produce their examination booking confirmation slip and MyKad/passport during check-in to prove their identity by the CAAM invigilator.

8.2.2 Examination Hall

a) To ensure no fouls play, the desk arrangement shall be at least 2.5 meters apart.

b) There are no maximum number of candidates per session. However, the limiting factor shall be the size of the examination hall to accommodate the desk arrangement in pursuant to item 8.2.2 (a).

c) All workstations shall be labelled. Candidates must sit in their respective workstations mentioned in their examination slip.

d) Four webcams shall be installed at each corner of the examination hall and connected to the ZOOM Meeting.

8.2.3 Examination Workflow

a) One (1) meter standing position must be prepared outside of the class, where the line is labelled to the floor.

b) The seats for each candidate are predetermined prior to taking the exam.

c) All candidates must adhere to the online examination progress workflow.

Note. - Refer Attachment A (3) for further guidance of the flow of the examination process.

8.2.4 Equipment

a) In order for the CAAM to monitor the operation of the online exam, the RPTO examination hall shall be equipped as follows:

1) Personal Computer with a complete basic accessory
2) Stable internet access
3) Monitor with at least a 21-inch screen.
4) A complete webcam and microphone on every computer
5) Four extra webcams to be put at each corner of the exam hall. The webcams view will be pointing towards an angle where all candidates can be seen in the zoom meeting. All of the webcams are to be connected to the zoom lobby.

Note. - Each of the computers must not have any notes or relevant materials that may help the candidates during the period of examination.

8.2.5 Examination workspace

a) The camera angle must be put at the top right of the monitor. This to capture the candidate's face and their respective workspace, including mobile phones.

b) Mobile phone(s) and smartwatch(es) are to be kept on silent mode, face downwards and to be put at a designated location determined by the invigilator during the period of examination.

c) All other gadgets (if any) were to be turned off and put away from the workspace.

d) Only instructor-permitted materials are allowed to be on the workspace.

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9 Certification Process

9.1 Obtaining approval

9.1.1 The applicant should meet the approval requirements by complying with the application process and procedures as published by the CAAM.

9.1.2 With the application for approval, a draft copy of the proposed RPTO's training and procedure manual must be submitted to the CAAM. The requirements for the contents of this manual are described in paragraph 4.5.1 of this CAD.

9.2 CAAM's review and approval process

9.2.1 The procedures contained in this Chapter will be utilised by the CAAM for the issuance of an RPTO COA and for the continuing safety of the operations conducted in accordance with the RPTO COA and the related training specifications.

9.2.2 During the certification process, CAAM is to be satisfied that the applicant, who will have the ultimate responsibility for the safety of the operation, is eligible for the issuance of an RPTO COA and has the ability and competence both to conduct safe and efficient operations and to comply with applicable regulations. CAAM, in addition to assessing the ability and competence of the applicant, will also endeavour to guide the applicant in organisational and procedural matters which will result in a safe operation. Thus, if the objectives of both the CAAM and the applicant are achieved in the certification process, they will have commenced their shared responsibility for safety, regularity and efficiency of operations.

9.2.3 At the commencement of the certification process, a CAAM inspector will be appointed as the project manager (PM). The applicant will be informed that the PM will be responsible for coordinating all aspects of the certification process and will be the focal point for dealing with all matters and correspondence between the applicant and the CAAM. The certification process and correspondence shall be documented with all documents and checklists used to be completed, signed and dated appropriately filed. The applicant should address all findings and discrepancies to the satisfaction of the CAAM before the issue of the RPTO COA.

9.2.4 Since each operation may differ in complexity and scope, the PM has considerable latitude in taking decisions and making recommendations during the certification process. The ultimate recommendation by the PM and decision by the CAAM regarding certification and awarding of an RPTO COA are to be based on the determination of whether or not the applicant meets the CAAM's requirements and is adequately equipped and capable of conducting the proposed operation in a safe and efficient manner.

9.2.5 Certification Procedure

9.2.5.1 The procedure for the application and granting of an RPTO COA by the CAAM will be organised in phases and will take the following sequence:

a) Pre-application phase;

b) Formal application phase;

c) Document evaluation phase;

d) Demonstration and Inspection phase; and

e) Certification phase.

Each of these phases is briefly introduced below.

9.2.6 Informing CAAM interest of setting up RPTO

9.2.6.1 An applicant who is interested in setting up RPTO shall inform CAAM its intention by sending an email to drone.rpto@caam.gov.my, in the subject field, put a "(Name of Company) request to set-up Remote Pilot Training Organisation". Within the body of the email, indicate five (5) personnel within your organisation whom you wish to give access to the Google Sheet document.

9.2.6.2 The email will state the following instructions for the RPTO applicants.

9.3 Pre-application phase

9.3.1 The pre-application meeting is an informal meeting to provide applicants with an overview of the certification process and identify the necessary resources to assist them in becoming certificated.

9.3.2 ***RESERVED***

9.3.3 A prospective applicant who intends to apply for an RPTO COA shall only enter into pre-application meeting with the CAAM and JAKUAS members upon achieving a score of more than 75% on their pre-application documents and information. Hence it is pertinent for the organisation to be clear on this Directives' requirements. During the meeting, CAAM and JAKUAS will be provided with complete information concerning the type of training which may be authorised, the data to be provided by the applicant and the procedures which will be followed in the processing of the application.

9.3.4 The CAAM will advise the prospective applicant on the approximate period of time that will be required to conduct the certification process, subsequent to the receipt of a complete and properly executed application. This advice is particularly important in the case of new operators so that such applicants may avoid undue financial outlays during the certification period.

9.3.5 In those cases, where an applicant's organisation is in the formative stage, and the applicant has little or no operating experience, the applicant shall be advised that it may not be possible to judge the RPTO's operating competency until a sufficient period of operational proving, including observation training flights, have been carried out and that the overall period required to reach a final decision on the application may be protracted and considerable financial outlays unavoidable.

9.3.6 The importance of a thorough and careful preliminary assessment of the application cannot be overemphasised. The more thoroughly the applicant's competence is established at this stage, the less likelihood there will be of having serious problems in the document evaluation and the demonstration and inspection phases preceding certification or during the course of subsequent operations. Analysis of the application will indicate either that it is acceptable on a preliminary basis or that it is unacceptable.

9.3.7 If the application is acceptable to the CAAM on the basis of the preliminary assessment, the applicant should be encouraged to proceed with preparations for the commencement of operations on the basis that an RPTO COA will be issued subject to satisfactory completion of the remainder of the certification procedure.

9.3.8 The pre-application phase will also include a parallel assessment of the financial, and economic status of the applicant and the proposed operation. The financial viability of the operation may be the most critical factor in reaching a decision on whether or not an RPTO COA should be awarded.

9.3.9 The financial and economic assessment of the applicant will be carried out by the CAAM or an appropriate organisation accepted by the CAAM and be assigned responsibility to provide an assessment related to economic aspects of the proposed operation.

9.3.10 Depending on applicability, 'Jawatan Kuasa UAS (JAKUAS)' may be called to join during the pre-application phase. JAKUAS may comprise of:

a) CAAM UAS Unit;

b) SIRIM;

c) MCMC;

d) JUPEM;

e) CGSO;

f) Chief Minister Office Sarawak;

g) Sabah Lands and Surveys Department.

Note. - A representative of CAAM UAS Unit will act as chairman of 'JAKUAS'.

9.3.10.1 The establishment of 'JAKUAS' is required for the applicant to determine the applicability and compliance with all other UAS regulations set by other agencies, and if required, for the certification/approval process to work in parallel.

9.3.11 Sequence of Events for Pre-application Phase

9.3.11.1 The sequence of events from the submission of application for issue of Certificate of Approval shall be as follows:

a) Applicant will be required to establish contact with CAAM to understand procedures and gather information relevant to RPTO COA;

b) The name and Place of business of the applicant;

c) A description of the applicant's business organisation, corporate structure, and names and addresses of those entities and individuals having a major financial interest;

d) The nature or the proposed training to be conducted;

e) Prepare financial data/evidence indicating financial solvency as per government policy.

9.3.11.2 During the meeting, the CAAM will ensure that applicants meet the eligibility requirements for obtaining an RPTO COA by conducting a general inquiry. Be prepared to provide the CAAM with the following information:

a) Location of home base of operations;

b) Location of probable satellite sites (if any);

c) Location(s) of proposed training to be conducted in .kmz/.kml file.

d) Operating as individual, corporation, or partnership;

e) Category and class of UAS;

f) Qualifications and experience of the Nominated Post Holders (NPH).

9.4 Formal Application Phase

9.4.1 Upon completion of the assessment concerning the financial and economic aspects of the application and after any deficiencies have been corrected, a provisional determination shall be made regarding the general feasibility of the operation. If the operation is found to be provisionally acceptable, the second phase of the certification process, the formal application phase, can be undertaken.

9.4.2 During this phase, the applicant is expected to submit the complete application to the CAAM together, with the proposed Schedule of Event, and the cost of certification during the previous phase and relevant documents to support the intended operation.

Note. - The application will not be processed in the event the applicant fails to make payment within 14 working days. Where application contains significant deficiencies, the CAAM will advise the applicant of this and provide an opportunity for the applicant to withdraw and amend their application. Note that this will suspend the application process to a maximum of 30 calendar days after which, if revised information has not been received, the application will be cancelled, and all the monies will not be refunded to the applicant.

9.4.3 The CAAM will review the application within 21 working days of receiving the items required as listed in 9.4.2.

9.4.4 The submission of a formal application is interpreted by the CAAM to mean that the applicant is aware of the regulations applicable to the proposed operation, is prepared to show the method of compliance and is prepared for an in-depth evaluation, demonstration and inspection related to the required manuals, training programmes, operational and maintenance facilities, aircraft, support equipment, record keeping, and key management personnel, including the functioning of the administrative and operational organisation.

9.4.5 Applicants are notified, in writing, whether the formal application is accepted or rejected. If the application is inaccurate or not completed properly, the CAAM returns the application to the applicant outlining the items that are unsatisfactory. Applicants must take the appropriate action to correct the items before the certification process can continue. The CAAM may determine that a formal application meeting is necessary to resolve the issues with the application. Typically, the pre-application phase covers these items or specific discrepancies found with the application.

9.4.6 The CAAM's acceptance of a formal application phase does not constitute approval or acceptance of individual attached documents. The documents are thoroughly evaluated during subsequent phases of the certification process. This phase ends upon the CAAM's acceptance of the application, and the Document Evaluation Phase begins.

9.4.7 At this stage, the applicant and the CAAM certification team will likely know of the requirement if the requirement of 'The Committee' is still required. The applicant is required to follow through with the approval process with the other relevant agencies if required. The approvals of other agencies are pertinent to be completed prior to the demonstration and inspection phase.

9.4.8 **Sequence of Events for Formal Application Phase**

9.4.8.1 On receipt of acceptance of acceptance of a Formal application, an applicant must fulfil the following requirements towards achieving a sound status as assessed by CAAM for issuance of RPTO COA.

a) Set up main base and training base as applicable with a principal place of business, the registered office located in Malaysia. Such bases may be subjected to inspection by Inspectors of CAAM consistent with the type of training sought;

b) Recruit adequately Key Management Officials commensurate with the type of operations (administrative, operational, maintenance, financial, etc.). Competency of the Accountable Manager and Nominated Post Holder(s) is stated in item 3.12.2 of this CAD.

c) Prepare required manual(s) for the CAAM's review followed by acceptance/approval. The review of the documents is likely to be repeated for several times;

d) Obtain information on the UA(s) as well as the UA(s) purchase/lease documents for onward submission to the CAAM. The purchase/lease documents at this stage could be provisional one;

e) Prepare the company for inspection/evaluation by the CAAM;

f) Arrange for inspection of UA by the CAAM (either brought in to CAAM or at UA location);

g) Prepare for UA inspection, emergency response plan procedure and demonstration;

h) Prepare for demonstration flights as applicable;

i) Complies with MCAR 2016 and all the applicability of this CAD and CAD 6011 (when it becomes effective), as applicable;

j) Any other additional requirements that are deemed necessary by CAAM;

k) Any other additional requirements that are deemed necessary by The Committee;

l) Submit application with relevant documents for issuance of RPTO COA.

Note.1 - The applicant must submit schedule of events (refer Attachment C) to the CAAM which are agreeable to both parties to demonstrate that the applicant has the capability and competency to comply with all requirements for the issuance of the AWC. The dates shall be logical in sequence and provide time for review, inspection and approval of each item.

Note.2 - CAAM will determine if the inspection will be carried out for item (e), (f), (g) and (h) of this paragraph. Nonetheless, the applicant must be ready if an inspection by the CAAM takes place.

9.4.8.2 For a renewal of the RPTO COA, the process will start from the Formal Application Phase as mentioned in 9.4.8.1. For all other applicants, the process will start from Pre-Application Phase.

9.5 Document Evaluation Phase

9.5.1 The document evaluation phase involves the detailed examination of all documentation and manuals provided by the applicant to establish that every aspect required by the regulations is included and adequately covered.

9.5.2 Sequence of Events for Submission of Documents

9.5.2.1 After reviewing/correcting documents/guidance material, etc, the applicant is required to bring the relevant manual (TPM, SM, MM for CAAM approval). Applicant is required to upload the all manuals, documents and guidance material on the Google Drive.

9.5.2.2 The compliance checklist (Refer to Attachment E) may be used as reference to ensure that all information(s) are inserted in Manuals or present during the certification phase. These information provided to the CAAM will also assist the CAAM in processing the RPTO COA in a more expedient manner. Operator should submit as early as possible, a point-by point reply to the applicable requirement. Additional requirement may be specified by the CAAM when deemed necessary.

9.6 Demonstration Phase

9.6.1 During this phase, the applicant needs to demonstrate to CAAM that the applicant is in a position to conduct the proposed training operations in accordance with the procedures detailed in the documents/manuals reviewed during the previous phase utilising the personnel/facilities/equipment identified in the formal application. Qualifications and experience of the nominees for Nominated Post Holders will be evaluated and interviewed. Aircraft, maintenance facilities and arrangements will be inspected. Training personnel will be evaluated.

9.6.2 Company's organisational structure, channels of communication, delegation of powers, financial strength and sources of funding will be subjected to detailed scrutiny to ensure that the company has sufficient resources, effective arrangement and control to satisfy its obligations.

9.6.3 Depending on the complexity of the RPTO, demonstrations will involve demonstration of the operational control system and may involve observation theoretical knowledge training and practical flying.

9.6.3.1 Demonstration of theoretical knowledge training

a) The CRP or any RGI of CAAM's choice will be required to deliver two or three demonstration lessons of UA theoretical knowledge over four to five hours. Ideally, the instructor will have at least one person in the classroom to act as a student. The CAAM will choose the lessons to be conducted from the submitted lesson plans and advise the applicant of the specific lesson they wish to see demonstrated ahead of time.

b) The CAAM will expect the demonstration lesson to be conducted as per submitted lesson plan. The instructor will also be expected to demonstrate:

1) A deep knowledge of the subject;

2) A strong communication skill;

3) The ability to measure and assess a student's understanding of the subject; and

4) Strong preparation and organisation skills.

5) The CAAM inspector will provide feedback to the instructor after each demonstration lesson.

Note. - Each RGI must be formally assessed by the CAAM or a Flight Instructor Examiner (FIE) approved by the CAAM.

9.6.3.2 Demonstration of UA practical training

a) The CRP or any RFI of CAAM's choice will be required to deliver two or three demonstration lessons of the practical training over two to four hours. The instructor shall have at least one person to act as a student. Note that CAAM cannot act as the student for the practical training demonstration. The CAAM will choose the lessons to be conducted from the submitted lesson plans and advise the applicant of the specific lesson they wish to see demonstrated ahead of time.

b) The CAAM will expect the demonstration lesson to be conducted as per the submitted lesson plan and the operators documented practices and procedures.

c) The instructor will also be expected to demonstrate:

1) Knowledge of the location

2) A deep knowledge of the subject or specific UA in use

3) A strong communication skill

4) The ability to measure and assess a student's competency in each unit item being performed

5) The ability to control all activities being conducted during the lesson and maintain an acceptable level of safety.

Note. - Each RFI must be formally assessed by the CAAM or a Flight Instructor Examiner (FIE) approved by the CAAM.

9.6.4 If CAAM is satisfied with the above arrangements, demonstration training theoretical knowledge and practical flying as applicable will be conducted, as determined by the CAAM. This phase may reveal the need for some operational changes, which in turn may require the applicant to make amendments to the documents originally submitted. All elements must be satisfactorily completed before proceeding to the certification phase.

9.6.5 Once the Demonstration and Inspection phase is complete, the CAAM will discuss the outcome of the assessment with you. At this point the two possible outcomes are:

a) Application not yet complete:

1) If there are any deficiencies that cannot be remediated during the Demonstration Inspection phase, the CAAM will indicate in writing the areas that need rework. The report will cover all aspects of the assessment phase, including course content, facilities and instructors. It should be noted that reports contain constructive criticism of instructors.

b) Application accepted:

1) There are no deficiencies and once the CAAM is satisfied that the course, Nominated Post Holders, instructors and facilities meet the CAAM requirements the application will progress. The CAAM will then make a recommendation to the issuing delegate to issue an approval. It is important to take note that courses may be advertised with the caveat 'pending regulatory approval, but must not be conducted until the training organisation is approved; a verbal advice from a CAAM inspector is not a basis upon which courses can be conducted.

9.7 Certification Phase

9.7.1 When all the previous phases have been satisfactorily completed, CAAM will take the necessary administrative action to approve formally the nominees for Nominated Post Holders (if not already), the instructors, the UA, facilities and procedures specified in the Manual(s), applicable documents and formally issue the Remote Pilot Training Organisation Certificate of Approval and the associated Training Specifications. It must be noted that although the CAAM inspectors may indicate to the applicant regarding acceptability of the applicant's arrangements in respect of personnel, equipment, facilities, services, procedures or process in relation to the proposed operations as and when evaluations on such matters are completed, the final decision of CAAM in regard to each such arrangement would be conveyed to the operator formally during the certification process only.

9.7.2 The culmination of this phase is the issuance of the COA to an RPTO.

9.7.3 Subsequent to the issuance of a COA, the CAAM inspector will be responsible for conducting periodic inspections, to ensure the RPTO's continued compliance with the CAAM regulations, authorisations, limitations and provisions of its COA and training specification.

9.7.4 The entire Certification Process for Remote Pilot Training Organisation Certificate of Approval flow chart can be found in Attachment F.

10 Appendices

Appendix 1	:	Theoretical Knowledge Syllabus for A2 RCoC
Appendix 2 (A)	:	Theoretical Knowledge Syllabus for RCoC-B
Appendix 2 (B)	:	Practical Flying Test Syllabus/Assessment Criteria for RCOC-B
Appendix 3	:	Practical Flying Test Syllabus/Assessment Criteria for RCOC (EVLOS) Module 1
Appendix 4 (A)	:	Theoretical Knowledge Syllabus for RCoC (AGR) Module 2
Appendix 4 (B)	:	Practical Flying Test Syllabus/Assessment Criteria for RCoC (AGR) Module 2
Appendix 5	:	Training and Procedure Manual
Appendix 6	:	Occurrence Reporting
Appendix 7	:	Safety Management System

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Theoretical Knowledge Syllabus for A2 RCoC

Subject	Areas to be covered
Meteorology	**Introduction to obtaining and interpreting weather information** • Weather reporting resources • Reports, forecasts and meteorological conventions appropriate for typical UAS flight operations • Local weather assessments **Effects of weather on the unmanned aircraft** • Wind – urban effects, gradients, masking, turbulence • Temperature – precipitation, icing, turbulence • Visibility factors • Clouds – Cumulonimbus (CB) hazards (including lightning) • IP43 (International Protection) IEC/EN 60529 standards with regard to water ingress

Subject	Areas to be covered
UAS Flight Performance	**Typical operational envelope of a rotorcraft, fixed wing and hybrid configurations** • Basic principles of flight **Operating guides** • Flight procedures/basic drills • Emergencies **Maintenance of system** • Scheduled and repairs • Manufacturer's recommendations • Assessment 'safe to be flown?' **Mass and balance and centre of gravity (CG)** • Consideration of the overall balance when attaching gimbals, payloads • Understand meaning of MTOM • Security of the payload • Payload characteristics – how differences can affect the stability of a flight • CG – differences between different types of UA **Batteries** • Understand the terminology used for batteries (e.g., memory effect, capacity, c-rate) • Differences in battery types • Understand how a battery functions (e.g., charging, usage, danger, storage) • Battery safety - how to help prevent potential unsafe conditions

Subject	Areas to be covered
UAS Operating Principles	**UAS operations** • Visual Line of Sight (VLOS) • Avoiding collisions – 'See and Avoid' • Decision process • Stress/pressure from 'customers' • Occurrence reporting and investigation **Designated area operations** • Planning and preparation • Hazard identification • Overflight of people • Public/third parties – crowds and gatherings **Medical fitness** • Crew health precautions • Alcohol, drugs, medication, medical restrictions **Fatigue** • Flight duration/flight workload • Outdoors and lone working **Technical and operational mitigations for ground risk** • Low speed mode function • Evaluating distance from people • 1:1 rule

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Theoretical Knowledge Syllabus for RCoC-B

Subject	Areas to be covered
Air Law/Responsibilities	**Terminology** **Introduction to ICAO and Civil Aviation Act** **The UAS Regulation** • The responsibilities of the UAS operators • The responsibilities of the remote pilot • Occurrence reporting **Privacy and data Protection** • Understanding the risk posed to privacy and data protection • The guiding principles of Personal Data Protection Act 2010 [Act 709]
UAS Airspace Operating Principles/ Rules of Air	**Airspace overview** • Flight Information Region (FIR) **Airspace classifications** • Differing consideration, controlled and uncontrolled airspace **Specific airspace types** **Airspace reservations** • Danger Areas, Prohibited Areas, Restricted Areas • Temporary Airspace Reservations **Obtaining information/approvals** • Aeronautical Information Publication (AIP) • Aeronautical Information Circulars (AICs) • Notices to Airmen (NOTAM) • Who to contact? • UAS Operations • Visual Line of Sight (VLOS)

Subject	Areas to be covered
Airmanship and Aviation Safety	**Good airmanship principles** • Non-reckless behaviour, safety precautions for UAS operations and basic requirements regarding Dangerous Goods • Starting or stopping the operations taking into account environmental factors, UAS conditions and limitations, remote pilot limitations and human factors **Operations in visual line of sight** • Keeping a safe distance from people, animals, property, vehicles, and other airspace users • The identification of assemblies of people • A code of conduct in case the UA encounters other traffic • Respective the height limitation • When using a UA observer, the responsibilities and communication between the UA observer and the remote pilot **Operating environment** • How to perform the evaluations of presence of uninvolved person in the overflown area • Involving the people uninvolved **Remote pilot records** **Logbooks and associated documentation** **Good airmanship principles** **Aeronautical decision-making** **Aviation safety** **Air proximity reporting** **Advanced airmanship:** • Manoeuvres and emergency procedures; and • General information on unusual conditions (e.g., stalls, spins, vertical lift limitations, autorotation, vortex ring states)
Operations Manual	**Development of operational procedures** • Development of operations manual

Subject	Areas to be covered
Human Performance Limitations	**Medical fitness** • The influence of psychoactive substances or alcohol or when the remote pilot is unfit to perform their tasks due to injury, fatigue, medication, sickness or other causes **Human perception** • Factors influencing VLOS • The distance of obstacles and the distance between the UA and obstacles • Evaluation of the speed of the UA • Evaluation of the height of the UA • Situational awareness (VLOS and BVLOS operations) • Night operations **Fatigue** • Flight duration within work hours • Circadian rhythms • Work stress • Commercial pressures **Attentiveness** • Eliminating distractions • Scan techniques • Environmental factors such as vision changes from orientation to the sun
Meteorology	**Introduction to obtaining and interpreting advanced weather information** • Weather reporting sources • Reports • Forecast and meteorological conventions appropriate for typical UAS flight operations • Local weather assessments • Low-level charts • METAR, SPECI, TAF **Effects of weather on the unmanned aircraft** • Wind – urban effects, gradients, masking, turbulence • Temperature – precipitation, icing, turbulence • Visibility factors • Clouds – Cumulonimbus (CB) hazards (including lightnings)

Subject	Areas to be covered
Operational procedures	**Pre-flight** • Assessment of the area of operation and the surrounding area, including the terrain and potential obstacles and obstruction for keeping VLOS of the UA, potential overflight of uninvolved persons, and the potential overflight of critical infrastructure • Identification of a safe area where the remote pilot can perform a practice flight • Environmental and weather conditions (e.g., factors that can affect the performance of the UAS such as electromagnetic interference, wind, temperature, etc.); methods of obtaining weather forecasts • Checking the conditions of the UAS **In-flight** • Normal procedures • Procedures for abnormal situations (e.g., for lost-data-link connections and Designated landing area not clear) • Emergency response plan **Post-flight** • Maintenance • Logging of flight details **Situational awareness** • Airspace and Aerodromes • Public right of way **Communications** • Operating alone • Liaison with Air Traffic Control • Operating with other air users **Mission planning, airspace consideration and site-risk assessment** • Measures to comply with the limitation and conditions applicable to the operational volume and the ground risk buffer for the intended operation • Use of UA VOs **Multi crew cooperation (MCC)** • Coordination between the remote pilot and other personnel in charge of duties essential to the UAS operation (i.e., VO) • Crew resource management (CRM)

Subject	Areas to be covered
Navigation	**Aviation charts – 1:500,000 and 1:250,000** • Interpretation • Specialised charts • Understanding of basic terms (Aeronautical units of measurements, Elevation, Altitude) **Navigation aids** • How it works and limitations (e.g., GPS, GNSS)
UAS General Knowledge	**Basic principles of flight** • Fixed wing, rotary wing and multi-rotor • Command and Control • Datalink frequencies/spectrum • Manual interventions/override • Flight control modes **Limitations** • Operational envelope • Stability • Mass and MTOM • Centre of gravity • Payload and its effects during flight **Operating guides** • Flight procedures/basic drills • Emergencies **Maintenance of system** • Scheduled maintenance and repairs • Security of aircraft/attached items • Manufacturer's recommendations • Assessment – 'is aircraft airworthy/safe to be flown?' **Technical mitigations** • For ground and air risks

Practical Flying Test Syllabus/Assessment Criteria for RCoC-B

RPTO are to ensure that their students can satisfactorily demonstrate at least the following skills during the practical flight assessment. **Subject**	**Areas to be covered**
Pre-Flight Actions	**Mission planning (to include meteorological checks), airspace considerations, and site risk-assessment** • Identify the objectives of the intended operation • Ensure that the defined operational volume and relevant buffers (e.g., ground risk buffer) are suitable for the intended operation • Identify any obstacles in the operational volume that could hinder the intended operation • Consider whether the air flow may be affected by topography or by obstacles in the operational volume • Consider any external factors that may affect the flight, and assess their impact on the operation. Review the relevant airspace information (including on UAS geographical zones) that can have an impact on the intended operation • Confirm that the UAS is suitable for the intended operation • Ensure that the selected payload is compatible with the UAS being used for the operation • Determine the measures necessary to comply with the limitations and conditions applicable to the operational volume and ground risk buffer for the intended operation in accordance with the operations manual procedures for the relevant scenario • Identify and, where necessary, implement the procedures to operate in Flight Restriction Zones or controlled airspace, including a protocol to communicate with ATC and obtain clearance and instructions • Confirm that all the necessary documents for the intended operation are on site • Ensure all participants are sufficiently briefed on the details of the planned operation

RPTO are to ensure that their students can satisfactorily demonstrate at least the following skills during the practical flight assessment. **Subject**	**Areas to be covered**
Pre-Flight Actions (continuation)	**Aircraft pre-flight inspection and set-up (including flight controller modes and power-source hazards)** • Assess the general condition of the UAS in accordance with the procedures contained within the manufacturer's instructions • Ensure the set-up procedures are completed correctly in accordance with the manufacturer's instructions • Ensure that all the removable components of the UAS are properly secured • Make sure that the UAS software configurations are compatible/up to date • Check that the UAS instruments are calibrated appropriately, as required by the intended operation • Identify any fault, damage or configuration that may compromise the intended operation • Ensure the propulsion energy level (e.g., battery life, or other fuel supply) is sufficient for the intended operation • Confirm that the flight termination system of the UAS and its triggering system are compliant • Check the correct functioning of the command and control link • Activate the geo-awareness system and upload the information to it (if geo-awareness system is available) • Set the height, speed and distance limitation systems (if available) • Set the direct remote identification system (if fitted) **'Pre-take-off verbal briefing' given by the examinee stating the basic actions to be taken in the event of an aircraft emergency or if a mid-air collision hazard arises during the flight**

RPTO are to ensure that their students can satisfactorily demonstrate at least the following skills during the practical flight assessment. **Subject**	**Areas to be covered**
In-Flight Procedures	Maintain an effective look-out and keep the aircraft within Visual Line of Sight (VLOS) at all times Maintain situational awareness, particularly with respect to • Location of the aircraft in relation to other airspace users • Meteorological conditions • Obstacles, terrain and uninvolved persons • Perform accurate and controlled flight manoeuvres at representative heights and distances (including flight in manual/non-GNSS assisted mode or equivalent where fitted) **Take-off** • Perform after take-off/functionality checks • Hover in position (Multirotor/ Helicopter/VTOL FW only) • Transition from hover into forward flight (Multirotor/ Helicopter/VTOL FW) • Climb and descent to/from level flight • Turns in level flight • Speed control in level flight • Transition from forward flight into hover (Multirotor/ Helicopter/VTOL FW) • Precision manoeuvring in hover (Multirotor/ Helicopter/VTOL FW) • Approach and landing • Actions following failure of a motor/ propulsion system (according to aircraft type) • Evasive action (manoeuvres) to avoid collisions • Real-time monitoring of aircraft status and endurance limitations

RPTO are to ensure that their students can satisfactorily demonstrate at least the following skills during the practical flight assessment. **Subject**	**Areas to be covered**
In-Flight Procedures (continuation)	**Flight under abnormal conditions** • Display continuous awareness of, and consideration for, the safety of third parties on the ground ○ Deal correctly with a partial or complete loss of power to the unmanned aircraft system while ensuring the safety of any third parties • Manage the unmanned aircraft's flight path in abnormal situations • Manage a situation when the unmanned aircraft system positioning equipment is impaired • Manage a situation where an uninvolved person enters the zone of operation and take appropriate measures to maintain safety • React to, and take the appropriate corrective action for, a situation where the unmanned aircraft is likely to exceed the limits of the intended operating area • Take the appropriate action for a situation when another aircraft approaches the operating area and is in confliction with the unmanned aircraft • Demonstrate the recovery method following a deliberate (simulated) loss of the C2 Link. In place of any rotary wing 'return to home' function, fixed-wing aircraft may demonstrate an equivalent procedure that results in a suitably automated, low- impact descent and landing. When demonstrating this function, the student must also demonstrate how collisions will be avoided
Post-flight Actions	• Shut down and secure/make safe the UAS • Post-flight inspection and recording of any relevant data relating to the general condition of the UAS (its systems, components and power-sources), controller functionality and crew fatigue • Conduct a debriefing of the operation with all relevant personnel • Identify situations where an occurrence report may be necessary and complete the required occurrence report

Practical Flying Test Syllabus/Assessment Criteria for RCoC (EVLOS) Module 1

RPTO are to ensure that their students can satisfactorily demonstrate at least the following skills during the practical flight assessment. **Subject**	**Areas to be covered**

BVLOS Operations with Visual Mitigation - General	**Operation planning, airspace considerations and site risk assessment**
	The following points are to be included:
	• Airspace scanning
	• Operations with visual observers, including:
	  ○ Adequate placement of visual observers
	  ○ A deconfliction scheme that includes phraseology, coordination and communications means
	The following in-flight manoeuvres shall be performed in BVLOS as necessary to demonstrate the operating scenario:
	• Take-off
	• Hover in position (Multirotor/Helicopter/VTOL FW only)
	• Transition from hover into forward flight (Multirotor/Helicopter/VTOL FW)
	• Climb and descent to/from level flight
	• Turns in level flight
	• Speed control in level flight
	• Transition from forward flight into hover (Multirotor/Helicopter/VTOL FW)
	• Precision manoeuvring in hover (Multirotor/Helicopter/VTOL FW)

RPTO are to ensure that their students can satisfactorily demonstrate at least the following skills during the practical flight assessment. **Subject**	**Areas to be covered**
Pre-Flight Actions	• Consider how the meteorological conditions will affect the intended operation across the whole of the intended operating area • Review the relevant airspace information (including on UAS geographical zones and NOTAMs) that can have an impact on the intended operation across the whole of the intended operating area • Consider the need for NOTAM action and act accordingly • Confirm that the UAS is suitable for the intended operation. Particular attention must be paid to endurance and C2 capability to support the operation *Note: A check of the C2 capability is particularly relevant for automated (Flight plan / software) flights.* • If automated software is being used, demonstrate that the planned route has been correctly activated within the system **Visual Observer briefings** • Confirm all visual observers are competent to conduct the intended operation • Brief the visual observers on the intended flight and their responsibilities *Note: Particular attention must be paid to the expected flight behaviour in order to allow the crew to recognise any abnormal flight conditions and implement emergency procedures if required.* • Ensure the communication system, plus contingency systems, is suitable for the mission and will function across the mission area • Ensure that all involved personnel have the necessary equipment in order to complete their tasks *Note: This should include a relevant chart denoting departure/arrival points, intended operating area, expected route, observer locations, expected handover locations, sensitive areas and emergency landing points.* • When the visual observers are in their positions: ○ Ensure all communication links are functioning correctly ○ Check that the assessed hazards & risks are still present and tolerable. Any changes must be noted and re-assessed by the remote pilot

In-Flight Procedures (with visual observers)	• Throughout the flight, maintain effective communication between the remote pilot and the visual observers • Ensure that the aircraft is maintained within VLOS of either the remote pilot or a visual observer at all times • Maintain situational awareness across the whole of the operating area through liaison with the visual observers • Demonstrate the process of transfer of VLOS responsibilities • between remote pilot and visual observer **Flight under abnormal conditions** • Manage a situation when the unmanned aircraft system positioning equipment is impaired when the aircraft is out of sight of the remote pilot • React to, and take the appropriate corrective action for, a situation where the unmanned aircraft is likely to exceed the limits of the intended operating area • Take the appropriate action for a situation when another aircraft approaches the operating area and is in confliction with the unmanned aircraft while out of sight of the remote pilot • Demonstrate the actions taken following a loss of primary communications with the visual observer(s)
In-Flight Procedures (without visual observers)	• Demonstrate that the airspace within the intended area of operation can be scanned visually by the remote pilot • Demonstrate that the remote pilot's ability to scan the airspace can be adequately contained within the overall workload required to conducting the flight **Flight under abnormal conditions** • Manage a situation when the unmanned aircraft system positioning equipment is impaired when the aircraft is out of sight of the remote pilot • React to, and take the appropriate corrective action for, a situation where the unmanned aircraft is likely to exceed the limits of the intended operating area • Take the appropriate action for a situation when another aircraft approaches the operating area and is in confliction with the unmanned aircraft while out of sight of the remote pilot

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Theoretical Knowledge Syllabus for RCoC (AGR) Module 2

Subject	Areas to be covered

Dispensation Operations	• Steps to be taken before starting operations, including survey of the area to be worked, such as but not limited to:
	  ○ Risk Assessment
	  ○ Wind direction

Pesticides Training Course	• Pesticide (Licence of Sale and Storage) Rules 2007 • Pest Control Operator Rules 2004 • Enforcement of Pesticide Act 1974 (Act 149) • Pesticide (Labelling) Rules 1984 • Pesticide Residue and the importance of food safety • Safety in handling of pesticides

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Practical Flying Test Syllabus/ Assessment Criteria for RCoC (AGR) Module 2

RPTO are to ensure that their students can satisfactorily demonstrate at least the following skills during the practical flight assessment. **Subject**	**Areas to be covered**

Dispensation Operations	**Operation planning, airspace considerations and site risk assessment**
	The following points are to be included:
	• Airspace scanning
	• Operations with visual observers, including:
	  ○ Adequate placement of visual observers
	  ○ A deconfliction scheme that includes phraseology, coordination and communications means
	• Satisfactory aerial survey of area for obstructions
	The following in-flight manoeuvres shall be performed using suitable material (e.g., water, lime or sand). Loaded to the maximum certificated take off weight or the maximum weight established for the special-purpose load, as necessary to demonstrate the operating scenario:
	• Proper method of beginning operations (normally, starting operation crosswind on downwind side of field)
	• Flare-outs
	  ○ Should not touch ground or crop during flare-out
	  ○ Should be consistently at same height and proper position over field on several flare-outs
	• Swath runs
	  ○ Consistent altitude (plus or minus 5 feet)
	• Clean-up swath or trim passes
	  ○ Recognise the need for clean-up swath
	  ○ Adequately cover area to be treated
	• Jettisoning of remainder of load after swath runs in the event of in-flight emergency
	• Rapid deceleration or quick stops (helicopter and rotorcraft UAS only)

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Training and Procedure Manual

1.1 Document Management

1.1.1 The RPTO may issue separate parts of the training and procedure manual should the RPTO find it too cumbersome to have all the required content appear in a single document. However, it is mandatory that these documents be maintained to ensure their continued relevancy and compliance with applicable directives. Practices that will assists the RPTO's in conforming to these Standards are discussed at some length in paragraph 1.5 of this Section.

1.2 Structure

1.2.1 The structure of the training and procedures manual should be easy to understand, appropriate for the information and clearly identified through headings and other formatting devices. An explanation of the organisational elements such as the headings, numbering scheme, main parts of the document and other sources of coding or groupings should be provided at the beginning of the manual.

1.2.2 Precise language should be used wherever possible. Terms for common items and actions should be consistent throughout the manual and must be clear and easily understood.

1.2.3 Writing style, terminology, formatting and use of graphics and symbols should be consistent throughout the document, including the location of specific types of information and use of units of measurement and codes.

1.2.4 For ease of amendment and distribution, an appropriate revision process should be defined and established when designing the manual.

1.2.5 Arrangements should be made for a formal, periodic internal safety review that should convene at least once in any three-month calendar period. These reviews should be conducted sooner an immediate safety risk be identified that requires immediate action by the RPTO.

1.3 Validation

1.3.1 The training and procedures manual should be reviewed and tested under realistic conditions before its operational release. The validation process should include using the critical aspects of the information contained in the manual to verify its effectiveness. Routine interaction among groups within the RPTO should be included in the validation process.

1.3.2 A final review of the manual should ensure that all required topics have been addressed with an appropriate level of detail for users. The final review should also confirm compliance with safety regulations, manufacturers' recommendations and the RPTO's philosophy, policies, procedures and processes.

1.4 Deployment and feedback

1.4.1 The RPTO should maintain and update as necessary the training and procedures manual after its initial release. This will ensure appropriate and realistic use of the manual, based on the current operational environment, in a way that is operationally relevant and appropriate for the users for whom it is intended.

1.4.2 In order to gather information for updates of the manual, a formal feedback system should be established to obtain input from principal users and others who would be affected by a new or revised policy, procedure or process.

1.5 Amendment

1.5.1 The RPTO should develop an effective information gathering and review system to process information obtained from all sources relevant to the organisation, such as the CAAM, safety regulators, training clients, manufacturers and equipment vendors, as well as a distribution and revision control system.

Note.— *Manufacturers provide information on the operation, handling and maintenance of specific equipment, UA and components thereof, which emphasises the equipment or UA systems and procedures under conditions that may not fully match the requirements of the training organisation. RPTOs should ensure that such information meets their specific needs and those of the CAAM.*

1.5.2 The RPTO should also develop an information review, distribution and revision control system to process information resulting from changes that originate within the RPTO. This includes changes to:

a) the RPTO's policies, processes, procedures and practices;

b) respond to operating experience;

c) the scope of training provided;

d) the content of training programmes;

e) results stemming from the installation of new equipment;

f) an approval document or certificate requested by the RPTO and issued by the CAAM; and

g) maintain standardisation of training delivery and performance criteria.

1.5.3 The manual should be reviewed in association with other operational documents that form the RPTO's document control system:

a) on a regular basis (at least once a year);

b) after major events such as mergers, acquisitions, rapid growth or downsizing;

c) after technology changes, e.g., the introduction of new equipment;

d) after changes to safety regulations;

e) after changes to key operational personnel (e.g., Chief Remote Pilot); and

f) after changes to the scope of training provided.

1.5.4 Permanent changes to the training and procedures manual should be communicated through a formal amendment process.

1.5.5 Distribution of amendments and revisions should have a tracking system. The tracking system should include some form of log combined with a procedure to ensure that all amendments are furnished promptly to all organisations or persons to whom the manual has been issued.

Template of Training Procedure Manual

<table>
<tr><td>0</td><td colspan="2">Cover and contact</td></tr>
<tr><td></td><td>0.1</td><td>The front cover of the manual should detail the following items:

a) RPTO name
b) Training and Procedure Manual
c) Issue XX/ Revision XX – Dated DD/MM/YY</td></tr>
<tr><td>1</td><td colspan="2">Introduction</td></tr>
<tr><td></td><td>1.1</td><td>Introduction

This section must be used to outline the scope of the document, its intent and the overarching operating strategy of the company.

It should also include the scope of training permitted to the RPTO as approved by the CAAM.</td></tr>
<tr><td></td><td>1.2</td><td>Safety Statement

The person responsible for the safe conduct of the RPTO’s operations must sign this statement, i.e., Accountable Manager. The statement must include, as a minimum a statement that the RPTO is safe to operate in the proposed environment, that the system(s) to be employed can be operated safely and a commitment to operate within the bounds of the Training and Procedures Manual, CAAM Regulations and requirements, and of other UAS Regulations set by other agencies. Where necessary, it must also include a commitment to conduct further mitigation actions detailed within the Training and Procedure Manual. A commitment to safety as priority must be detailed.</td></tr>
<tr><td></td><td>1.3</td><td>Amendment Record

Include an amendment record at the beginning of the document to record changes and show how the document is being controlled. This section is critical to ensure appropriate document control.
<table>
<tr><th>Amendment Number</th><th>Date</th><th>Amended by</th><th>Signed</th></tr>
<tr><td>(a, b, c or 1, 2, 3 etc.)</td><td>DDMMYYYY</td><td>Name of Person</td><td>Signature of person carrying out the amendment.</td></tr>
</table></td></tr>
</table>

<table>
<tr><td></td><td>1.4</td><td>List of Effective Pages

A ‘List of Effective Pages’ is a list of every page in the document along with current revision number and date of each page’s revision. The RPTO may use the following template:
<table>
<tr><th>Page</th><th>Revision Number</th><th>Effective Date</th></tr>
<tr><td colspan="3">Chapter 1</td></tr>
<tr><td>1-1</td><td>Issue 01/ Revision 00</td><td>01 March 2021</td></tr>
<tr><td>1-2</td><td>Issue 01/ Revision 01</td><td>01 July 2021</td></tr>
</table>

At the bottom of the pages, it should include an initial and stamp of the Manual Owner (AM) and CAAM.
<table>
<tr><th>(RPTO Name)</th><th>CAAM</th></tr>
<tr><td></td><td></td></tr>
</table>
</td></tr>
<tr><td></td><td>1.5</td><td>Definitions and abbreviations.

If a similar definition and abbreviation can be found in the UAS Regulations, CAD 6011, CAGM 6011 or this CAD, it should be used.

Definition and abbreviation are concise to the content of the TPM.</td></tr>
<tr><td></td><td>1.6</td><td>Table of Contents</td></tr>
<tr><td>2</td><td colspan="2">Safety Policy

The company’s safety policy, safety management system, safety targets, etc. must be detailed. A cross-reference to Safety Management System Manual (SMM) is acceptable.</td></tr>
<tr><td>3</td><td colspan="2">Organisation

This section must give full details of the organisation that is subject of the application. All areas detailed must be covered as a minimum. The examples provided do not outline the full requirement.</td></tr>
<tr><td></td><td>3.1</td><td><u>Structure of organisation and management lines</u>

Provide an organogram/organisational diagram showing associated chains of responsibility.</td></tr>
<tr><td></td><td>3.2</td><td><u>Nominated Post Holders</u>

This section may be scaled to the size of the organisation and its structure and should include all the required Nominated Post Holder in</td></tr>
</table>

		an RPTO. Each role must be covered with a brief description and the description of the respective person's competence.

	3.3	Authorised Examiners and Flight Instructor Examiner *This section should detail personnel nominated to conduct practical skill assessments, plus any other relevant personnel to include:* *a) Minimum requirements for role identified, i.e., authorised examiner and flight instructor examiner;* *b) Description of each person's experience and competency;* *c) Personnel duties and responsibilities.*
	3.4	Procedures for Amendments and the notification of these changes to the CAAM *This section should include a description of changes in the manual that affect management system, principal of business, non-editorial changes that affect policies and procedures of training, and etc.*
	3.5	Internal Safety Review *This section should include a description of arrangements for a formal, periodic internal safety review that shall convene at least once in any three-month calendar period. These reviews should be conducted sooner should an immediate risk be identified that requires immediate action by the RPTO. A cross-reference can be made to the Safety Management Manual (SMSM).*
	3.6	Facilities and Equipment Requirement *This section should include a detailed description of the facilities that will be used for theoretical knowledge training, examinations and practical skill assessment.*
4	**Policies**	
	4.1	Minimum age requirement *This section should include the management requirement specified by the CAAM. It may also include additional requirement as required by the RPTO. Such as educational background or linguistic requirements.*
	4.2	Training policies *This section should include training policies in terms of:* a) Maximum student training times – flying and theoretical knowledge per day/week/month; b) Ratio of instructor (flying/ground) to student.

	4.3	Training effectiveness *This section should include training effectiveness in terms of:* a) Procedures to correct unsatisfactory progress; b) Procedures for changing instructors; c) Maximum number of instructor changes per student; d) Internal feedback system for detecting training deficiencies; e) Procedures for suspending a student from training including suspension board members; f) Requirement for reporting and documentation; and g) Completion standards at various stages of training to ensure standardisation.
5	**Training Syllabus** *This section should include detailed statement of the content specification of all syllabus to be taught, arranged in the sequence to be taught with main and sub-titles.*	
	5.1	Lesson Reference *This section should reference list in the form of an abbreviated list of the training exercises giving only main and sub-titles for quick reference in a form to facilitate daily use by instructors.*
	5.2	Lesson Phases *This section should provide details on how the course may be divided into phases, indicating how the phases will be arranged to ensure completion in the most suitable learning sequence and that essential or emergency exercise are repeated at the proper frequency.*
	5.3	Syllabus Hours *This section should provide details on syllabus hours for each topic/phase and for group lessons within each phase and when progress tests (if applicable) are to be conducted.*
	5.4	Proficiency checks *This section should provide details of the standard of proficiency required before progressing from one phase of training to the next. Include minimum experience requirements in terms of hours and satisfactory exercise completion before undertaking significant lessons.*
	5.5	Instructional methods *This section should provide details on requirements for instructional methods, particularly with respect to pre-flying and post-flying briefings, adherence to syllabi and training specifications.*

	5.6	Outline course detail *This section should detail out the course detail and if additional RCoC modules (case by case basis approval by CAAM) or other additional courses available.*
6	**Practical Flight Assessment/Test conducted by AE for the issuance of RCoC** *If the CAAM has authorised a personnel in the RPTO to conduct flying test assessment for the issuance of an RCoC, it should include:*	
	6.1	Name(s) of the personnel *This section should provide the name(s) of the personnel* with testing authority and scope of authority
	6.2	Roles and duties of the authorised personnel
	6.3	Practical flight assessment requirement and process *This section should include:* a) *Instruction, on how the practical flying assessment to be conducted including a clear explanation and illustration of any specific manoeuvres that will be assessed.*
	6.4	Criteria for assessment *This section should include procedures and criteria that the RPTO shall apply to determine whether a certificate should be issued to a remote pilot.*
7	**Records**	
	7.1	Policy and procedures *This section should include policy and procedures regarding:* *a) Attendance records;* *b) Student training records;* *c) Staff training and qualification records;* *d) Person responsible for checking records and student personal logs;* *e) Nature and frequency of record checks;* *f) Standardisation of record entries;* *g) Personal log entries;* *h) Security of records and documents.*

Occurrence Reporting

1.1 UAS Occurrence reporting

1.1.1 UAS occurrences- what you need to do

a) This section will walk you through the actions you need to take if there has been an occurrence involving an unmanned aircraft and you are wondering if you need to report it, who you need to report to and how you report it.

1.1.2 Have you got the most up-to-date information?

a) UAS occurrence reporting is evolving and the CAAM may need to make changes to occurrence reporting policy and guidance. To ensure you have the most up-to-date information, you must also check on the CAAM website in addition to the information in this document.

1.1.3 The purpose of occurrence reporting

a) Occurrence reporting systems are not established to attribute blame or liability.

b) Occurrence reporting systems are established to learn from occurrences, improve aviation safety and prevent recurrence.

c) The purpose of occurrence reporting is to improve aviation safety by ensuring that relevant safety information is reported, collected, stored, protected, exchanged, disseminated and analysed. Organisations and individuals with a good air safety culture will report effectively and consistently. Every occurrence report is an opportunity to identify root causes and prevent them from contributing to accidents where people are harmed.

d) The safe operation of UAS is as important as that of manned aircraft. Injuries to third parties, or damage to property, can be just as severe. Proper investigation of each accident, serious incident or other occurrence is necessary to identify causal factors and to prevent repetition. Similarly, the sharing of safety-related information via good reporting is critical in reducing the number of future occurrences.

1.1.4 What organisations in Malaysia have a reporting requirement?

a) The Air Accidents Investigation Branch (AAIB) and the Civil Aviation Authority of Malaysia (CAAM) have separate reporting requirements. It may be necessary to report to one or both. The regulations that describe these requirements are explained, below.

1.1.5 Occurrence reporting regulations

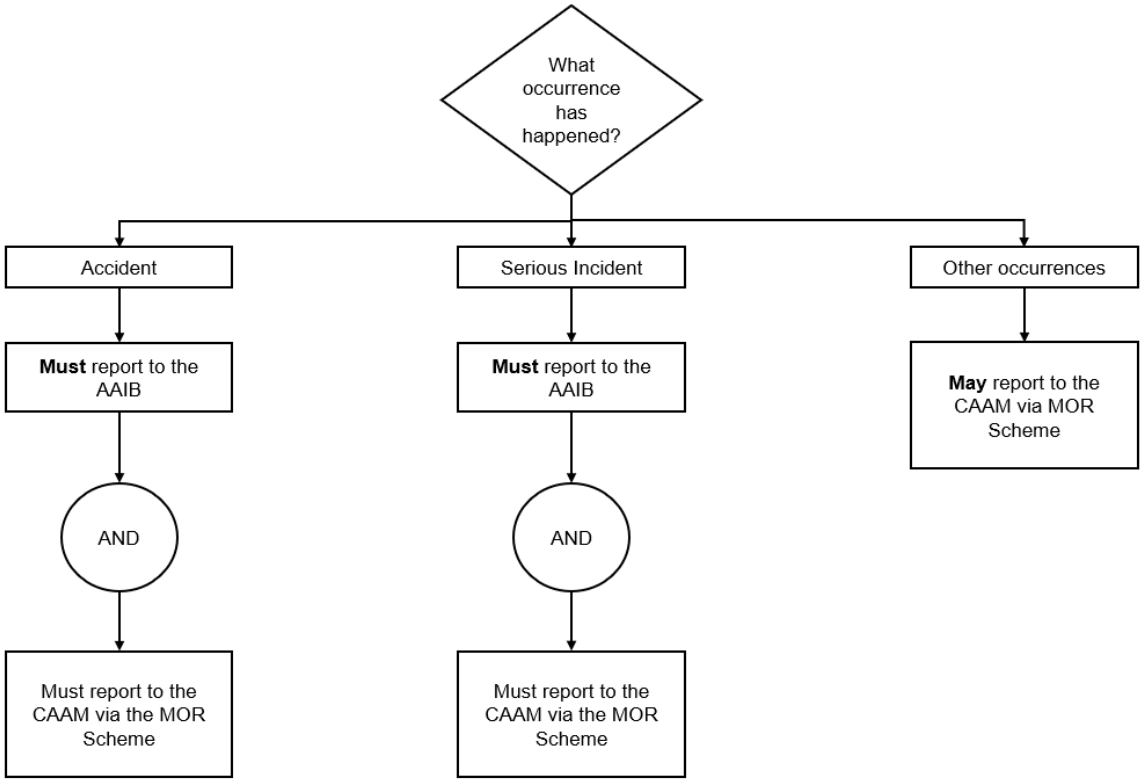
a) MCAR 2016 Regulation 165 on Mandatory Occurrence Reporting.

1.1.6 Occurrence reporting flowchart

a) The flowcharts below will help you find out three things:

1) What occurrences you need to report
2) Who you need to report to
3) Mandatory and voluntary reporting

Note. - Voluntary reporting is useful to provide opportunity for safety lessons to be learned more widely from an occurrence. More engaged air safety cultures tend to do more voluntary reporting.



Occurrence Reporting Flowchart

1.2 Definitions

1.2.1 A **reportable occurrence** in relation as defined in MCAR Regulation 165 (1) means:

a) Any incident relating to such an aircraft or any defect in or malfunctioning of such an aircraft or any part of equipment or such an aircraft, being an incident, malfunctioning or defect endangering, or which if not corrected would endanger the aircraft, its occupants or any other person.

b) Any defect in or malfunctioning of any facility, on the ground used or intended to be used for purposes of or in connection with the operation of such an aircraft, being a defect or malfunctioning endangering, or which if not corrected would endanger such an aircraft or its occupants.

Note. - Accidents and serious incidents are classifications of reportable occurrence which needs to be reported to CAAM under the Occurrence Reporting Scheme.

1.2.2 An **accident** as defined in ICAO Annex 13 means:

a) An occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

1) A person is fatally or seriously injured as a result of:

i) Being in the aircraft; or
ii) Direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
iii) Direct exposure to jet blast,

except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

2) The aircraft sustains damage or structural failure which:

i) adversely affects the structural strength, performance or flight characteristics of the aircraft, and
ii) would normally require major repair or replacement of the affected component,

except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings,

panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes) or minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike, (including holes in the radome); or

3) The aircraft is missing or is completely inaccessible.

1.2.3 A **serious incident** as defined in ICAO Annex 13 means:

a) An incident involving circumstances indicating that there was a high probability of an accident and is associated with the operation of an aircraft, which in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down.

1.2.4 A **fatal injury** as defined in ICAO Annex 13 means:

a) An injury which is sustained by a person in an accident and which results in his or her death within 30 days of the date of the accident.

Note.1 - Serious injury or death to flight crew or passenger which directly results from the operation of the aircraft or its equipment (e.g., abrupt manoeuvres, turbulence, propeller or jet blast) is required to be reported as Reportable Accident.

Note.2 - Any significant injury to any person, which directly results from the operation of the aircraft or its equipment, but which is not considered to constitute a Reportable Accident.

1.3 Occurrence

1.3.1 The regulations:

a) Occurrences must be reported in accordance with the requirements of MCAR Regulation 165.

b) The means of reporting is via the Mandatory Occurrence Reporting (MOR) Scheme. Which can be found on the CAAM website here.

c) Some of the occurrences MOR Scheme clearly applies to manned aircraft, however, many equally apply to unmanned aircraft.

1.3.2 Additional UAS Occurrences that must be reported:

a) In addition to those listed in the regulations above, other, more UAS specific occurrences must also be reported should they or a similar occurrence be experienced or observed by you. These occurrences are listed below but the list is not exhaustive.

b) When you are considering whether an occurrence is reportable, you should also take into account other situations where the same thing could have happened. For example, the actual occurrence may have been 'benign' as it happened in a remote area. However, if the full scope of how the aircraft could be operated is taken into account, for example over people, could the same occurrence in a different situation result in a more serious outcome?

1) Operation of the aircraft
   i) Unintentional loss of control
   ii) Loss of control authority over the aircraft
   iii) Aircraft landed outside the designated area
   iv) Aircraft operated beyond the limitations established in the relevant operating category or operational authorisation
   v) Aircraft operated without required licencing, registration or operational authorisation
   vi) Aircraft operated in an unairworthy or unflightworthy condition

2) Technical malfunction/failure of the aircraft or command unit
   i) Loss of command and control link (C2 link)
   ii) Battery failure/malfunction
   iii) Powerplant failure
   iv) Aircraft structural failure (for example, part of the aircraft detaches during operation)
   v) Errors in the configuration of the command unit
   vi) Display failures
   vii) Flight programming errors
   viii) Navigation failures

3) Confusion/liaison errors between flight crew members (human factors)
   i) Inter crew communication
   ii) Briefing
   iii) Competency oversights

4) Interaction with other airspace users and the public
   i) Conflict with another aircraft, such that a risk of collision may have existed
   ii) Infringement of restricted/reserved airspace (Inc. Flight restriction zones [FRZ] around aerodromes)
   iii) Inadvertent flight within close proximity of uninvolved persons (i.e., within the prescribed separation distances)

5) Other emergencies

i) Any occurrence where the safety of the aircraft, operator, other airspace users or members of the public is compromised or reduced to a level whereby potential for harm or damage is likely to occur (or only prevented through luck)

1.3.3 Reporting an UAS occurrence to the AAIB

a) The AAIB

1) The purpose of the AAIB is to improve aviation safety by determining the circumstances and causes of air accidents and serious incidents and promoting action to prevent recurrence.

b) What UAS occurrences must be reported to the AAIB?

1) All UAS **accident and serious incidents** are required to be reported to the AAIB, regardless of weight or whether they are being used for commercial purposes.

c) Who must report UAS occurrences to the AAIB?

1) 'Any person involved' who has knowledge of an aircraft accident or serious incident in the Malaysia must report it to the AAIB. 'Any person' includes (but it is not limited to) the owner, operator, and remote pilot of a UAS.

d) A more detailed list can be found on the AAIB website.

e) Regulations

1) The applicable regulations for investigation of aircraft accident and incident are stated in the MCAR 2016 Part XXVI

i) Regulation 185 on notification of accident and incident.
ii) Regulation 187 on conduct of investigation.
iii) Regulation 187 on notice, circular, direction and information.

Note. - The regulations stated above apply at publication date of this CAD and you should refer to the AAIB website for up-to-date information.

1.3.3.1 How to report a UAS accident or serious incident to the AAIB?

a) Aircraft accidents or serious incidents should be reported by using the 'AAIB (Malaysia) Accident/Incident Notification Form' to the AAIB via email to yahaya@mot.gov.my or fax to 03-888 0163.

1.3.3.2 Any questions?

a) Contact the AAIB if you have any questions about reporting occurrences to the AAIB.

1.3.4 Reporting a UAS occurrence to the CAAM

a) What UAS occurrences must be reported to the CAAM?

1) UAS occurrences must be reported to the CAAM in accordance with the occurrence reporting flowcharts in this document.
2) Using the flowcharts will help you find out whether the occurrence need to be reported to the CAAM.

b) Who must report UAS occurrences to the CAAM?

1) A UAS operator, remote pilot or member of a UAS support crew that experiences or observes an occurrence.

c) How to report a UAS occurrence to the CAAM?

1) Reports are submitted using the Mandatory Occurrence Reporting (MOR) Scheme.

d) The MOR Scheme can be found here.

e) Guidance on how to use the MOR Scheme can be found within the Scheme itself.

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Safety Management System

This section addresses general principles of an effective Safety Management System as described in ICAO Annex 19 – Safety Management System.

A safety management system (SMS) is a systematic approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures. (ICAO)

Even though the generic principles were initially focussed on manned aviation, it has been recognised that this system applies to many other industries and organisations for which their primary concern is the conservation of human life and property, reducing risks to a minimum tolerable level and as a result contributing to a safe, reliable and long-term operation.

1.1 The Four Pillars of an SMS

a) ICAO Annex 19 establishes Four basic pillars that form a complete Safety Management System. These are:

1) Policy

2) Risk management

3) Assurance

4) Promotion

1.2 The basic pillars are outlined below:

1.2.1 Policy

- Is the safety policy widely available and is the workforce fully engaged and supportive?
- Does the workforce appreciate the importance of hazard identification and safety reporting?
- Is adequate and timely feedback provided to the reporters?

These three questions apply across the entire organisation and are not confined to Flight Operations. This can only be achieved if management are likewise engaged and empowered to deliver the safety policy. What evidence is available to demonstrate your enterprise approach to safety management? Items such as an increase in voluntary reporting rates for all departments can be used. Furthermore, the establishment of a Just Culture must be evidenced and must be used by management at all levels.

1.2.2 Risk Management

- Does the safety reporting system allow employees to submit hazard reports easily? If the system is complex or not easily accessible, the workforce will be reluctant to submit reports.
- Are the reports acted upon and is feedback provided to the reporters?
- Are risk registers up to date and accessible to management?
- How is the efficacy of risk controls/mitigations monitored?
- Is there adequate resource in place to meet the requirements of implemented risk controls?
- Are there processes in place to address both safety issue risk assessments and management of change?
- Does the risk process recognise that safety is only one part of the risk picture? Are risks assessed in terms of their impact on financial, reputation and environmental factors?
- Finally, how are risks communicated to the general workforce? Are diagrammatic representations such as Bow Tie visualisations used, that can be easily understood?

A primary objective of the risk control process should be to ensure that the appropriate resource is allocated to mitigate identified risks. Ideally, a register of all controls should be maintained alongside the risk register. All identified risks must be accepted by a responsible manager and high-level decisions should be made using risk-based analysis. Finally, there must be suitable processes in place to review and monitor all risks listed in the register as part of the assurance processes.

1.2.3 Assurance

- Are risk controls implemented and effective?
- Are controls reviewed regularly?
- Is the SMS improving continuously?
- Is the SMS delivering stated safety objectives?
- Has an Acceptable Level of Safety Performance (ALoSP) been agreed with the Regulator and can achievement of this be demonstrated?

Assurance is a key part of the SMS. Usually, the above requirements are met by the establishment of Safety Performance Indicators (SPIs) and Safety Performance Targets (SPTs). These items are discussed fully in Document 9859 (issue 4) and without these in place any organisation will find it difficult to demonstrate an ALoSP and continuous improvement of the SMS.

1.2.4 Promotion

Unless the safety policy and its objectives are communicated widely and in a format that is designed to engage all employees, it is unlikely to be effective. Poster campaigns can be useful, but short-lived. Management must promote the safety policy continuously. This could be in the form of monthly safety newsletters by fleet managers (which could be a leading SPI if used). Again, this process should be adopted across all departments and whilst safety promotion is often positive in operational areas, the following questions should still be asked:

- Is it applied in all areas?
- How engaged are the other, non-operational, areas- for example, when did the commercial department last attend a risk assessment or a monthly safety meeting?

"Safety is no Accident. It Must be Planned"

1.3 SMS Regulatory Framework

a) The ICAO Standards and Recommended Practices (SARPS) promulgated in several Annexes to the Chicago Convention require the implementation of a safety management system by the following aviation service provider organisations:

1) Aircraft operators;

2) Aircraft maintenance organisations;

3) Air navigation services providers;

4) Airport operators;

5) training organisations;

6) aircraft manufacturers.

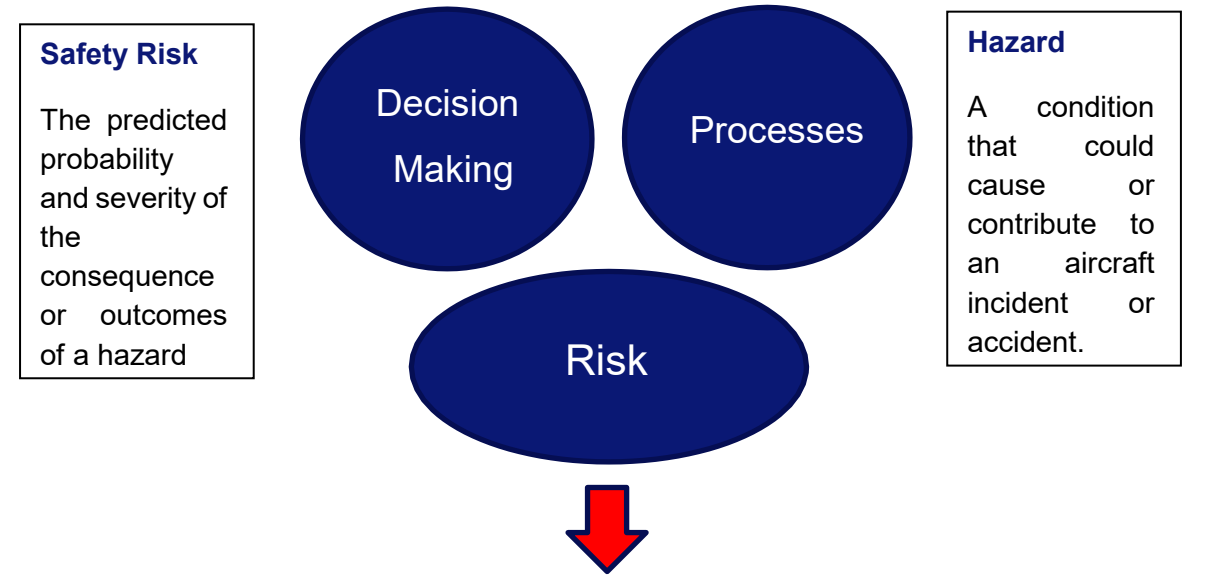
b) UAS operators are currently not included in the above list of service providers. However, the 3rd edition (Amendment 2) of Annex 19 is likely to introduce new SARPs requiring UAS operators to have an effective SMS. This amendment is still being drafted, with an applicability date around 2026.

c) Because of the diverse relationships between the rulemaking bodies and the variety of aviation service provider organisations, it is of critical importance to standardise the SMS functions to the point that there is a common understanding of the meaning of SMS among all concerned organisations and authorities. In this regard with Certified Category the same basic principles as Manned Aviation, for which a proper and effective Safety Management System should be implemented by the organisation conducting the operation. For the upper level in the Specific Category, following a Safety Management System could be

considered voluntarily with the intention of improving internal processes, accountabilities and in general enhancing the overall safety of the proposed operation.

Note. - Depending on the size and complexity of the operation, UAS operator in shall develop SMS Manual which must be acceptable to the CAAM.

1.4 General Safety Management System



A series of defined, organisation-wide processes that provide for effective risk-based decision making related to a company's daily business.

1.5 Key Processes of an SMS

a) Hazard Identification

1) A method for identifying hazards related to the whole organisation (operational + systemic hazards)

b) Safety Reporting

1) A process for the acquisition of safety data not only related to product safety

c) Risk Management

1) A standard approach for assessing risks and for applying risk controls

d) Performance Measurement

1) Management tools for analysing how effectively the organisation's safety goals are being achieved

e) Safety Assurance

1) Processes based on quality management principles that support continual improvement of the organisation's safety performance.

1.6 Implementation and Assessment

1.6.1 Many aspects of safety management may already exist within an organisation. In order to introduce an SMS a gap analysis is the suggested first step to establish what components already exist, (E.g. for writing a safety case or risk assessment). It is important that the SMS corresponds to the size and complexity of the organisation and takes into consideration the nature of its operations.

a) Implementation steps could include:

b) Obtain Senior Management buy-in;

c) Appointing a Safety Manager / Team / Board;

d) Undertake a gap analysis;

e) Develop an implementation plan;

f) Establish a risk assessment and control system;

g) Use for internal occurrence reports, audit findings, organisational changes;

h) Validate the matrix;

i) Establish and encourage a reporting system and a hazard log;

j) Produce a SMSM or incorporate it into existing Manuals;

k) Training of staff;

l) Ensure that all the SMS building blocks are in place;

m) Consider contracted and subcontracted services;

n) Proactively look for hazards;

o) Establish the most significant safety issues and start to measure and manage them;

p) Establish performance measures.

1.7 Applying an SMS for the UAS industry

1.7.1 The sensible and effective application of a Safety Management System to the different types of operations and categories is essential. These principles will help to contribute to the overall safety of the proposed operation and thus reduce the risk of it causing harm to persons or property. SMS principles can be applied from the basic Open Category all the way up to the Certified Category. A good understanding of these principles, and the employment of a risk-oriented approach, will help to ensure a safe and reliable UAS operation.

11 Attachments

Attachment A (1)		Examination Questions Template
Attachment A (2)		Sample of Examination Slip
Attachment A (3)		Examination Flow Process
Attachment B	:	Prospective Operator's Pre-Assessment Statement
Attachment C	:	Schedule of Events
Attachment D	:	RPTO Application Form
Attachment E	:	Compliance Checklist
Attachment F		RPTO COA Approval Flow Chart
Attachment G	:	Sample of RPTO COA
Attachment H	:	Sample of RPTO Training Specifications
Attachment I	:	RCoC Template

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Examination Questions Template

CAAM/BOP/UAS/RPTO/07-01

Name of RPTO:		**Date:** (DD/MM/YYYY)	
Subject:			

No.	**Question**	**Answer**	**Reference/Link**
1			
2			
3			

4			
5			
6			
7			

8			
9			
10			

11			
12			
13			

14			
15			

I, the undersigned, hereby declare that:

- ✓ **The examination questions are accurate, concise, and practical.**
- ✓ **The examination questions are based on lessons that are taught in our Syllabus.**

Chief Remote Pilot Name:			
Chief Remote Pilot Signature:		**Date:**	

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Sample of Examination Slip

[INSERT RPTO'S NAME HERE]

Name:	Daniel Bin Ameer	
MyKad/Passport number:	960314-03-5599	
12flyID:		
Subject:	UAS Operating Principles	
Time:	10.00 am – 11.30 am	
Duration:	90 minutes	
Date:	15/10/2021	
Seating Number:	03	[RPTO'S STAMP HERE]

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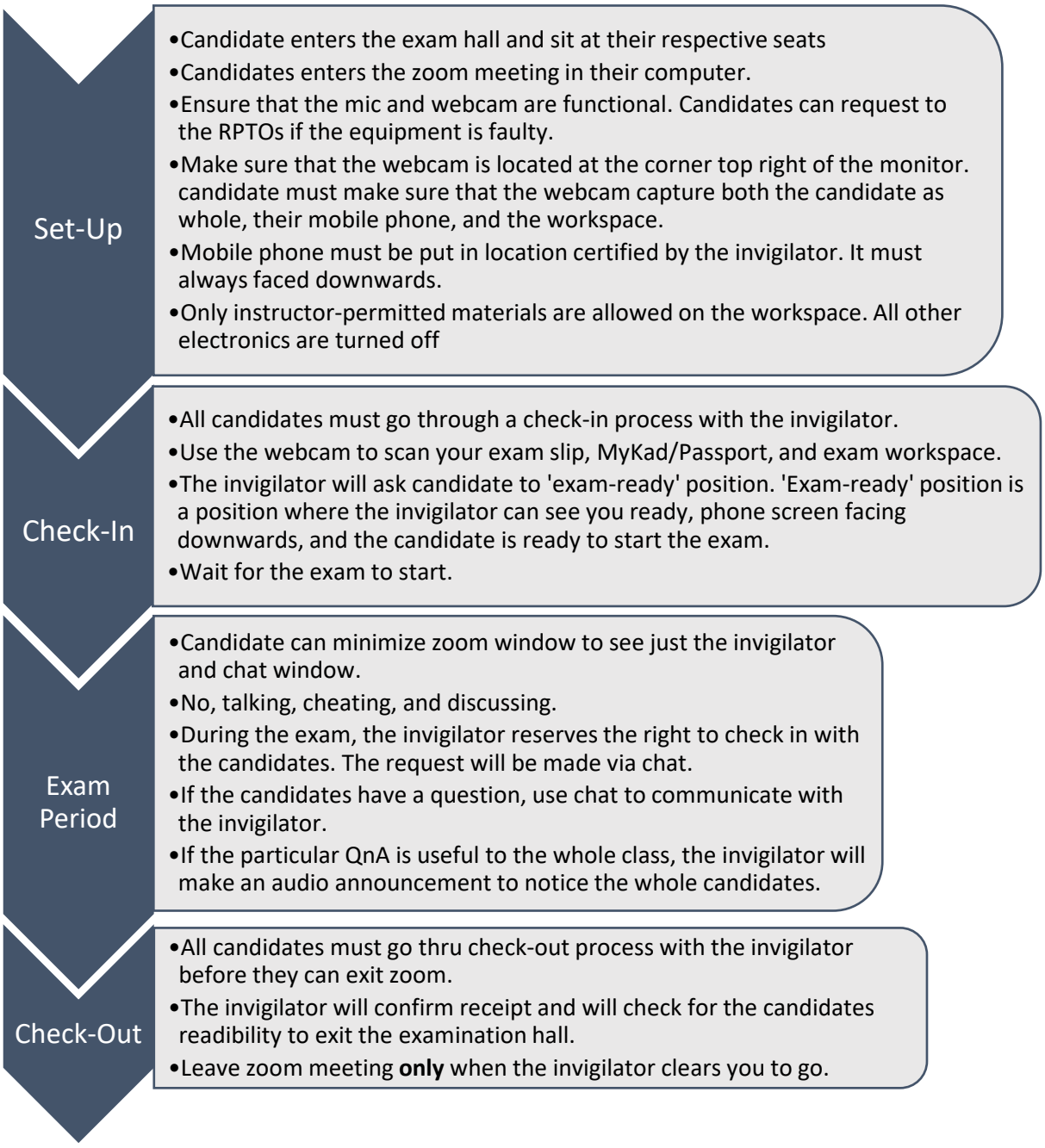
Examination Flow Process



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Prospective Operator's Pre-Assessment Statement Form (POPS)

Notes to Applicant

General

1. Please ensure form is correctly filled; the applicable fee is fully paid, and that all required supporting documentation is provided. Incomplete/incorrect form or/and inadequate payment will lead to delays in processing your application.
2. Applications shall be submitted as early as possible before the planned commencement date of operation. The entire certification process usually takes 6 months, subject to compliance by the applicant and taking into consideration the time required for the entire certification process and its complexity. Where space is sufficient for the information required, the words "See Attachment 1,2,3" etc. should be written and the necessary attachments supplied with the application form.
3. Completed POPS form (hard copy and soft copy) and supporting documents (soft copy) are to be submitted to one following of the following address:

Mailing address	**Office address (for hand delivery)**	**Email address**
Director, Flight Operations Division Civil Aviation Authority of Malaysia 27 Persiaran Perdana Level 2 Podium Block, Precinct 4 62618 Putrajaya, Malaysia.	Civil Aviation Authority of Malaysia Pihak Berkuasa Penerbangan Awam Malaysia No. 27 Persiaran Perdana Aras 1-4 Blok Podium 62618 Putrajaya Malaysia	drone.rpto@caam.gov.my

Collection

4. You will be notified when the certificate is ready for collection at the Flight Operations Division office.

NOTE 1

Operator principal place of business telephone and fax details, including country code. Email to be provided.

NOTE 2

Contact details, at which operational management can be contacted without undue delay.

NOTE 3

The particulars given should be those of the person who will be the operator of the aircraft, in the case of an incorporated body, the body, the names, addresses and nationality of the Directors, and the Chief Executive Officer (or Managing Director of General Manager), and in the case of an unincorporated corporation, the names, addresses and nationality of all partners. This list should reflect the organisational structure of the company applying for the RPTO COA and the financial data and business plan.

NOTE 4

A list of UA manufacturer, model used for the training activity.

1. Tick if a Flight Simulator Training Device will be used for training as well. Please be informed that CAAM has yet to come with any particular directives on FSTD. However, it is preferred only to use a FSTD system that is recognised by the Manufacturer.
2. Provide a copy of the lease agreement for all leased Unmanned Aircraft.

NOTE 5

Give the proposed date for the commencement of operations.

NOTE 6

List of **all** location(s) of the proposed flight training activities in a .kmz/.kml file.

NOTE 7

List the scope of training that the RPTO intends to conduct. Additional training courses may be conducted as per paragraph 1.4.8 of the CAD 6011 (I).

NOTE 8

Applicant shall submit to drone.rpto@caam.gov.my a soft copy of items:

a) A draft copy of TPM;

b) A cursory Compliance Checklist (only on Section of TPM); and

c) And the proposed location of operations in .kmz/.kml file.

d) POPS form

The POPS form and its associated evidence/documents (except for the draft TPM, cursory Compliance checklist and the proposed sites) shall also be submitted to the CAAM via hard copy to the address stated in paragraph 3 above.

NOTE 9

Please list the names, qualifications and experience of the Nominated Post Holders.

CAAM/BOP/UAS/RPTO/01-01

CIVIL AVIATION AUTHORITY OF MALAYSIA

PROSPECTIVE OPERATOR'S PRE-ASSESSMENT STATEMENT FORM (POPS)

Part I – Particulars of Applicant *(This person will be the main point of contact for CAAM)*		
Title:	Name of Applicant:	Tel:
Designation:	Email:	
Part II – Particulars of Organisation		
Name of Organisation:		
Address of Place of Business:		
Name(s) if different from above in which operations will be conducted:		
Base aerodrome (if applicable):		
Tel (**See Note 1**):	Fax (**See Note 1**):	
E-mail (**See Note 1**):		
Operational Point of Contact (**See Note 2**): **Tel: (60)** **Fax: (60)** **Email:**		

Part III – Particulars of Directors/Share Holders (See Note 3)				
Designation	Name	Address	Telephone	Nationality

Part IV – Particulars of COA RPTO Nominated Post Holder		
Personnel	**Name & Designation**	**Contact Number & Email Address**
Accountable Manager (AM):		
Safety Manager (SM):		
Chief Remote Pilot (CRP):		
Maintenance Controller (MC):		

List of Instructors	
Remote Pilot Flight Instructor(s) (RFI):	**Remote Pilot Ground Instructor(s) (RGI):**
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
Authorised Examiner	**Flight Instructor Examiner**
1.	1.
2.	2.
3.	3.

Part V – Particulars of Unmanned Aircraft for Operations (See Note 4)						
Manufacturer	**Model**	**Type of activity**	**Total Number of UA operated**	**MTOM**	**Serial Number**	**FSTD**
						☐
						☐
						☐
						☐
						☐

Proposed date for the commencement of operations (**See Note 5**):	

Part VI - RPTO proposed types of training (See Note 7)		
☐ A2 RCoC (only applicable when CAD 6011 is effective)	☐ RCoC-B	☐ Safety Management System (SMS) for UAS Operations
	☐ Module 1 (EVLOS)	☐ Specific Operations Risk Assessment Course (SORA
	☐Module 2 (AGR)	☐ Train the Trainer Course
		☐ Crew Resource Management (CRM)

Part VII – Applicant Checklist (Please check the applicable boxes)		
Supporting documents to be submitted	**Yes**	**No**
Organisation Chart, financial data, and Business plan (**see Note 3**)	☐	☐
Location(s) of the proposed operation(s) in .kmz/.kml file **(see Note 6)**	☐	☐
Draft/final copies of training procedure manuals, documents and complete CAAM Forms (**see Note 8**)	☐	☐
Leasing contracts for the Unmanned Aircraft (**see Note 4**)	☐	☐
Qualifications of the Nominated Post Holder(s) (**see Note 9**)	☐	☐

Part VIII – Applicant Declaration
I hereby declare that the information given in this form is true in every respect and that I will comply with all the necessary requirements for the grant of a Remote Pilot Training Organisation Certificate of Approval. I further declare that all documents submitted in support of this application are true in every respect. I hereby apply for the grant of a Remote Pilot Training Organisation Certificate of Approval. _____ _____ Name, Signature of Accountable Manager & Company Stamp Date (Day / Month / Year)

For Official Use	
Received by: _____ Authorised Collection Officer (Name Stamp & Signature) Date (Day / Month / Year)	
RPTO COA No.:	Period of validity:

Schedule of Events

CAAM/BOP/UAS/RPTO/02-01

ORGANISATION DETAILS			
Name of Operator:		Place of Business:	
Accountable Manager:		Mailing Address (if different from Place of Business)	
AM email address		Pre-Certification Number: (CAAM to insert)	
AM contact number			
Desired Date for the operations to commence			

Necessary document, action or event		**Proposed Date**	**Date received/ Accomplished**	**Date returned for changes**	**Reference**
Note: Items in yellow will be completed by the CAAM					
1.0	**PRE-APPLICATION PHASE**				
	Submission of POPS				
	Assignment of Certification Team by CAAM				
					Project Manager
					BOP
					BAW
					ATC
					Other
					Other
	Establishment of The Committee				
					SIRIM
					MCMC
					JUPEM
					CGSO
	Pre-application meeting				

Necessary document, action or event		Proposed Date	Date received/ Accomplished	Date returned for changes	Reference
Note: Items in yellow will be completed by the CAAM					
2.0	**FORMAL APPLICATION PHASE**				
	Application Form				
	Schedule of Events				
	Payment of cost of certification				
	Submission of financial viability				
	Review of Application				
	Review of submission financial viability				
	Formal Application meeting				

3.0	**DOCUMENTS EVALUATION PHASE**				
	Compliance checklist Submission				
	Review of Compliance checklist				
	Safety Management System Manual Submission				
	Review of SMSM				
	Training Procedure Manual Submission				
	Review of TPM				
	Leasing/owned documents of UA(s) submission				
	Review of leasing/owned documents of UA(s)				
	Submission of SOP (can be manufacturers)				
	Review of SOP				
	Submission of Teaching Materials/ Slides				
	Review of Teaching Materials/ Slides				
	Submission of Instructor Guide				
	Review of Instructor Guide				
	Submission of Student Handouts				
	Review of Student Handouts				
	Maintenance Manual (or equivalent) submission				
	Review of Maintenance Manual (or equivalent)				
	Submission of Aircraft Flight Manual (or equivalent)				
	Review of Aircraft Flight Manual (or equivalent)				

	Nominated Post Holder/Key Personnel				
	Application for interview of AM				
	Application for interview of SM				
	Application for interview of CRP				
	Application for interview of MC				
	Interview of AM				
	Interview of SM				
	Interview of CRP				
	Interview of MC				
	Insurance				
	Submission Insurance				
	Acceptance of Insurance				
	Description of applicant's business organisation, corporate structure, and names and addresses of those entities and individuals having a major financial interest.				
	OTHER				
	Submission of approval from other agencies (if applicable)				

Necessary document, action or event		Proposed Date	Date received/ Accomplished	Date returned for changes	Reference
Note: Items in yellow will be completed by the CAAM					
4.0	**DEMONSTRATION AND INSPECTION PHASE**				

	On site assessment
	• General areas
	  ○ Office space
	  ○ Study
	  ○ Storage area
	• ERP
	• Classroom
	• Exam hall
	• Practical training areas
	• Flight Operations
	• Simulation and procedure trainer areas (if applicable)
	• Workshop and maintenance of UA and storage facilities
	• Parts, tools and material storage areas				

	Acceptance of on-site assessment
	• General areas
	  ○ Office space
	  ○ Study
	  ○ Storage area
	• ERP
	• Classroom
	• Exam hall
	• Practical training areas
	• Flight Operations
	• Simulation and procedure trainer areas (if applicable)
	• Workshop and maintenance of UA and storage facilities				

	Parts, tools and material storage areas				
	Inspection of UA				
	Acceptance of UA				
	Demonstration of theoretical knowledge training				
	Acceptance of RGI and its training content				
	Demonstration of practical flight training				
	Acceptance of RFI and its training content				
	Assessments of AE and FIE				
	Acceptance of AE and FIE				
	ERP Simulation				
	Acceptance of ERP				
	OTHER				

RPTO Application Form

CAAM/BOP/UAS/RPTO/03-01

	CIVIL AVIATION AUTHORITY OF MALAYSIA	
Application for Approved Training Organisation – Remote Pilot Training Organisation		
APPLICATION FOR	☐ RPTO COA ☐ TRAINING SPECIFICATIONS	☐ INITIAL ☐ RENEWAL ☐ AMENDMENT

Part I – Particulars of Applicant *(This person will be the main point of contact for CAAM)*		
Title:	Name of Applicant:	Tel:
Designation:	Email:	
Part II – Particulars of Organisation		
Name of Organisation:		
Address of Place of Business:		
Principal Base of Training Name and Address:		
Base aerodrome (if applicable):		
Tel:	Fax:	
E-mail:		

Operational Point of Contact: Tel: (60) Fax: (60) Email:

Part III – Particulars of COA RPTO Nominated Post Holder		
Personnel	**Name & Designation**	**Contact Number & Email Address**
Accountable Manager (AM):		
Safety Manager (SM):		
Chief Remote Pilot (CRP):		
Maintenance Controller (MC):		

Part IV- List of Instructing Personnel	
Remote Pilot Flight Instructor(s) (RFI):	**Remote Pilot Ground Instructor(s) (RGI):**
1.	1.
2.	2.
3.	3.
4.	4.

5.	5.
Authorised Examiner	**Flight Instructor Examiner**
1.	1.
2.	2.
3.	3.

Part V – Particulars of Unmanned Aircraft for Operations

Manufacturer	Model	Type of activity	Total Number of UA operated	MTOM	Serial Number	FSTD
						☐
						☐
						☐
						☐
						☐

Proposed date for the commencement of operations:	
Organisation Structure (initial RPTO COA / Change organization):	Please attach a description of the applicant's business organisation/structure and names and contact numbers of those entities and individuals having a major financial interest (share holder)
Financial Data	Please attach sufficient financial data to support financial viability of your proposal and to ensure there are adequate funds for a specified period after commencement of the operation.

Comment*: RPTO/Training Specifications change (brief of changes or in cover letter to amplify the detail)

Part VI - RPTO proposed types of training		
☐ A2 RCoC (only applicable when CAD is effective)	☐ RCoC-B	☐ Safety Management System (SMS) for UAS Operations
	☐ Module 1 (EVLOS)	☐ Specific Operations Risk Assessment Course (SORA
	☐Module 2 (AGR)	☐ Train the Trainer Course
		☐ Crew Resource Management (CRM)

CHECKLIST

No	Items	Tick (X) as applicable	Remarks
4.1	**Application Form**	☐	
4.2	**Schedule of Events (initial)**	☐	
4.2	**Compliance Checklist**	☐	
4.3	**Cheque Attached for COA RPTO application fee**	☐	The fee payable for this purpose is prescribed in Civil Aviation (Fees and Charges) Regulation 2016. Crossed cheque payment must be payable to "Civil Aviation Authority of Malaysia".
4.4	**Location(s) of proposed operation(s)**	☐	Submitted to drone.rpto@caam.gov.my in .kmz/.kml file. If no changes to the one given in POPS, include statement in this remarks column, "NO CHANGES TO POPS"

Part VII – Applicant Declaration
I, the undersigned, hereby declare that: ✓ **The information provided in this application form is true and correct.** ✓ **That the information provided in this application will allow CAAM to calculate an estimate for service for processing this application.** ✓ **That the cost estimate may change, and processing the application may be delayed, if:** o **The application does not accurately and completely identify my requirements; or** o **The details in this application are subsequently changed; or** o **Adequate supporting documentation has not been provided.** ✓ **For the CAAM to proceed with this application, I must:** o **Accept the cost estimate; and** o **Forward the prescribed payment; and** o **Forward all supporting documentations to the CAAM.** **I, the undersigned, hereby declared that the UAS operation will comply with:** ✓ **Any applicable UAS Regulations related to privacy, data protection, liability, insurance, security and environmental protection; and** ✓ **The applicable requirements of MCAR and its legislation pertaining UAS; and**

- ✓ **The limitations and conditions defined in the Remote Pilot Training Organisation Certificate of Approval, its terms and conditions and training specifications provided by the CAAM.**

_____ _____

Name, Signature of Accountable Manager & Company Stamp Date (Day / Month / Year)

CAAM USE	
REMARKS:	
Signature:	Date:
Accepted by UASI:	
Signature:	Date:
Director of Flight Operations:	

FOR CAAM USE ONLY

UASI Name _____

☐ ACCEPT ☐ REJECT

Remarks _____

UASI Signature _____

Date _____

Application Fee:	
Receipt No:	
Cheque / P.O:	
Initial:	
Date:	

Compliance Checklist

CAAM/BOP/UAS/RPTO/04-01

Note to Operator:
This document should be completed with reference to CAD 6011 (I) – Remote Pilot Training Organisation

The compliance checklist shall be used to ensure that all information is inserted in Manuals or present during the certification phase. These information provided to the CAAM will also assist the CAAM in processing the Remote Pilot Training Organisation Certificate of Approval in a more expedient manner. Operator should submit as early as possible, a point-by point reply to the applicable requirement. Additional requirement may be specified by the CAAM when deemed necessary.

Applicants are expected to complete the checklist in a clear manner by crossing the appropriate checkbox on the compliance status, and indicating the location of the relevant supporting document. An example is as shown below:

Criteria Code	**Criteria Compliance status**			**Remarks** (Include reference to documentation or reason for non-compliance/ non-applicability)
	Yes	**No**	**N/A**	
	☐	☐	☐	Document XX – Chapter X, item X.X; Document YY, - Chapter Y, item Y.Y

ORGANISATION DETAILS					
Name of Operator:					
Organisation:					
OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
General					
	Operator/ RPTO Name • Attach contract/ trade licence along with application of security clearances online	☐	☐	☐	
1.5	**Impartiality of RPTO** • Is the RPTO also an UAS Operator Holder. (e.g., SUP Approval Holder, Agricultural UAS AWC Holder)	☐	☐	☐	
	• If yes, is there a clear separation between the training activities and other operational activity to guarantee the independence of the evaluation.	☐	☐	☐	
1.11	**Insurance** Insurance that will cover a third party liability • For initial RPTO COA: insurance documents may be a provisional one.	☐	☐	☐	
	• For renewal/inspection: insurance documents shall be valid.	☐	☐	☐	
4.2	**Place of Business** • Attach contract with local authority / Municipality	☐	☐	☐	
	Location of proposed training • Feasible and approved by CAAM	☐	☐	☐	

ORGANISATION DETAILS					
Name of Operator:					
Organisation:					
OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
Safety Management System					
1	**Management commitment and responsibilities**				
1.1	• The safety policy is relevant to the scope and complexity of the organization's operations.	☐	☐	☐	
1.2	• There is evidence that the safety policy is communicated to all employees with the intent that they are made aware of their individual safety obligations. *(not required for initial applicant)*	☐	☐	☐	
1.3	• There is a periodic review of the safety policy by senior management or the safety committee. *(not required for initial applicant)*	☐	☐	☐	
1.4	• The accountable manager's terms of reference indicate his overall responsibility for all safety issues.	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
Safety Management System					
2	**Safety accountabilities**				
2.1	• There is a safety committee (or equivalent mechanism) that reviews the SMS and its safety performance.	☐	☐	☐	
2.2	• The accountable manager's final authority over all operations conducted under his organization's certificate(s) is indicated in his terms of reference.	☐	☐	☐	
3	**Appointment of Key Personnel**				
3.1	• The manager performing the SMS role has relevant SMS functions included in his terms of reference.	☐	☐	☐	
3.2	• The manager responsible for administering the SMS does not hold other responsibilities that may conflict or impair his role as SMS manager.	☐	☐	☐	
3.3	• The SMS manager has direct access or reporting to the accountable manager concerning the implementation and operation of the SMS.	☐	☐	☐	
3.4	• The SMS manager is a senior management position not lower than or subservient to other operational or production positions.	☐	☐	☐	

Requirement Code		Requirement compliance status			Remarks
		Yes	No	N/A	
Safety Management System					
4	**Emergency Response Plan**				
4.1	• The ERP addresses possible or likely emergency/crisis scenarios relating to the organization's aviation service deliveries.	☐	☐	☐	
4.2	• The ERP includes procedures for the continuing safe production, delivery or support of its aviation products or services during emergencies or contingencies.	☐	☐	☐	
4.3	• ERP drills or exercises are carried out according to plan and the result of drills carried out are documented. *(not required for initial applicant)*	☐	☐	☐	
4.4	• The ERP addresses relevant integration with external customer or subcontractor organizations where applicable. *(not required for initial applicant)*	☐	☐	☐	
4.5	• There is evidence of periodic review of the ERP to ensure its continuing relevance and effectiveness. *(not required for initial applicant)*	☐	☐	☐	

Requirement Code		Requirement compliance status			Remarks
		Yes	No	N/A	
Safety Management System					
5	**SMS Documentation**				
5.1	• The organization's SMS components and elements are adequately manifested in the SMS document.	☐	☐	☐	
5.2	• The organization's documented SMS components and elements are in line with the aviation authority's SMS requirements.	☐	☐	☐	
5.3	• There is evidence of relevant SMS coordination or integration with external customer or subcontractor organizations where applicable.	☐	☐	☐	
5.4	• There is evidence of procedures for periodic review of the SMS document and supporting documentation to ensure their continuing relevance. *(not required for initial applicant)*	☐	☐	☐	
5.5	• Records pertaining to periodic review of existing safety/risk assessments are available. *(not required for initial applicant)*	☐	☐	☐	

Requirement Code		Requirement compliance status			Remarks
		Yes	No	N/A	
Safety Management System					
6	**Hazard Identification**				
6.1	• The number or rate of the organization's registered/collected hazard reports is commensurate with the size and scope of the organization's operations. *(not required for initial applicant)*	☐	☐	☐	
6.2	• The hazard reporting system is confidential and has provisions to protect the reporter's identity.	☐	☐	☐	
6.3	• There is evidence that hazards/threats uncovered during the incident/accident investigation process are registered with the HIRM system. *(not required for initial applicant)*	☐	☐	☐	
6.4	• There is evidence that registered hazards are systematically processed for risk mitigation where applicable. *(not required for initial applicant)*	☐	☐	☐	

Requirement Code		Requirement compliance status			Remarks
		Yes	No	N/A	
Safety Management System					
7	**Safety Risk Assessment and Mitigation**				
7.1	• There is evidence that operations, processes, facilities and equipment with aviation safety implications are progressively subjected to the organization's HIRM process. *(not required for initial applicant)*	☐	☐	☐	
7.2	• Completed risk assessment reports are approved by an appropriate level of management.	☐	☐	☐	
7.3	• There is a procedure for periodic review of completed risk mitigation records.	☐	☐	☐	

Requirement Code		Requirement compliance status			Remarks
		Yes	No	N/A	
Safety Management System					
8	**Safety performance monitoring and measurement**				
8.1	• Safety performance monitoring and measurement	☐	☐	☐	
8.2	• There are high-consequence data-based safety performance indicators (e.g., accident and serious incident rates).	☐	☐	☐	
8.3	• There are lower-consequence safety performance indicators (e.g., non-compliance, deviation events)	☐	☐	☐	
8.4	• There are alert and/or target level settings within the safety performance indicators where appropriate	☐	☐	☐	
8.5	• The organization's management of change procedure includes the requirement for a safety risk assessment to be conducted whenever applicable	☐	☐	☐	
8.6	• There is evidence of corrective or follow-up action taken when targets are not achieved and/or alert levels are breached. *(not required for initial applicant)*	☐	☐	☐	

Requirement Code		Requirement compliance status			Remarks
		Yes	No	N/A	
Safety Management System					
9	**The management of change**				
9.1	• There is evidence that relevant aviation safety-related processes and operations have been subjected to the organization's HIRM process as applicable. *(not required for initial applicant)*	☐	☐	☐	
9.2	• The organization's management of change procedure includes the requirement for a safety risk assessment to be conducted whenever applicable.	☐	☐	☐	
10	**Continuous Improvement of the SMS**				
	• There is evidence that an internal SMS audit/assessment has been planned and carried out. *(not required for initial applicant)*	☐	☐	☐	

Requirement Code		Requirement compliance status			Remarks
		Yes	No	N/A	
Safety Management System					
11	**Training, education and communication**				
11.1	• There is evidence that all personnel involved in SMS operations have undergone appropriate SMS training or familiarization.	☐	☐	☐	
11.2	• Personnel involved in conducting risk evaluation are provided with appropriate risk management training or familiarization.	☐	☐	☐	
11.3	• There is evidence of a safety (SMS) publication, circular or channel for communicating safety and SMS matters to employees.	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
Item 0.1 of App 5	**Cover and Contact** • Front cover states the Issue and Revision Number of the TPM.	☐	☐	☐	
Item 1.1 of App 5	**Introduction** • Explains the scope of document • Details out the scope of training permitted	☐	☐	☐	
Item 1.2 of App 5	**Safety Statement** • It is signed by the Accountable Manager • Detail to Commitment to safety as priority	☐	☐	☐	
Item 1.3 of App 5	**Amendment Record** • Shows how the document is controlled	☐	☐	☐	
Item 1.4 of App 5	**List of Effective Pages** • Details all the List of Effective Pages • Column for RPTO and CAAM signature and stamp.	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL (continued)					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
Item 1.5 of App 5	**Definitions and Abbreviations** • If a similar definition and abbreviation can be found in the UAS Regulations, CAD 6011, CAGM 6011 or this CAD, it should be used. • Accurate and concise to the content of TPM.	☐	☐	☐	
Item 1.6 of App 5	**Table of Content**	☐	☐	☐	
2	**Safety Policy**				
Item 2 of App 5	**Safety Policy** • The company's safety policy, safety management system, safety targets, etc. must be detailed. A cross-reference to Safety Management System Manual (SMM) is acceptable.	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL (continued)					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
3	**Organisation**				
Chap 3	**Structure of organisation and management lines** • Organogram/organisational diagram showing associated chains of responsibility • Direct safety accountability of the AM	☐	☐	☐	
Item 3.12.1 of Chap 3	**Accountable Manager (AM)** • Has been approved by the CAAM	☐	☐	☐	
	• Has corporate authority for ensuring that all remain compliant as stated in 3.12.1	☐	☐	☐	
Item 3.12.5 of Chap 3	**Safety Manager (SM)** • Has been approved by the CAAM	☐	☐	☐	
	• Holds an SMS Implementation Course	☐	☐	☐	
	• Responsibilities outlined by the operator to include as required in 3.12.5	☐	☐	☐	
Item 3.12.6 of Chap 3	**Chief Remote Pilot (CRP)** • Has been approved by the CAAM	☐	☐	☐	
	• Meets the requirements as stated in 3.12.6	☐	☐	☐	
	• Meets the requirements in 3.12.4.1	☐	☐	☐	
	• Responsibilities include those as stated in 3.12.6.1	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL (continued)					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
Item 3.12.7 of Chap 3	**Maintenance Controller (MC)** • Has been accepted by the CAAM	☐	☐	☐	
	• Meets the requirements as stated in 3.12.4.1	☐	☐	☐	
	• Meets the requirements in 3.12.7 (a)	☐	☐	☐	
	• Responsibilities include those as stated in 3.12.7 (b)	☐	☐	☐	
Item 3.12.8 of Chap 3	**Remote Pilot Flight Instructor (RFI) and Remote Pilot Ground Instructor (RGI)** • Has been approved by the CAAM	☐	☐	☐	
	• Meets the requirements listed in 3.12.4.1	☐	☐	☐	
	• If RGI/RFI is teaching Agricultural Module, shall hold PCO Licence issued by LRMP	☐	☐	☐	
Item 3.12.9 of Chap 3	**Authorised Examiner/ Flight Instructor Examiner** • Approved by the CAAM	☐	☐	☐	
	• Minimum requirements for role identified are detailed out	☐	☐	☐	
Item 3.3 of App 5	• Description of each person's experience and competency	☐	☐	☐	
	• Personnel duties and responsibilities	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL (continued)					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
Item 3.4 of App 5	**Procedures for Amendments and the notification of these changes to the CAAM** • Description of changes that requires CAAM notification	☐	☐	☐	
Item 3.5 of App 5	**Internal Safety Review** • Internal safety review, at least once in any 3 calendar period. • Increased if immediate risk identified • Cross referenced to SMSM (if applicable)	☐	☐	☐	
Item 3.6 of App 5 and item 4.2.1 of Chap 4	**Facilities and Equipment Requirement** Description on facilities that will be used for: • Theoretical knowledge	☐	☐	☐	
	• Examinations	☐	☐	☐	
	• Practical training areas	☐	☐	☐	
	• Practical skill assessment	☐	☐	☐	
	• Emergency Response Room	☐	☐	☐	
	• Simulation and procedure trainer areas	☐	☐	☐	
	• Workshop/Maintenance areas	☐	☐	☐	
	• Parts/tools and material storage area	☐	☐	☐	
	• Flt Operations	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL (continued)					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
4	**Policies**				
Item 4.1 of App 5	**Policies** • Minimum age requirement	☐	☐	☐	
Item 4.2 of App 5	**Training Policies** • Max students training time (theory and practical) • Ratio of instructor (flying/ground) to student	☐	☐	☐	
Item 4.3 of App 5	**Training Effectiveness** • Procedures to correct unsatisfactory progress	☐	☐	☐	
	• Procedures for changing instructors	☐	☐	☐	
	• Maximum number of instructor changes per student	☐	☐	☐	
	• Internal feedback system for detecting training deficiencies	☐	☐	☐	
	• Procedures for suspending a student from training including 'suspension board members'	☐	☐	☐	
	• Requirement for reporting and documentation	☐	☐	☐	
	• Completion standards at various stages of training to ensure standardisation	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL (continued)					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
5	**Training Syllabus**				
Item 5.1 of App 5	**Lesson Reference** • Reference List in the form of abbreviated list giving main and sub-titles for quick reference	☐	☐	☐	
Item 5.2 of App 5	**Lesson Phases** • How course may be divided	☐	☐	☐	
	• Phases are arranged to ensure most suitable learning sequence	☐	☐	☐	
	• Sufficient frequency/repetition for emergency exercise	☐	☐	☐	
Item 5.3 of App 5	**Syllabus Hours** • Syllabus hours for each topic/phase	☐	☐	☐	
	• Specifies when progress test (if applicable) to be conducted	☐	☐	☐	
Item 5.4 of App 5	**Proficiency Checks** • Standard of proficiency required before progressing to the next phase	☐	☐	☐	
	• Minimum experience requirement detailed out in terms of hours and satisfactory exercise completion before undertaking significant lessons	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL (continued)					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
Item 5.5 of App 5	**Instructional Methods** • details on requirements for instructional methods, particularly with respect to pre-flying and post-flying briefings, adherence to syllabi and training specifications.	☐	☐	☐	
Item 5.6 of App 5	**Outline course details** • This section should detail out the course detail and if additional RCoC modules (case by case basis approval by CAAM) or other additional courses available.	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL (continued)					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
6	**Practical Flight Assessment/Test conducted by AE for the issuance of RCoC**				
Item 6.1 of App 5	**Name of personnel** • Are personnel approved by CAAM?	☐	☐	☐	
	• Scope of testing authority	☐	☐	☐	
Item 6.2 of App 5	**Roles and duties of the authorised personnel**	☐	☐	☐	
Item 6.3 of App 5	**Practical flight assessment requirement and process** • Instruction, on how the practical flying assessment to be conducted including a clear explanation and illustration of any specific manoeuvres that will be assessed.	☐	☐	☐	
Item 6.4 of App 5	**Criteria for assessment** • This section should include procedures and criteria that the RPTO shall apply to determine whether a certificate should be issued to a remote pilot.	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TRAINING PROCEDURE MANUAL (continued)					
The training and procedures manual should include the elements below as far as they are appropriate to the type of training to be provided.					
7	**Records**				
Item 7.1 of App 5	**Policy and Procedures** • Attendance Records	☐	☐	☐	
	• Student Training Records	☐	☐	☐	
	• Staff training qualification records	☐	☐	☐	
	• Person responsible for checking records and student personal logs	☐	☐	☐	
	• Nature and frequency of records checks	☐	☐	☐	
	• Standardisation of record entries	☐	☐	☐	
	• Personal log entries	☐	☐	☐	
	• Security of records and documents	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
STANDARD OPERATING PROCEDURES					
Ensures standards operating procedure manual conforms with the manufacturers operating procedures					
	Remarks:	☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
TEACHING MATERIALS/ SLIDES AND INSTRUCTOR GUIDE					
Instructor study guide should detail the training syllabus to be conducted and conform with the student study guide					
		☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
STUDENT HANDOUTS					
Student study guide should detail the training syllabus to be undertaken and conform with the student study guide					
		☐	☐	☐	

OPERATION DETAILS					
Requirement Code		**Requirement compliance status**			**Remarks**
		Yes	**No**	**N/A**	
AIRCRAFT FLIGHT MANUAL (or Equivalent)					
		☐	☐	☐	

DECLARATION STATEMENT BY APPLICANT			
I declare that the information provided in this form meets the requirements as stated in CAD 6011 (I) – RPTO			
Name of Accountable Manager:		Signature:	
		Date:	

FOR CAAM OFFICIAL USE ONLY			
☐SATISFACTORY ☐UNSATISFACTORY Comments:			
Name of Inspector		Signature:	
		Date:	

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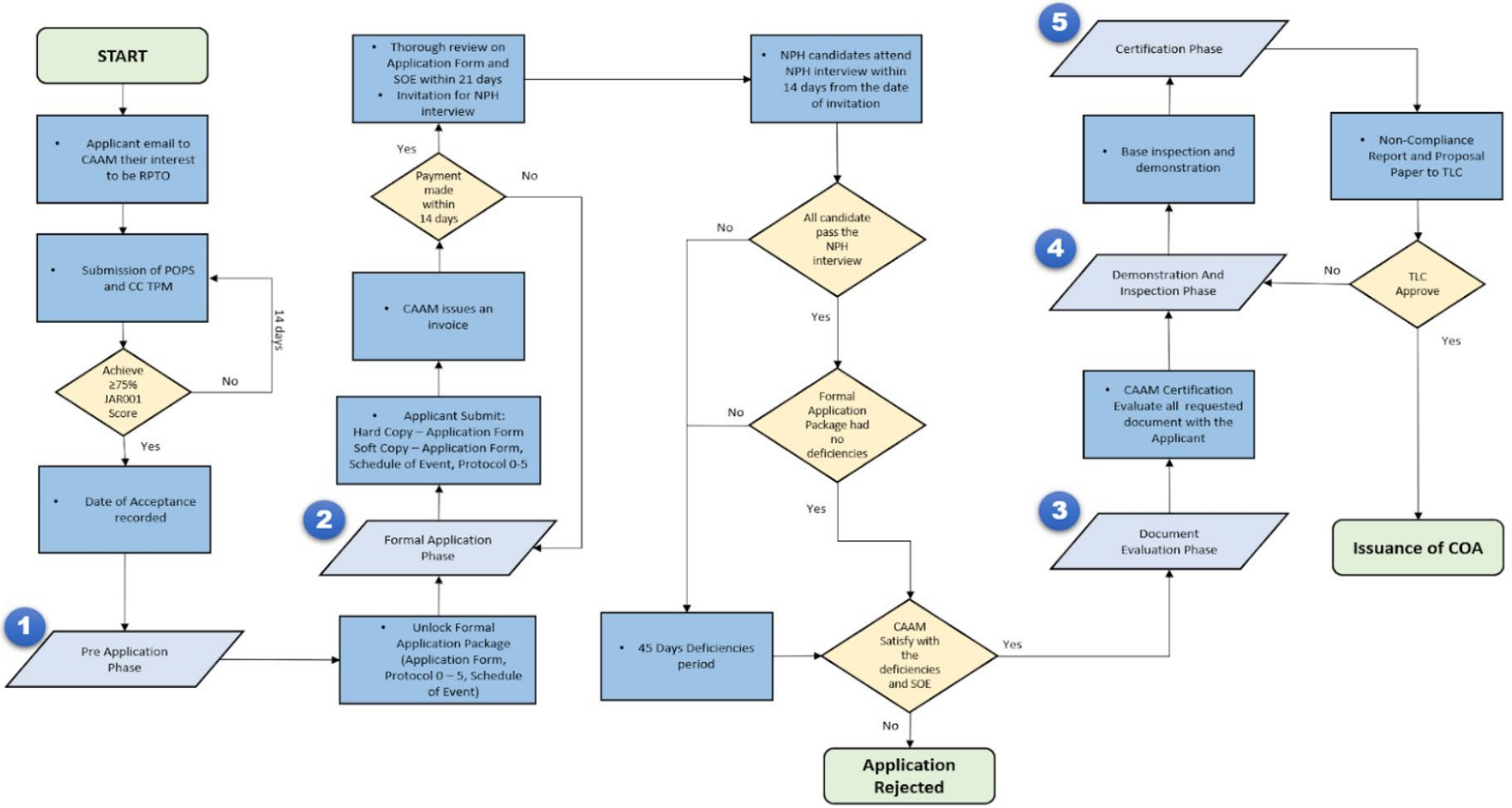
RPTO COA Approval Flow Chart



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Sample of RPTO COA

CAAM/BOP/UAS/RPTO/05-01

CIVIL AVIATION AUTHORITY OF MALAYSIA

CERTIFICATE OF APPROVAL
REMOTE PILOT TRAINING ORGANISATION

Ref No. CAAM/BOP/45 Ser. No. **ATO.RPTO.01/18**

This Certificate certifies that:

ABC TRAINING CENTRE SDN. BHD.

Address

Lot 10, Jalan Ampang 40000 Subang Selangor

is an approved training organisation under Regulation 64 of the Civil Aviation Regulations 2016 which is authorised to conduct [examination or test] and to [provide course of training or instruction] in accordance with the attached Training Specifications.

The courses shall be conducted by ABC Training Centre Sdn. Bhd. at the place mentioned above. The Chief Remote Pilot whose direction the course shall be conducted is:

ANAQAH FATHONAH

This Certificate of Approval is not transferable and unless revoked, suspended, or varied shall continue in effect until:

01 JANUARY 2022

CAAM Stamp:

Date: 02 January 2021

Chief Executive Officer
Civil Aviation Authority of Malaysia

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Sample of RPTO Training Specifications

CAAM/BOP/UAS/RPTO/06-01

Training Specifications

Phone No: +603-8871 4027	Fax No: +603-8871 4334	Email: aquila@caam.gov.my
UASI Name and Signature: Captain Illyaquila Fateen binti Ismail		Date: 02/01/2021
RPTO Contact Details		
RPTO Name: ABC Training Centre Sdn. Bhd.		ATO No: R000/01
RPTO Location: Lot 10, Jalan Ampang 40000 Subang Selangor		
RPTO Phone No.: +603-8880 0000	RPTO Fax No.: +603-8880 0001	RPTO E-mail: ayesha@abc.com

NPH Accepted by the Authority:	
Position	Name
Accountable Manager	Ms. Illyeen' Ayesha
Safety Manager	Mrs. Farizah Yahya
Chief Remote Pilot	Ms. Anaqah Fathonah
Maintenance Manager	Mr. Iqmilhaqeem Fakhurazi

Terms and Conditions:

The RPTO shall:

1. Establish applicable Safety Management System in accordance with CAAM Regulations;
2. Notify and obtain approval from the CAAM of any changes to training location, UA used, facility, management system and training documentations;
3. Conduct the operations in compliance with the CAD 6011 (I);
4. Comply with direction, order, instruction and requirement given by the Chief Executive Officer or an Authorised Officer; and
5. Pay all fees and charges as required under the Civil Aviation (Fees and Charges) Regulations 2016 and such other fees and charges as may be determined by the Minister.

Training Locations Permitted

	Name	Coordinates				Additional Limitations
1.	Sungai Rambai Aerodrome	020753.05N 1023142.86E	020743.68N 1023149.65E	020807.50N 1023217.51E	020813.34N 1023207.28E	Not above 400ft AGL
2.	Simpang Renggam	014829.35N 1031225.45E	014830.33N 1031403.63E	014720.87N 1031403.82E	014720.31N 1031224.08E	Not above 400ft AGL

Accepted Unmanned Aircraft for Flight Training

Ser.	Manufacturer	Model	Amount/Unit	Registration Marking (if applicable)
1.	DJI	Mavic 2 Pro	10	
2.	DJI	Agras MG-1	2	CAAM-UAS-1234 CAAM-UAS-1212
No further entries				

Accepted Flight Simulator Training Device

Ser.	Manufacturer	Model	Remarks
1.	Nil.		
No further entries			

Approved Training Courses

☐ A2 RCoC (only applicable when CAD is effective)	☒ RCoC-B	☐ Safety Management System (SMS) for UAS Operations
	☐ Module 1 (EVLOS)	☐ Specific Operations Risk Assessment Course (SORA
	☒Module 2 (AGR)	☒ Train the Trainer Course
		☐ Crew Resource Management (CRM)

Authorised Examiner				
Ser.	Name	Contact No.	E-mail address	RCoC Num & PCO-L
1.	Mr. Azrin Izab	+6012 5555 3333	azrin@abc.com	XXXXXX
2.	Mr. Nazrul Hazih	+6018 0000 8989	nazrulbo@abc.com	XXXXXX
Flight Instructor Examiner				
3.	Mr. Fadil Rosli	+6014 8345 9999	fadil@abc.com	XXXXXX
Remote Pilot Ground Instructor				
4.	Rabiah Omar	+6015 2222 8888	bie.om@abc.com	XXXXXX
5.	Hazmi Razak	+6018 8888 2020	hazmi.razak@abc.com	XXXXXX
Remote Pilot Flying Instructor				
6.	Itzwany Fariesya	+6019 9999 3333	fariesya@abc.com	XXXXXX

Date of Issue: 02 January 2021
Date of Expiry: 01 January 2022

CAAM Stamp:

Chief Executive Officer
Civil Aviation Authority of Malaysia

RCoC Template

RPTO Logo (1)

CERTIFICATE OF COMPETENCY

This is to certify that

<<NAME>> (2)

<<One2Fly ID>> (3)

has been granted the

Remote Pilot Certificate of Competency-Basic (RCoC-B)

held on

<<Start Date>> to <<End Date>> (4)

at an approved Remote Pilot Training Organisation

<<RPTO NAME>> (5)

<<(RPTO COA NUMBER)>> (6)

TYPE OF UAS	DATE OF ISSUE	DATE OF EXPIRY
<<TYPE OF UAS>> (7)	<<DD/MM/YYYY>> (8)	<<DD/MM/YYYY>> (9)

(10)

Certificate ID

<<Certificate ID>> (11)

(12) <<Certificate Link>>

Sample (13)

<<Accountable Manager Full Name>> (14)

Accountable Manager

This certificate is issued under the requirement set forth by CAAM Civil Aviation Directives 6011 Part (I) - Remote Pilot Training Organisation (CAD 6011 Part I - RPTO)

CERTIFICATE DESCRIPTION

1. RPTO Logo
2. Student name
3. Student one2fly ID
4. Course start date and end date
5. RPTO name
6. RPTO COA number
7. Type of UAS operated by the student for the program
8. Date of certificate issued
9. Date of expiry (the expiry date will be at the end of the month of which the assessment of competence is done, 5 years later)
10. QR code for one2fly ID profile
11. RPTO certificate ID
12. QR Code one2fly ID link
13. Accountable Manager signature
14. Name of Accountable Manage