



Ministry
of Defence

Headquarters Air Command

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10 July 2023

AIRSPACE CHANGE PROPOSAL – ACP-2023-003

Introduction

This document forms part of the airspace change process as defined in Civil Airspace Publication (CAP)1616. ACP-2019-18¹ was commenced in 2019 to enable the operation of a large Remotely Piloted Air System (RPAS), Protector RG Mk1, from its main operating base when it comes into service at RAF Waddington. The ACP was subsequently amended to include protection for the RAF Aerobatic Team (RAFAT), otherwise known as the Red Arrows, over RAF Waddington to conduct flying display activity from late 2023. If ACP-2019-18 is successful, the permanent airspace proposed will be implemented on 30 Nov 2023.

ACP-2023-003 is a new airspace change, the purpose of which is to establish temporary segregated airspace in the form of a Temporary Danger Area (TDA) also in the vicinity of RAF Waddington for a period of 3 weeks prior to the implementation (if successful) of the airspace through ACP-2019-18.

The aim of this letter is to inform all stakeholders of the proposed introduction of the TDA at RAF Waddington and to ensure that everyone has a full understanding of what, if any, effect it may have on them and to provide them with the opportunity to provide feedback. This letter forms part of the ACP engagement activity and is being sent to you as an identified stakeholder for comment. The Change Sponsor is the Ministry of Defence (MOD).

TDA Requirement

This TDA proposal aims to introduce the lower volume of airspace associated with ACP-2019-18 3 weeks early, to enable the MOD to conduct of a small number of time-critical proving flights.

The fundamental requirement is to demonstrate and confirm that the automatic take-off and landing capability² (ATLC) patterns at RAF Waddington are suitable for in-service operations prior to the commencement of the full Test and Evaluation (T&E) flying schedule post 30 Nov 2023. For this reason this initial activity has been brought forward by 3 weeks with the intention of completing 3 flights spread across the 3 week period.

¹ Details of this ACP, including all supporting documents can be found on the CAA's online airspace change portal [here](#)

² Protector features an automatic takeoff and landing capability (ATLC) that allows the aircraft to be launched and recovered without any operator interaction



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

Statement of Need

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

The MOD is progressing ACP-2019-18 which supports the integration of a large Remotely Piloted Air System (RPAS) into UK airspace when it is brought into service at RAF Waddington in the early 2020s. In addition, it aims to provide a volume of airspace over RAF Waddington within which the RAF Aerobatic Team (RAFAT) can safely conduct flying display training. A pressing need has emerged to prove that the Protector system can be operated safely from early November 2023, before ACP-2019-18 can deliver the permanent airspace change. This temporary change does not involve any additional requirements for RAFAT, which has requested a RA(T) from late Oct 2023.

Regulatory Requirement and Safety Assessment

It may be useful to describe why specifically segregated airspace is being requested for the Protector activity at RAF Waddington.

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 (BVLOS³) RPAS operation such that within UK airspace, BVLOS operations should:

- *Either* employ an appropriately approved Detect and Avoid (DAA) capability to enable compliance with the Rules of the Air appropriate to the class of airspace,
- *or* be flown using a Layered Safety Approach that specifically requires flight in segregated airspace.

Protector will be fitted with a limited DAA capability only and, since RAF Waddington and the proposed TDA sits entirely within Class G airspace, flight in segregated airspace is required. Establishment of a TDA will permit Protector to perform its planned activities in a safe environment, maintain regulatory compliance, and provide protection of other airspace users of any associated and identified hazardous activities.

³ 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.

Establishment of the Proposed TDA

The establishment of the TDA will provide the required volume of segregated airspace to support confirmation of the ATLC profiles for runways 02/20 at RAF Waddington. Protector will remain within the TDA at all times. The airspace is described below and is exactly the same dimensions as the lower volume of airspace proposed under ACP-2019-18. This design (known as the low airspace design) was presented during the Stage 3 formal consultation for ACP-2019-18, comment was received and it was presented within the formal submission.

The airspace is a cylinder of 5 nm radius and has vertical dimensions of surface to Flight Level (FL)105⁴. The 5 nm radius circle is centred on RAF Waddington's Aerodrome Reference Point⁵ (ARP).

Figure 1 illustrates the lateral dimensions of the TDA at RAF Waddington and Figure 2 illustrates a cross-section of the TDA from a north/south perspective. Figure 3 illustrates a cross-section from a west/east perspective.

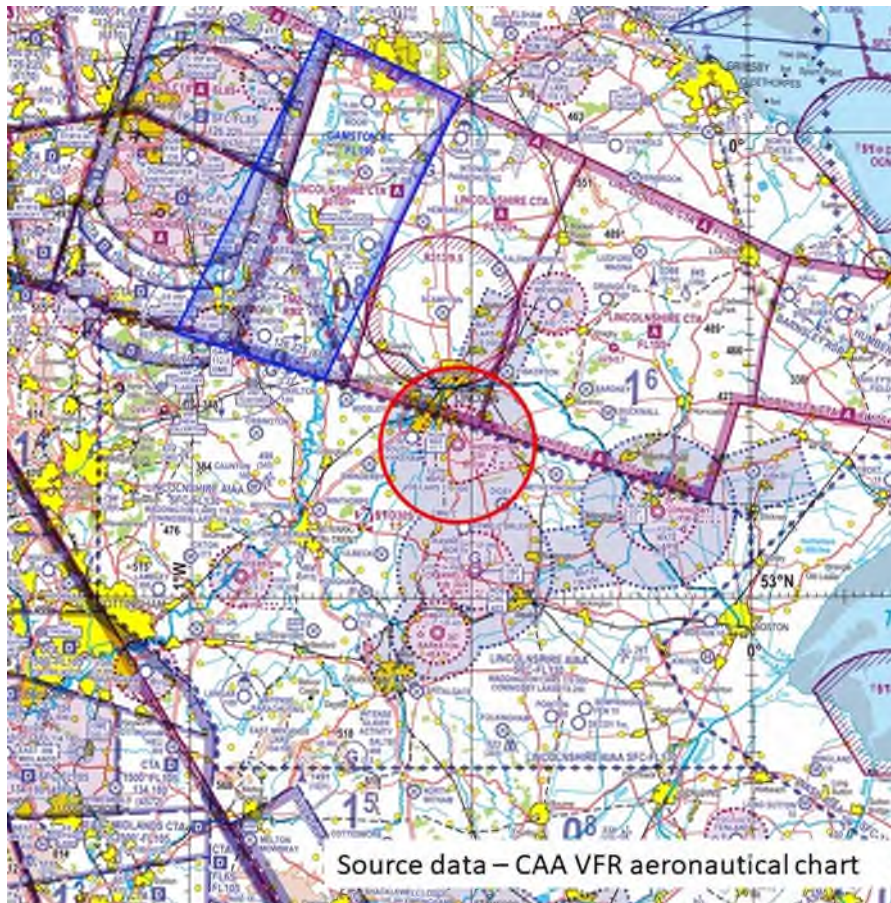


Figure 1 - RAF Waddington TDA Design

⁴ A Flight Level (FL) is used to ensure that all aircraft are flying to a common datum to ensure height separation is maintained (1 Flight Level = approximately 100 ft, eg FL 125 = approximately 12,500 ft).

⁵ RAF Waddington's airfield reference point is the midpoint of RW02/20 (530958N 0003126W)

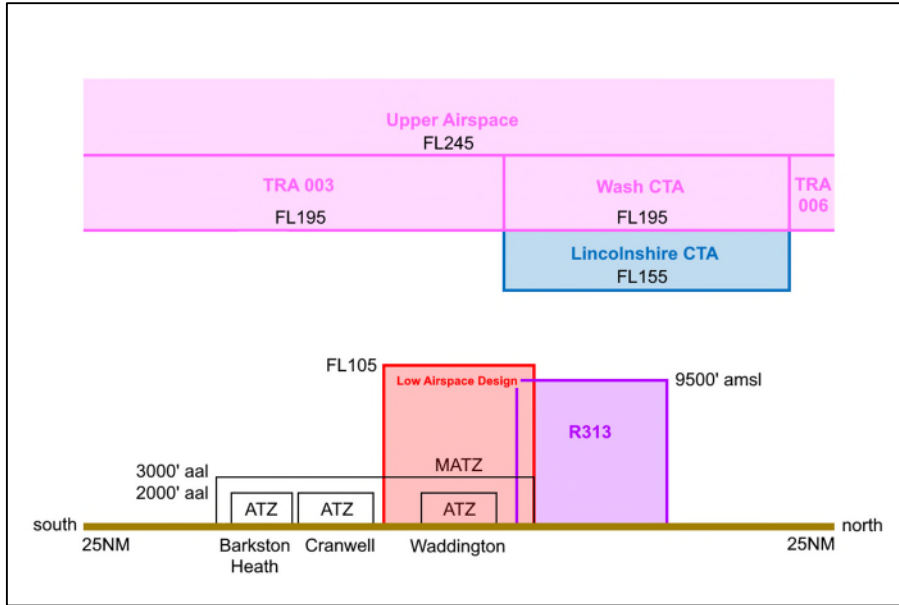


Figure 2 - RAF Waddington N/S TDA Cross-section

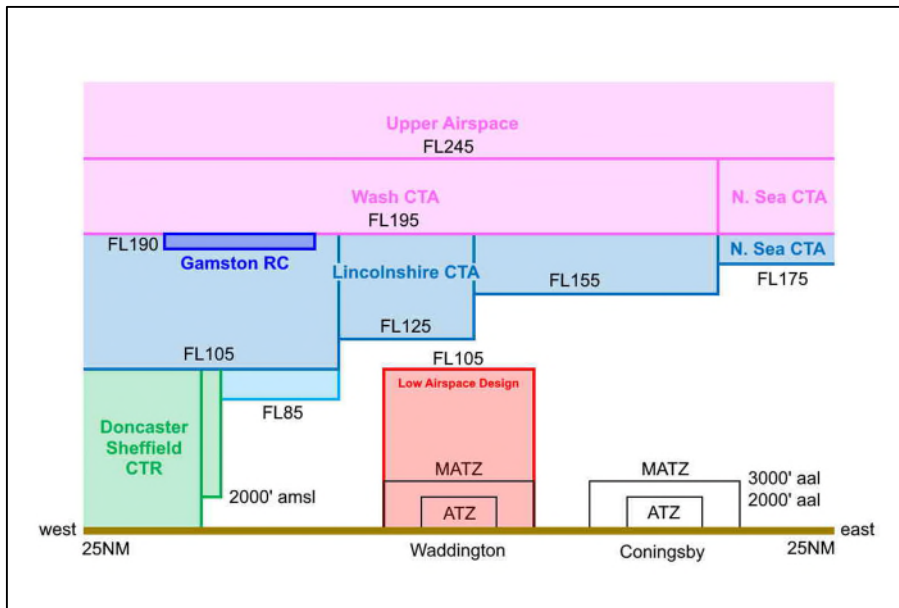


Figure 3 - RAF Waddington TDA W/E Cross-section

Measures to Minimise the Impact on other Airspace Users

General

The proposed TDA will not be permanently active; it will only be activated when Protector flying is due to take place. Procedures will be implemented to ensure that the airspace is activated and notified when it is to be used. This will involve appropriate NOTAM action being taken at least 24hrs in advance. To ensure minimum disruption to other airspace users a Danger Area Crossing Service (DACS) will be offered within the TDA. This means that, even if the airspace has been notified as being active, it may be possible for both civil and military aircraft to transit through it under a clearance from Waddington ATC.

Waddington ATC will be manned at all times during Protector operations within the proposed TDA. Protector will be equipped with a transponder and will squawk as directed by ATC. Protector will be equipped with a transponder and will squawk as directed by ATC. Information on the current status of the airspace will be available including a DACS from Waddington ATC, with both UHF and VHF frequencies available. In addition a Danger Area Activity Information Service (DAAIS) is also likely to be available from London Information. Full details of how to obtain information on the status of the TDA will be provided in the activation NOTAM.

Utilisation

The precise flying schedule has not yet been fully agreed, although it is envisaged that Protector flying will take place Monday – Friday during daylight hours. The MOD is anticipating conducting 3 flights in total, spread across the 3 week period. Flights are likely to be 1 – 2 hrs duration.

Key features of this proposal

Many stakeholders will be familiar with the permanent airspace change in progress for Protector's operations at RAF Waddington. The following insert provides some key facts that the MOD would like to emphasise.

TDA activation dates

9 – 29 November 2023 (inclusive)

TDA dimensions

Lateral - 5nm radius circle centred on RAF Waddington's aerodrome reference point

Vertical - Surface to FL105

Purpose of TDA

To provide segregated airspace for Protector activity only. The airspace will be used solely to prove a specific capability which is critical for further test and evaluation.

Deconfliction from RAFAT activity

RAFAT has applied for segregated airspace separately to conduct winter display training activity; whilst this is an identical volume of airspace, Protector and RAFAT will not operate concurrently.

EG R313

Permanent restricted airspace (known as EG R313) is located over RAF Scampton and until recently was used by RAFAT throughout the year for aerobatic display practices. The future use of EG R313 for RAFAT is uncertain and, whilst the restricted airspace remains in place, the MOD has commenced ACP-2023-036 to formalise activation procedures for EG R313 in the UK AIP; by the time the TDA is in place all activations of EG R313 will be by NOTAM⁶ only.

How to Provide Feedback

The MOD welcomes comments and feedback from all interested parties. All comments received regarding this proposal will be taken into consideration before a final design is submitted to the CAA. All the details of this airspace change proposal are available on the CAA's Airspace Change Portal. The ACP identification number is ACP-2023-003. Feedback on the proposed change and what is important to you should be sent to:

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

A feedback form is provided on the next page. Alternatively, a Word document is attached to the email containing this material for your use.

Whilst the engagement length for temporary airspace changes is typically 6 weeks, this can be scalable and the Change Sponsor has chosen to do this after discussion with the CAA. In this instance the Change Sponsor has opted for a reduced engagement duration of just over 3 weeks, commencing on 10 Jul 2023. Stakeholders are requested to return any feedback by Tuesday 1 Aug 2023. The Change Sponsor has elected to do this for the following reasons:

- The TDA airspace design is made up of Option 1 LOW from ACP-2019-18, which is a familiar structure to all previously identified stakeholders;

⁶ A **Notice to Aviation (NOTAM)**, is a notice containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations. In this instance it is a flexible means of switching on and off the airspace concerned.

- This option has been through a 12-week consultation with all identified stakeholders for ACP-2019-18 and their feedback is now part of the formal submission at Stage 5;
- The TDA will in effect introduce airspace that will come into place (pending successful decision for ACP-2019-18) permanently 3 weeks later on 30 Nov 2023;
- The MOD is minimising the volume of airspace proposed whilst achieving the MOD's objective and at the same time limiting the impact on stakeholders.

Responses regarding the proposed TDA submission must be received by Tuesday 1 Aug 2023.

Late responses may be considered for inclusion in the final submission (anticipated no later than 11 Aug 2023) but the Change Sponsor cannot guarantee this.

ACP-2023-003 Response Form

Name	
Representing	
Address (including postcode if possible)	

Feedback: