



STANDING OPERATING INSTRUCTION Number: J7 No 33

Subject:
**USE OF COMMERCIAL REMOTELY PILOTED AIR SYSTEMS (RPAS)
 ON THE DIO SD TRAINING ESTATE**

Summary/Purpose

The Military Aviation Authority (MAA) has recently completed a review of the regulations pertaining to the categorization and duty-holding requirements for Remotely Piloted Air Systems (RPAS) operations. This SOI explains the responsibilities and regulations applicable to any units that wish to employ such systems on the training estate.

Policy/Key Principle

To ensure that the use of RPAS on DIO SD Trg estate is compliant with the MAA regulations and that RPAS are safe to operate and are being operated safely.

ISR Platforms. All in-service Intelligence, Surveillance and Reconnaissance (ISR) platforms such as Watchkeeper, Desert Hawk and other 'nano' RPAS are already compliant with the requirements of Reference A. Any new ISR platforms will be subject to the process, which will be the responsibility of the relevant project team.

Useful References

- A. [RA 1600-Remotely Piloted Air Systems \(RPAS\).](#)
- B. [RA 1020 Roles & Responsibilities: Aviation Duty Holder \(ADH\) and ADH-Facing Organisations](#)
- C. [RA 2321 - Class I\(b\) Remotely Piloted Air Systems - Operator Qualifications and Requirements](#)
- D. [Civil Aviation Publication \(CAP\) 722 - Unmanned Aircraft System Operations in UK Airspace](#)
- E. [RA1240-chartering of civilian aircraft for military purposes.](#)
- F. [Air Navigation Order 2009](#)

Supporting DIO Process Maps

NIL

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Version

2.0

Date Published

26 Apr 16

Review Date

25 Apr 17

Authorised for publication

Intranet: Yes

Internet: No

Introduction

1. There are now many highly-capable low-cost RPAS¹ systems available to both civilian enthusiasts and other organisations wishing to exploit their capabilities. However, the operation of RPAS by unqualified personnel, or without the appropriate technical assurance, may be hazardous to other users in the air or to personnel in the vicinity. Their use on or over MOD land is considered to be within the Defence Air Environment² (DAE) and therefore remains strictly regulated in accordance with the MOD policy regarding Risk to Life (RtL) and the obligation to mitigate risk to As Low As Reasonably Practicable (ALARP). This SOI is published for the guidance of regional commanders and Training Safety Officers who may receive requests to operate RPAS on their training estate, but are unfamiliar with the aviation regulations applicable to RPAS operations.

Equipment

2. All organisations seeking to procure an RPAS in support of training on DIO training estate are to comply with Reference A. For previously uncategorized equipment, the user shall present a case to the MAA for an endorsed categorization. Table 1 below lists the various categories of RPAS. Endorsed categorization will only be awarded upon satisfactory compliance with Reference A – Acceptable Means of Compliance, 1600(2). This process is the responsibility of the user, so units should consider procuring a system that has already obtained such approval. SO2 Air Safety or the MAA may be able to give advice.

Table 1 – NATO Class and Common Taxonomy

MTOW*	NATO Class	Common Taxonomy	MAA Category
<200g	Class I < 150 kg	NANO	Class I(a)
200g to <20 kg		MICRO <2 kg	Class I(b) & (c)
		MINI 2-20 kg	
20 kg-150 kg		SMALL >20 kg	Class I(d)
>150 kg	Class II 150–600 kg	TACTICAL > 150 kg	Class II
>600 kg	Class III > 600 kg	MALE/HALE/Strike	Class III

*Maximum Take Off Weight

3. The military already operates a number of RPAS such as Watchkeeper and Desert Hawk which are compliant with the current regulations, as well as ‘nano’ systems such as Black Hornet which, at less than 200g, are broadly acceptable and exempt from further mitigation. These platforms are therefore not affected by the latest changes and may continue to operate in accordance with their Release to Service authorisation.

4. In recognition of the availability of RPAS suitable for supporting training activities, the requirements for RPAS categorized as 2 to 20 kg have been

¹ It is recognised that the terms UAS/UAV/Drone and RPAS are used interchangeably to describe unmanned and remotely piloted aircraft systems. For the purpose of regulation the MAA uses the term RPAS and will be similarly referred to in future DIO SD Trg documentation.

² The Defence Air Environment encompasses all organizations and activities related to the operation and support, both engineering and supply, of military-registered aircraft, including Military Registered Civil-Owned Aircraft (MRCOA), or airborne equipment by, or on behalf of, the MOD.

reassessed. In addition to weight, the use of the RPAS with respect to RtL will determine whether it is categorized as Class 1(b) or 1(c). The duty-holding responsibilities between 1(b) and 1(c) are significantly different. It is envisaged that most RPAS used in support of training will be categorized as Class 1(b).

5. Reference A, Annex B contains an extensive Safety Checklist which must be completed as part of the categorization process. This checklist constitutes the Safety Case for the RPAS. An Unmanned Air Systems Team (UAST) should endorse the selection of the particular RPAS manufacturer as part of the categorization submission.

Duty Holder Responsibility

6. In addition to the categorization of the RPAS, responsibility regarding RtL for the systems must also be in accordance with Reference B. A Class 1(b) Duty Holder (DH) must be nominated, who should be at least OF4 or B2 Civil Servant for a non-Service TLB. The DH will be answerable to a designated OF5/B1 Capability Owner within the chain of command. The Capability Owner is responsible to the Senior Duty Holder (TLB Head) for the risks associated with the operation of Class 1(b) RPAS and is responsible for ensuring that the RPAS are operated in line with the Safety Checklist. In view of the low RtL, no Operating DH (ODH) is required.

7. In most cases, the unit commander may be appointed as the DH as they already own the risk to personnel under their command. Due to the non-core aviation use of RPAS, DHs do not need to have previous aviation experience in order to fill the role, but should have sufficient training (via an MAA course or briefing) to understand the risk being held. The MAA may stipulate this requirement as part of the categorization process.

SQEP³ Requirements

8. **Senior Operator.** A Senior Operator is required who should have completed an approved RPAS training package that is either conducted by a Nationally Qualified Entity (NQE) or is a Defence Systems Approach to Training (DSAT) compliant course.

9. **RPAS Operators.** At the present time there are no RPAS pilot licenses recognised in aviation law. However, it is essential that pilots of any aircraft have at least a basic understanding of the applicable regulations, in particular the Air Navigation Order and Rules of the Air Regulations. Therefore, the CAA will require a potential RPAS operator to demonstrate pilot competence before any operating permission is issued. The CAA does not run these courses directly but instead approves commercial National Qualified Entities (NQEs) to conduct the training and assessment on the CAA's behalf. All RPAS operators under the command of the Senior Operator are to have completed an approved RPAS training package that is either DSAT compliant or conducted by an NQE. Further details of qualifications and requirements are at Reference C. A list of current CAA-approved NQEs (Apr 16) is at Annex B.

Exemptions

³ SQEP – Suitably Qualified & Experienced Personnel

10. a. **ISR Platforms.** This instruction does **NOT** apply to Watchkeeper, Desert Hawk or other nano RPAS already identified and categorized in accordance with Reference A.
- b. **3rd Party Income Generation (3PIG).** Civilian companies may be granted permission to use Defence Property for 3PIG evolutions under existing licensing rules and CAA guidance at Reference D - Permission for Aerial Work. This also includes use by tenant farmers in the execution of their work under the conditions specified in their licence.
- c. **Use of Contracted RPAS Companies.** Under MAA regulations, the use of civilian companies to conduct aviation work for Defence organisations is considered as air chartering and therefore must comply with Reference E. It should be noted that this regulation requires the intended user to submit a detailed safety argument to justify the need for charter and provide sound evidence to support the airworthiness and assurance of the equipment to be used. This is a very protracted course of action and the work required is, arguably, disproportionate to the benefits gained from flying a RPAS for military filming tasks.
- d. **Use of ISR Platforms by Foreign Forces.** These platforms are limited to Class 1 a, b or c (<20Kgs). The MAA do not regulate foreign aircraft/RPAS, therefore it is incumbent on the Responsible Officer (Range/Exercise Controller) to ensure that the air platform is approved for use by the visiting nation's aviation authority and that the appropriate assurance documentation is readily available. This should be equal to, or exceed, the safety standards of an equivalent MAA-approved RPAS. The RPAS should be operated iaw Reference F, Articles 166 & 167. Any requirements for Diplomatic Clearance to fly the platform should also be considered.
- e. **Use of Private RPAS.** The use of private RPAS on the training estate is forbidden, except for recreational use by members of authorised clubs in possession of a DIO Licence, Form 5662 – Occasional Use of MOD Recreational Activities. The RPAS are to be flown in accordance with CAA regulations (Reference D).

Assurance

11. The requirements of RA1600 must be adhered to in order to assure both DIO SD Trg and the MAA that the systems being used are safe to operate and being operated safely. Compliance is the absolute responsibility of the RPAS user. All Regional Commanders and Training Safety Officers must therefore be satisfied that any organisation planning to use any RPAS are using approved equipment and that all personnel are appropriately trained. A checklist, which is not exhaustive, is at Annex A and should be copied into Range Standing Orders (RSOs) for submission with the Range Safety Action Plan (RASP). RSOs should be amended as required to include the contents of this instruction.

Data Protection and Privacy

12. There is no specific legislation in European Member States on the data protection implications of RPAS use. However, in certain circumstances, photographs and film may constitute personal data, particularly if they are held along with other personal data about the individual, and may even be said to constitute sensitive personal data. Particular attention should be paid by commanding officers

of cadet units where filming may include accommodation sites or ablution facilities. There are specific offences, under the Sexual Offences Act 2003, that could be used against the MOD where voyeurism may be suspected, therefore, where any doubt exists, units should consider conducting a Privacy Impact Assessment.

Privacy Impact Assessment (PIA)

13. A PIA is a process for evaluating and identifying the potential effects upon privacy and data protection compliance. It examines how any detrimental effects might be overcome and to ensure that activities comply with data protection principles. The Data Protection Act 1998 does not oblige organisations to conduct PIAs, but conducting a PIA is a good practice for a RPAS operator to help flag issues that may otherwise have been missed. The PIA will allow it to make changes to the way it intends to process or otherwise handle personal data to reduce or manage any risks to privacy. It is possible to show by a PIA that an organisation assessed the risks of processing personal data, took measures to mitigate those risks, or otherwise identified the reasons why it decided to proceed with certain projects - despite data protection risks being present.

Summary

14. It is appreciated that the process is not an easy course of action and may initially frustrate many potential users. However, all RPAS flying regulations in respect of MOD property are clearly defined in the References to ensure that the required standards of safety are maintained. TSOs should question the authenticity of activities if non-compliance is suspected. Annex A provides a checklist which should be retained for incident investigation or future audit purposes. It is unacceptable for any unit to use an RPAS without the appropriate authorisation.

Enquiries

15. All enquiries relating to this SOI should be addressed to:

Lt Cdr R I Carter RNR
SO2 Air Safety
Email: DIO SD Trg-HQ TrgSafety Air
Civ: 01985 222849
Mil: 94381 2849

Annex:

- A - Checklist for RPAS Operators**
- B - List of National Qualified Entities for RPAS**

Checklist for RPAS Operators

This list is to be completed by the RCO/Planning Officer as part of the planning process and submitted to the Range Authority as part of the RASP.

1. Date & location of Activity.....
2. Unit/Organisation.....
3. Capability Owner Contact Details.....
4. Senior Operator Contact Details.....
5. RPAS Type & Model.....
6. RCO Contact Details.....
7. Authorised RPAS Operating Staff Contact Details.....
8. RPAS Operator Qualifications.....
9. Range Briefing (including operating limitations).....
10. No. of Personnel in Training Exercise.....
11. Risk Assessment.....
12. Description of Activity
-

List of CAA Approved National Qualified Entities for RPAS

There are a variety of means of demonstrating pilot competence, the most common being to complete a course where the applicant demonstrates the necessary skills and knowledge by passing a ground exam and flight test.

The following organisations are CAA Approved:

- 3iC Ltd
- Aerial Motion Pictures
- Atec-3D - **Restricted**
- Cambridge UAV
- Commercial Drone Training Ltd
- Cyberhawk - **Restricted**
- Drone Pilot Academy Ltd - 1360
- EuroUSC Ltd
- Heliguy
- Hexca, - **Restricted**
- NATS RPAS
- Resource Group Ltd
- RUSTA (RTP-UK)
- Sky-Futures Ltd
- The Great Circle
- UAV Air (ways)
- Whispercam
- Cyberhawk - **Restricted**
- The Aerial Academy (Hexcam) - **Restricted**
- UAV8 Ltd