

► This RA has been substantially re-written; for clarity no change marks are presented – please read RA in its entirety ◀

## RA 1601 – Remotely Piloted Air Systems Open A1 sub-category (Fly ‘Over’ People)

### Rationale

*There is a requirement to determine and apply an appropriate regulatory framework to Remotely Piloted Air Systems (RPAS) to ensure they are safe to operate and are being operated safely. Failure to appropriately address RPAS specific Hazards could lead to an increased Risk to Life (RtL). This regulatory framework will be proportionate to the RPAS Category and its physical attributes<sup>1</sup>. This Regulatory Article (RA) defines the regulatory framework for those RPAS operating in the Open A1 sub-category. The regulatory framework is structured to specifically permit appropriate operating freedom to ‘non-traditional’ aviation units (who are the prevalent users of Open A1 sub-category RPAS).*

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### Regulation 1601(1)

#### Regulatory Requirements

- 1601(1) Organizations operating RPAS in the Open A1 sub-category **shall** ensure that the requirements of RA 1600 and RA 1601 are complied with.

### Acceptable Means of Compliance 1601(1)

#### Regulatory Requirements

1. The operation of RPAS in the Open A1 sub-category **should** be in the MOD Interest<sup>2</sup>.
2. Organizations **should** hold an appropriate MAA RPAS Letter of Endorsed Categorization (LEC) prior to operation of RPAS in the Open A1 sub-category.
3. RPAS **should**:
  - a. Have a Maximum Take Off Weight (MTOW), including Stores, of less than 250 g.
  - b. Carry a European Union (EU) / UK conformity marking of **C0**<sup>3</sup> or be designed to similar standards.
  - c. Have a maximum speed of 19 m/s if the RPAS has a EU / UK conformity marking of C0, or be designed to similar standards.
  - d. Be registered on the UK Military Aircraft Register by type<sup>4</sup>.
  - e. Operate under the Defence Air Environment (DAE) Operating Framework and be assigned to a DAE Operating Category<sup>2, 5</sup>.
4. RPAS Occurrences **should** be reported, investigated, and recorded<sup>6, 7</sup>.

<sup>1</sup> For definitions of RPAS Categories, RPAS sub-categories, and RPAS physical attributes (eg Sub 250 g, Sub 4 kg, etc), refer to RA 1600 – Remotely Piloted Air Systems.

<sup>2</sup> Refer to RA 1160 – The Defence Air Environment Operating Framework.

<sup>3</sup> Refer to [Commission Delegated Regulation \(EU\) 2019/945](#), [Commission Delegated Regulation \(EU\) 2020/1058](#), and [CAP2037A00](#).

<sup>4</sup> Refer to RA 1161 – Military Registration of Air Systems Operating within the Defence Air Environment.

<sup>5</sup> The DAE Operating Category relates to the ownership and Safety governance of the Air System, whereas the RPAS Category relates to the regulatory framework which is set by the MAA according to the Risk posed by the RPAS and the manner in which it is operated.

<sup>6</sup> Refer to RA 1410 – Occurrence Reporting and Management.

<sup>7</sup> Refer to the Manual of Aircraft Post Crash Management, Chapter 1: The Aircraft Post Crash Management (APCM) Task, paragraph 8: Applicability.

**Guidance  
Material  
1601(1)**

**Regulatory Requirements**

5. Only those MAA Regulatory Publication (MRP) documents detailed in this RA, RA 1600, and applicable Regulatory Instructions and Regulatory Notices, are applicable to RPAS operating in Open A1 sub-category.
6. Contractor Flying Approved Organization Scheme (Basic RPAS) (CFAOS (BR)) organizations must also comply with RA 1031<sup>8</sup>.
7. RPAS Responsible Officers (RO) and RPAS Accountable Manager (AM) may waive the requirement for an Occurrence Safety Investigation (OSI) down to a Local Occurrence Investigation (LOI) for an Accident where the loss is consistent with the intended concept of operating use of the RPAS. Ultimately it is for the RPAS RO / RPAS AM to decide that there is nothing to be gained from a formal OSI. As a minimum the subsequent LOI still requires codification by the Incident Manager prior to being closed.

**Regulation  
1601(2)**

**Responsibilities**

- 1601(2) RPAS operating in the Open A1 sub-category **shall** be operated under the authority of an RPAS RO or RPAS AM.

**Acceptable  
Means of  
Compliance  
1601(2)**

**Responsibilities**

8. Non-MOD organizations **should**:
  - a. Be appropriately approved in accordance with (iaw) the CFAOS(BR)<sup>8</sup>.
  - b. Nominate an RPAS AM iaw RA 1031<sup>8</sup>.
9. MOD organizations **should** either:
  - a. Nominate an RPAS RO (minimum OF2 or equivalent); or
  - b. Ensure that operations are carried out by an organization appropriately approved iaw the CFAOS(BR).
10. RPAS ROs and RPAS AMs **should**:
  - a. Be responsible and accountable for the safe operation of RPAS within their Area of Responsibility (AoR).
  - b. Ensure that Risks to Remote Pilots (RPs), operating personnel, other organization / MOD personnel, and the general public through the operation of RPAS are acceptable, and cease operations if not.
  - c. Hold appropriate Terms of Reference.
  - d. Ensure that RPAS are operated and maintained in line with the Manufacturer's User or Operating Manual, RA 1601(4) and LEC.
  - e. Ensure that RPs are appropriately trained (iaw JSP 822<sup>9</sup>) and competent.
  - f. Ensure that RPs are medically fit to operate the Categorized RPAS<sup>10</sup>.
  - g. Specify a Suitably Qualified and Experienced Person (eg Remote Pilot Instructors (RPI)) to award RPAS flying privileges.

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Material  
1601(2)**

**Responsibilities**

11. Nil.

<sup>8</sup> Refer to RA 1031 – Contractor Flying Approved Organization Scheme (Basic Remotely Piloted Air Systems).

<sup>9</sup> Refer to JSP 822: Defence Direction and Guidance for Training and Education.

<sup>10</sup> The baseline minimum Joint Medical Employment Standard for Military RPs of Open A1 Category RPAS is A-4. There is no baseline minimum Medical Employment Standard for Civilian RPs of Open A1 Category RPAS. There are no Initial or Periodic Medical Examination requirements (both Military and Civilian) to operate RPAS in the Open Category and S1 sub-category. However, these baseline requirements may be further restricted via the LEC and / or the endorsed RA 1600 Annex B Categorization Safety Checklist.

**Regulation  
1601(3)**

**Remote Pilot Competence**

1601(3) RPs operating RPAS in the Open A1 sub-category **shall** be trained and competent.

**Acceptable  
Means of  
Compliance  
1601(3)**

**Remote Pilot Competence**

12. RPs **should**:
- a. Be familiar with all publications, processes and orders required to safely operate the RPAS.
  - b. Maintain a level of competence appropriate to the tasks being conducted.

**Guidance  
Material  
1601(3)**

**Remote Pilot Competence**

13. RPs will be appropriately trained and competent. RPs are required to understand and be fully conversant with all appropriate publications and RA 1601(4), to ensure that their RPAS are safe to operate and being operated safely.
14. RPAS training will not be conducted while undertaking formal tasking.
15. Not all potential RPs will have experience flying RPAS; to gain sufficient experience, it is expected that organizations will provide appropriate training packages.

**Regulation  
1601(4)**

**Safe Operation and Limitations**

1601(4) RPAS operating in the Open A1 sub-category **shall** be operated in a manner that minimizes Risks and Hazards to other airspace users or any other person, vessel, vehicle or Structure near where the RPAS is being flown.

**Acceptable  
Means of  
Compliance  
1601(4)**

**Safe Operation and Limitations**

16. RPAS ROs and RPAS AMs **should**:
- a. Detail in Orders the operating limitations and regulatory requirements applicable to operations in their AoR.
  - b. Ensure that operations outside UK airspace satisfy Diplomatic Clearance<sup>11</sup> requirements.
17. RPs **should** be responsible for the safe operation of the RPAS and not present undue Risk or Hazard to other airspace users or any person, vessel, vehicle or Structure.
18. When flying in the UK, RPs **should** notify the Low Flying Booking Cell (LFBC)<sup>12</sup> in advance of any flying above 50 ft Above Ground Level, unless in Segregated Airspace activated for their use.
19. RPs **should** adhere to:
- a. Orders promulgated by the RPAS RO or RPAS AM.
  - b. The RPAS Manufacturer's User or Operating Manual.
  - c. The applicable operating parameters and procedures detailed in the RA 1600 Annex B Categorization Safety Checklist and LEC.
20. RPs **should** conduct flight planning and Risk Assessments iaw the most restrictive of Orders and adhere to the following operating limitations:

<sup>11</sup> Refer to RA 2305 – Supervision of Flying.

<sup>12</sup> Refer to RA 2330 – Low Flying. The LFBC can be contacted by telephone 01489 887 000 or 0800 515 544. RPs **should** be aware that Military Fixed Wing Aircraft may operate between 100 ft and 250 ft; and Rotary Wing Aircraft may operate below 100 ft. The LFBC will be able to offer information on potential pre-planned conflicting activity in the area.

### Acceptable Means of Compliance 1601(4)

- a. Operated within Visual Line Of Sight (VLOS)<sup>13, 14</sup> of the RP, maintaining an ability to determine the Remotely Piloted Aircraft's (RPA) orientation up to a maximum range of 500 m<sup>15</sup>.
  - b. Any additional conditions stipulated in the LEC.
21. RPA **should not** be:
- a. Operated higher than 120 m (400 ft) above the surface (land or sea).
  - b. Operated over open-air assemblies of uninvolved people where in the event of RPA failure, collision with uninvolved people is probable.
  - c. Operated in the flight restriction zone of a protected Aerodrome<sup>16</sup>, unless in receipt of appropriate permission from the Airspace Controlling Authority.
22. Organizations **should** ensure that operations outside UK airspace are conducted iaw the relevant national or international legal and regulatory requirements.
23. **Management of RPAS data link loss.** Suitable lost link procedures **should** be implemented to maintain safe flight (or safe termination), safe separation from other Aircraft, and to enable Aircraft recovery. In the event of an emergency in the RPS that requires abandonment, or the loss of return feed data link that precludes safe control, lost link procedures **should** be followed.

### Guidance Material 1601(4)

#### Safe Operation and Limitations

24. An RPAS RO may be required to employ Open A1 sub-category RPAS outside limitations contained within their LEC, when there is an unplanned or unexpected operational imperative to do so<sup>17</sup>. When such situations arise, the RPAS RO (or their representative when the RPAS RO is not deployed) needs to inform the operational commander<sup>18</sup> of the increased Risk associated with operating outside of the LEC. Although the urgency of a given situation may preclude formal process, an RPAS RO needs to demonstrate in retrospect a Risk analysis suitable to the context. There needs to be an assessment of the impact on third-parties (for example crewed aviation or civilian population in the area)<sup>19</sup>. The operational commander needs to agree to accept the Risk and record the decision to do so. Operations outside of the LEC have to cease immediately once the operational requirement has been met.
25. When operating with reduced visibility (eg at night, sandstorm, etc) over or in proximity to uninvolved people, the RPAS RO / RPAS AM will need to ensure the ability to operate safely (eg Night Vision Devices, etc).
26. RPAS publications are likely to include:
- a. The RA 1600 Annex B Categorization Safety Checklist for the RPAS.
  - b. Manufacturer's User or Operating Manual.
  - c. Specific Orders or Instructions from the RPAS RO or RPAS AM.
  - d. Local orders such as those published by a Head of Establishment or Head of Unit.
27. The requirement to Authorize operations in the Open A1 sub-category is not mandated; however, RPAS ROs may elect to implement an authorization process to formalize and account for any tasking conducted<sup>20</sup>.

<sup>13</sup> Refer to MAA02: Military Aviation Authority Master Glossary.

<sup>14</sup> RPAS Categorized as Open A1 may be operated Beyond VLOS when operating within buildings, vessels and Structures.

<sup>15</sup> In 'follow-me' mode (the RPA will automatically follow the Remote Pilot Station (RPS)), the RPA may be flown up to a maximum distance of 50 m from the RP, even if this means that the RPA is no longer VLOS.

<sup>16</sup> Details of UK Aerodromes that fall into the 'protected' category can be found within the [NATS eAIS Package](#). For Government aerodromes see the [UK Mil AIP](#).

<sup>17</sup> Where Safety, Environmental Protection or operational imperatives demand, the Regulations may be deviated from provided that a convincing case can be offered in retrospect.

<sup>18</sup> The empowered individual at the time with tactical awareness of the current operation or task.

<sup>19</sup> Bounded by the Laws of Armed Conflict, superior command direction, Rules of Engagement and RtL to own forces.

<sup>20</sup> If RPAS ROs choose to implement the Authorization process, they are advised to use the principles of RA 2306 – Authorization of Flights.