



ACP-2023-047

Temporary Airspace to Support Protector T&E Flying
Summary of Stakeholder Engagement – Version 1.0

Roles

Action	Role	Date
Produce	Airspace Change Team UAS CDC	10 Jan 24
Review	DAATM	10 Jan 24
Approve	Change Sponsor RAF AIR Cap	11 Jan 24

Drafting and Publication History

Issue	Date	Change Summary
1.0	12 Jan 24	Initial issue

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Introduction

This document forms part of the airspace change process (ACP) as outlined in the Civil Aviation Authority (CAA) policy letter for Danger Areas (DAs) and Temporary Danger Areas (TDAs). This is a scaled-down version of the process outlined in the Civil Aviation Publication (CAP) 1616¹. ACP-2023-047 has been commenced in order to implement segregated airspace in the form of a TDA in the vicinity of Royal Air Force (RAF) Marham. The ACP sponsor is the Ministry of Defence (MOD).

This TDA proposal aims to introduce a volume of airspace overhead RAF Marham to enable the MOD to demonstrate that the airspace, associated procedures and infrastructure at RAF Marham will provide a suitable diversion airfield capability for both Protector UK test and evaluation (T&E) activity and later in-service operations. It is envisaged that up to 2 planned diversions to RAF Marham will be conducted in the period May - August 2024. Each diversion profile will involve an arrival and departure from RAF Marham. It is important to note that the TDA will need to be active for all Protector flying, including sorties from RAF Waddington when a planned diversion is not expected (i.e. the TDA may be active but not necessarily used). The purpose of this document is to demonstrate that the Change Sponsor has followed the scaled-down version of the CAP 1616 process as outlined in the CAA policy letter for DAs and TDAs. The Change Sponsor has engaged with a range of potential stakeholders to seek their views on the change proposal and collect feedback as to the proposed TDA design. It is important to assure stakeholders that they are included in the change process and that they have influenced the design. The stakeholder feedback has been analysed and summarised in this document to describe how the feedback has been incorporated into the finalised design.

Executive Summary

The Change Sponsor conducted stakeholder analysis to ensure they effectively engaged with all potential stakeholders over the TDA design at RAF Marham.

Stakeholders were engaged in writing and included:

Local General Aviation (including aerodrome operators)

National Air Traffic Management Advisory Committee members

There was limited feedback received, with 3 of the 9 respondents expressing concerns regarding access to/from minor airfields located within the TDA, and 2 that suggested alternative classification of the airspace.

Full details of engagement can be found later in this document at Section 2.

As a result of the engagement, it was decided that the trial airspace would incorporate a vertical internal division (thereby splitting the airspace into 2). Whilst the overall volume of airspace proposed within the engagement material remains unchanged the amendment aims to facilitate more expeditious air traffic management.

¹ CAA issued version 5 of CAP1616 on 2 Jan 2024; however, since preparations for Stage 4 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.

How this document is laid out

Section 1

We engaged with a representative group of aviation stakeholders.

This section summarises:

- How we identified stakeholders;
- How we engaged with stakeholders;
- The engagement chronology.

Section 2

This section describes:

- The initial TDA design sent out for comment by the Change Sponsor;
- A summary of the feedback and how/if the proposal was adjusted;
- The final TDA design for submission to the CAA.

Section 3

- Next steps in the airspace change proposal.

Appendices containing list of stakeholders contacted, engagement material and raw engagement communication.

Section 1

1. How we identified Stakeholders.

1.1 Since the ACP is following the scaled-down version of the airspace change process, only a targeted engagement was required comprising aviation stakeholders only. Local aviation stakeholders were identified and contacted by RAF Marham ATC on behalf of the Change Sponsor. The Change Sponsor wrote to current NATMAC members.

1.2 The list of stakeholders can be found in Appendix A.

2. Engagement method.

2.1 The Change Sponsor elected to conduct engagement primarily via written communication. An initial email introducing the ACP was sent, along with a link to the CAA ACP Portal where the engagement letter was uploaded. The engagement letter contained details of the initial TDA design and an explanation for stakeholders to submit feedback on the proposal. The Engagement Letter can be found at Appendix B. The email and letter included details on how to leave feedback using a direct email address. Written communication was conducted once feedback was received.

2.2 An informal meeting was held with Norwich Airport on 1 Nov 23. A meeting with NATS, was held online on 6 Dec 23 a record of which is at Appendix C.

2.3 The duration of engagement was 6 weeks from 10 Nov 2023 to 22 Dec 2023.

3. Engagement chronology.

3.1 The table below details the engagement activity undertaken.

Date	Action / Stakeholders Contacted	Notes
1 Nov 23	Pre-engagement Meeting held in-person with Norwich Airport	To establish contact with key local aviation stakeholder to provide an introduction of the upcoming proposal.
10 Nov 23	Engagement material sent by email to 63 identified local airspace users, as well as NATMAC stakeholders, as listed in Appendix A.	Feedback requested by 22 Dec 23, allowing 6 week engagement period. Accompanied by Feedback Response Form.
10 Nov – 22 Dec 23	Responding to stakeholder feedback	Responses received by 9 organisations or individuals.
6 Dec 23	Meeting held online with NATS	To establish contact with key aviation stakeholder to provide a forum for discussion regarding the proposal.
13 Dec 23	Meeting held online with RAF Marham ATC and MOD Battlespace Management Force	To discuss stakeholder feedback to date.

Section 2

4. Proposed TDA Design

4.1 The proposed airspace was presented in the engagement material (see Appendix B).

4.2 The TDA for this ACP is proposed as a cylinder of 5 nm radius centred on the RAF Marham Aerodrome Reference Point (ARP) and vertical dimensions of surface to Flight Level (FL) 195.

4.3 Figure 1 illustrates the lateral dimensions of the TDA and Figure 2 illustrates a cross-section of the TDA from a southwest/northeast perspective.

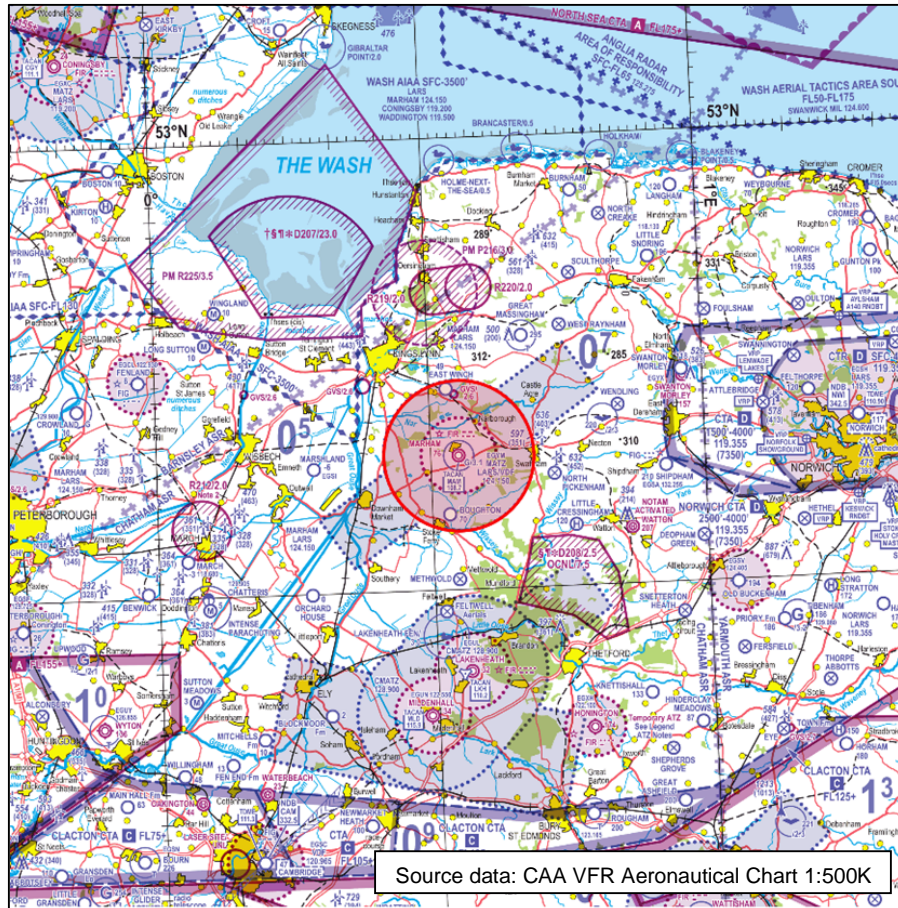


Figure 1 - Proposed TDA Design

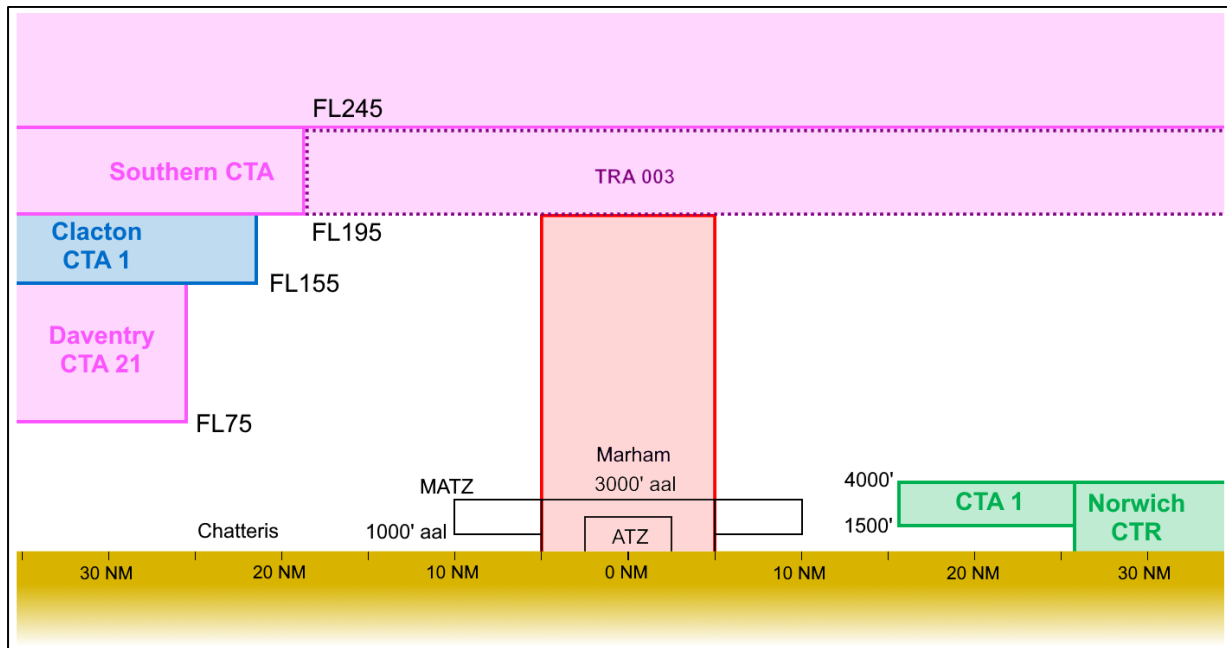


Figure 2 – Proposed TDA SW/NE² Cross-section

5. Summary of Stakeholder Feedback & Impact on TDA Proposal

5.1 The stakeholder feedback has been analysed and summarised in this document to describe how or if the feedback has impacted the TDA design or management.

5.2 Engagement material was sent out to 63 aviation stakeholders, as well as the NATMAC members, as listed in Appendix A. Responses from 9 stakeholders were received. The record of engagement communication is presented in Appendix C.

5.3 A summary of feedback received by stakeholder is in Table 1 below.

² The cross-section shows the controlled airspace associated with Norwich Airport. Whilst the airport does not lie directly in line with the SW/NW orientation it is represented here to show that Norwich Airport's controlled airspace is not coincident with the MATZ and any associated airspace at RAF Marham.

Ser	Stakeholder	Proposed changes to airspace design	Other comment	Change Sponsor comment:	Final Design Impact
1	NATS	Nil	<p>Little anticipated impact on NERL and no significant issues regarding the draft application for dispensation wrt Safety Buffer Policy for SUA.</p> <p>More detail required for flying tempo and profiles to support NATS's further work.</p> <p>Concern expressed regarding any future requirements for diversion locations where airspace design may provide more challenges.</p> <p>Further comment regarding flight in TRAs</p>	<p>No further comment</p> <p>MOD will engage. Timings and ops required for T&E are yet to be finalised but will be provided in sufficient time for allow procedures and operational agreements to be prepared and assured.</p> <p>Acknowledged.</p> <p>ACP-023-001 was approved by the CAA on 14 Dec 2023 for the amendment of TRA rules, which allows for suspension of military autonomous ops in a TRA when BVLOS activity is notified.</p>	Nil

			Request for further regulation / policy on RPAS integration rather than segregation.	The need for the evolution integration of RPAS operations and associated policies to reduce the need for segregation is out of scope for this ACP.	
2	DAATM [REDACTED]	Nil	<p>Concern regarding access to airspace for other military assets and need for DACS to be provided.</p> <p>Suggest Letter of Agreement (LOA) to be drawn up between local military units to maximise access and to draw up procedures.</p>	<p>LOA discussed at the meeting between the Change Sponsor, MOD BM Force and RAF Marham ATC, held on 13 Dec 2023. The MOD are progressing all requisite LOA.</p>	LOA to be produced (see submission document Appendix B)

3	East Winch Airfield [REDACTED]	<p>Reduce the proposed 5nm radius to 4.5nm to exclude East Winch Airfield</p> <p>Adapt the proposed 5nm radius the North to exclude East Winch Airfield.</p> <p>Agree an arrival and departure route for East Winch Airfield not to conflict with the TDA.</p>	<p>Reduce the proposed 5nm radius to 4.5nm to exclude East Winch Airfield.</p> <p>Adapt the proposed 5nm radius the North to exclude East Winch Airfield.</p> <p>Agree an arrival and departure route for East Winch Airfield not to conflict with the TDA.</p> <p>Concerns about lack of radio contact whilst aircraft are on the ground at East Winch.</p> <p>Concerns about lengthy holds whilst Protector is within the airspace.</p> <p>Concerns about time and expense involved if required to divert to alternative landing location.</p>	<p>Unable to reduce further than 5nm radius or adapt the shape of the airspace at this stage due to ATLC requirement (following proving during ACP-2023-003).</p> <p>After discussion with ATC Marham, amendment to LOA thought more appropriate.</p> <p>Revision of TDA Note: a revised LOA was submitted to East Winch by RAF Marham on 5 Jan 2024 for consideration.</p>	<p>Trial implementation of two sectors within the airspace cylinder to improve FUA and minimise impact to local airspace users.</p> <p>Amendment to LOA (see submission document Appendix B)</p>
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4	East Winch Airfield [REDACTED]	<p>Avoid imposing a danger area and instead designate it as controlled Class C airspace.</p> <p>Establish an agreed-upon route for each airfield within the zone, eliminating the need for approval even during the activation of the danger area.</p>	<p>Alternative of implementing Class C airspace</p> <p>Establish an agreed-upon route for each airfield within the zone, eliminating the need for approval even during the activation of the danger area.</p>	<p>Class C option ruled out in consideration of:</p> <ul style="list-style-type: none"> • Flexible Use of Airspace; • Air Traffic Resource required to manage Class C potentially outside RAF Marham's opening hours and during the many hours/days that Protector is not scheduled to fly; • Restrictions placed on other airspace users in terms of having to carry radio etc. <p>After discussion with ATC Marham, amendment to LOA thought more appropriate.</p>	<p>Trial implementation of two sectors within the airspace cylinder to improve FUA and minimise impact to local airspace users.</p> <p>Amendment to LOA (see submission document Appendix B)</p>
5	Norwich Airport [REDACTED]	Nil	Nil objection at this time, please keep us involved.		Nil
6	National Grid [REDACTED]	Nil	Concerns about National Grid being allowed to access to powerlines.	Minimal disruption anticipated – DACS likely to be available and provided as only 2 practice diversions expected.	Nil

7	Broughton South [REDACTED] (cc'd and on behalf of Broughton North and Swaffham Raceway) [REDACTED] [REDACTED]	Class C airspace Establish agreed-upon air entry/exit routes for each airfield within the zone.	Class C airspace Establish agreed-upon air entry/exit routes for each airfield within the zone.	Class C option ruled out in consideration of: <ul style="list-style-type: none"> • Flexible Use of Airspace; • Air Traffic Resource required to manage Class C potentially outside RAF Marham's opening hours and during the many hours/days that Protector is not scheduled to fly; • Restrictions placed on other airspace users in terms of having to carry radio etc. After discussion with ATC Marham, amendment to LOA thought more appropriate. On the matter of equipage, Protector is TCAS II and ADS-B equipped, but since it does not have a full detect and avoid capability (yet!) current military and civilian regulation requires it to fly in segregated airspace.	Amendment to LOA (see submission document Appendix B) Trial implementation of two sectors within the airspace cylinder to improve FUA and minimise impact to local airspace users.
8	Babcock [REDACTED]	Nil	No concerns or objections to this proposed airspace change provided that DACS is available to enable entry iaw HEMS tasking.	Marham ATC will provide priority access to the airspace for a Category A priority flight in accordance with current regulation. However, clarification on how this should be managed has been sought from the CAA if it imposes the restriction on civil	Contact details to be provided with NOTAM

			Asked for contact details to be provided with the NOTAM.	access, as expected, when Protector is in the airspace, The NOTAM issuer will ensure contact details are provided.	
9	Cambridge Gliding [REDACTED]	Nil	Provision of DACS DACs not dependent on transponder.	DACS will be available during all periods of the TDA activation The TDA will not be used as an instrument to prevent other airspace users access to the airspace. Non-transponder aircraft will be able to obtain a DACS provided they are radio-equipped.	Nil

Table 1 - Summary of Feedback received by Stakeholder

6. Final TDA Design

6.1 Feedback from the MOD and a number of local airfield representatives highlighted three main areas of concern: amendment of existing LOAs with civil airspace users and the production of an LOA between MOD units; airspace classification and the impact on access to/from local airfield users airfields.

6.2 **Letters of Agreement.** Several LOAs would need amendment.

6.3 **Airspace Classification.** A number of stakeholders suggested the airspace be designated Class C. This was ruled out in order to maintain FUA; to avoid the additional air traffic resource required to manage Class C potentially outside RAF Marham's opening hours, and during the many hours/days that Protector is not scheduled to fly; to avoid restrictions placed on other airspace users in terms of having to carry radio etc.

6.4 **Impact on access to/from Local airfields.**

6.4.1 Various methods were put forward by which a more efficient process could be implemented to enable light aircraft to maintain current tempo of entry/exit airfields within the TDA. A DACS will be available during all periods of the TDA activation to provide access to and from local airfields and as a MATZ crossing service. It is anticipated that the CAA will impose a restriction on the provision of the DACS, in that requests to cross the TDA whilst Protector is present within it, either inbound to or outbound from RAF Marham, are not to be approved. This specifically applies to civil aircraft. However, there are only likely to be 2 occasions during the duration of the TDA when Protector will trial RAF Marham as a diversion airfield.

6.4.2 To address concerns regarding aircraft being held off for longer than acceptable, through discussions with representatives from RAF Marham ATC and Battlespace Management Force on 13 Dec 23, it was deemed that the trial plan would include splitting the cylinder vertically into two sectors. This would allow the separate portions to be managed individually and remain inactive until Protector is at a specified notice period from utilising either portion.

6.4.3 The sectorisation will reduce holding times, promote FUA for all local airspace users, as well providing a formal area of separation for military aircraft. Figure 3 illustrates the sectorisation of the cylinder; the trial sectorisation will be:

- Lower portion of airspace - from surface to FL 105
- Upper portion of airspace - from FL 105 to FL 195

6.5 The overall outer dimensions remain as proposed in the engagement material and as presented at the beginning of this section.

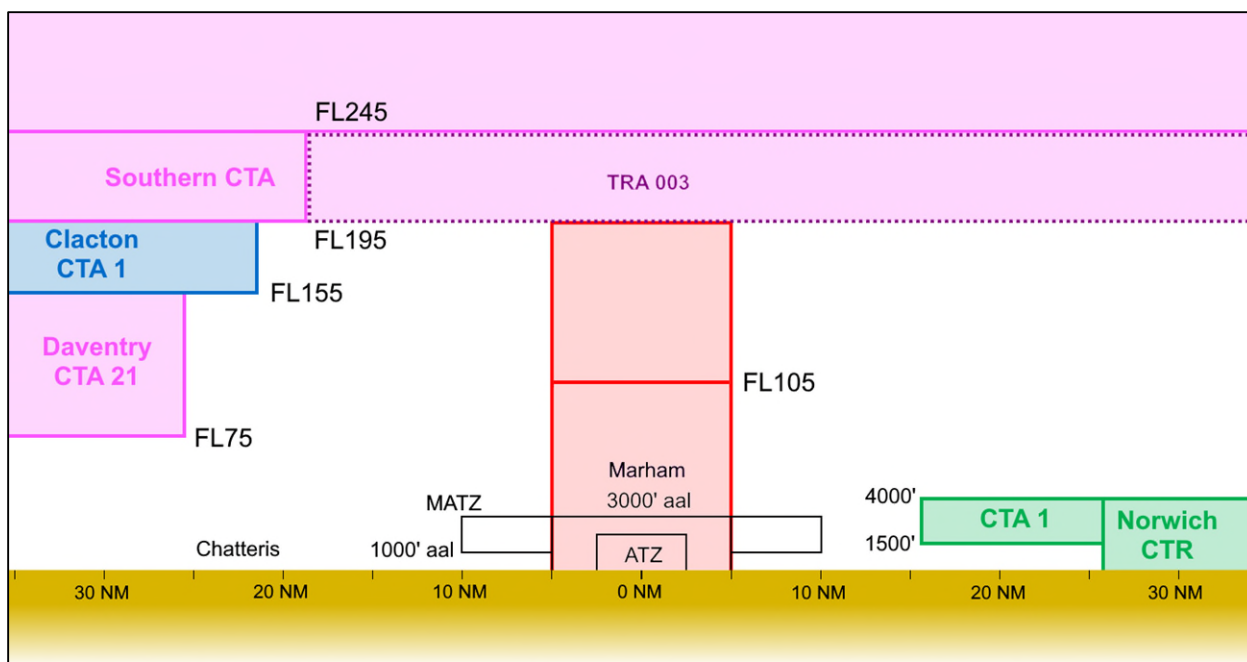


Figure 3 - Revised cross-section of Marham TDA

Section 3

7. Next Steps

7.1 This document will be submitted to the CAA as evidence to support the scaled down process for TDA submissions.

7.2 The following timeline is anticipated:

Event as per CAP 1616	Planned Date
Stage 5 - Decide	9 Feb 2024
Stage 6 - Implement	16 May 2024

Appendix A - Register of Stakeholders

A.1 Stakeholders were broken down into the groups below. Those highlighted in green represent a stakeholder who submitted a response to the engagement material for this TDA.

Contact Group Name: NATMAC			
Ser	Organisation	Representative	Email Contact
N1	Airlines UK	[REDACTED]	[REDACTED]
N2	Airport Operators Association (AOA)	[REDACTED]	[REDACTED]
N3	Airfield Operators Group (AOG)	[REDACTED]	[REDACTED]
N4	Aircraft Owners and Pilots Association (AOPA)	[REDACTED]	[REDACTED]
N5	Airspace Change Organising Group (ACOG)	[REDACTED]	[REDACTED]
N6	Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)	[REDACTED]	[REDACTED]k
N7	Aviation Environment Federation (AEF)	[REDACTED]	[REDACTED]
N8	British Airways (BA)	[REDACTED]	[REDACTED]
N9	BAe Systems	[REDACTED]	[REDACTED]
N10	British Airline Pilots Association (BALPA)	[REDACTED]	[REDACTED]
N11	British Balloon and Airship Club	[REDACTED]	[REDACTED]
N12	British Business and General Aviation Association (BBGA)	[REDACTED]	[REDACTED]

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N13	British Gliding Association (BGA)	[REDACTED]	[REDACTED]
N14	British Helicopter Association (BHA)	[REDACTED]	[REDACTED]
N15	British Microlight Aircraft Association (BMAA)	[REDACTED]	[REDACTED]
N16	British Skydiving	[REDACTED]	[REDACTED]
N17	Drone Major	[REDACTED]	[REDACTED]
N18	General Aviation Alliance (GAA)	[REDACTED]	[REDACTED]
N19	Guild of Air Traffic Control Officers (GATCO)	[REDACTED]	[REDACTED]
N20	Honourable Company of Air Pilots (HCAP)	[REDACTED]	
N21	Helicopter Club of Great Britain (HCGB)	[REDACTED]	
N22	Heavy Airlines	[REDACTED]	[REDACTED]
N23	Isle of Man CAA	[REDACTED]	[REDACTED]
N24	Light Aircraft Association (LAA)	[REDACTED]	[REDACTED]
N25	Low Fare Airlines	[REDACTED]	[REDACTED]
N26	Military Aviation Authority (MAA)	[REDACTED]	[REDACTED]
N27	Ministry of Defence - Defence Airspace and Air Traffic Management (MoD DAATM)	[REDACTED]	[REDACTED]
N28	NATS	[REDACTED]	[REDACTED]
N29	Navy Command HQ	[REDACTED]	[REDACTED]
N30	PPL/IR (Europe)	[REDACTED]	[REDACTED]

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N31	UK Airprox Board (UKAB)		
N32	UK Flight Safety Committee (UKFSC)		
N33	United States Visiting Forces (USVF), HQ United States Country Rep-UK (HQ USCR-UK).		

Local Aviation Stakeholders/EAAUWG Members			
Serial	Name/ Organisation	Representative	Contact Details
S1		CAMBRIDGE AIRPORT	
S2		AIRPROX BOARD	
S3		BOUGHTON NORTH	
S5		BOUGHTON SOUTH	
S7			
S9		CAA	
S10			
S11		CAMBRIDGE AIRPORT	
S12			
S13			
S15		CAMBRIDGE GLIDING	
S16		CHATTERIS	
S17			
S18		DRONE TRG	
S19			
S20		DUXFORD	
S21		EAST ANGLIA AIR AMBULANCE	
S22			
S23		BABCOCK	

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S24			
S25		EAST WINCH	
S26			
S27			
S28			
S29		FELTHORPE AIRFIELD	
S30			
S31			
S32			
S33		FENLAND AIRFIELD	
S34		FENLAND FLYING SCHOOL	
S35		FERFIELD AIRFIELD	
S36		FERSFIELD FLYING CLUB	
S37		FERSFIELD FLYING GROUP	
S38		GASCO	
S39		LUDHAM AIRFIELD	
S40			
S41		MCAULLY FLYING GROUP	
S42		NORFOLK GLIDING CLUB	
S43		NORWICH AIPORT	
S44			
S45			
S46			
S47			
S48		OLD BUCKENHAM AIRFIELD	
S49		OSPREY	
S50		PRIORY FARM TIBENHAM	
S51			
S52			
S53			

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S54	[REDACTED]		[REDACTED]
S55	[REDACTED]	SEETHING	[REDACTED]
S56	[REDACTED]	THE WASH AND NORTH NORKOLF MARINE PARTNERSHIP	[REDACTED]
S57	[REDACTED]	UAV NORWICH POLICE	[REDACTED]
S58	[REDACTED]	WASH & NNORFOLK CONSERVATION	[REDACTED]

Other Aviation Stakeholders		
Ser	Name/Organisation	Representative
O1	Helicentre Aviation (Pipeline Inspection)	[REDACTED]
O2	Heli Air (Pipeline inspection)	[REDACTED]
O3	PDG Helicopters	[REDACTED]
O4	National Grid (Powerline inspection)	[REDACTED]
O5	Drone Wars - [REDACTED]	[REDACTED]
O6	Fly Cromer	[REDACTED]

Appendix B – Engagement Letter V1.0



Ministry
of Defence

Headquarters Air Command

Room 1W27, Spitfire Block
Royal Air Force
High Wycombe
Buckinghamshire
HP14 4UE

10 Nov 2023

AIRSPACE CHANGE PROPOSAL – ACP-2023-047

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 will be established in the UK to support Protector's operation at RAF Waddington; this comes into force at the end of this month. It is unlikely to be activated for routine Protector operations until spring 2024 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 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.

This airspace change (ACP-2023-047) is being managed under the airspace trial process as outlined in CAP1616. The purpose of the proposed change is to establish and trial temporary segregated airspace in the form of a Temporary Danger Area (TDA) centred on RAF Marham. The trial seeks to confirm that RAF Marham is a suitable diversion airfield for Protector and will be conducted in accordance with a trial / test plan with specified and measurable objectives. It will also inform the development of ACP-2023-022³, which is at the first stage of the CAP1616 process and seeks to establish permanent segregated airspace in the vicinity of RAF Marham to facilitate continued and enduring access to a diversion airfield for Protector.

The aim of this letter is to inform all stakeholders of the proposed introduction of the TDA at RAF Marham 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 MOD.

TDA Requirement

This TDA proposal aims to introduce a volume of airspace overhead RAF Marham to enable the MOD to demonstrate that the airspace, associated procedures and infrastructure at RAF Marham will provide a suitable diversion airfield capability for both Protector UK test and evaluation (T&E) activity and later in-service operations⁴. It is envisaged that up to 2 planned diversions to RAF Marham will be conducted in the period May - August 2024. Each diversion profile will involve an arrival and departure from RAF Marham. It is important to note that the TDA will need to be active for all Protector flying, including sorties from RAF Waddington when a planned diversion is not

³ ACP-2023-022 is at Step 1a of the CAP1616 process, details of which can be found on the CAA ACP Portal here: [Airspace change proposal public view \(caa.co.uk\)](https://www.caa.co.uk/airspace-change-proposal-public-view)

⁴ In-service operations are due to commence in late 2024

expected (i.e. the TDA may be active but not necessarily used). Please see section below entitled **Utilisation** for more detail.



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 RAF crews.

Statement of Need

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

The RAF will commence flight of Protector in the UK late in 2023, when it will initially be flown under a military permit to fly (MPTF). The airspace integration safety argument (AISA) for in-service flight will not be in place until delivery of the Release to Service (RTS), anticipated late 2024. Delivery of the RTS is dependent on specific evidence which will be gathered through UK test and evaluation scheduled to commence once new permanent segregated airspace is in place as proposed under ACP-2019-18. Access to a nominated diversion airfield is required during this evidence-gathering T&E activity, where flight outside classes A and C airspace will be necessary.

Regulatory Requirement and Safety Assessment

This section describes why specifically segregated airspace in the form of a TDA is being requested for the Protector activity at RAF Marham.

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 (BVLOS⁵) 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 Marham and the proposed TDA sit entirely within Class G airspace, flight in segregated airspace is required. Establishment of a TDA 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.

Establishment of the Proposed TDA

The establishment of the TDA will provide the required volume of segregated airspace to enable Protector to access RAF Marham. It will enter and depart the proposed TDA from/to the Class C

⁵ 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.

airspace above (see Figure 2). When below FL195⁶ in the vicinity of RAF Marham Protector will remain within the TDA at all times. The airspace is described below.

The airspace is a cylinder of 5 nm radius and has vertical dimensions of surface to Flight Level (FL) 195. The 5 nm radius circle is centred on RAF Marham's Aerodrome Reference Point⁷ (ARP).

Figure 1 illustrates the lateral dimensions of the proposed TDA at RAF Marham and Figure 2 illustrates a cross-section of the proposed TDA from a southwest/northeast perspective⁸.

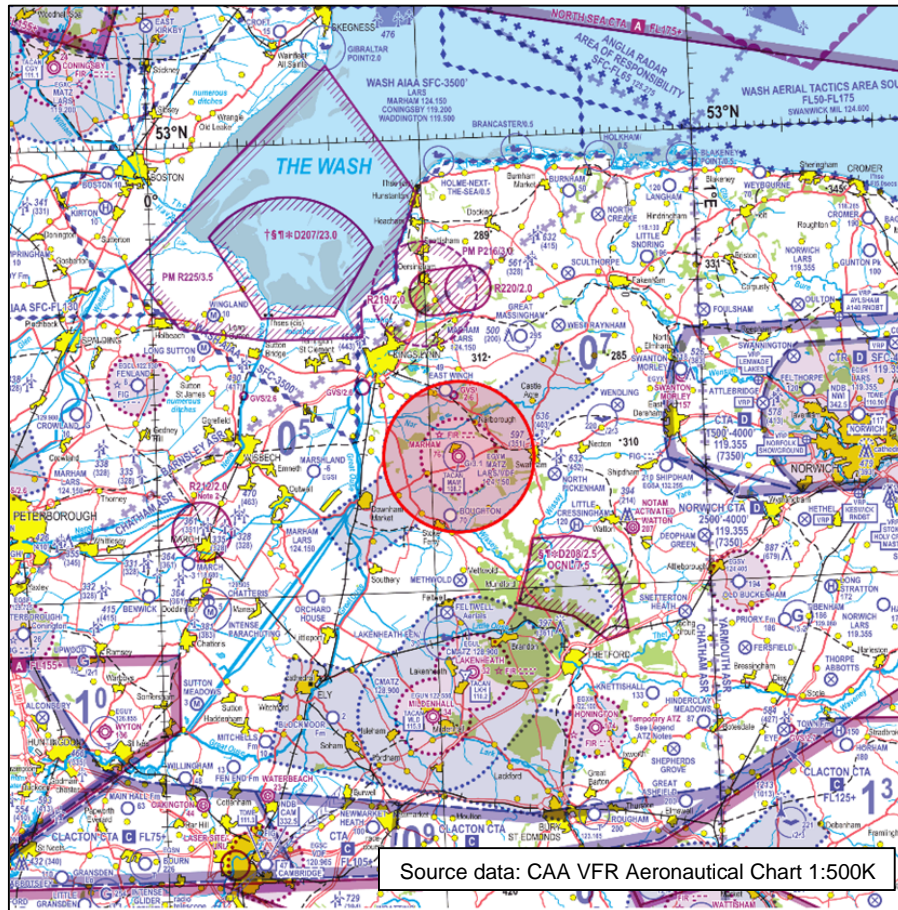


Figure 1 - RAF Marham TDA Lateral Dimensions

⁶ 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 195 = approximately 19,500 ft).

⁷ RAF Marham airfield reference point is the midpoint of RW05/23 (52 38 54.26N 000 33 02.42E)

⁸ Norwich International Airport is not directly aligned with RAF Marham's extended centreline, but it is shown here to provide an idea of the proximity of its controlled airspace in relation to RAF Marham's Military Aerodrome Traffic Zone (MATZ)

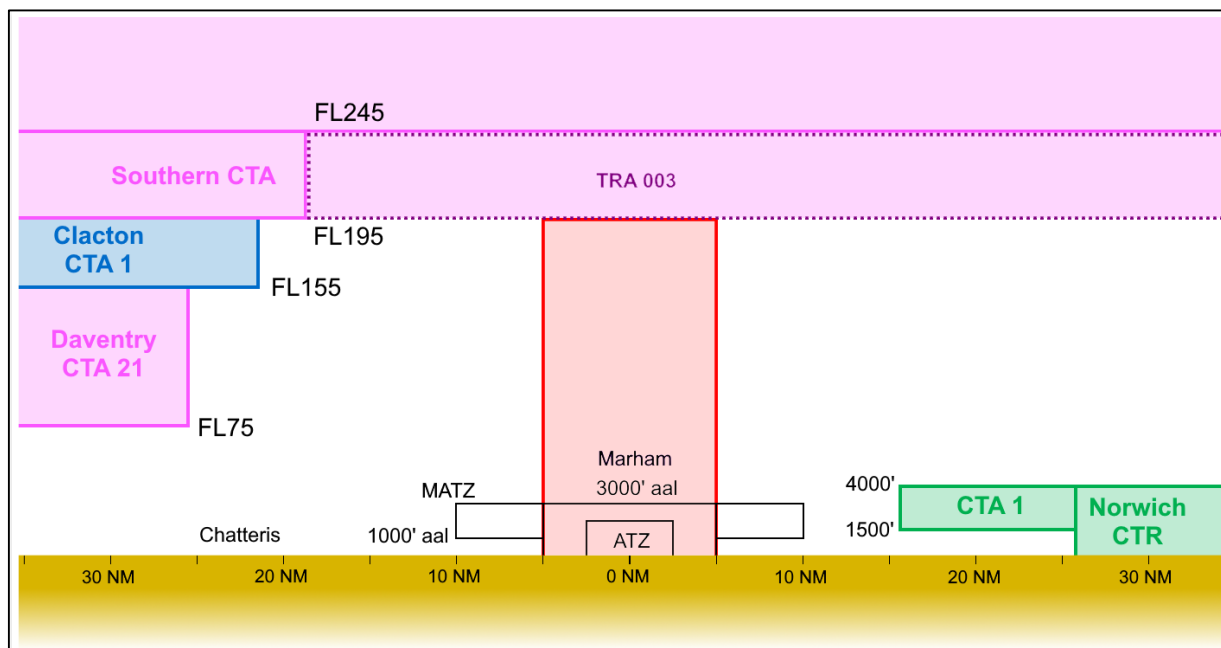


Figure 2 - RAF Marham TDA SW/NE Cross-section

Measures to Minimise the Impact on other Airspace Users

General

The proposed TDA will be activated when Protector flying is due to take place, either from RAF Waddington or when it is repositioning back to RAF Waddington following an actual diversion to Marham. The TDA will be activated by NOTAM⁹ 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 by Marham ATC. Therefore, 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 Marham ATC.

Safety

Marham ATC will be staffed at all times during Protector operations, whether the aircraft is operating from RAF Waddington or RAF Marham. 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 Marham ATC, with both UHF and VHF frequencies available. In addition a Danger Area Activity Information Service (DAAIS) may 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

It is envisaged that the MOD will conduct up to 2 planned flights in and out of RAF Marham between May - August 2024. However, throughout this period, regardless of whether Protector is expected to access the proposed TDA it will be activated by NOTAM whenever **any** Protector flying is taking place. This is to enable Protector to access RAF Marham as a diversion airfield in the event that, for any unforeseen reason, RAF Waddington becomes unavailable.

⁹ 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.

Key features of this proposal

The following insert provides some key facts that the MOD would like to emphasise.

TDA activation dates

May – August 2024 (inclusive)

TDA dimensions

Lateral - 5nm radius circle centred on RAF Marham's aerodrome reference point
Vertical - Surface to FL195

Purpose of TDA

To provide segregated airspace for Protector activity only, such that MOD can conduct a trial to demonstrate that the airspace, associated procedures and infrastructure at RAF Marham will provide a suitable diversion airfield capability for both Protector UK T&E activity and later in-service operations.

ACP-2023-022 Forthcoming Engagement

The MOD has commenced a further airspace change with the ACP identification of ACP-2023-022. This will propose permanent segregated airspace in the vicinity of RAF Marham. The airspace structure is likely to be very similar, if not identical, to the airspace proposed in this engagement letter for ACP-2023-047. We mention it here to pre-warn you that your feedback will be invited for a second time in the very near future, but the second approach will be for the permanent change. The MOD will endeavor to make it clear on which proposal your feedback is being sought.

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 here: [Airspace change proposal public view \(caa.co.uk\)](https://caa.co.uk/air-space-change-proposal-public-view). The ACP identification number is ACP-2023-047. 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.

The Change Sponsor has elected to run this engagement for a duration of 6 weeks. Therefore, Stakeholders are requested to return any feedback by Friday 22 December 2023.

Responses regarding the proposed TDA must be received by Friday 22 December 2023.

Late responses may be considered for inclusion in the final submission to the CAA (anticipated no later than 12 January 2024) but the Change Sponsor cannot guarantee this.

ACP-2023-047 Response Form

Name	
Representing	
Address (including postcode if possible)	
Feedback:	

Appendix C – Raw Engagement Records

C.1 These records have been arranged with the Change Sponsor's notification emails first followed by stakeholder records in the order as shown in Table 1 in the main body of this document.

(To be inserted in PDF)

Archived: 02 January 2024 11:05:16

From: [REDACTED]

Sent: 22 December 2023 08:10:24

To: [UASCDC-ACP](#)

Subject: RE: UC ACP-2023-047 Engagement Letter Version 1

Sensitivity: Normal

Attachments:

[ACP-2023-047 Engagement Response Form - Final.docx](#) ;

Morning

Please find attached, the NATS response to this ACP.

Regards

[REDACTED]

NATS

[REDACTED]



NATS Public

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>

Sent: 10 November 2023 14:52

To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>

Subject: UC ACP-2023-047 Engagement Letter Version 1

Your attachments have been security checked by Mimecast Attachment Protection. Files where no threat or malware was detected are attached.

Dear NATMAC member,

You are a key stakeholder in the Civil Airspace Publication (CAP) 1616 process for ACP-2019-18 and ACP-2023-003, both of which have supported 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 Change Sponsor is the MOD and is writing to you again with details of a temporary airspace change in the form of a Temporary Danger Area (TDA), which proposes to establish a volume of airspace centred on RAF Marham which will enable Protector to access RAF Marham as a diversion airfield in the event that, for any unforeseen reason RAF Waddington becomes unavailable.

Full details of this temporary airspace change for Protector are included in an engagement letter which has been uploaded today to the CAA ACP Portal at this link:

[ACP-2023-047 Engagement Letter Version 1](#) (scroll down the page to Documents for this Proposal)

The letter explains the rationale behind the proposal and contains details of the proposed TDA. Should you wish to comment please do so by email. A Response Form is included at the back of the letter and is attached here in Word format which you

might find useful for your feedback. Comments are welcome in any written form, directly in an email if you prefer. The address at the top of the attached letter will periodically be monitored for hard copy responses.

This airspace change is being managed under the airspace trial process as outlined in CAP1616 and whilst there is no regulatory specification for a trial engagement period, the Change Sponsor has opted for a 6 week duration. Therefore, stakeholders are requested to return any feedback by Friday 22 December 2023.

Email responses should be sent to:

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

Responses regarding the proposed airspace change must be received by Friday 22 December 2023

Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com



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ACP-2023-047 Response Form

Name	[REDACTED]
Representing	NATS
Address (including postcode if possible)	[REDACTED]

Feedback:

Given the location and dimensions of the proposed SUA (presumed TDA/DA), there is little impact anticipated to NERL at this time. The proposed airspace is entirely contained within Class G airspace up to FL195 away from other airspace structures laterally with no current ATS routes impacted. As a result, whilst a factor elsewhere, Buffer Policy for airspace design is not considered a significant factor in this case.

This proposal has evolved from other potential locations. Although this proposal has minor impact, it cannot be assumed that this model/design of airspace can be transposed to other potential diversion airfields where the airspace design may be significantly more challenging. The proposal and content of the engagement material make several assumptions. Notably, Protector Flights will take place in Class C airspace (or TRA within Class C when notified as active). This is yet to be established. Clarity on this at the earliest opportunity is required. Whilst it's acknowledged that this proposal provides airspace at RAF Marham for Protector diversion for T&E flights during a set period, further detail on timings and operations is required to allow procedures and operational agreements to be prepared and assured.

Noting current regulation regarding RPAS operations without appropriate detect and avoid capabilities and although not a direct consideration to En Route operations, when considering general airspace management and access to airspace, the proposed activations segregating the airspace from other users does not demonstrate adherence to FUA principles, could be viewed as wasteful in respect of airspace and has the potential to increase workload for FIS delivery and information management. This further highlights the need for the evolution integration of RPAS operations and associated policies to reduce the need for segregation.

Archived: 02 January 2024 15:37:36

From: [UAS CDC-ACP](#)

Sent: 16 November 2023 11:28:00

To: [REDACTED]

Cc: [REDACTED]

Subject: RE: UC ACP-2023-047 Engagement Letter Version 1

Sensitivity: Normal

Dear [REDACTED],

Thank you for your email. In fact both statements you highlight are correct. law its MPTF, Protector will be permitted to fly within Classes A & C airspace when en route from wherever it is operating at the time that a diversion is ordered and Marham.

The SON is making the point that Protector will not be able to access Marham solely by Classes A & C and will have to route through Class G airspace once below FL195. The second statement illustrates that access to/from the TDA will be through the Class C airspace directly above the TDA.

I hope that provides sufficient clarification for you.

[REDACTED]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UAS CDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: [REDACTED]

Sent: 13 November 2023 15:38

To: UAS CDC-ACP <UAS CDC-ACP@qinetiq.com>

Cc: [REDACTED]

Subject: RE: UC ACP-2023-047 Engagement Letter Version 1

Hi,

Can I please check my understanding of the requirements in the documentation on the CAA ACP Portal? It states '*Access to a nominated diversion airfield is required during this evidence-gathering T&E activity, where flight outside classes A and C airspace will be necessary.*'

It then goes on to state, '*It will enter and depart the proposed TDA from/to the Class C airspace above (see Figure 2)*'.

Therefore, my question is, will Protector be permitted to fly in Class C Airspace between Waddington and Marham? If it is not permitted to do that, how will it get from Waddington to Marham? If it is permitted, then the SON is incorrect.

Regards

[REDACTED]

NATS

[REDACTED]



NATS Internal

From: UAS CDC-ACP <UAS CDC-ACP@qinetiq.com>
Sent: 10 November 2023 14:52
To: UAS CDC-ACP <UAS CDC-ACP@qinetiq.com>
Subject: UC ACP-2023-047 Engagement Letter Version 1

Your attachments have been security checked by Mimecast Attachment Protection. Files where no threat or malware was detected are attached.

Dear NATMAC member,

You are a key stakeholder in the Civil Airspace Publication (CAP) 1616 process for ACP-2019-18 and ACP-2023-003, both of which have supported 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 Change Sponsor is the MOD and is writing to you again with details of a temporary airspace change in the form of a Temporary Danger Area (TDA), which proposes to establish a volume of airspace centred on RAF Marham which will enable Protector to access RAF Marham as a diversion airfield in the event that, for any unforeseen reason RAF Waddington becomes unavailable.

Full details of this temporary airspace change for Protector are included in an engagement letter which has been uploaded today to the CAA ACP Portal at this link:

[ACP-2023-047 Engagement Letter Version 1](#) (scroll down the page to Documents for this Proposal)

The letter explains the rationale behind the proposal and contains details of the proposed TDA. Should you wish to comment please do so by email. A Response Form is included at the back of the letter and is attached here in Word format which you might find useful for your feedback. Comments are welcome in any written form, directly in an email if you prefer. The address at the top of the attached letter will periodically be monitored for hard copy responses.

This airspace change is being managed under the airspace trial process as outlined in CAP1616 and whilst there is no regulatory specification for a trial engagement period, the Change Sponsor has opted for a 6 week duration. Therefore, stakeholders are requested to return any feedback by Friday 22 December 2023.

Email responses should be sent to:

The Airspace Change Manager at UAS CDC-ACP@qinetiq.com

Responses regarding the proposed airspace change must be received by Friday 22 December 2023

Defence UAS Capability Development Centre
Email: UAS CDC-ACP@qinetiq.com



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Archived: 06 December 2023 13:14:19

From: [UASCDC-ACP](#)

Sent: 06 December 2023 12:33:00

Subject: UC ACP-2023-047 Engagement Mtg

Response requested: No

Sensitivity: Normal

Attachments:

[ACP-2023-047-NATS_Engagement_Mtg_V1.1.pptx](#) ; [ACP-2023-047_SBP Dispensation Proposal.docx](#) ;

All,

Thank you for your time today. I have attached the PPT presentation and the draft dispensation application for the safety buffer associated with ACP-2023-047 as discussed today. There is still some clarification to be agreed regarding the Loss of Link procedures; this will be covered during a MOD-led workshop with NATS (tbd Jan 25). With that in mind, I will remove the Loss of Link paragraph from the application on submission to the CAA

Whilst you are still awaiting final comment from within NATS following receipt of the engagement material dated 10 Nov 23 for this ACP, we understand that you do not currently foresee any major issues with the airspace as proposed under ACP-2023-047. We also advised that engagement for Stage 1 of the full ACP (2023-022) for permanent airspace would be commenced in early Jan 25.

The timescale required for NATS to complete its procedures development and associated safety assurance activities in order to safely coordinate flight outside of D324A/B and the proposed airspace at Marham is acknowledged. We understand that MOD is required to provide (as an initial cut) provisional routes between D323 and Waddington as well as between Marham and D323/Waddington'.

I hope that summarises this morning's meeting. Please advise of anything I have got wrong or omitted.

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

[inetiq.com](#)



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ACP-2023-047 Engagement Mtg



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Agenda

1. Introduction/Apologies for Absence
2. ACP-2023-047 Statement of Need
3. ACP-2023-047 Key Information
4. ACP-2023-047 Proposed Airspace (VFR Chart)
5. ACP-2023-047 Proposed Airspace (Cross-Section)
6. ACP-2023-047 Safety Buffer Policy
7. ACP-2023-047 Agreed Timescales
8. ACP-2023-022 Statement of Need
9. ACP-2023-022 Key Information
10. ACP-2023-022 Timescales
11. Next Steps
12. AOB



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Introduction/Apologies for Absence



ACP-2023-047 Statement of Need

The RAF will commence flight of Protector in the UK late in 2023, when it will initially be flown under an military permit to fly (MPTF). The airspace integration safety argument (AISA) for in-service flight will not be in place until delivery of the Release to Service (RTS), anticipated late 2024. Delivery of the RTS is dependent on specific evidence which will be gathered through UK test and evaluation scheduled to commence once new permanent segregated airspace is in place as proposed under ACP-2019-18. [Access to a nominated diversion airfield is required during this evidence-gathering T&E activity, where flight outside classes A and C airspace will be necessary.](#)



ACP-2023-047 Key Information

- Requirement is to ensure access to a diversion airfield for the duration of T&E activity;
- Anticipated timeline May (possible delay until Aug) – late 2024;
- Anticipate 2 planned flights into diversion airfield, use thereafter is on an as required basis for real-time diversions only;
- RAF Marham selected as nominated airfield.
- Trial airspace design for ACP-2023-022.

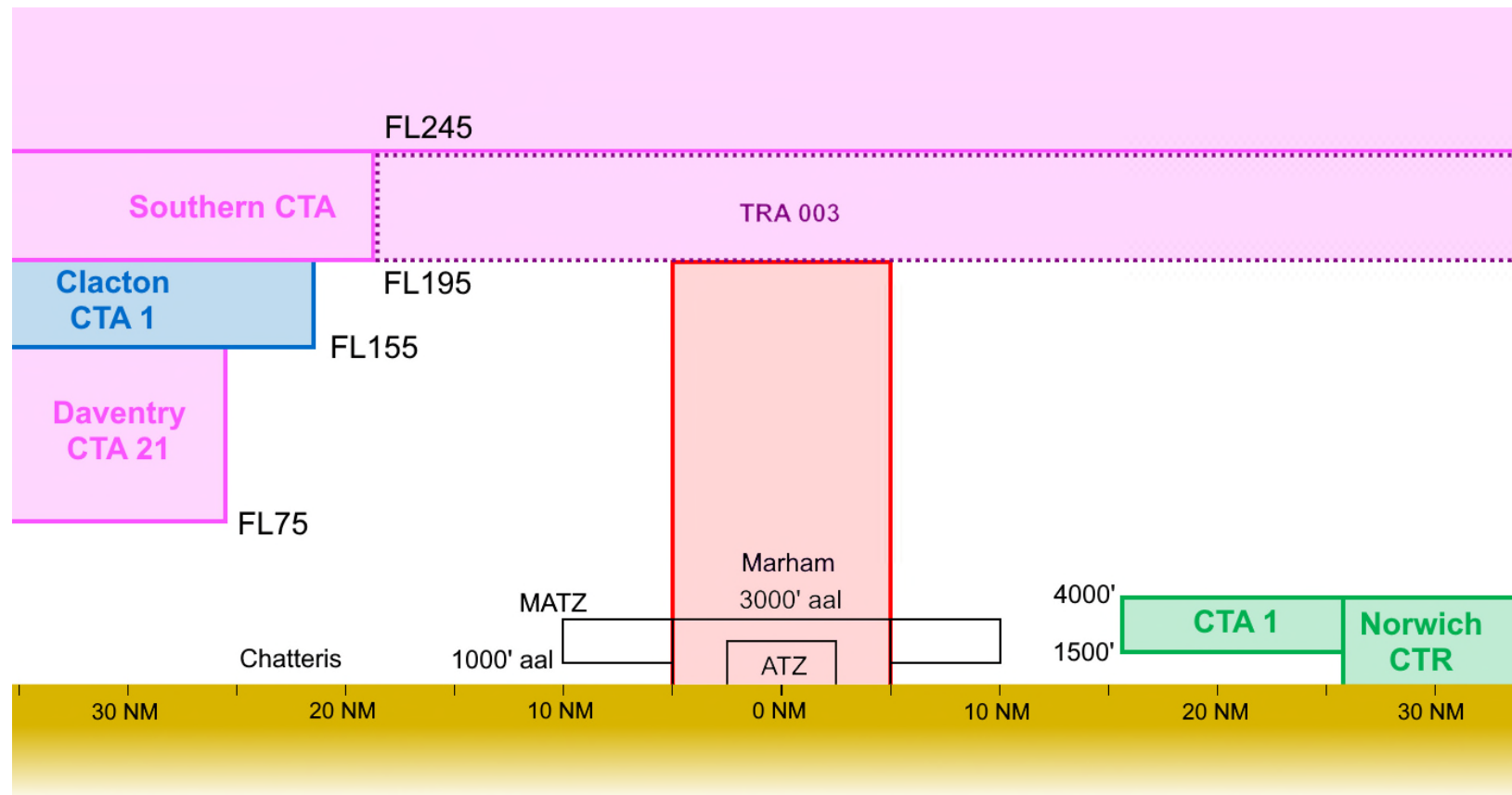


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ACP-2023-047 Proposed Airspace



ACP-2023-047 Proposed Airspace (Cross-section)



ACP-2023-047 Safety Buffer Policy

- Policy Statement dated Aug 2014
- Draft new Policy Statement dated Nov 2023
- No lateral dispensation required since proposed TDA is more than 5nm laterally from CAS
- Vertical dispensation required against CAS FL195+ (and TRA003)
- Work managed under ACP-2019-18; outstanding safety work to be completed by NATS, but thought to support this ACP (and ACP-2023-022)
- Thoughts?

ACP-2023-047 Agreed timescales under CAP 1616

- Submission - 12 Jan 2024
- DECIDE - **9 Feb 2024**
- AIP Submitted - 16 Feb 2024
- AIP Publication date - 4 Apr 2024
- AIP Effective Date - **16 May 2024**



ACP-2023-022 Statement of Need

When the large Remotely Piloted Air System (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.



ACP-2023-022 Key Information

- Intention is only for use as a real time operational diversion requirement (and to maintain currency);
- Aspirational timeline: airspace implementation ISD (Spring 2025);
- Trials airspace under ACP-2023-047 to be used in support of this ACP;
- Requested use of same naming convention for ACP-2023-047 to reduce workload for system changes at Swanwick (not a major AIRAC?).



ACP-2023-022 Agreed timescales

Stage 1 Define Gateway - 29 Feb 2024

Stage 2 Develop and Assess Gateway - 26 Apr 2024

Stage 3 Consult Gateway - 17 May 2024

Stage 4 Update and Submit - 23 Sep 2024

Stage 5 Decide - **13 Jan 2025**

AIP Submitted - 17 Jan 2025

AIP Publication date - 6 Mar 2025

AIP Effective Date - **17 Apr 2025**



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AOB



Application for Dispensation from the CAA Safety Buffer Policy wrt ACP-2023-047 (Protect or diversion airfield at Marham)

References:

- A. Policy Statement – Special Use Airspace – safety buffer policy for airspace design purposes dated 22 August 2014
- B. DRAFT Policy Statement - Policy for the establishment and operation of Special Use Airspace (Annex I) dated 25 November 2023

1 ACP-2023-047 Requirement and Airspace Design

1.1 The proposed airspace associated with ACP-2023-047 comprises one single area of segregated airspace in the form of a temporary danger area (TDA). It is in the shape of a cylinder of 5 nm radius, centred on RAF Marham's Aerodrome Reference Point¹ (ARP) from surface to FL195. Figure 1 illustrates the lateral dimensions of the proposed TDA and Figure 2 illustrates a cross-section of the proposed TDA from a southwest/northeast perspective².

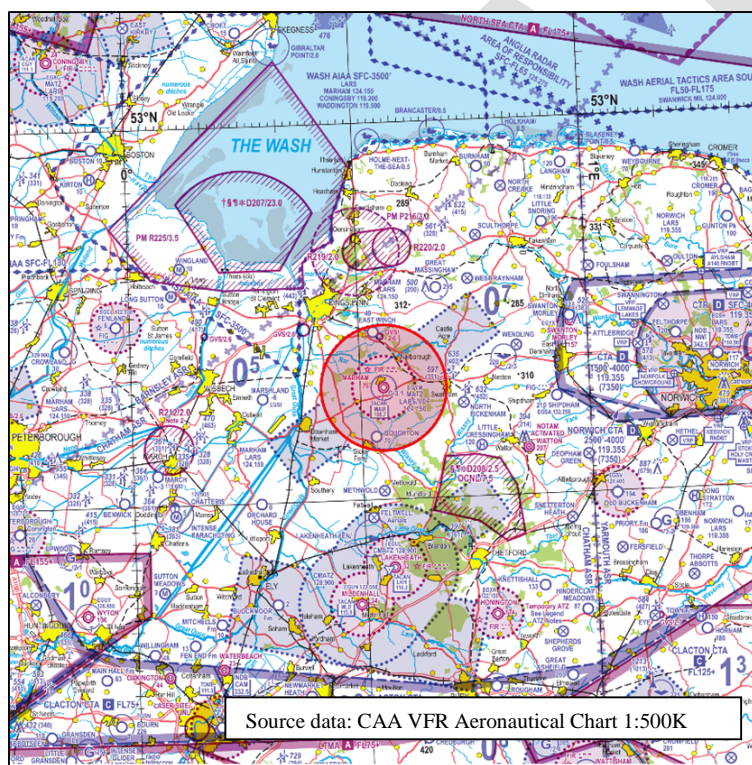


Figure 1 – RAF Marham TDA Lateral Dimensions

¹ RAF Marham airfield reference point is the midpoint of RW05/23 (52 38 54.26N 000 33 02.42E)

² Norwich International Airport is not directly aligned with RAF Marham's extended centreline, but it is shown here to provide an idea of the proximity of its controlled airspace in relation to RAF Marham's Military Aerodrome Traffic Zone (MATZ)

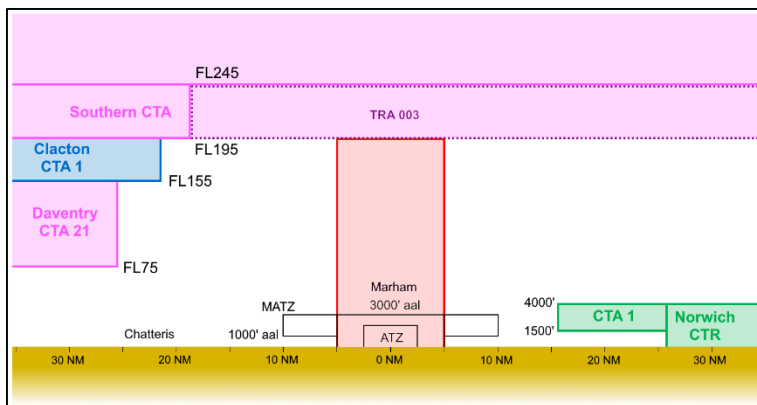


Figure 2 - RAF Marham TDA SW/NE Cross-section

2 Use of the Proposed TDA

2.1 In the event of an aircraft diversion, the design above provides Protector with a means to access RAF Marham from the Class C airspace directly above Marham and to do the reverse when repositioning post-diversion.

3 Safety Buffer Policy

3.1 Ref A is the current Safety Buffer Policy, but is likely to be superseded by Ref B; Ref B is out for comment at the moment, so it would be appropriate to consider the content of both documents.

3.2 Ref A: Para 2.5 of the current Safety Buffer Policy document lays out the types of activity which require a buffer to be applied. Of note for ACP-2023-047 it states:

2.5 The following descriptors as listed in the UK AIP ENR 5.1 will require the application of a lateral and/or vertical buffer:

- Air Combat or High Energy Manoeuvres; Military Exercise; Supersonic Flight; Pilotless Target Aircraft; UAS (BVLOS)

2.6 The following buffer criteria shall be applied to the activities described in paragraph 2.5:

a. Lateral Buffer Requirement - A lateral safety buffer will normally be established and promulgated in order that the minimum separation between structures will be:

(1) 5nm from the edge of an airway, TMA, CTA or CTR.

(2) 10nm from the centreline of Advisory or Upper ATS Routes.

b. Vertical Buffer Requirement - SUA will normally be established and promulgated in order that a minimum separation of 2000ft above or below structures will be maintained.

c. The above criteria may be achieved through airspace design or ATM procedures. Similarly, where a new controlled airspace structure or air traffic route is proposed, it may not be established where the above criteria would be infringed.

3.2.1 Following assessment of the separation requirements iaw Ref A the Change Sponsor presents the following application with appropriate mitigations:

- Lateral dispensation is not required since there is no CAS within 5nm of the proposed TDA;
- Vertical dispensation is requested as the upper limit of the proposed TDA directly abuts the lower limit of Class C airspace. The MOD presents mitigations in the form of positive ATC management provision and the development of ATM procedures for consideration. Similar procedures have already been developed by the MOD in collaboration with NATS within work on ACP-2019-18 (see note below). Specifically, procedures to ensure that Protector remains at or below FL175 within the proposed TDA unless a clearance to climb above FL195 has been received from ATC. This will constitute approval to enter Class C airspace (regardless of whether TRA003 is active or not)

Note: Whilst the airspace proposed by ACP-2019-18 has recently been approved and implemented, NATS still has to complete some outstanding safety work before Protector test and evaluation flights will commence. However, it is anticipated that such work will be able to be transferred across to support this ACP and subsequently to ACP-2023-022, which will propose a permanent structure around RAF Marham for in-service diversion purposes.

3.3 **Ref B:** The draft policy states that the purpose of a safety buffer is to ensure that SUA structures are adequately separated from flight planned aircraft operating in adjacent CAS. The stipulation for a 5nm lateral or 2000ft vertical buffer for RPAS BVLOS activity is not presented. After a request for clarification from the CAA, it is understood that the proposed draft policy signals Change Sponsors to engage with other ATC units / ANSPs to agree an appropriate buffer against flight planned aircraft (pre-tactical phase); such agreement must be submitted to the CAA at an appropriate stage of the ACP process. .

4 **Loss of link procedures within proposed TDA**

4.1 In the event of a loss of link (to be confirmed with 56 Sqn):

- ~~Protector will remain within the segregated airspace at all times;~~ for discussion during meeting
- On descending into the proposed TDA from Class C airspace, Protector will continue descent to FL175 or below and then onwards with an appropriately programmed profile;
- Whilst climbing within the proposed TDA, Protector will be programmed to remain below FL175.

Archived: 09 January 2024 11:27:43

From: [REDACTED]

Sent: 08 January 2024 12:24:04

To: [UASCDC-ACP](#)

Subject: RE: UC DAAIS for TDA at Marham this spring/summer(ACP-2023-047)

Sensitivity: Normal

Hi Ali,

Happy New Year to you.

London FIS are happy to provide the DAAIS when Marham are unavailable.

Cheers

[REDACTED]

NATS Internal

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>

Sent: 08 January 2024 12:01

To: [REDACTED]

Subject: [EXTERNAL] UC DAAIS for TDA at Marham this spring/summer(ACP-2023-047)

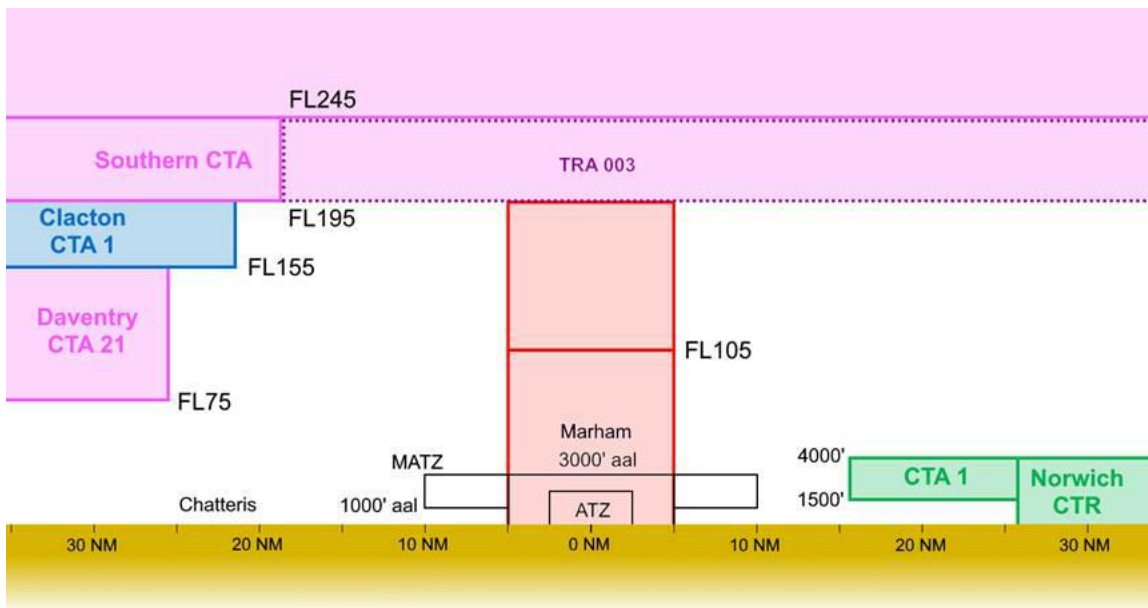
CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Dear [REDACTED]

Happy New Year.

We have another ACP in train for a TDA at RAF Marham (as below). It's planning to be stood up sometime late spring/summer this year. The dates are movable but I'm suggesting no sooner than 16 May for around 4-6 months. Wondered if you would be happy to be notified as able to provide a DAAIS when Marham ATC is closed?

The dimensions are 5nm radius circle centred on RAF Marham surface – FL195.



ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UASCDC-ACP@qinetiq.com



Archived: 02 January 2024 19:12:26

From: [REDACTED]

Sent: 19 December 2023 15:45:11

To: [Qinetiq-UASCDC-ACP](#)

Cc: [Qinetiq-UASCDC-ACP](#) [Qinetiq-UASCDC-ACP](#); [REDACTED]
[REDACTED]

Subject: RE: UC ACP-2023-047 Engagement Letter Version 1

Sensitivity: Normal

[REDACTED]

I am writing to provide the consolidated MOD response to ACP-2023-047 - Enabling T&E activity of Protector in UK airspace Spring/Summer 2024. Feedback has been taken from a wide range of MOD airspace and ATC stakeholders, coordinated by DAATM.

The area in and around the proposed airspace is extensively used by fast jets for training up to FL245 by Coningsby, Lakenheath and Marham airspace users, who conduct general-handling and air combat training, as well as simulated surface attack in vicinity of Marham. The local Stanta range is also host to many close air support and forward air control exercises, which fast jets support. The F-35B Practice Flame Out (PFO) approach demands SFC-10,000ft within 5nm of the airfield for overhead PFOs. On a daily basis Lakenheath departures and arrivals route through the Marham overhead to/from the D323 complex, with the vast majority of Mildenhall departures routing in the vicinity of Marham due to the TACAN provision.

As a result, it has been identified by station-based and other local aircrew that a DACS must be provided by Marham and provision be made for access by other ATC units, otherwise the proposed TDA would significantly disrupt the activities of the units stated above and their access to airspace. It is proposed that the ACP Sponsor instigates a Letter of Agreement (LoA) between the military ATC units that provide services to MOD airspace users in the area, to allow access for aircraft under their control when Protector is not using it, otherwise the TDA would be overly restrictive even with a DACS in place. Such a LoA would considerably mitigate the impact of the TDA and maximise flexible use of airspace, save for when Protector is in the airspace, when local procedures might permit for military crewed aircraft to be coordinated against Protector.

The other minor impacts identified were that management of the TDA and DACS provision would mean an increase in ATC workload for Marham; and, it would add another layer to flight planning for crews, within what is already congested airspace.

If you have any questions on the feedback provided, please do not hesitate to ask.

Best regards,

[REDACTED]

[REDACTED]

From: UASCDC-ACP <UASCDC-ACP@qinetiq.r.mil.uk>

Sent: 10 November 2023 15:00

To: [REDACTED]

Cc: [Qinetiq-UASCDC-ACP](#) <uascdc-acp@qinetiq.r.mil.uk>

Subject: FW: UC ACP-2023-047 Engagement Letter Version 1

Please find below the engagement advice just sent to the NATMAC addressees. I have also attached a copy of the engagement letter here for your use (in Word and PDF format).

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: qinetiq.com



From: UAS CDC-ACP
Sent: 10 November 2023 14:52
To: UAS CDC-ACP <UAS CDC-ACP@qinetiq.com>
Subject: UC ACP-2023-047 Engagement Letter Version 1

Dear NATMAC member,

You are a key stakeholder in the Civil Airspace Publication (CAP) 1616 process for ACP-2019-18 and ACP-2023-003, both of which have supported 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 Change Sponsor is the MOD and is writing to you again with details of a temporary airspace change in the form of a Temporary Danger Area (TDA), which proposes to establish a volume of airspace centred on RAF Marham which will enable Protector to access RAF Marham as a diversion airfield in the event that, for any unforeseen reason RAF Waddington becomes unavailable.

Full details of this temporary airspace change for Protector are included in an engagement letter which has been uploaded today to the CAA ACP Portal at this link:

[ACP-2023-047 Engagement Letter Version 1](#) (scroll down the page to Documents for this Proposal)

The letter explains the rationale behind the proposal and contains details of the proposed TDA. Should you wish to comment please do so by email. A Response Form is included at the back of the letter and is attached here in Word format which you might find useful for your feedback. Comments are welcome in any written form, directly in an email if you prefer. The address at the top of the attached letter will periodically be monitored for hard copy responses.

This airspace change is being managed under the airspace trial process as outlined in CAP1616 and whilst there is no regulatory specification for a trial engagement period, the Change Sponsor has opted for a 6 week duration. Therefore, stakeholders are requested to return any feedback by Friday 22 December 2023.

Email responses should be sent to:

The Airspace Change Manager at UAS CDC-ACP@qinetiq.com

Responses regarding the proposed airspace change must be received by Friday 22 December 2023

Defence UAS Capability Development Centre
Email: UAS CDC-ACP@qinetiq.com





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7 Sep 18

LETTER OF AGREEMENT BETWEEN THE OWNER OF EAST WINCH AIRFIELD AND ROYAL AIR FORCE MARHAM

1. The following Air Traffic Control procedures are agreed between Mr C Burman and Royal Air Force Marham, covering the operation of aircraft into and out of the private landing strip of East Winch, situated 5 miles north of RAF Marham:

- a. Royal Air Force Marham is published as being open between 0800-2359 Monday to Thursday and 0800-1800 Friday; however, the airfield is frequently open outside these promulgated hours. Royal Air Force Marham, when open and within its capacity, undertakes to provide, when requested, an Air Traffic service to aircraft both into and out of Boughton (North) Airfield.
- b. Airspace users are to be aware that Royal Air Force Marham now operate from all 4 runways, Rwy01, Rwy06RH, Rwy19RH, and Rwy24. Airspace users are to remain vigilant for fast jet traffic operating in the vicinity of RAF Marham MATZ.
- c. Pilots of radio equipped aircraft inbound to East Winch Airfield are to attempt to contact Marham Zone on VHF 124.150 MHz prior to entry into the MATZ. Likewise, aircraft wishing to penetrate the MATZ on departure are to make every effort to contact Marham Zone prior to take-off by telephone.
- d. Pilots of transponder equipped aircraft are requested to ensure that their mode 3A and C are switched on prior to departure from or recovery to the airfield. Non-transponder equipped aircraft are requested to telephone RAF Marham ATC prior to departure with a brief overview of their route or general handling requirements.
- e. Pilots of non-radio equipped aircraft requiring MATZ penetration are to clear their arrival and departure by telephone and on each occasion with Royal Air Force Marham ATC Supervisor on Narborough (01760) 444949.
- f. Should the airstrip accept visiting aircraft the airfield owner will ensure the visiting pilot is fully briefed on the agreement contained herein.

2. Signed on behalf of Royal Air Force Marham and by the owner of East Winch Airfield.

Archived: 02 January 2024 18:58:20

From: [UASCDC-ACP](#)

Sent: 05 December 2023 17:31:00

To: [REDACTED]

Subject: RE: UC ACP-2023-047

Sensitivity: Normal

Attachments:

[Marham - East Winch LOA dated 7 Sep 2018.pdf](#);

Dear Mr [REDACTED]

You are absolutely correct in that the LOA was between Marham and the late owner of East Winch. Please find attached a copy of the LOA for your information. I will advise Marham ATC that the signatory will need to be changed.

[REDACTED]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UASCDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: [REDACTED]
Sent: 24 November 2023 16:20
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: Re: UC ACP-2023-047

Dear [REDACTED]

Thank you for the reply, much appreciated.

You refer to an LOA in your response but I am not aware such agreement exists. Unfortunately I am unable to ask the Airfield owner as he sadly passed away 3 years ago.

If such LOA exists, it would have been between RAF Marham and [REDACTED]

Could you obtain a copy please.

Kind regards

[REDACTED]

On 24 Nov 2023, at 14:44, UAS CDC-ACP <UAS CDC-ACP@qinetiq.com> wrote:

Dear Mr [REDACTED]

Thank you for your email and for the feedback you provide.

I have been in communication with Marham ATC and can provide some reassurance in response to your concerns. My point of contact there feels that the current letter of agreement (LOA) between RAF Marham and East Winch works well sees no reason to change the current procedures. If the airspace change is successful I predict that a small revision to the LOA will be required making reference to the establishment of the temporary danger area (TDA) alongside the already existing MATZ, and detailing procedures for access to/from East Winch during the TDA's periods of activation. The airfield owner will be contacted directly by Marham ATC about this in due course. Marham ATC suggests that an early call (either by phone or radio) from East Winch operators to ATC at Marham would cover most eventualities and allow your users to operate with minimal disruption.

It is thought that the CAA will impose a restriction on the provision of a Danger Area Crossing Service (DACS), in that requests to cross the TDA whilst Protector is present within it, either inbound to or outbound from RAF Marham, are not to be approved. This specifically applies to civil aircraft, but you should not be overly concerned about this as there are only likely to be 2 occasions during the duration of the TDA when Protector will trial RAF Marham as a diversion airfield. At other times a DACS is likely to be approved along the same lines as a MATZ penetration, pending routine activity at RAF Marham.

The MOD is aware of the impact that this airspace may have on GA activity in general and airfields like East Winch in particular. We have pared down the radius of the airspace to 5nm following close work with the aircraft's manufacturer and in-service personnel. The air system was developed originally to operate in airspace of 6nm radius to accommodate its automatic take-off and landing capability (ATLC). At RAF Waddington, specific amendment to this has been accomplished to manage the ATLC within 5nm radius, whilst assuring safe operation. Any further reduction in the radius is not viable. In addition, the air vehicle will need to use the main runway at RAF Marham in both directions, so offsetting the airspace is not possible. That said, I hope that the information from Marham ATC above has allayed concerns that access to and from East Winch will be unduly restricted.

I hope this response provides useful information regarding the proposal. For information MOD will be presenting at the East Anglia Regional Airspace Users Working Group (EARWG) at RAF Marham on 16 Jan 2024 when we will provide an update on this proposal and provide a presentation on MOD's proposal for permanent airspace (as advised in the engagement letter under Key Features on page 5).

Let me know if you require any further information.

[REDACTED]
ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UAS CDC-ACP@qinetiq.com

<image001.jpg>



Please consider the environment before printing this email.

From: [REDACTED]
Sent: 20 November 2023 17:15
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: ACP-2023-047

Dear Sir
Temporary Danger Area, RAF Marham

I wish to express my concerns in regards to the proposed Temporary Danger Area for RAF Marham.

I am a private pilot based at East Winch Airfield.

East Winch Airfield has enjoyed an excellent relationship with RAF Marham for almost 40 years. During recent times, the RAF Marham flying school has been based at East Winch Airfield during runway construction works.

East Winch Airfield hosts a maintenance facility, home based fixed wing aircraft and commercial helicopter operations.

The proposed TDA must be flexible to accommodate the needs of East Winch Airfield which is operational 7 days a week.

Concerns with the current proposal

- 1 Telephone communication is required for departing aircraft as RAF Marham cannot receive radio signals whilst aircraft are on the ground at East Winch
- 2 The TDA may prevent aircraft from departing or arriving at East Winch
- 3 The closest diversion airfield with lighting is Norwich. Norwich Airport has expensive landing and handling fee's. Pilots would need to wait or obtain a taxi if landing at East Winch is not permitted. This could include an overnight stay if VFR conditions are not available.
- 4 Could the proposed 5nm radius be reduced to 4.5nm to exclude East Winch Airfield?
- 5 Could the proposed 5nm radius be adapted to the North to exclude East Winch Airfield?
- 6 Agree an arrival and departure route for East Winch Airfield not to conflict with the TDA

Regards
[REDACTED]

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Archived: 02 January 2024 19:07:03

From: [UASCDC-ACP](#)

Sent: 24 November 2023 14:03:00

To: [REDACTED]

Subject: RE: UC ACP-2023-047 Engagement Letter Version 1

Response requested: Yes

Sensitivity: Normal

Dear Mr [REDACTED]

I have been in communication with Marham ATC and can provide some reassurance in response to your concerns. My point of contact there feels that the current letter of agreement (LOA) between RAF Marham and East Winch works well sees no reason to change the current procedures. If the airspace change is successful I predict that a small revision to the LOA will be required making reference to the establishment of the temporary danger area (TDA) alongside the already existing MATZ, and detailing procedures for access to/from East Winch during the TDA's periods of activation. You will be contacted directly by Marham ATC about this in due course. Marham ATC suggests that an early call (either by phone or radio) from East Winch operators to ATC at Marham would cover most eventualities and allow your users to operate with minimal disruption.

It is thought that the CAA will impose a restriction on the provision of a Danger Area Crossing Service (DACS), in that requests to cross the TDA whilst Protector is present within it, either inbound to or outbound from RAF Marham, are not to be approved. This specifically applies to civil aircraft, but you should not be overly concerned about this as there are only likely to be 2 occasions during the duration of the TDA when Protector will treat RAF Marham as a diversion airfield. At other times a DACS is likely to be approved along the same lines as a MATZ penetration, pending routine activity at RAF Marham.

To address your suggestion regarding the establishment of Class C airspace in place of the proposed Class G TDA, the MOD has considered this in concert with the setting up of similar segregated airspace over RAF Waddington and it was felt that Class C airspace was not justifiable. The proposed airspace will only be required to support the activity of Protector, so it will only need to be activated on days when Protector is scheduled to fly. Factors against Class C in this case are as follows:

- **Flexible Use of Airspace:** The hours of activation of Class C airspace has to be notified in the UK Aeronautical Information Publication (UK AIP). This means set days for set hours on a regular (non-tactical) basis i.e. it would be active during the potentially many hours/days when Protector is not scheduled to fly. In addition it could not be activated for short-notice defence requirements outside promulgated hours;
- **Air Traffic Resource:** Class C airspace must be managed at all times by ATC. So, as above, MOD would have to provide an ATC service to other airspace users potentially outside RAF Marham's opening hours and during the many hours/days that Protector is not scheduled to fly. This is an unacceptable burden on MOD's resource;
- **Restrictions placed on other airspace users** in terms of having to carry radio etc.

I hope this response provides useful information regarding the proposal. For information MOD will be presenting at the East Anglia Regional Airspace Users Working Group (EARWG) at RAF Marham on 16 Jan 2024 when we will provide an update on this proposal and provide a presentation on MOD's proposal for permanent airspace (as advised in the engagement letter under Key Features on page 5).

Let me know if you require any further information.

[REDACTED]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UASCDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: UAS CDC-ACP
Sent: 17 November 2023 14:34
To: [REDACTED]
Subject: RE: UC ACP-2023-047 Engagement Letter Version 1

Dear Mr [REDACTED]

Thank you for your feedback. The MOD fully appreciates the potential impact that this airspace may have on your activity. I will respond more fully by the end of next week. In the meantime I have contacted Marham ATC for comment on how best to proceed.

Regards,

[REDACTED]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UAS CDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: [REDACTED]
Sent: 15 November 2023 11:53
To: UAS CDC-ACP <UAS CDC-ACP@qinetiq.com>
Subject: RE: ACP-2023-047 Engagement Letter Version 1

Hi,

Please find our response to the proposal, please note that East Winch airfield is directly under the proposed area and without an agreeable solution this will impact both commercial and pleasure operations at the airfield.

Please see attached.

Many thanks

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: 13 November 2023 12:43
Cc: uascdc-acp@qinetiq.r.mil.uk
Subject: FW: ACP-2023-047 Engagement Letter Version 1

Dear Sirs, Ma'ams, All,

Please see below from the UAS CDC. Please submit your responses to them directly.

Kind regards,

[REDACTED]

From: UAS CDC-ACP <UAS CDC-ACP@qinetiq.r.mil.uk>

Sent: 10 November 2023 14:53

To: [REDACTED]

Cc: Qinetiq-UAS CDC-ACP <uascdc-acp@qinetiq.r.mil.uk>

Subject: ACP-2023-047 Engagement Letter Version 1

Dear [REDACTED]

Would be grateful if you would forward this email regarding the proposed airspace change to the **civil members** of the EAAUWG. The military members will be engaged via the DAATM. As you know this forms part of the formal engagement process which the MOD has to follow in accordance with CAA regulations.

FAO all members of the EAAUWG

Dear sir or madam,

You are receiving this email as you are a member of the East Anglia Airspace User Working Group (EAAUWG) and as such have been identified as an aviation stakeholder in the Civil Airspace Publication (CAP) 1616 process for a temporary airspace change which is being sponsored by the Ministry of Defence in the vicinity of RAF Marham. This change under the identification number **ACP-2023-047** proposes to establish a volume of airspace centred on RAF Marham which will enable a large Remotely Piloted Air System (RPAS), Protector RG Mk1 to access RAF Marham as a diversion airfield in the event that, for any unforeseen reason, RAF Waddington becomes unavailable.

Full details of this temporary airspace change for Protector are included in an engagement letter which has been uploaded today to the CAA ACP Portal at this link:

[ACP-2023-047 Engagement Letter Version 1](#) (scroll down the page to Documents for this Proposal)

The letter explains the rationale behind the proposal and contains details of the proposed airspace change. Should you wish to comment please do so by email. A Response Form is included at the back of the letter and is attached here in Word format which you might find useful for your feedback. Comments are welcome in any written form, directly in an email if you prefer. The address at the top of the attached letter will periodically be monitored for hard copy responses.

This airspace change is being managed under the airspace trial process as outlined in CAP1616 and whilst there is no regulatory specification for a trial engagement period the Change Sponsor has opted for a 6 week duration. Therefore, stakeholders requested to return any feedback by Friday 22 December 2023.

Email responses should be sent to:

The Airspace Change Manager at UAS CDC-ACP@qinetiq.com

Responses regarding the proposed airspace change must be received by Friday 22 December 2023.

Defence UAS Capability Development Centre

Email: UAS CDC-ACP@qinetiq.com



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ACP-2023-047 Response Form

Name	[REDACTED]
Representing	East Winch Airfield
Address (including postcode if possible)	[REDACTED]

Feedback:

We acknowledge the necessity for an alternative base for the Protector in the event that the primary base is unavailable. Our preference is to designate it as Class C airspace and allocate a squawk for both visiting and home aircraft operating within the area. Clearances would be issued through phone and radio communication since we are unable to communicate with Marham ATC while on the ground.

The rationale behind this preference is our location within the proposed danger area, hindering communication with RAF Marham's ATC during ground operations. East Winch Airfield houses a maintenance facility, and it is crucial for visiting customers to have the assurance of arriving and departing VFR without disruption. The implementation of a popup danger area would adversely impact their business.

If the above suggestion is not feasible, and in an effort not to impede or restrict our operations, I propose the following alternative options:

1. Avoid imposing a danger area and instead designate it as controlled Class C airspace.
2. Establish an agreed-upon route for each airfield within the zone, eliminating the need for approval even during the activation of the danger area.
3. Allow RAF Marham's ATC to issue take-off clearances via phone, considering our radios do not communicate with Marham while on the ground.
4. Consider requiring the Protector to adhere to the standards of civilian drones, supporting ADS-L and facilitating traffic avoidance. ADS-L support would enable the coexistence of both civil and military entities, utilising the same proposed civil solution.

In instances where landing/crossing clearances cannot be granted, finding a suitable GA field outside the proposed area poses challenges and incurs significant costs in transportation and potential overnight stays if unable to return under VFR to our bases. Presently, our collaboration with Marham's

ATC has been commendable, with the worst-case scenario being a 10-minute request to hold, which we willingly accommodate when requested.

To summarize, while recognizing the necessity, collaborative efforts are crucial to enabling the safe use of airspace for those of us compelled to operate within it. This can be achieved through options such as ADS-L, defined routes with maximum height restrictions, clearances via phone, and implementing a maximum hold time when requesting a landing clearance at our base within the zone.

Archived: 02 January 2024 19:10:14
From: [UASCDC-ACP](#)
Sent: 24 November 2023 14:25:00
To: [REDACTED]
Subject: RE: UC ACP-2023-047 Engagement Letter
Response requested: Yes
Sensitivity: Normal

Good afternoon to you Mr [REDACTED]

Thank you for your email and the feedback provided. I am pleased that following our informal meeting in Norwich on 1 Nov, consultation with your ATM team has confirmed that the proposed airspace is not likely to have an undue impact on NIA's operation.

We will be present at the EARWG on 16 Jan 2024 and will present an update to this temporary proposal as well as providing more detail on the permanent airspace change that MOD is pursuing. Hope to see you there.

[REDACTED]
ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
[REDACTED] [qinetiq.com](#)



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From: Chris Downey <chris.downey@norwichairport.co.uk>
Sent: 16 November 2023 09:46
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: ACP-2023-047 Engagement Letter

Good morning,

PSA completed Engagement Letter.

Regards,

[REDACTED]

[REDACTED]

Air Traffic Services Manager
Norwich Airport

[REDACTED]



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ACP-2023-047 Response Form

Name	
Representing	Norwich Airport ATC / Op's
Address (including postcode if possible)	Norwich Airport Ltd, Amsterdam Way, Norwich. NR66JA
<p>Feedback:</p> <p>Nil objection at this time, please keep us involved.</p>	

Archived: 02 January 2024 19:03:06

From: [REDACTED]

Sent: 24 November 2023 15:48:37

To: [UAS CDC-ACP](#)

Subject: RE: [EXTERNAL] RE: UC ACP-2023-047 Engagement Letter Version 1

Response requested: No

Sensitivity: Normal

Thanks [REDACTED]

It sounds manageable particularly as the activation times are highly unlikely to coincide with our inspection windows.

[REDACTED]

Chief Pilot, Helicopter Unit, Overhead Lines
Electricity Transmission Asset Operations
National Grid Stores, Old Milton Rd, Didcot OX11 7HH, UK

[nationalgrid](#)

M
E

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From: UAS CDC-ACP <UAS CDC-ACP@qinetiq.com>

Sent: 24 November 2023 14:38

To: [REDACTED]

Subject: [EXTERNAL] RE: UC ACP-2023-047 Engagement Letter Version 1

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Dear [REDACTED]

Thank you for your email and the feedback you have provided.

The airspace will be activated by NOTAM as you will be aware and a Danger Area Crossing Service (DACS) will be provided. However, it is thought that the CAA will impose a restriction on the provision of a DACS, in that requests to cross the TDA whilst Protector is present within it, either inbound to or outbound from RAF Marham, are not to be approved. This specifically applies to civil aircraft, but you should not be overly concerned about this as there are only likely to be 2 occasions during the duration of the TDA when Protector will trial RAF Marham as a diversion airfield. At other times a DACS is likely to be approved along the same lines as a MATZ penetration, pending routine activity at RAF Marham. The worst case scenario will be for you to be held off until Protector has landed or cleared the TDA.

I hope that helps – please let me know if you require any further information.

[REDACTED]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UAS CDC-ACP@qinetiq.com





From: John Rigby [REDACTED]
Sent: 14 November 2023 00:35
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: RE: [EXTERNAL] UC ACP-2023-047 Engagement Letter Version 1

PSA

[REDACTED]

[REDACTED] 11 7HH, UK

From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 10 November 2023 14:54
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Subject: [EXTERNAL] UC ACP-2023-047 Engagement Letter Version 1

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Dear sir or madam,

You have been identified as an aviation stakeholder in the Civil Airspace Publication (CAP) 1616 process for a temporary airspace change which is being sponsored by the Ministry of Defence in the vicinity of RAF Marham. This change under the identification number ACP-2023-047 proposes to establish a volume of airspace centred on RAF Marham which will enable a large Remotely Piloted Air System (RPAS), Protector RG Mk1 to access RAF Marham as a diversion airfield in the event that, for any unforeseen reason, RAF Waddington becomes unavailable.

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Email responses should be sent to:

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

Responses regarding the proposed airspace change must be received by Friday 22 December 2023.



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ACP-2023-047 Response Form

Name	[REDACTED]
Representing	National Grid Electricity Transmission
Address (including postcode if possible)	[REDACTED]
<p>Feedback:</p> <p>Provided the DACS can co-ordinate access to powerline inspection helicopters operating below 500ft agl with the recovery times of the UAS, I have no objections.</p>	

Archived: 02 January 2024 19:28:51

From: [REDACTED]

Sent: 16 December 2023 08:07:11

To: [UASCDC-ACP](#)

Cc: [REDACTED]

Subject: Re: UC ACP-2023-047 Engagement Letter Version 1 - thank you

Sensitivity: Normal

Good morning [REDACTED]

Thank you for the prompt, informative response on this issue which allays many of our concerns. Much appreciated.

We look forward to hearing from Marham ATC re the MOD's consideration of an internal vertical division of the airspace for all airfields within the MATZ, to avoid excessive delays for outbound or inbound aircraft.

Kind regards,

[REDACTED]

On Friday, 15 December 2023 at 13:42:33 GMT, UASCDC-ACP <uascdc-acp@qinetiq.com> wrote:

Dear all,

I have been in communication with Marham ATC and can provide some reassurance in response to your concerns.

A Danger Area Crossing Service (DACS) will be available during all periods of the TDA activation and for the most part you should notice no difference to how access to and from Broughton South and Swaffham Raceway is currently managed via a MATZ crossing service. It is thought that the CAA will impose a restriction on the provision of the DACS, in that requests to cross the TDA whilst Protector is present within it, either inbound to or outbound from RAF Marham, are not to be approved. This specifically applies to civil aircraft, but you should not be overly concerned about this as there are only likely to be 2 occasions during the duration of the TDA when Protector will trial RAF Marham as a diversion airfield. At other times a DACS is likely to be approved along the same lines as a MATZ penetration, pending routine activity at RAF Marham. However, your concerns about being held off for longer than acceptable (you suggest 10 minutes) has been given due consideration. The MOD is considering imposing an internal vertical division of the proposed airspace which will prevent excessive delays to your aircraft in and outbound from all of the airfields operating within the MATZ.

You will be contacted directly by Marham ATC about this in due course. An amendment to the Broughton letter of agreement is likely.

To address your suggestion regarding the establishment of Class C airspace in place of the proposed Class G TDA, the MOD has considered this in concert with the setting up of similar segregated airspace over RAF Waddington and it was felt that Class C airspace was not justifiable. The proposed airspace will only be required to support the activity of Protector, so it will only need to be activated on days when Protector is scheduled to fly. Factors against Class C in this case are as follows:

- Flexible Use of Airspace: The hours of activation of Class C airspace has to be notified in the UK Aeronautical Information Publication (UK AIP). This means set days for set hours on a regular (non-tactical) basis i.e. it would be active during the potentially many hours/days when Protector is not scheduled to fly. In addition it could not be activated for short-notice defence requirements outside promulgated hours;
- Air Traffic Resource: Class C airspace must be managed at all times by ATC. So, as above, MOD would have to provide an ATC service to other airspace users potentially outside RAF Marham's opening hours and during the many hours/days that Protector is not scheduled to fly. This is an unacceptable burden on MOD's resource;
- Restrictions placed on other airspace users in terms of having to carry radio etc.

On the matter of equipment, Protector is TCAS II and ADS-B equipped, but since it does not have a full detect and avoid capability (yet!) current military and civilian regulation requires it to fly in segregated airspace.

I hope this response provides useful information regarding the proposal. For information MOD will be presenting at the East Anglia Airspace User Working Group (EAAUWG) at RAF Marham on 16 Jan 2024 when we will provide an update on this proposal and provide a presentation on MOD's proposal for permanent airspace (as advised in the engagement letter under Key Features on page 5).

[REDACTED]

ATM Specialist and ACP Manager

Defence UAS Capability Development Centre

Mobile: [REDACTED]

Email: UASCDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: UASCDC-ACP

Sent: 13 December 2023 13:19

To: [REDACTED]

Subject: RE: UC ACP-2023-047 Engagement Letter Version 1

Dear sirs,

Thank you for your email; your helpful comments are noted. Please rest assured that the MOD is very aware of minimising the impact that this ACP may have on local airspace users and we will be discussing your feedback this afternoon with Marham ATC.

I will get back to you soonest with their comments and a suggested way ahead to agree procedures.

[REDACTED]

ATM Specialist and ACP Manager

Defence UAS Capability Development Centre

Mobile: [REDACTED]

Email: UASCDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: [REDACTED]
Sent: 13 December 2023 08:53
To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Cc: [REDACTED]
Subject: Re: ACP-2023-047 Engagement Letter Version 1

Dear Airspace Change Manager

As with the other PPL pilots at East Winch, we at Boughton South and Swaffham Raceway airfields acknowledge the necessity for an alternative base for the Protector in the event that the primary base is unavailable.

However, we are very concerned about the implications of a danger area being imposed where take-off/landing/crossing clearances cannot be granted. For example, if unable to return to our bases under VFR, having to find a suitable GA field outside the proposed area would pose challenges and incur significant costs in transportation and potential overnight stays.

Instead, our preference is to designate the area as Class C airspace. Marham ATC would then allocate a squawk for both visiting and home aircraft operating within the area, with clearances issued by telephone and radio, as we are unable to communicate with Marham ATC while on the ground.

We are keen to continue our collaboration with Marham's ATC, which has always been excellent; the worst-case scenario being a 10-minute request to hold, with which we comply willingly.

In summary, so as not to impede or restrict operations all-round, we propose the following:

1. Avoid imposing a danger area and instead designate it as controlled Class C airspace.
2. Establish agreed-upon air entry/exit routes for each airfield within the zone.
3. Allow RAF Marham's ATC to issue take-off clearances via telephone, as our radios do not communicate with Marham while on the ground.
4. Consider requiring the Protector to adhere to the standards of civilian drones, supporting ADS-L to facilitate air traffic avoidance. ADS-L would enable the safe coexistence of both civil and military flights.

We look forward to receiving your reply.

Yours faithfully

Boughton South pilots:

[REDACTED]

Swaffham Raceway pilots:

[REDACTED]

On Monday, 13 November 2023 at 13:15:05 GMT, [REDACTED] wrote:

Dear Sirs, Ma'ams, All,

Please see below from the UAS CDC. Please submit your responses to them directly.

Kind regards,

[REDACTED]

From: UASCDC-ACP <UASCDC-ACP@qinetiq.r.mil.uk>
Sent: 10 November 2023 14:53
To: [REDACTED]
Cc: Qinetiq-UASCDC-ACP <uascdc-acp@qinetiq.r.mil.uk>
Subject: ACP-2023-047 Engagement Letter Version 1

Dear [REDACTED]

Would be grateful if you would forward this email regarding the proposed airspace change to the **civil members** of the EAAUWG. The military members will be engaged via the DAATM. As you know this forms part of the formal engagement process which the MOD has to follow in accordance with CAA regulations.

FAO all members of the EAAUWG

Dear sir or madam,

You are receiving this email as you are a member of the East Anglia Airspace User Working Group (EAAUWG) and as such have been identified as an aviation stakeholder in the Civil Airspace Publication (CAP) 1616 process for a temporary airspace change which is being sponsored by the Ministry of Defence in the vicinity of RAF Marham. This change under the identification number **ACP-2023-047** proposes to establish a volume of airspace centred on RAF Marham which will enable a large Remotely Piloted Air System (RPAS), Protector RG Mk1 to access RAF Marham as a diversion airfield in the event that, for any unforeseen reason, RAF Waddington becomes unavailable.

Full details of this temporary airspace change for Protector are included in an engagement letter which has been uploaded today to the CAA ACP Portal at this link:

[ACP-2023-047 Engagement Letter Version 1](#) (scroll down the page to Documents for this Proposal)

The letter explains the rationale behind the proposal and contains details of the proposed airspace change. Should you wish to comment please do so by email. A Response Form is included at the back of the letter and is attached here in Word format which you might find useful for your feedback. Comments are welcome in any written form, directly in an email if you prefer. The address at the top of the attached letter will periodically be monitored for hard copy responses.

This airspace change is being managed under the airspace trial process as outlined in CAP1616 and whilst there is no regulatory specification for a trial engagement period, the Change Sponsor has opted for a 6 week duration. Therefore, stakeholders are requested to return any feedback by Friday 22 December 2023.

Email responses should be sent to:

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

Responses regarding the proposed airspace change must be received by Friday 22 December 2023.

Defence UAS Capability Development Centre

Email: UASCDC-ACP@qinetiq.com



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Archived: 02 January 2024 15:48:11

From: [UASCDC-ACP](#)

Sent: 02 January 2024 15:47:00

To: [REDACTED]

Subject: FW: UC RE: UC ACP-2023-047

Sensitivity: Normal

Happy New Year all,

Please see below ref contact numbers being provided on the TDA NOTAM.

[REDACTED]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UASCDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: UASCDC-ACP

Sent: 15 December 2023 13:47

To: [REDACTED]

Subject: UC RE: UC ACP-2023-047

Dear [REDACTED]

Yes thank you for that. I think that the CAA will respond likewise; just thought I'd get the official version.

And I note your requirement for a telephone number on the NOTAM. I have flagged that with Marham.

[REDACTED]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UASCDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: [REDACTED]

Sent: 15 December 2023 13:43

To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>

Cc: [REDACTED]

Subject: RE: CAUTION: External email - RE: UC ACP-2023-047 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Hi [REDACTED]

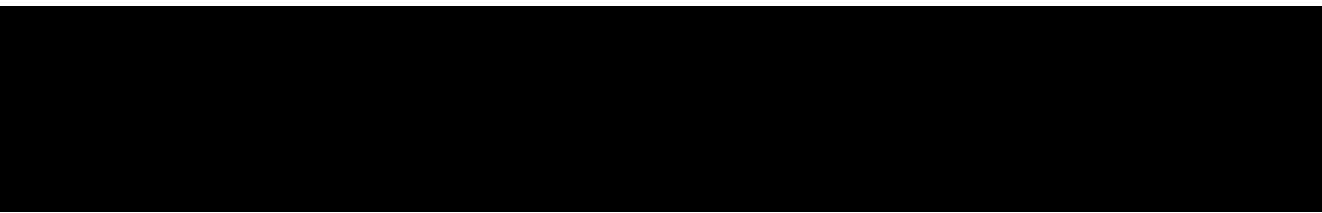
Thanks. From previous conversations with the CAA I have been informed that Cat A flights can enter a TDA without a DACS if needed so long as the Captain of the aircraft can do so safely. By knowing where the Protector is and therefore self-deconflicting helps assure that safety, hence my question re back up comms information. Just wanted to put some context on my question for you.

Should this not be permitted or restrict HEMS Cat A operations in anyway then I would have to say that we would most likely object to this TDA based on its potential detrimental impact on life saving HEMS operations.

Looking forward to hear what the CAA say.

BW,

[REDACTED]



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From: UASCDC-ACP <UASCDC-ACP@qinetiq.com>
Sent: 15 December 2023 13:29
To: [REDACTED]
Cc: [REDACTED]
Subject: CAUTION: External email - RE: UC ACP-2023-047 (UNCLASSIFIED)

Dear [REDACTED]

Thank you for your email in response to the engagement material for ACP-2023-047.

Marham ATC will provide priority access to the airspace for a Category A priority flight in accordance with current regulation. That said, it is thought that the CAA will impose a restriction on the provision of the Danger Area Crossing Service (DACS), in that requests to cross/enter the TDA whilst Protector is present within it, either inbound to or outbound from RAF Marham, are not to be approved. This specifically applies to civil aircraft, but I will make enquiries with the CAA as to how this should be managed with regard to a Cat A flight. Whilst it is acknowledged that Protector will only be present within the TDA during the 2 planned diversions (and in the unlikely event that RAF Waddington actually becomes unavailable to Protector) it is critical to understand the actions required of Marham ATC.

I will get back to you with clarification.

[REDACTED]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile [REDACTED]
Email: UASCDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: [REDACTED]
Sent: 12 December 2023 09:34
To: UAS CDC-ACP <UAS CDC-ACP@qinetiq.com>
Cc: [REDACTED]
Subject: ACP-2023-047 (UNCLASSIFIED)

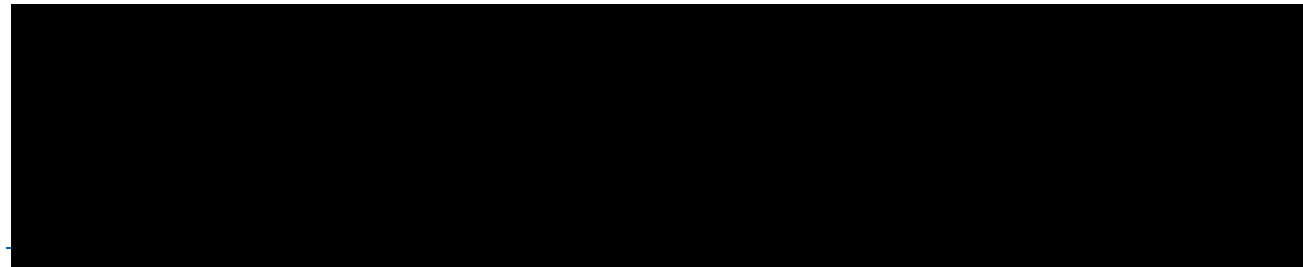
Classification: UNCLASSIFIED

Good morning,

Many thanks for early sight of your proposed TDA at RAF Marham in 2024. As the aviation partner of the EAAA operating from both Norwich and Cambridge airports we may be required to enter the TDA at short notice in response to HEMS tasking. The provision of a DACS service will permit us to do this safely however can you please confirm that there will also be a contact phone number on the NOTAM as a back up to radio comms?

Notwithstanding this we do not have any concerns or objections to this proposed airspace change.

BW,



babcockTM

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Registration No: 8010453

Registered Office: 33 Wigmore Street, London, W1U 1QX

Archived: 02 January 2024 19:33:36

From: [REDACTED]

Sent: 15 December 2023 13:52:00

To: [UAS CDC-ACP](#)

Cc: [REDACTED]

Subject: RE: CAUTION: External email - UC RE: UC ACP-2023-047 (UNCLASSIFIED)

Sensitivity: Normal

Classification: UNCLASSIFIED

Hi [REDACTED]

Perfect thanks.

Have a great weekend,



babcockTM

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From: UAS CDC-ACP <UAS CDC-ACP@qinetiq.com>

Sent: 15 December 2023 13:47

To: [REDACTED]

Subject: CAUTION: External email - UC RE: UC ACP-2023-047

Dear [REDACTED]

Yes thank you for that. I think that the CAA will respond likewise; just thought I'd get the official version.

And I note your requirement for a telephone number on the NOTAM. I have flagged that with Marham.



ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UAS CDC-ACP@qinetiq.com



Archived: 11 January 2024 11:40:09

From: [UAS CDC-ACP](#)

Sent: 15 December 2023 13:07:00

To: [REDACTED]

Subject: RE: UC ACP-2023-047 response

Response requested: No

Sensitivity: Normal

Dear Mr [REDACTED]

Thank you for your email in response to the engagement material for ACP-2023-047. In answer to your concerns, I can offer the following:

1. You are correct that "the TDA will only be used (as opposed to NOTAMed as active) when Waddington becomes unavailable (apart from the two test occasions mentioned)".
2. A Danger Area Crossing Service (DACS) will be available during all periods of the TDA activation and for the most part you should notice no difference to how access through Marham's overhead is currently managed. In other words any crossing request is likely to be approved along the same lines as a MATZ penetration / overhead routing, pending routine activity at RAF Marham. That said, it is thought that the CAA will impose a restriction on the provision of the DACS, in that requests to cross the TDA whilst Protector is present within it, either inbound to or outbound from RAF Marham, are not to be approved. This specifically applies to civil aircraft, but you should not be overly concerned since Protector will only be present within the TDA on the occasions you state above.
3. Your concern about the following phrase is acknowledged "Therefore, 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 Marham ATC". It was not intended to cause concern; it simply relates to the fact that a request to cross the TDA may not be available immediately, due to other, routine activity at RAF Marham. Such activity would probably have required some tactical airspace co-ordination with or without the TDA being in place (and active).
4. The TDA will not be used as an instrument to prevent other airspace users access to the airspace. Marham ATC will have to record all refusals for DACS requests along with the reason and present such to the CAA for scrutiny. This is a regulatory requirement to ensure that the conditions under which the TDA has been approved are upheld during its period of implementation. N.B. This will also be a requirement for any airspace implemented on a permanent basis; this is to ensure that the airspace is being managed as efficiently as possible for all airspace users.
5. Regarding your comment on transponder requirements I can assure you that non-transponder aircraft will be able to obtain a DACS provided they are radio-equipped.

I hope this response provides useful information regarding the proposal. For information MOD will be presenting at the East Anglia Airspace User Working Group (EAAUWG) at RAF Marham on 16 Jan 2024 when we will provide an update on this proposal and provide a presentation on MOD's proposal for permanent airspace (as advised in the engagement letter under Key Features on page 5).

[REDACTED]

ATM Specialist and ACP Manager
Defence UAS Capability Development Centre

Mobile: [REDACTED]
Email: UAS CDC-ACP@qinetiq.com



Please consider the environment before printing this email.

From: [REDACTED]

Sent: 26 November 2023 15:22

To: UASCDC-ACP <UASCDC-ACP@qinetiq.com>

Cc: [REDACTED]

Subject: ACP-2023-047 response

Dear Sir / Madam

Please find attached our response to ACP-2023-047

[REDACTED]

[REDACTED]

ACP-2023-047 Response Form

Name	
Representing	Cambridge Gliding Centre
Address (including postcode if possible)	

Feedback:

East Anglia is an important area for gliding, which has many airspace restrictions of various sorts. If this proposal is to go ahead, it is our view that it must be done in a way which minimises the impact on other airspace users such as glider pilots.

From the description given, that should be possible. If it is the case that the TDA will only be used (as opposed to NOTAMed as active) when Waddington becomes unavailable (apart from the two test occasions mentioned) then it should be available for other users at all other times.

For that to happen:

- The DACS from Marham ATC must be available at all times that the TDA is NOTAMed as active.
- It must be clear that a request for entry will be granted unless the TDA is, or is about to be, actually used as a diversion for the Protector (not that it might be, *if* Waddington were to become unavailable). If it were the case that Waddington became unavailable, it shouldn't take long for any aircraft within the TDA to clear it. The statement in the consultation that "Therefore, 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 Marham ATC" (my italics), is disappointingly weak.
- Note that relatively few gliders are transponder equipped, and thus the carriage of a transponder shouldn't determine whether a crossing clearance should be granted.
- The TDA shouldn't be used by Marham as a way of keeping aircraft out of their MATZ and the airspace above.

Clarity on these issues when this TDA is set up would be helpful in informing us of our reaction to the next consultation mentioned.