



Ministry
of Defence

Headquarters Air Command

Room 1W27, Spitfire Block
Royal Air Force
HIGH WYCOMBE
Buckinghamshire
HP14 4UE

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AIRSPACE CHANGE PROPOSAL – ACP-2023-022

Introduction

This document forms part of the airspace change process as defined in Civil Airspace Publication (CAP)1616. RAF Waddington is the main operating base for the large Remotely Piloted Air System (RPAS), Protector RG Mk1. Permanent segregated airspace has been established in the UK to support Protector's operation at RAF Waddington; this came into force at the end of November 2023. It is unlikely to be activated for routine Protector operations until spring this year when the Ministry of Defence (MOD) will conduct test and evaluation activities prior to Protector entering formally into service. During this and future activity in the UK, Protector will require a nominated diversion airfield to be made available in the event that, for any unforeseen reason RAF Waddington becomes unavailable. Following investigation into several military airfields, RAF Marham has been identified as the most suitable and preferred diversion airfield.



Protector RG Mk1

The aircraft has a 79ft wingspan and is 38ft in length. It is powered by a single TPE 331-10 turbo-prop engine and will be certified to fly in UK airspace. The aircraft is operated by fully qualified RAF pilots.

Under a separate airspace change (identification number ACP-2023-047¹).segregated airspace is already being proposed at RAF Marham in the form of a Temporary Danger Area (TDA). All key aviation stakeholders were approached late last year for feedback

¹ Details of the temporary change can be found on the CAA ACP Portal [here](#).

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on the temporary change. This letter is part of the first stage of the ACP to provide the permanent solution at RAF Marham.

Statement of Need

The formal Statement of Need is provided on the CAA ACP portal as follows:

*When the large RPAS Protector RG Mk1 comes into service it will require a diversion aerodrome for the eventuality that the RPAS is unable to be recovered to its main operating base at RAF Waddington. Pursuit of an ACP optimises an approach to establish suitable airspace to enable safe and efficient access to a **nominated diversion airfield** in the event that a diversion is required. Given the anticipated performance of on-board systems and the surrounding airspace classification, this approach will support the safe integration of Protector further into the national airspace structures and in accordance with current military flying regulation.*

Regulatory Requirement

UK military aviation is regulated by the Military Aviation Authority (MAA). Accordingly, the Protector programme is subject to the MAA Regulatory Publications (MRP). Of particular relevance to the operation of Protector in UK airspace is MAA Regulatory Article (RA) 2320 – MAA regulation for operation of military RPAS. The RA states the criteria for beyond visual line of sight (BVLOS²) RPAS operation such that within UK airspace, BVLOS operations should only be conducted if:

- An appropriately approved Detect and Avoid (DAA) capability enables compliance with Rules of the Air appropriate to the class of airspace, or;
- They are flown using a Layered Safety Approach that specifically requires flight in Segregated Airspace, or in Controlled Airspace (Classes A-D) with the informed consent of the Air Navigation Services Provider (ANSP) .

When Protector initially comes into service it will be fitted with a limited DAA capability only and, since RAF Marham is located entirely within Class G airspace, flight in segregated or controlled airspace is required and will permit Protector, in the event of an actual or planned (practise) diversion, to access RAF Marham in a safe environment, maintain regulatory compliance, and provide protection of other airspace users of any associated and identified hazardous activities.

Airspace Change Proposal

Changes to UK airspace are legally required to follow the process laid down in the CAP1616. Following a comprehensive review of the CAP1616 airspace change process, the CAA has issued version 5 of CAP1616, which has been published and will be implemented on Tuesday 2nd January 2024. However, since preparations for Stage 1 of this ACP were underway prior to the review, the CAA agreed that the Change Sponsor should continue in accordance with the version 4 of CAP1616 for this stage only. All further stages of the ACP will follow the revised process. Details of the process are available online³. Following the CAP1616 process ensures a fair and transparent flow of information

² The MAA Master Glossary defines BVLOS as the operation of a Remotely Piloted Aircraft beyond a distance where the Remote Pilot is able to respond to or avoid other airspace users by visual means.

³ CAP1616 Version 4 can be found at [CAA Airspace Change Doc Mar2021.pdf](#); CAP1616 Version 5 can be found at [CAP 1616 - Airspace Change Process \(caa.co.uk\)](#)

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between the Change Sponsor and any affected stakeholders. It also ensures that changes are not arbitrarily applied without full engagement and formal consultation. The CAA, as an impartial regulator, will hold Change Sponsors to account and ensure that CAP1616 is followed correctly as part of its decision-making responsibility.

The CAP1616 process for permanent airspace change comprises 7 stages. The stages are each considered by the CAA separately and sequentially. The process is not solution-driven and each stage informs the next. This has been presented to the CAA at Step 1a of Stage 1 of the ACP process and the CAA has agreed that an airspace change is an appropriate means by which to achieve the MOD's requirement. Details of this step can be found on the CAA's online airspace change portal⁴. The MOD will follow the next steps in accordance with CAP1616 (Version 5) to develop options which will help to deliver the most appropriate solution and address the requirement.

Stage 1 Step 1b – Design Principles

The generation of options for any new airspace or procedures first requires airspace design principles to be developed. The Design Principle stage lies within the first stage of the CAP1616 process. The MOD is keen to engage with stakeholders and is asking for your feedback.

The MOD intends to minimise the potential airspace change within the vicinity of the diversion airfield. Therefore, stakeholders have been selected from an area within a radius of approximately 20 miles of RAF Marham to encourage feedback from as many potential transiting civilian and military aircraft operators as possible.

The MOD has compiled a set of draft design principles, which are presented here for your comment. When finalised, these design principles will be utilised to inform the assessment and progression of any airspace change options.

You, as a stakeholder are now invited to consider the design principles. The list below is not exhaustive, but you may like to comment on the following:

- Are there any other design principles you would like the MOD to consider?
- Would you like the MOD to discount any of its draft design principles?
- Should the MOD prioritise some design principles ahead of others?
- Do you require / would you like any more detail to be included in the design principles?

The MOD considers design principles 1 and 2 the priority as:

- Safety is paramount and underpins all airspace change;
- Access to adequate airspace is key to achieve training and operational objectives for Protector.

Any additional detail and reasoning behind your feedback is encouraged.

⁴ [Airspace change proposal public view \(caa.co.uk\)](https://www.caa.co.uk/air-traffic/air-traffic-management/air-traffic-management-proposals/air-traffic-management-proposals-public-view)

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The MOD's draft design principles, as a basis for engagement, are below.

| Ref | Category | Design Principle |
|-----|--|--|
| DP1 | Safety | The airspace change proposal must maintain a high standard of safety and should seek to enhance current levels of safety |
| DP2 | Technical (MOD requirements) | The airspace provides access to a sufficient area to meet operational and training objectives |
| DP3 | Technical (Accessibility for airspace users) | The airspace change proposal should consider the requirements of other airspace users by maximising accessibility to other airspace users |
| DP4 | Environment (Other aviation stakeholders) | The airspace change proposal should consider the impacts on air navigation service providers and other aviation stakeholders such as nearby airport operators |
| DP5 | Policy | The airspace change proposal should not be inconsistent with relevant legislation, the CAA's airspace modernisation strategy or Secretary of State and CAA's policy and guidance |

How to Provide Feedback

Feedback may have already been provided by you for the TDA overhead RAF Marham proposed in ACP-2023-047, and although the airspace construct for ACP-2023-022 is in the same location, this proposal aims to implement airspace on a permanent basis and must be submitted as a separate application. The CAA ACP process, together with the Protector programme timescales, dictates that some engagement for both proposals will run concurrently or in close succession. Stakeholders are strongly encouraged to submit feedback for both applications.

All details of this airspace change proposal are available on the CAA's Airspace Change Portal here: [Airspace change proposal public view \(caa.co.uk\)](https://www.caa.co.uk/airspace-change-proposal-public-view). The ACP identification number is ACP-2023-022. Feedback on the proposed change and what is important to you should be sent to:

The Airspace Change Manager at UASCDC-ACP@qinetiq.com

The Change Sponsor has elected to run this engagement for a duration of 4 weeks. Therefore, stakeholders are requested to return any feedback by ceasework on Tuesday 30 January 2024.

Please advise if you require further engagement and if so, your preferred point of contact.

Responses regarding the Draft Design Principles are required by 30 Jan 2024.